DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2002
AMENDED BUDGET SUBMISSION

JUSTIFICATION OF ESTIMATES
JUNE 2001

AIRCRAFT PROCUREMENT, NAVY
Volume II:
BUDGET ACTIVITY 5

DEPARTMENT OF THE NAVY

FY 2002 PROCUREMENT PROGRAM

SUMMARY
($ IN MILLIONS)

JUNE 2001

APPROPRIATION: AIRCRAFT PROCUREMENT, NAVY

ACTIVITY	FY 2000	FY 2001	FY 2002
01. COMBAT AIRCRAFT	4,654.2	4,834.3	4,520.1
02. AIRLIFT AIRCRAFT	423.9	396.5	246.2
03. TRAINER AIRCRAFT	381.8	384.3	179.3
04. OTHER AIRCRAFT	71.4	227.3	299.0
05. MODIFICATION OF AIRCRAFT	1,834.5	1,232.7	1,083.8
06. AIRCRAFT SPARES AND REPAIR PARTS	983.2	932.9	1,420.3
07. AIRCRAFT SUPPORT EQUIPMENT & FACILITIES	512.4	391.3	503.8
TOTAL AIRCRAFT PROCUREMENT, NAVY	8,861.4	8,399.3	8,252.5

DEPARTMENT OF THE NAVY
FY 2002 PROCUREMENT PROGRAM EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY DATE: JUNE 2001

LINE NO	ITEM NOMENCLATURE	IDENT CODE	MILLIONS OF DOLLARS FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST	FY 2002 QUANTITY	FY 2002 COST	SEC
	BUDGET ACTIVITY 01: COMBAT AIRCRAFT								
	COMBAT AIRCRAFT								
1	AV-8B (V/STOL)HARRIER (MYP)	A	11	(296.0)	12	(315.0)			U
	LESS: ADVANCE PROCUREMENT (PY)			(-40.5)		(-55.2)			U
				255.5		259.8			
2	AV-8B (V/STOL)HARRIER (MYP) ADVANCE PROCUREMENT (CY)			40.5					U
	(FY 2000 FOR FY 2001) (MEMO)			(40.5)					
3	F/A-18E/F (FIGHTER) HORNET (MYP)	B	36	(2,779.3)	39	(2,855.0)	48	(3,180.1)	U
	LESS: ADVANCE PROCUREMENT (PY)			(-107.9)		(-104.6)		(-112.6)	U
				2,671.4		2,750.5		3,067.5	
4	F/A-18E/F (FIGHTER) HORNET (MYP) ADVANCE PROCUREMENT (CY)			161.3		100.1		88.9	U
	(FY 2000 FOR FY 2001) (MEMO)			(104.6)					
	(FY 2000 FOR FY 2002) (MEMO)			(18.9)					
	(FY 2000 FOR FY 2003) (MEMO)			(18.9)					
	(FY 2000 FOR FY 2004) (MEMO)			(18.9)					
	(FY 2001 FOR FY 2002) (MEMO)					(93.7)			
	(FY 2001 FOR FY 2003) (MEMO)					(3.2)			
	(FY 2001 FOR FY 2004) (MEMO)					(3.2)			
	(FY 2002 FOR FY 2003) (MEMO)							(88.9)	
5	V-22 (MEDIUM LIFT)	B	11	(901.2)	9	(1,196.8)	12	(1,080.8)	U
	LESS: ADVANCE PROCUREMENT (PY)			(-52.9)		(-70.3)		(-70.9)	U
				848.3		1,126.4		1,009.9	
6	V-22 (MEDIUM LIFT) ADVANCE PROCUREMENT (CY)			70.3		70.9		48.4	U
	(FY 2000 FOR FY 2001) (MEMO)			(70.3)					
	(FY 2001 FOR FY 2002) (MEMO)					(70.9)			
	(FY 2002 FOR FY 2003) (MEMO)							(48.4)	
7	AH-1W (HELICOPTER) SEA COBRA	A		1.9		2.4		1.4	U
8	SH-60R	A	7	223.8		209.4		25.1	U

DEPARTMENT OF THE NAVY
FY 2002 PROCUREMENT PROGRAM EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY DATE: JUNE 2001

LINE NO	ITEM NOMENCLATURE	IDENT CODE	MILLIONS OF DOLLARS FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST	FY 2002 QUANTITY	FY 2002 COST	SEC
9	E-2C (EARLY WARNING) HAWKEYE (MYP)	A	3	(244.8)	5	(358.7)	5	(384.8)	U
	LESS: ADVANCE PROCUREMENT (PY)			(-35.5)		(-111.5)		(-142.0)	U
				209.4		247.3		242.7	
10	E-2C (EARLY WARNING) HAWKEYE (MYP)								
	ADVANCE PROCUREMENT (CY)			171.9		67.5		36.2	U
	(FY 2000 FOR FY 2001) (MEMO)			(63.3)					
	(FY 2000 FOR FY 2002) (MEMO)			(54.3)					
	(FY 2000 FOR FY 2003) (MEMO)			(54.3)					
	(FY 2001 FOR FY 2002) (MEMO)					(39.5)			
	(FY 2001 FOR FY 2003) (MEMO)					(27.9)			
	(FY 2002 FOR FY 2003) (MEMO)							(36.2)	
TOTAL COMBAT AIRCRAFT				4,654.2		4,834.3		4,520.1	
BUDGET ACTIVITY 02: AIRLIFT AIRCRAFT									
	AIRLIFT AIRCRAFT								
11	CH-60S (MYP)	A	16	(304.7)	15	(290.1)	13	(253.3)	U
	LESS: ADVANCE PROCUREMENT (PY)			(-25.7)		(-76.7)		(-71.3)	U
				279.0		213.4		182.0	
12	CH-60S (MYP)								
	ADVANCE PROCUREMENT (CY)			76.7		71.3		64.2	U
	(FY 2000 FOR FY 2001) (MEMO)			(76.7)					
	(FY 2001 FOR FY 2002) (MEMO)					(71.3)			
	(FY 2002 FOR FY 2003) (MEMO)							(64.2)	
13	UC-35	B	2	11.9	1	7.5			U
14	C-40A	A	1	56.3	1	54.5			U
15	C-37	A			1	49.8			U
TOTAL AIRLIFT AIRCRAFT				423.9		396.5		246.2	

DEPARTMENT OF THE NAVY
FY 2002 PROCUREMENT PROGRAM EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY DATE: JUNE 2001

LINE NO	ITEM NOMENCLATURE	IDENT CODE	MILLIONS OF DOLLARS FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST	FY 2002 QUANTITY	FY 2002 COST	SEC
	BUDGET ACTIVITY 03: TRAINER AIRCRAFT								
	TRAINER AIRCRAFT								
16	T-45TS (TRAINER) GOSHAWK	A	15	(324.9)	14	(308.1)	6	(184.4)	U
	LESS: ADVANCE PROCUREMENT (PY)			(-7.9)		(-9.5)		(-5.1)	U
				317.0		298.6		179.3	
17	T-45TS (TRAINER) GOSHAWK ADVANCE PROCUREMENT (CY)			9.5		5.1			U
	(FY 2000 FOR FY 2001) (MEMO)			(9.5)					
	(FY 2001 FOR FY 2002) (MEMO)					(5.1)			
18	JPATS	B	12	55.4	24	80.6			U
	TOTAL TRAINER AIRCRAFT			381.8		384.3		179.3	
	BUDGET ACTIVITY 04: OTHER AIRCRAFT								
	OTHER AIRCRAFT								
19	KC-130J	B	1	71.4	3	227.3	4	299.0	U
	TOTAL OTHER AIRCRAFT			71.4		227.3		299.0	
	BUDGET ACTIVITY 05: MODIFICATION OF AIRCRAFT								
	MODIFICATION OF AIRCRAFT								
20	EA-6 SERIES	A		255.9		187.6		137.6	U
21	AV-8 SERIES	A		52.3		114.3		49.5	U
22	F-14 SERIES	A		79.7		31.3		4.5	U
23	ADVERSARY	A				6.9		34.8	U
24	F-18 SERIES	A		317.7		261.8		193.2	U
25	H-46 SERIES	A		16.8		19.4		38.7	U

DEPARTMENT OF THE NAVY
FY 2002 PROCUREMENT PROGRAM EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY DATE: JUNE 2001

MILLIONS OF DOLLARS

LINE NO	ITEM NOMENCLATURE	IDENT CODE	FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST	FY 2002 QUANTITY	FY 2002 COST	SEC
26	AH-1W SERIES	A		18.5		13.6		10.8	U
27	H-53 SERIES	A		28.9		24.5		16.5	U
28	SH-60 SERIES	A		49.0		36.8		1.7	U
29	H-1 SERIES	A		15.2		15.5		1.1	U
30	H-3 SERIES	A		3.3		.1		4.2	U
31	EP-3 SERIES	A		84.2		65.9		123.7	U
32	P-3 SERIES	A		401.1		98.4		113.2	U
33	S-3 SERIES	A		80.2		68.4		43.2	U
34	E-2 SERIES	A		71.5		42.1		14.6	U
35	TRAINER A/C SERIES	A		8.7		19.2		5.2	U
36	C-2A	A		25.2		3.1		27.4	U
37	C-130 SERIES	A		17.0		7.8		5.4	U
38	FEWSG	A		.6		.6		.6	U
39	CARGO/TRANSPORT A/C SERIES	A		16.1		7.9		4.2	U
40	E-6 SERIES	A		84.4		60.1		74.8	U
41	EXECUTIVE HELICOPTERS SERIES	A		12.6		7.6		16.2	U
42	SPECIAL PROJECT AIRCRAFT	A		34.9		1.9		3.1	U
43	T-45 SERIES	A		10.2		9.0		12.8	U
44	POWER PLANT CHANGES	A		16.8		16.9		13.1	U
45	COMMON ECM EQUIPMENT	A		54.1		41.5		33.3	U
46	COMMON AVIONICS CHANGES	A		79.5		70.4		65.1	U
47	V-22 (TILT/ROTOR ACFT) OSPREY	B						35.0	U
TOTAL MODIFICATION OF AIRCRAFT				1,834.5		1,232.7		1,083.8	

DEPARTMENT OF THE NAVY
FY 2002 PROCUREMENT PROGRAM EXHIBIT P-1

APPROPRIATION: 1506N AIRCRAFT PROCUREMENT, NAVY DATE: JUNE 2001

LINE NO	ITEM NOMENCLATURE	IDENT CODE	MILLIONS OF DOLLARS FY 2000 QUANTITY	FY 2000 COST	FY 2001 QUANTITY	FY 2001 COST	FY 2002 QUANTITY	FY 2002 COST	SEC
	BUDGET ACTIVITY 06: AIRCRAFT SPARES AND REPAIR PARTS								
	AIRCRAFT SPARES AND REPAIR PARTS								
48	SPARES AND REPAIR PARTS	A		983.2		932.9		1,420.3	U
	TOTAL AIRCRAFT SPARES AND REPAIR PARTS			983.2		932.9		1,420.3	
	BUDGET ACTIVITY 07: AIRCRAFT SUPPORT EQUIPMENT & FACILITIES								
	AIRCRAFT SUPPORT EQUIPMENT AND FACILITIES								
49	COMMON GROUND EQUIPMENT	A		376.5		312.5		332.9	U
50	AIRCRAFT INDUSTRIAL FACILITIES	A		20.5		14.6		18.2	U
51	WAR CONSUMABLES	A		14.6		13.9		12.6	U
52	OTHER PRODUCTION CHARGES	A		59.5		36.7		27.6	U
53	SPECIAL SUPPORT EQUIPMENT	A		33.8		12.0		110.9	U
54	FIRST DESTINATION TRANSPORTATION	A		4.6		1.5		1.6	U
55	CANCELLED ACCOUNT ADJUSTMENTS (M)	A		2.8					U
	TOTAL AIRCRAFT SUPPORT EQUIPMENT & FACILITIES			512.4		391.3		503.8	
	TOTAL AIRCRAFT PROCUREMENT, NAVY			8,861.4		8,399.3		8,252.5	

Exhibit P-40, BUDGET ITEM JUSTIFICATION												DATE: **June 2001**	
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY													
COST (In Millions)	**1225.6**	**A**		**255.9**	**187.6**	**137.6**							

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 jammin 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 02 is the procurement of a Universal Exciter Upgrade, Low Band Transmitters, Block 89A upgrades, ASN-130A Replacement, J52 Reliability Improvements, and ICAP III upgrades.

(TOA, $ in Millions)

OSIP No.	**Description**	**Prior Years**	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**	**FY 2005**	**FY 2006**	**FY 2007**	**To Complete**	**Total**
19-79	ALQ-99 PODS	603.8	47.4	53.7	22.2							
32-85	EA-6B Structural Improvements	353.8	78.4	48.5	49.2							
111-87	J-52 Engines	5.0		3.4	8.4							
42-93	EA-6B Block 89A Avionics	263.0	100.2	81.9	56.9							
01-01	ICAP III		29.9		0.9							
05-03	MIDS											
	Total	**1225.6**	**255.9**	**187.6**	**137.6**							

Totals may not add due to rounding

Exhibit P-3a

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

MODELS OF SYSTEMS AFFECTED: EA-6B Series Modifications TYPE MODIFICATION: Reliability/Mission Capability

DESCRIPTION/JUSTIFICATION:

BAND 9/10 TRANSMITTER:

The Band 9/10 Transmitter (Band 9/10) provides the EA-6B an expanded jamming capability against the target tracking/fire control radars of modern Integrated Air Defense Systems. Reliability and maintainability are also greatly improved over that of current ALQ-99 Transmitters. Following a competitive acquisition, Engineering and Manufacturing Development of the Bd 9/10 was initiated in Jan 92. Until Aug 95, the program was conducted as a joint Air Force/Navy program, with the Air Force acting as lead service. In Aug 95, the Air Force transferred program responsibility to the Navy. Through conduct of Developmental and Operational Testing, the Bd 9/10 was shown to meet or exceed the operational requirements specified in OPNAV/N88 ltr Ser No. N880C3/5U663298 of 28 AUG 95. These test results, combined with satisfaction of other exit criteria, permitted a Nov 97 Milestone III approval for full rate production. Contract options for production of 120 Bd 9/10's exercised at that time, will result in deliveries between Jul 99 and Jul 01. Initial Operational Capability achieved in Nov 99. The Band 9/10 inventory objective is 204 and will be achieved via the FY99 Congressional (Kosovo Supplemental) add of $45M. ALQ-99 Transmitters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability will be available for the total of 124 EA-6B aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.

MODIFIED BAND 9/10 TRANSMITTER (BAND 7/8)

The modified Band 9/10 Transmitter (Band 7/8) provides the EA-6B an ability to counter threat radar electronic protection techniques installed in widely exported threat systems in the Band 7/8 frequency range. Congressional funding plus-up in FY 99 was received that specified modification of Band 9/10 Transmitters to work in lower frequencies. A sole source contract WAS AWARDED IN JULY 2000 for an Engineering Change Proposal to the band 9/10 Transmitter and the production of Band 7/8 Transmitters (modified 9/10 transmitters). After the Band 7/8 transmitter's effectiveness is validated, it is expected the Band 7/8 Transmitters produced will support single squadron deployments beginning in 1st Quarter FY 2005. Band 7/8 operational requirements are specified in OPNAV/N88 ltr Ser No. N880C3/8U658735 of 4 JAN 99. An FY00 Congressional add of $18M was provided for the procurement of additional Band 7/8 Transmitters. ALQ-99 Transmitters are weapons replaceable assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability is intended for all Block 89A and ICAP III configuration EA-6B aircraft, including Naval Air Reserve aircraft. This requirement does not apply to the National Guard.

LOW BAND TRANSMITTER

The Low Band Transmitter (LBT) will provide the EA-6B with an expanded jamming capability against the Early Warning/Acquisition Radars and Communication Links of modern Integrated Air Defense Systems. Reliability and maintainability will also be greatly improved over that of current ALQ-99 Transmitters. Following a competitive acquisition and Milestone II approval, Engineering and Manufacturing Development was initiated in Sep 96. Critical Design Review was conditionally approved in Dec 97; however, a follow-up review to close out action items was completed in Nov 98. Testing to date has consisted of prototype testing conducted at government and contractor facilities. This testing has successfully demonstrated the key performance parameters identified in OPNAV/N88 ltr Ser No. N880C3/6S663399 of 26 JUL 96 can be attained by the present design. Fabrication of Engineering Development Models (EDMs) began in FY00. EDMs will be used for contractor and Navy testing required to support LRIP and Milestone III approval, currently anticipated in third quarter FY03 and the first quarter FY04. The LBT inventory objective is 180. ALQ-99 Transmitters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability will be available for the total PAA of 124 aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.

UNIVERSAL EXCITER UPGRADE

The Universal Exciter Upgrade (UEU) provides a 30% improvement in reliability over that of the current Universal Exciter (UE / MTBF = 100 hrs). Increased maintainability, elimination of multiple configurations and performance improvements are additional improvements. ORD #474-88-97 defines the UEU requirements. The UEU entered Engineering and Manufacturing Development in 1991 and achieved Milestone III approval for full rate production in Apr 96. A contract for 119 UEUs was awarded in Sep 96. Follow-on procurements are in-process/planned for fiscal years 98-02, which will bring total UEU procurements up to 480. Pursuant to that inventory objective, an FY99 Congressional (Kosovo Supplemental) add of $39M was received in Sep 99. The modification of UEs to UEUs is accomplished via "turn key" sole source contract. Initial UEU deliveries occurred in Jul 98, which allowed for an Initial Operational Capability in Apr 99. With the planned follow-on procurements, deliveries will continue out into 2003. ALQ-99 Exciters are Weapons Replaceable Assemblies that are readily removed and installed in the ALQ-99 Pod, thus no installation effort/funding is associated with this program. This capability will be available for the total PAA of 124 aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.

TRANSMITTER COOLANT MODIFICATION

EA-6B/ALQ-99 Transmitters and support equipment currently use Coolanol for the dielectric coolant required to dissipate heat from and prevent arcing of high voltage power supplies. Coolanol costs over $300/gallon, is a known carcinogen and must be handled as a hazardous material. Given that the EA-6B is the sole remaining user of Coolanol 35, it's future availability is in doubt. The replacement coolant for Coolanol is Polyalphaolefin (PAO), which costs less than $25/gallon and is non-hazardous. PAO is widely used by other U.S. military platforms and systems. Additionally, the equipment has to be converted in order to be compatible with the Consolidated Automated Support System (CASS) High Power Device Test Set (HPDTS) modification. HPDTS will allow CASS to test ALQ-99 Transmitters, thereby eliminating the requirements for the EA-6B peculiar Transmitter Test Station (TTS). This transition from the TTS to the CASS is expected to begin in Dec 00. The cooling system of the HPDTS only supports PAO, thus all units tested with it must use PAO as their coolant. ALQ-99 Transmitters require modification in order to utilize PAO, because the polymer-based material currently used as high voltage lead insulation and wire harness identification markers dissolve when exposed to PAO. This material must be replaced with an improved material that through testing has been identified to be impervious to PAO. ECP AV-97-038 delineates the efforts requires to modify Transmitters to a PAO compatible configuration. 1296 Transmitters and 1400 high voltage power supply modules will be conducted by a government/contractor field modification team. This requirement does not apply to the National Guard.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Delivery of UEU Engineering Design Models (EDMs) began in the first quarter of FY1995 with developmental and operational testing completed in the second quarter of FY1996 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 third quarter of FY2002 and MS III expected in the first quarter of FY2004.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E				4.7		4.0		4.0		5.5														
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment	2,457	156.3																						
Hardback/Pod EMI Equ	1,100	21.0	9	0.6																				
Band 9/10 Transmitter E	125	64.4	84	42.0																				
Universal Exciter Upgrad	217	101.5	147	67.3	38	15.3	78	42.8																
MOD BAND 9/10 (BAND 7/8)			4	19.0	8	18.0																		
Lowband Transmitter																								
PAO Transmitter Mod			148	1.2	864	3.2	284	1.3																
BAND 9/10 RADOME	250	3.8				0.6																		
Installation Equipment N/R		7.1						2.6		1.5														
Engineering Change Orders																								
Data		9.3		0.2		0.1																		
Training Equipment		1.6																						
Support Equipment		80.9		2.5		1.7		0.8		11.8														
ILS		2.5		0.2		0.1				1.6														
Other Support		19.5		2.9		8.4		6.2		7.3														
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**468.0**		**135.9**		**47.4**		**53.7**		**22.2**														

Notes:

1. UEU Repair of GFE costs are included in the UEU Installed Equipment line.
2. Install schedules not provided for GFE that fits into the POD without structural modification, or for equipment not requiring APN-5 funding for installation into the pod/aircraft (e.g.: LBT, UEU, Band 9/10, Band 7/8).
3. In FY99, an additional 97 UEU's were procured with KOSOVO Emergency/Supplemental funding. As a result of this acceleration of units, quantity and funding adjustments were made in FY00-FY01.
4. FY01 quantities and associated cost reflect contractors latest proposals.
5. Funding for Repair of GFE was reported in Installation Cost for PB01 and has been redirected to the Install Equipment line under UEU Install Equipment.
6. Totals may not add due to rounding.

Exhibit P-3a Individual Modification

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

MODELS OF SYSTEMS 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; 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. This OSIP also includes the Connectivity and USQ-113 programs.

Connectivity: (ECP AV-97-036) The purpose of this ECP is to provide the system which will allow the EA-6B to receive intelligence broadcasts into the cockpit via the Multi-mission Advanced Tactical Terminal (MATT) and to transmit and receive data via the Improved Data Modem (IDM) to and from other IDM equipped platforms. Aircraft wiring kits (A-kits) have been procured for the 123 aircraft in the EA-6B inventory. A total of 54 MATT/IDM systems (B-kits) have been procured and will be "cross-decked" among the 123 aircraft. Installs are scheduled for 94 in FY99, 20 in FY00 and 3 in FY01. For test purposes and validation/verification efforts seven systems have been installed in FY98. The MATT/IDM is addressed under the EA-6B ORD (#474-88-97). The purpose of **ECP319R1** is to install an ARC-182 radio as a 3rd radio in Block 82 aircraft and to upgrade the ARC-159 (UHF) radio to the ARC-182 (UHF/VHF) radio in the 3rd radio position of Block 89 aircraft. The addition of the ARC-182 radio will improve the performance capability of the Block 82 and 89 aircraft by adding a combination UHF/VHF radio as a replacement for a UHF only radio. This ECP will be required to achieve full operating compatibility of the MATT/IDM system. A total of 70 radios will be procured. An FY99 Congressional (Kosovo Supplemental) add of $30.4M was received in Sep 99 and will complete MATT/IDM deployment to the fleet.

USQ-113: (AFCs 665 and 760) The purpose of these AFCs is to install the basic installation provisions for the USQ-113 system (665) and to install the needed Electromagnetic Interference provisions for the aircraft (760) Five installs are planned for FY99 by a field modification team. The remainder of the installations will occur in conjunction with SDLM. The AFCs must be in place prior to the installation of AFC793 which installs the USQ-113 (V)3 system. AFC 793: The purpose of this AFC is to install the USQ-113 (V)3 Radio Countermeasures Set into the aircraft. The USQ-113 (V)3 system is an upgrade of the USQ-113(V)2 Phase I system and provides improved mission capability for the EA-6B aircraft. Aircraft wiring kits (A-kits) will be procured for 123 aircraft and 63 USQ-113 systems (B-kits) will be procured and will be crossdecked among the 123 aircraft. The USQ-113 is addressed under the EA-6B ORD (#474-88-97)

ASN-130A Replacement: Funding for this upgrade was provided via a CREIC initiative during the POM-02 process. The ASN-172 will replace the aging ASN-130A with a combined inertial navigation/GPS system. Reliability and maintainability will be improved.

Mission Reprogramming Unit (MRU): This program resulted from an Affordable Readiness Initiative (ARI) that provides an upgrade to the existing memory input/output capability of the mission computer. Tape driven devices which are no longer being produced are being replaced with PCMCIA cards that are more reliable and maintainable. Funding for this upgrade resided in OSIP 1-91 during the PR01 process.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Major milestones include the completion of SDRS and 9th Squadron Support Equipment.

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&EN																								
Procurement																								
Installation Kits	2,745	36.0																						
Center Wing Section	31	105.1			16	39.4	10	28.8	10	30.0														
Outer Wing Panel																								
Structures Improvements K	250	0.2																						
Connectivity Kit	125	2.8																						
Band 10 Receiver Kits	127	0.9																						
ASN-130A Replacement									44	0.3														
SDRS Kit	4	0.1	26	0.4	51	0.6	42	0.6																
Installation Kits N/R		14.6		5.1				0.1		0.6														
Installation Equipment	963	17.9				9.2		0.1																
Mission Reprogramming Unit								7.9		3.3														
ASN-130A Replacement										0.6														
AN/USQ-113 Equip	194	30.1																						
Mini Airborne Tactical Term	54	8.6	68	12.7																				
Improved Data Modem (IDI	54	1.9	65	2.7																				
ARC-210 Radio (USQ-113)	66	2.3																						
ARC-182 Radio Equip	36	0.2	34	0.2		0.1																		
SATCOM Antenna Equip	125	0.3																						
Connectivity- Remote Fill D	125	0.1																						
Conn-Laptop Controllers Ec	108	1.4																						
Ballast					54	*																		
Operational Tester Equip	3	0.5																						
Installation Equipment N/R		8.3				9.6																		
Engineering Change Orders		*				0.3																		
Data		10.5		0.8		0.1				0.2														
Training Equipment		2.6								0.4														
Support Equipment		5.7		3.9		5.5																		
ILS		1.2				0.1				0.1														
Other Support		30.2		7.2		8.8		5.4		2.5														
Interim Contractor Support																								
Installation Cost	20	36.2	7	3.5	29	4.7	53	5.7	91	11.1														
Total Procurement		**317.3**		**36.5**		**78.4**		**48.5**		**49.2**														

* Totals less than $50K.

1. Totals may not add due to rounding.
2. Included in the "installation cost" line, for FY98 and beyond, are quantities from prior year procurements that have not been installed. The schedules provided are only for current FY98 and beyond procurements.
3. In FY99, an additional 68 MATT/65 IDM's ($30.4M) are procured and supported by the KOSOVO Emergency Supplemental funding. In addition, KOSOVO funds were provided to establish the 9th Expeditionary Squadron Equipment ($5.5M) Vehicle Enhancement Program Reconstitution ($20M) and Mobile Maintenance Facility ($.6M).

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series Modifications** MODIFICATION TITLE: Center Wing Section (OSIP 32-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Turn-key for FY97 Procurement. Commercial & Organic installs FY98 and out.**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 28 Months

CONTRACT DATES: FY 2000: May-00 FY 2001: Nov-00 FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: Mar-02 FY 2001: Mar-03 FY 2002: Mar-04 FY 2003:

($ in Millions)

Cost:	Prior Years				FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$			Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1998 & PY (31) kits	23	27.1			3	*	5	5.0																
FY 1999 ( ) kits																								
FY 2000 (16) kits									10	10.1														
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 (10) kits																								
FY 2005 (10) kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	**23**	**27.1**			**3**	*	**5**	**5.0**	**10**	**10.1**														

1. Totals may not add due to rounding

Installation Schedule

	FY 1999 & Prior	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	23	3					3	2			1	5	4												
Out	16			3	4	3					3	2													

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

*FY98-00 installation costs included in FY97 & prior turn-key contracts.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series Modifications** MODIFICATION TITLE: SDRS KITS (OSIP 32-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Mod Team/Organic**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: Nov-00 FY 2002: N/A FY 2003:

DELIVERY DATE: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: N/A FY 2003:

($ in Millions)

Cost:	Prior Years				FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$			Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1998 & PY (4) kits	4	*																					**4**	
FY 1999 (26) kits					26	0.5																	**26**	**0.5**
FY 2000 (51) kits							48	0.6	3	0.1													**51**	**0.7**
FY 2001 (42) kits									42	0.5													**42**	**0.5**
FY 2002 () kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete ( ) kits																								
TOTAL	**4**	*			**26**	**0.5**	**48**	**0.6**	**45**	**0.6**													**123**	**1.7**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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		5	5	16	12	12	12	12	12	11	11	11												
Out	4			5	5	16	12	12	12	12	12	11	11	11												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										123
Out										123

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series Modification** MODIFICATION TITLE: ASN-130A Replacement (2nd EGI)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Organic Installations**

ADMINISTRATIVE LEADTIME: 1 Month PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: Feb-02 FY 2003:

($ in Millions)

Cost:	Prior Years				FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$			Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1998 & PY ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 (44) kits									36	0.5														
FY 2003 (28) kits																								
FY 2004 (21) kits																								
FY 2005 (23) kits																								
FY 2006 (7) kits																								
FY 2007 () kits																								
To Complete ( ) kits																								
TOTAL									**36**	**0.5**														

Installation Schedule

	FY 1999 & Prior	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											6	15	15												
Out												6	15												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

* Indicates cost less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: **J-52 Engines (OSIP 111-87)**

MODELS OF SYSTEMS AFFECTED: EA-6B Series Modification | TYPE MODIFICATION: Reliability Upgrade

DESCRIPTION/JUSTIFICATION: J-52 Engine Reliability Improvements: The J-52 engine is a legacy gas turbine engine, which powers the EA-6B and has been in service since the 1960's. This initiative will capitalize on R&D efforts funded through the Engine Component Improvement Program (CIP). Through the CIP, the J-52 Team has identified specific reliability discrepancy trends and has developed appropriate Engineering Change Proposals (ECP) and Power Plant Changes (PPC). To specifically address the risk of uncontained turbine blade failures and design various other engine improvements, CIP projects were undertaken. The results include an improved Turbine Exhaust Case (TEC) that provides low pressure turbine (LPT) containment and other durability improvements. These improvements will be replaced at normal engine overhaul, incurring no additional installation costs. Installations will be performed concurrently with Standard Depot Level Maintenance (SDLM), Engine Overhaul and other O&M,N funded availabilities.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development of the Improved Turbine Exhaust Case (TEC) began in FY95 using engine CIP and contractor funds. Testing and ECP approval was completed in the first quarter of FY98 (OCT 97), followed by a production contract award. Forty-nine (49) Turbine Exhaust Cases (TEC) have been funded and deliveries/incorporations are underway. All ECPs are approved and Technical Directives (TD) are completed or in process. Incorporation of initial PPC 306 TEC kits is in process. Initial PPC 304 kits are on order and NAVICP is currently procuring attrition parts.

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$			Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																							0	0.0
PROCUREMENT																								
Installation Kits																								
Turbine Blade Containmen	40	4.1					33	3.1	82	8.1													155	15.2
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.2																						0.2
Training Equipment																								
Support Equipment		0.3																						0.3
ILS		0.2																						0.2
Other Support		0.2						0.3		0.4														0.9
Installation Cost																							0	
Total Procurement		**5.0**		**0.0**		**0.0**		**3.4**		**8.4**												**0.0**		**16.8**

Notes:
1. Totals may not add due to rounding
2. Funding provided within the FYDP reflects an approved Reduction in Total Ownership Cost (RTOC) initiative.
3. Installations will be performed concurrently with Standard Depot Level Maintenance (SDLM), Engine Overhauls and other O&M,N funded efforts.

Exhibit P-3a — Individual Modification

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

MODELS OF SYSTEMS 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) AN/ARC-210 VHF/UHF radios having SINCGARS and HAVEQUICK modes for inter-operability with Air Force, ground, and NATO forces. (2) The Embedded GPS Inertial Navigation System (EGI) providing a closely coupled GPS-INS solution and replacing the ASN-50 AHRS which has very poor reliability. (3) Full integration of the Electronic Instrumentation System (EFIS), Control Display Navigation Unit (CDNU), and Digital Signal Data Converter (DSDC), which were installed as part of AFC778-779. This OSIP provides for upgrade of the DSDC for use in Block 89A. The DSDC functions as an interface unit for the EFIS and is connected to the 1553 Navigation data bus to provide additional navigation data to the aircrew. (4) The AYK-14 computer will be upgraded with Very High Speed Integrated Circuit Technology (VHSIC) improving processing, memory, and throughput. The upgraded computer (CP-2357) will retain the outer form factor of the current computer and incorporate a new backplane that supports the new VHSIC processor Module and provides VME-bus expansion slots. Discrete and Serial Modules (DSM) replace the Serial Interface Module-A (SIM-A) cards. (5) Mission Planning System: The AN/TSQ-142 Mission Planner provides operational flight program loading, maps, EW libraries, jammer techniques, HARM data, and performs data reduction. Modifications to the AN/TSQ-142 are required to support the Block-89A upgrade, and to support transition of EA-6B mission planning to TAMPS. (6) Block 82 to 89 Upgrade: 20 Block 82 aircraft will be upgraded to the Block 89 standard configuration by adding the fire extinguishing system, fuel discharge improvements, yaw rate indicator, ARC-182 and ARC-199 radios, additional caution lights, tailpipe improvements, antenna disconnect ad ICS improvements, and a Computer Interface Unit/Encoder (CIU/E). (7) Misc. Avionics: Additional miscellaneous procurements of avionics, such as ARC-199 Radios and CIU/E units are required as part of both the Block-89A and Block-82/89 upgrades and equipment to provide Night Vision capability to all aircraft. * Funding for the Night Vision Device upgrade was provided via an FY00 Congressional add and is comprised of the goggles themselves, engineering and integrations effort, display and lighting modifications, and various electrical/structural changes. Changes from PB01 reflect updated kit and install planning.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ARC-210 UHF/VHF radio is a common avionics system to be installed in all Navy aircraft, and has undergone OPEVAL on the F-18, UH-1, and other platforms. 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 is common avionics with the F-18 EGI and has been extensively flight tested in that platform. The AYK-14 (XN-*) computer utilizes modules that are common avionics to Navy inventory, and a chassis similar to the current XN-4. The similarity and commonality of the upgraded AYK-14 required little additional qualification testing. DT began on the Block -89A system FY-98, with an intensive integrated Test and Evaluation period. Testing of software, upgraded avionics, including some regression testing of existing functionality, and testing of the mission planning system will be performed during the DT/OT tests.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
PROCUREMENT																								
Installation Kits																								
Block 82 to 89 Kit	20	59.5																					20	59.5
Block 82 to 89A Kit	2	3.0	3	5.3	14	12.7	20	17.9	9	8.5													48	44.3
Block 89 to 89A Kit	9	7.1	14	3.1	8	1.6	4	1.1	4	1.3													39	14.2
Installation Kits N/R	8	54.6		6.8																			8	61.4
Installation Equipment	60	3.0																					60	3.0
Block 82 to 89 Equip	20	1.6																					20	1.6
Block 82 to 89A Equip			3	1.0		3.5		7.0		3.2													3	14.8
Block 89 to 89A	9	*	14	0.4		1.2		0.1		0.3													23	2.0
EGI	4	0.7	17			0.5																	21	1.2
ARC-210 Equip	6	0.5	34			0.3		1.9		2.6													40	5.3
AN/AYK-14	15	1.6	20	2.1		2.1		2.8		1.5													35	8.6
CIU/Encoder	26	6.9	3			8.5																	29	15.4
NVD Equip					123	12.3																	123	12.3
Installation Equipment N/R						2.0		3.0																4.9
Engineering Change Orders																								
Data		7.0		0.5		3.7		1.0		0.1														12.2
Training Equipment		12.2		0.9		0.5		0.2		0.3														14.1
Support Equipment		15.2		1.0		8.3		12.2		8.0														44.6
ILS		0.6		1.1		6.0		1.1		0.4														9.3
Other Support		49.9		10.3		17.8		8.7		5.3														91.9
Interim Contractor Support																								
Installation Cost	4	4.1	6	2.9	77	19.3	83	25.0	23	25.4													193	76.7
Total Procurement		**227.4**		**35.5**		**100.2**		**81.9**		**56.9**														**501.9**

Notes:

1. EGI and ARC-210 Equipment quantities are funded under the Common Avionics budget.
2. In FY00, total program includes $31.0M as a result of a Congressional plus-up for Night Vision Devices (NVD).
3. NVD funding reported in PB01 under Installation Kits and Installation Equipment was redirected to Installation Equipment and represents multiple NVD goggles per Install Kit.
4. * Totals less than 50k.
5. Totals may not add due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series Block 89A Modifications** MODIFICATION TITLE: Block 89A Avionics System Improvement (OSIP 42-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Commercial and Organic Installations**

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: Dec-01 FY 2003:

DELIVERY DATE: FY 2000: Mar-01 FY 2001: Mar-02 FY 2002: Nov-01 FY 2003:

($ in Millions)

Cost:	Prior Years				FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$			Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1998 & PY ( ) kits**	10	7.0			3	3.5																		
FY 1999 ( ) kits					12	14.0	5	5.8																
FY 2000 ( ) kits							17	19.3	5	5.8														
FY 2001 (24) kits									18	19.6														
FY 2002 (13) kits																								
FY 2003 ( ) kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete ( ) kits																								
TOTAL	**10**	**7.0**			**15**	**17.5**	**22**	**25.0**	**23**	**25.4**														

** (4 PY) Validation/Verification Kits (Install Kit N/R)

Installation Schedule

	FY 1999 & Prior	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	10	3	4	4	4	5	5	6	6	5	6	6	6												
Out	4	3	3	3	4	4	4	5	5	6	6	5	6												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Notes: 1. Completed objective of 124 includes an additional procurement of 34 Block 89A upgrades in ICAP III program (OSIP 01-01) and 1 Vehicle Enhancement Program (VEP) aircraft (OSIP 32-85).
2. A/C inducted four months ahead of delivery, as this is done concurrent with SDLM, and teardown and partial SDLM must be completed before kit installation

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series Modifications** MODIFICATION TITLE: Night Vision Devices

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Organic**

ADMINISTRATIVE LEADTIME: PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: Jun-00 FY 2001: N/A FY 2002: N/A FY 2003:

DELIVERY DATE: FY 2000: Dec-00 FY 2001: N/A FY 2002: N/A FY 2003:

($ in Millions)

Cost:	Prior Years				FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$			Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY98 & ( ) PY Kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits					62	1.7	61	*																
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete ( ) kits																								
TOTAL					**62**	**1.7**	**61**	*****																

Installation Schedule

	FY 1999 & Prior	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				31	31	31	30																		
Out						31	31	31	30																

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

* 1. NVD installation costs are not budgeted on an annualized basis as the cost to procure and install kits were provided as part of an FY00 Congressional plus-up.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: **ICAP III (OSIP 01-01)**

MODELS OF SYSTEMS AFFECTED: EA-6 Series Modifications — TYPE MODIFICATION: Safety of Flight/ Reliability

DESCRIPTION/JUSTIFICATION:

This Operational and Safety Improvement Program covers the EA-6B Improved Capabilities III (ICAP III) systems modifications to install required radar and communications receiver, displays, and connectivity improvements. Additionally, this modification removes over 70 aging and unreliable Weapons Replace Assemblies (WRAs). Specifically, the modification program replaces the ALQ-99 receiver System with the LR-700 receiver system, replaces the TDY-43 display system with a new COTS based display system for the Pilot and three Electronic Countermeasures Officers (ECMOs), replaces the Recorder Reproducer Set (RRS) with a new Digital Recorder, incorporates the Multi-Mission Advanced Tactical Terminal (MATT) which provides reception of datalinks such as TIBS, Incorporates the USQ-113 Communication Receiver/Jammer with the Onboard System, and provides provisions for Link-16.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Following a Full and Open Competition, Milestone II approval was received, and an EMD RDT&E development contract was awarded to the Northrop Grumman Corporation in March 1998. Following a DT/OT test period, completion of OPEVAL and a Milestone III decision, a full rate production contract will be awarded in FY03.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		29.5		52.6		71.4		38.7		56.3														
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment					2	29.9																		
Support Equipment										0.4														
ILS																								
Other Support										0.5														
Interim Contractor Support																								
Installation Cost																								
Total Procurement						**29.9**				**0.9**														

Notes:

1. In FY00, total program increases $29.9M as result of a Congressional Plus-up for Simulators for a trainer upgrade.
2. Kit unit costs may vary in FY04 and FY06 as Block 89-89A upgrade costs, 14 and 20 respectively, are included in complete production lot cost.
3. Installation costs include Repair Incident to Modification (RIM) efforts in FY06 and FY07.
4. Totals may not add due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series ICAP III Upgrade** MODIFICATION TITLE: ICAP III System Improvement (OSIP 1-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Commercial**

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years				FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$			Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1998 & PY ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 (20) kits																								
FY 2007( ) kits																								
To Complete ( ) kits																								
TOTAL																								

** Aircraft are inducted one month before kit delivery

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Note: Installation of 124kits includes the Vehicle Enhancemet Program Reconstitution (VEP) aircraft.

R

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE: **June 2001**			
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY		A										
COST (In Millions)	203.9	A	52.3	114.3	49.5							

This line item funds modifications to AV-8B aircraft. The AV-8B is a single engine, single crewmember 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 2002 is to include incorporation of 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; completion of structure safety improvements in a new stabilator center section; replacement of power cable MIL-W-81381 wire with MIL-W-22759 wire; and continued incorporation of Operational and Safety improvements to the aircraft.

The AV-8B inventory (25 Jun 2000) consists of 4 major configurations:
19 two-seat TAV-8B aircraft,
49 DAY Attack aircraft,
46 NIGHT Attack Aircraft, and
57 Night Attack/RADAR aircraft.
In addition there are 19 undelivered aircraft that are in the Remanufacture process. The production (Remanufacture) program reduces the Day-Attack inventory by approximately 1 aircraft per month and increases the Night Attack/ Radar aircraft inventory by approximately 1 aircraft per month. Retrofit quantities of each ECP depend on the aircraft configuration type if & when the change was introduced into

(TOA, $ in Millions)

OSIP No.	**Description**	**Prior Years**	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**	**FY 2005**	**FY 2006**	**FY 2007**	**To Complete**	**Total**
1-91	Omnibus O&S Improvements	56.6	9.2	8.9	8.0							
17-92	GPS	24.3										
21-92	Auto. Target Hand-Off System	21.9	3.5	1.9	1.2							
23-92	AN/ARC-210(V) EP Radio	7.2	3.0	0.9	1.4							
34-93	Horizonal Stabilator Fatigue Impr.	17.6	0.5	0.2								
3-96	KAPTON Wire Replacement	15.8	5.5	3.6	4.9							
23-99	Mission Planning	1.6	1.2									
25-99	TAV-8B Performance Upgrade	58.9	11.6	17.2	12.0							
18-00	SJU-4 Escape System Performance Upgrade		1.8	1.6	2.1							
23-00	Litening II Pod		16.0	80.0								
12-02	Open Systems Core Avionics Requirement & Precision Strike				19.9							
02-04	Engine Life Management Program											
TOTAL		**203.9**	**52.3**	**114.3**	**49.5**							

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: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

Each ECP description includes the AV-8B configuration affected by the change and, if applicable, when it was introduced into production.

ECP-217, Emergency Battery Backup provides electrical power to the landing gear in the event of a major power failure. TAV-8B, Day. **ECP-246**, Canopy Restraint incorporates an improved pyrotechnic device to provide separation to the pilot on ejection - TAV-8B. **ECP-248**, Power Lever Angle Unit (PLAU) provides critical in-flight engine control, is being relocated from the engine bay to the cockpit to reduce the failure rate - TAV-8B, Day, Night, and FY99 & prior Radar. **ECP-251**, Nose Wheel Steering (NWS), a Safety change, provides improved pilot control over nose wheel steering responsiveness for critical landing conditions - TAV-8B, Night, FY96 & prior Radar. **ECP-254**, Inlet Guide Vane Controller (IGVC), a Safety change, provides improved -408 engine (via **RR-ECP-3759**) responsiveness during critical maneuvers - TAV-8B, Night, FY96 & prior Radar. **ECP-255R1**, Digital Flap Controller (DFC), a Safety change, provides improved flap control range and failure response during critical operations - TAV-8B, Day, Night, FY97 & prior Radar. **ECP-256**, Jet Pipe Temperature (JPT), a Safety change, eliminates the erroneous engine temperature returns - TAV-8B, Night, and FY96 & prior Radar. **ECP-257**, Digital Electronic Controller Unit (DECU), a Safety Change provides an improved power supply that corrects power interruptions during critical maneuvers - TAV-8B, Night, and FY96 & prior Radar. **ECP-269R1**, Frame 12, incorporates high vibration structural modifications to absorb increased vibrations which cause fatigue cracks - TAV-8B, Night & Radar. **ECP-271**, An improved mounting bracket for the 100% LERX structure reduces maintenance problems and improves readiness – Night, FY96 & prior Radar. **ECP-278**, installs more durable cables for the Radar Warning Radar system - Night, Radar. **C1.0 DSM** Modules, upgrades the AV-8B Mission Computer to a unified configuration - Day, Night, TAV-8B. **GEC-11**, adds a diode to the Cooling Engine Drive Electronics unit of the NAVFLIR, to prevent inadvertent shutdown due to power transients - Night & FY96 & prior Radar

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NWS flight test completed Feb 98. NWS & IGVC V&V completed third quarter FY-98. DFC and JPT V&V completed second quarter FY-98. DECU V&V completed first quarter FY-98 and incorporation initiated. Initial design/V&V of ECP-217 was completed in 2nd quarter FY-90 and a replacement battery was identified in 3rd quarter FY-97 to allow final installations. ECP-271 design/V&V was completed 3rd quarter FY-99. Installation reinitiated to complete modification program. ECP-278 design completed in 2nd quarter FY-99. L660 GTS/APU design was completed 2nd quarter FY-97 and rework initiated in 3rd quarter FY-97. L580 GTS/APU modification rework was completed in 4th quarter FY-97. GEC-11

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP-217 (Emerg Battery) Kit	67	1.2																						
ECP-246 (TAV Canopy Restrair	18	0.1																						
ECP-248 (PLAU Resolver) Kit					54	1.2	48	1.1	48	1.1														
ECP-251 (NWS) Kit	28	0.7	39	1.7	9	0.4	18	1.3																
ECP-254 (IGVC) Kit	28	0.0	71	0.1	29	0.1		*																
ECP-255R1 (DFC) Kit	83	0.1	58	0.2																				
ECP-256 (JPT) Kit	139	*																						
ECP-257 (DECU) Kit	99	*																						
ECP-269R1 (Frame 12) Kit							11	0.2	49	0.5														
ECP-271 (100%LERX) Kit	1																							
ECP-278 (RWR Cable) Kit			36	0.2	36	0.2																		
C1.0 DSM Modules Kit	154	1.2																						
GEC-11 (CEDE Unit) Kit	181	0.1																						
GEC-002 (HPHA Unit) Kit	43	2.5																						
L580 (GTS/APU Duct) Kit		*																						
L660 (GTS/APU Protect Unit) K	218	0.7	111	0.3																				
ECP-296 (ALR-67 Antennas)																								
PRIOR YEARS	528	8.3																						
Installation Kits N/R		3.1		1.7																				
Installation Equipment																								
ECP-248 (PLAU) Equip					54	0.1	48	0.1	48	0.1														
ECP-255R1 (DFC) Equip	83	2.8	78	2.7																				
ECP-254/RR-3759 (IGVC) Equip			71	9.7	29	4.0																		
ECP-296 (ALR-67 Antennas)			178	0.6																				
ECP-tbd (ZRF SOLENOID)																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.6		*		*		*																
Training Equipment		7.1		0.2		0.4		*																
Support Equipment		2.2		0.2																				
ILS		*		*																				
Other Support		4.7		0.3		0.2		0.3		0.2														
Interim Contractor Support																								
Installation Cost		1.5		0.7		2.8		5.8		6.1														
TOTAL PROCUREMENT		**38.1**		**18.5**		**9.2**		**8.9**		**8.0**														

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar**

MODIFICATION TITLE: Operational & Safety Improvement Modifications (01-91)

INSTALLATION INFORMATION: **This reflects multiple ECP installations begun in FY-94. Quantities will not match Kit Procurement line due to "O" Level Installs, Contractor Warranty Kits (ECP-271 & ECP-269R1) & piece part attrition upgrades.**

METHOD OF IMPLEMENTATION: **Installation will be accomplished by Naval Aviation Depot drive in modification.**

ADMINISTRATIVE LEADTIME: It varies with each ECP Months

PRODUCTION LEADTIME: It varies with each ECP Months

CONTRACT DATES: FY 1999 Multiple FY 2000 Multiple FY 2001 Multiple FY 2002 Multiple

DELIVERY DATE: FY 1999 Multiple FY 2000 Multiple FY 2001 Multiple FY 2002 Multiple

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	1997	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY (763) kits	**551**	**1.5**	**87**	**0.7**	**9**	**1.0**	**39**	**1.3**	**12**	**0.4**														
FY 1999 (271) kits			**3**	*	**17**	**1.8**	**129**	**4.4**	**92**	**2.9**														
FY 2000 (104) kits							**1**	*	**77**	**2.4**														
FY 2001 (95) kits									**17**	**0.5**														
FY 2002 (97) kits																								
FY 2003 (2) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL	551	1.5	90	0.7	26	2.8	169	5.8	198	6.1														

Installation Schedule

	FY 1998	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& 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	606	22	23	22	23	6	7	6	7	34	40	45	50	50	49	50	49								
Out	606	22	23	22	23	6	7	6	7	34	40	45	50	50	49	50	49								

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: GPS

DESCRIPTION/JUSTIFICATION:

The directed incorporation of GPS on the AV-8B presented a significant challenge due to the paucity of available airframe space. This issue was resolved by removing the AN/ARN -118 and replacing it with the miniaturized airborne GPS receiver and the mini-TACAN. Incorporation of this modification (ECP-168) provides improved aircraft position location accuracy through use of GPS Satellite technology with a significant improvement in Close Air Support operational effectiveness due to 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. This modification was incorporated into production in FY97 and is being retrofitted into all TAV-8B, AV-8B Day, AV-8B Night and AV-8B Night/Radar (FY96 & prior) aircraft.

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) was 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		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																								
ECP-168 (GPS) Kit	175	10.1																					175	10.1
Installation Kits N/R		1.5																						1.5
Installation Equipment																								
ECP-168 (GPS) Equip	175	4.9																					175	5.0
Installation Equipment N/R		2.1																						2.1
Engineering Change Orders																								
Data		0.2																						0.2
Training Equipment		0.3																						0.3
Support Equipment		0.4																						0.4
ILS		0.2																						0.2
Other Support		3.2																						3.2
Interim Contractor Support																								
Installation Cost	161	1.5	11	0.1																			172	1.6
TOTAL PROCUREMENT		**24.2**		**0.1**																				**24.4**

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar**

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

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 2000 _____ FY 2001 _____ FY 2002 _____

DELIVERY DATE: FY 2000 _____ FY 2001 _____ FY 2002 _____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	1997	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY (175) kits	**161**	**1.5**	**11**	**0.1**																	**172**	**1.6**
FY 1999 ( ) kits																						
FY 2000 ( ) kits																						
FY 2001 ( ) kits																						
FY 2002 ( ) kits																						
FY 2003 ( ) kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
To Complete ( ) kits																						
TOTAL	161	1.5	11	0.1	0	*															172	1.6

Installation Schedule

	FY 1998	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& 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	161	4	4	3																					
Out	161	4	4	3																					

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									0	172
Out									0	172

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

MODELS OF SYSTEM AFFECTED: AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

ECP-180 incorporates the ATHS, i.e., a digital data communications device which utilizes preformatted messages to communicate with standard USMC, USAF, and US Army digital communication devices. This modification supports improved performance in the areas of: (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. This modification was introduced in production in FY97 and is being retrofitted in all AV-8B Night and AV-8B Night/Radar (FY96 & prior) aircraft.

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 MAWTS-1 (Marine Aviation Weapons & Tactics Squadron) occurred in February 1995. Preliminary operational testing was conducted in November 1995. Final DT/OT confirmed the software integration into the combined Night Attack & Radar Operational Flight Program released in June, 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP-180 (ATHS) Kit	63	2.8	12	0.4	15	0.5																	90	3.8
Installation Kits N/R		8.5																						8.5
Installation Equipment																								
ECP-180 (ATHS) Equip	63	2.8	12	0.5	15	0.6																	90	3.8
Installation Equipment N/R		5.7																						5.7
Engineering Change Orders																								
Data																								
Training Equipment		*																						
Support Equipment																								
ILS		*																						
Other Support								0.2																0.2
Interim Contractor Support																								
Installation Cost	11	0.2	12	0.9	33	2.3	19	1.7	15	1.2													90	6.3
TOTAL PROCUREMENT		**20.1**		**1.7**		**3.5**		**1.9**		**1.2**														**28.3**

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AV-8B Night, AV-8B Night/Radar**

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.

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 15 Months

CONTRACT DATES: FY 1999 Sep-99 FY 2000 Jan-00 FY 2001 FY 2002

DELIVERY DATE: FY 1999 May-01 FY 2000 Dec-01 FY 2001 FY 2002

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY (63) kits	**11**	**0.2**	**12**	**0.9**	**33**	**2.3**	**7**	**0.6**															**63**	**4.1**
FY 1999 (12) kits							**12**	**1.0**															**12**	**1.0**
FY 2000 (15) kits									**15**	**1.2**													**15**	**1.2**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL	11	0.2	12.0	0.9	33	2.3	19	1.7	15	1.2	0	0.0											90	6.3

Installation Schedule

	FY 1998	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& 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			3	9	8	9	8	8	5	5	5	4	5	5	5									
Out	11			3	9	8	9	8	8	5	5	5	4	5	5	5									

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									0	90
Out									0	90

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

MODELS OF SYSTEM AFFECTED: AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

ECP-240 incorporates the AN/ARC-210, i.e., a combination UHF/VHF AM/FM jam-resistant radio developed as common avionics to allow for EP inter-operability with the Air Force, Army, and NATO, into the AV-8B. 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 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. This modification was introduced in production in FY97 and is being retrofitted in all AV-8B Night and AV-8B Night/Radar (FY96 & prior) aircraft.

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 May 1997. Incorporation of the ARC-210 HAVEQUICK and SINCGARS capability will be completed with the OC1.2 software release in FY 2003.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP-240 (ARC-210) Kit	81	0.6	19	0.2	8	0.1																	108	0.9
Installation Kits N/R		2.8																						2.8
Installation Equipment																								
ECP-240 (ARC-210) Equip																								
ECP-289 (ACNIP) Equip		0.4							140	0.7													140	1.1
Installation Equipment N/R		1.5		0.9		0.3																		2.7
Engineering Change Orders																								
Data		0.2				0.1																		0.3
Training Equipment		*				0.7																		0.8
Support Equipment						0.2																		0.2
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost	9	0.3	12	0.4	36	1.5	24	0.9	9	0.6													90	3.7
TOTAL PROCUREMENT		**5.8**		**1.4**		**3.0**		**0.9**		**1.4**														**12.5**

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

AV-8B Night, AV-8B Night/Radar

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

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

Installation by Naval Aviation Depot (NADEP) Drive-in Mod (2 radios per acft)

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1999 Sep-99 FY 2000 Jan-00 FY 2001 FY 2002

DELIVERY DATE: FY 1999 Feb-01 FY 2000 Aug-01 FY 2001 FY 2002

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY (63) kits	9	0.3	12	0.4	36	1.5	6	0.2															63	2.4
FY 1999 (19) kits							18	0.7	1	0.1													19	0.8
FY 2000 (8) kits									8	0.6													8	0.6
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL	9	0.3	12	0.4	36	1.5	24	0.9	9	0.6													90	3.7

Installation Schedule

	FY 1998	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& 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			3	9	9	9	9	9	6	6	6	6	3	3	3									
Out	9			3	9	9	9	9	9	6	6	6	6	3	3	3									

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									0	90
Out									0	90

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar 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 FY 1991 production aircraft Cum 241 and subsequent. This OSIP provides for the design, test and procurement of an ECP-243R1 airframe change kit for retrofit of the new stabilator center section in all 223 in-service T/AV-8B aircraft and installation into all spare stabilators.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP-243R1 (Horiz Stab) Kit	207	10.9	16	0.6																			223	11.5
Installation Kits N/R																								
Installation Equipment																								
ECP-243R1 (Horiz Stab) Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*																						
Training Equipment																								
Support Equipment																								
ILS																								
Other Support		0.2																						0.2
Interim Contractor Support																								
Installation Cost	216	5.7	11	0.3	14	0.5	8	0.2															249	6.7
TOTAL PROCUREMENT		**16.7**		**0.9**		**0.5**		**0.2**																**18.4**

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar** 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 Navy Drive-in Modification.

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1999 Apr-00 FY 2000 FY 2001 FY 2002

DELIVERY DATE: FY 1999 Oct-01 FY 2000 FY 2001 FY 2002

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY (207) kits	**216**	**5.7**	**11**	**0.3**	**6**	**0.2**																	**233**	**6.2**
FY 1999 (16) kits					**8**	**0.3**	**8**	**0.2**															**16**	**0.5**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL	216	5.7	11	0.3	14	0.5	8	0.2															249	6.7

**NOTE: Installation includes 26 spare stabilators.

Installation Schedule

	1998 & Prior	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
		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	216			5	6			6	8				8												
Out	216			5	6			6	8				8												

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										249
Out										249

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

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

DESCRIPTION/JUSTIFICATION:

The Kapton Wiring Replacement (ECP-277) 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. Replacement of this wiring is expected to improve aircraft readiness. This modification was introduced in production in FY 1989 TAV-8B aircraft cum 16 & subsequent which deleted the KAPTON (MIL-W-81341) insulated wiring and replaced it with irradiated TEFZEL wiring which is much more resistant to chafe and fire. This modification will be retrofitted in 12 of the 13 TAV-8B aircraft (cum 15 & below) currently in the inventory.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This modification was designed and incorporated in all production baseline aircraft delivered after September 1989. AFP not applicable. An installation validation commenced July 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP 277 (Kapton Wire) Kit	6	9.5	2	2.9	3	4.4	1	1.3																
Installation Kits N/R		2.2																						
Installation Equipment																								
ECP 277 (Kapton Wire) Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.7				*																		
Training Equipment																								
Support Equipment																								
ILS		*																						
Other Support		0.4		0.1		0.2		0.2																
Interim Contractor Support																								
Installation Cost					1	0.9	2	2.1	7	4.9														
TOTAL PROCUREMENT		**12.9**		**3.0**		**5.5**		**3.6**		**4.9**														

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

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: 5 Months PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1999 Mar-00 FY 2000 Mar-00 FY 2001 Mar-01 FY 2002

DELIVERY DATE: FY 1999 Oct-01 FY 2000 Mar-02 FY 2001 Mar-03 FY 2002

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY (6) kits					**1**	**0.9**	**2**	**2.1**	**3**	**2.1**														
FY 1999 (2) kits									**2**	**1.4**														
FY 2000 (3) kits									**2**	**1.4**														
FY 2001 (1) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL					1	0.9	2	2.1	7	4.9														

Installation Schedule

	FY 1998	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& 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	3	2								
Out	0								1		1		1	1	1	3	2								

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Mission Planning (OSIP 23-99)

MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B Day, AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

Update of current AV-8B Mission Support System (MSS) and transition to the Joint Mission Planning System (JMPS) 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 JMPS, introduce portable flight planning system based operators station software and develop the unique planning component required for conversion to JMPS. JMPS is used to develop, analyze, store and download mission planning data into the AV-8B. Conversion to JMPS will improve mission and strike planning data using threat intelligence, smart weaponeering, mission rehearsal/replay, target area analysis and visualization tools. It will also provide reliable route development, aircraft mission and map loading, logical and user friendly interface, in an expeditionary laptop.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AV-8B Mission Planning will involve a phased conversion to JMPS starting with upgrade of the current Mission Support System into a portable flight planning system based operators station and Unique Planning Component (UPC) software. Commencing with FY2001 Mission Planning improvements is funded in the RDT&E,N appropriation.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP TBD (Msn Plan) Kit																								
Installation Kits N/R																								
Installation Equipment																								
ECP TBD (Msn Plan) Equip																								
Installation Equipment N/R				0.1																				0.1
Engineering Change Orders																								
Data				0.2		0.2																		0.4
Training Equipment																								*
Support Equipment																								
ILS																								
Other Support				1.3		1.1																		2.4
Interim Contractor Support																								*
Installation Cost																								
TOTAL PROCUREMENT				**1.6**		**1.2**																		**2.8**

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: TAV-8B Performance Upgrade (OSIP 25-99)

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

DESCRIPTION/JUSTIFICATION:

Update all AV-8B Trainer aircraft to better align with operational aircraft by incorporating Night Vision Goggle (NVG) lighting and the -408A engine. ECP-276 (NVG lighting) incorporation will allow for training of fleet pilots in NVG tactical flight operations during initial AV-8B flight training under the supervision of an instructor pilot. Currently, all NVG training is performed in the operational squadrons in single piloted aircraft after completion of initial pilot training. Early increase in pilot NVG proficiency and safer training environment. Improves configuration standardization with current Night/Radar NVG compatible components. ECP-276 will be installed on 18 of 19 aircraft currently in the inventory. The -408A engine is not thrust limited to the extent of the current -406A/B engines. ECP-275 (-408 Engine) provisions incorporation will allow expansion of VSTOL training time and increase the vertical landing performace safety margin by 2,000 pounds of thrust. Additionally, initial pilot training will be at the same performance levels experienced in the operational squadrons. Configuration consistency between Trainer and fleet Night/Radar aircraft will also be enhanced. Trainer aircraft cum T16 and above have -408 provisions incorporated and require engines only. Trainer aircraft cum T1 through T15 require both -408 engine provision kits and -408 engines. ECP-275 will be installed on 12 of the 13 T15

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Initial design of the NVG and -408A aircraft kits began in November 1998. Engine provisioning software development (ECP-288) was initiated in November 1998.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP-275, -408 Engine Kit (T2-15)			8	2.8	2	0.5	2	0.5																
IAFC-398, Fr.12 Kit (T2-15)			5	0.2	5	0.6	2	0.1																
ECP-276, NVG Ltg. Kit (T2-24)			5	1.7	8	2.4	5	1.3																
AFC-273, Kit (T2-24)					20	*																		
Installation Kits N/R				1.7				0.4																
Installation Equipment																								
-408 Engines, ECP-275 (T2-15)			8	27.5	2	6.8	2	7.4																
-408 Engines, ECP-275 (T16-24)			6	20.4																				
Engine Monitoring Unit, ECP-275 (T2-15)			6	0.7	6	0.5	6	0.7																
Stby. Altimeter, ECP-276 (T2-24)			10	0.1	10	*	16	0.2																
Eng. Perf. Ind. (EPI), ECP-276 (T2-24)			10	0.1	10	*	16	0.2																
CDC/CDM, ECP-276 (T2-24)			10	0.1	10	-*	16	0.2																
ACNIP, ECP-276 (T2-24)			5	*	5	*	8	*																
Fuel Qty Ind., ECP-276 (T2-24)			5	*	5	*	8	*																
Airspeed Ind., ECP-276 (T2-24)			10	*	10	*	16	*																
ECP-288 Mission Computer (T2-24)									18	1.9														
ECP-288 Warfare Mgmt Computer (T2-24)									18	3.8														
ECP-291 NA Disp Computers (T 2-24)									18	2.2														
ECP-291 Throttle Grips (T2-24)									18	0.5														
Installation Equipment N/R																								
Engineering Change Orders																								
Data				1.3				1.0																
Training Equipment				0.2				1.8																
Support Equipment				0.1		*		0.1		0.9														
ILS																								
Other Support: ECP-288				2.0		0.6		2.6		1.1														
Interim Contractor Support																								
Installation Cost							4	0.6	22	1.6														
TOTAL PROCUREMENT				**58.9**		**11.6**		**17.2**		**12.0**														

Notes:

1. Totals do not add due to rounding

2. Asterisk indicates amount less than 50K

Exhibit P-3a

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

MODIFICATION TITLE: TAV-8B Performance Upgrade (OSIP 25-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod. ECP-275 will be installed concurrent with ECP-276 on aircraft cum T-15 & below.**

ADMINISTRATIVE LEADTIME: Varies for each ECP

PRODUCTION LEADTIME: Varies for each ECP

CONTRACT DATES: FY 1999 ____ FY 2000 Various FY 2001 Various FY 2002 Various

DELIVERY DATE: FY 1999 ____ FY 2000 Various FY 2001 Various FY 2002 Various

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY ( ) kits																								
FY 1999 (18) kits							**3**	**0.5**	**13**	**1.0**														
FY 2000 (35) kits							**1**	**0.2**	**9**	**0.7**														
FY 2001 (9) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL							4	0.6	22	1.6														

Installation Schedule

	FY 1998 & Prior	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
		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												4	4	5	13									
Out	0														5		4								

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: SJU-4 Escape System Performance Upgrade (OSIP 18-00)

MODELS OF SYSTEM AFFECTED: All T/AV-8B Aircraft (TAV-8B, AV-8B Day, AV-8B Night, AV-8B Radar). TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The AV-8B escape system was originally designed to provide safe escape for aircrew within the unique flight regime of the Harrier aircraft. At the time of development an increase in physiological loads on the aircrew at moderate and high speed ejections were traded-off for higher ejection performance at low altitude and adverse attitude. A number of aircrew have sustained severe neck injuries and a fatality have resulted from parachute opening shock and poor body position/alignment at moderate and high speed ejections. Warnings and restrictions have been placed on the escape system until design deficiencies have been corrected This modification supports an escape system upgrade program to investigate, design, develop, and test the adaptation of current escape technologies to reduce the risk of injury to aircrew for the entire escape envelope. Trade studies have identified the most promising mature escape

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NAVAIR completed trade studies in October 98. Program initiation, receipt of R&D funding, and contract award occurred May 99. Component/subsystem testing, August 99. FY00 procurement of 3 units will be used for validation & verification purposes. DT-I commenced in Jun 00 and DT-II will complete in March 01.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E ELEMENT# 0604264N																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment					3	0.1	87	0.9	120	1.5													210	2.5
Installation Equipment N/R																								
Engineering Change Orders						0.4																		0.4
Data						0.6		0.2																0.8
Training Equipment						0.5		0.1																0.6
Support Equipment								0.2																0.2
ILS						0.2																		0.2
Other Support						*		0.2		0.6														0.8
Interim Contractor Support										0.1														0.1
Installation Cost																								
TOTAL PROCUREMENT						**1.8**		**1.6**		**2.1**														**5.6**

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: LITENING II Pod (23-00)

MODELS OF SYSTEM AFFECTED: AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

The system will integrate and procure an external targeting pod that includes an Infrared (IR) and low-light TV targeting device capable of detecting, classifying, auto-tracking, and designating air-to-surface targets. The system will support first-pass autonomous delivery of conventional, precision guided, and accurate munitions to include Laser Maverick, GBU-12 and GBU-16. The system will provide targeting capabilities for the AV-8B fleet of Night Attack and Radar/Night attack aircraft through the end of it's service life. The addition of the LITENING II Targeting Pod gives the AV-8B (Night and Radar) the capability to perform precision

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Targeting Pod is a non developmental item and has been in full production for several years. It was a winner of a targeting FLIR competition for the Air Force Reserve and Air National Guard and will be in service of their F-16s by 2nd Qtr FY-00. The design, integration, and testing of the Targeting Pod for the AV-8B was done on the Radar and /or Night Attack during 3rd Qtr FY-00. The integration will utilize: existing aircraft software, a weapons station adapter, and Targeting Pod interface software. PEO(A) had approved the acquisition strategy to acquire the pods through an existing USAF contract to provide a targeting pod capability to the Fleet in 1st Qtr FY-01.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits, ECP-tbd Pod Provisions					15	0.2	123	0.1															138	0.3
Installation Kits N/R						0.5		0.7																1.2
Installation Equipment, Pods					9	9.8	47	63.0															56	72.7
Installation Equipment N/R						1.0		5.7																6.7
Engineering Change Orders						0.1																		0.1
Data						0.3																		0.3
Training Equipment						0.1		5.3																5.3
Support Equipment						0.2		0.8																1.0
ILS								0.1																0.1
Other Support						3.9		4.4																8.3
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT						**16.0**		**80.0**																**96.0**

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Open Systems Core Avionics Requirement (OSCAR) and Precision Strike (12-02)

MODELS OF SYSTEM AFFECTED: AV-8B Night, AV-8B Night/Radar TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

The current AV-8B avionics do not have sufficient processor throughput and memory to support planned system upgrades. The OSCAR program will update the existing, obsolete avionics using Commercial Off the Shelf (COTS) open system architecture hardware that runs object-oriented design (OOD) and higher order language (HOL) software. This OSIP supports the procurement and retrofit installation of the Mission System Computer (MSC) and Warfare Management Computer (WMC) being developed under the OSCAR program. This OSIP also supports the procurement and retrofit installation of MIL-STD-1760 wiring. Installation of the mIL-STD-1760B wiring to support new weapons will require the addition of wiring to the fuselage, additional circuit breaks, and a new relay panel. Modifications to the wing and pylon wiring are also part of this modification. Subsequent system upgrades based on the OSCAR system will be a continuing effort to integrate precision weapons suitable for delivery from the Harrier platform, as well as the internal and pod mounted systems necessary to effect guidance and designation are essential to the continued relevance of the AV-8B to the war fighter

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This system upgrade (ECP 270R2, ECP 285 and ECP 292 are the production incorporation of the MSC, WMC and software being developed under the OSCAR program. The first phase of the OSCAR program involves development, integration and operational test of the new MSC, WMC, and Operational Flight Program (OC1.1). This effort is scheduled for completion in Jun 02. The second phase of the OSCAR program (OC1.2) involves the development, integration and operational testing of software that will use the MK-83 Joint Direct Attack Munitions on the AV-8B as well as full integration of Have Quick/SINCGARS. This effort is scheduled for completion in Jan 03. Initial operating capability is scheduled for May 03.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E ELEMENT# 0604264N																								
PROCUREMENT																								
Installation Kits																								
MIL-STD-1760 Wiring Kits									10	1.4														
Installation Kits N/R										1.6														
Installation Equipment																								
OSCAR Computers									52	11.8														
Installation Equipment N/R																								
Engineering Change Orders																								
Data										1.0														
Training Equipment										2.8														
Support Equipment										0.8														
ILS																								
Other Support										0.5														
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT										**19.9**														

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 50K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AV-8B Night, AV-8B Night/Radar** MODIFICATION TITLE: Open Systems Core Avionics Requirement (OSCAR) and Precision Strike (12-02)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod. This install schedule is for MIL-STD 1760 installs only**

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY02 Jan-02 FY03 FY04 FY05

DELIVERY DATE: FY02 Jun-03 FY03 FY04 FY05

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 (10) kits																								
FY 2003 (15) kits																								
FY 2004 (18) kits																								
FY 2005 (18) kits																								
FY 2006 (18) kits																								
FY 2007 (19) kits																								
To Complete (0) kits																								
TOTAL																								

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**1,295.5**	A	**79.7**	***31.3**	**4.5**							

*$2.765 of FY01 funding has been identified as a source to be reprogrammed to the Shipbuilding and Conversion, Navy Appropriation.

This line item funds modifications to the F-14 aircraft. The F-14 is a twin-engine, 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 2002 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 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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
152-83	Structural Improvements	330.7	13.4	7.7	4.1							
33-92	Structural /Survivability Block Upgrade	426.7	13.0	0.4								
12-94	Digital Flight Control	92.8	7.8	0.1								
31-94	GPS/Embedded GPS	55.5	3.1	0.1								
42-95	Precision Strike Program	367.9	28.9	**								
20-96	F-14 Critical Systems & Component Modernizatic	21.9	13.4	20.1	0.4							
				*2.8								
	Total	**1,295.5**	**79.7**	**31.3**	**4.5**							

Note: Totals may not add due to rounding.
*$2.765 of FY01 funding has been identified as a source on the FY 2001 Omnibus Reprogramming.
** Indicates amount less than $50K.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Structural Improvements (OSIP 152-83)

MODELS OF SYSTEMS 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 Engineering Change Proposals (ECPs) 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 improvements in the OSIP are at 5,000, 7,000, and 9,000 hour Time Compliance Requirements (TC 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, 2 Outer Wing Panel Leading Edge Repairs, Remanufacture F-14B(KB, KM) and F-14D(r) Door reconfiguration, as well as associated NRE for which kits will be bought in OSIP 20-96. Outer Wing Panel Testing at 8316 hours of testing has identified a new crack in the front spar web at Slat Station #2 , which also dictates the added requirement for partial 9K kits procured in FY00.

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 TCRs. 5,000 (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 AFC-875, 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
5K Kits, ECP 1225/1227	330	38.7	3	0.7																				
F-14D 7K Kits, ECP 1243	52	15.2	2	0.2																				
9K Kits, ECP 1287	20	11.2	10	8.1	12	1.0																		
TCR Fuel Cells	50	0.2																						
ECP-305 BUFCOM Part 1 Kits	200	0.1																						
ECP-276 BUFCOM Part 11 Kits			145	0.1																				
AFC-859 Bulk Material, ECP 1285	200	0.2																						
ECP 1285 PT II WING CRACK					200	0.2																		
Wing Crack III							10	0.0	190	0.1														
ECP-304 F.S. 353 Frame Kits	194	0.7																						
TF-30 Breather Pressure **	169	2.1	136	0.8																				
Phoenix Fairing Kits, ECP Pending	50	*																						
Door Reconfiguration			10	0.1	33	0.3	175	0.4																
Rudder Servo, ECP 279	288	1.0																						
FEMS Engine Diagnostic	20	0.4																						
AFC-737, ECP 147 5K Partial	50	0.2																						
Install Kits NR		41.7				0.2		1.3																
Other Prior Year Kits		47.5																						
Installation Equipment																								
Auxillary Hardware		0.7		0.4		0.1																		
Installation Equipment N/R				16.8		0.7																		
Engineering Change Orders																								
Data		1.4		0.3		0.1		0.2																
Training Equipment																								
Support Equipment																								
ILS																								
Other Support		3.9		6.2		2.7		2.3		1.5														
Interim Contractor Support																								
Installation Cost	804	121.0	188	10.8	193	8.0	72	3.4	104	2.5														
Total Procurement		**286.3**		**44.4**		**13.4**		**7.7**		**4.1**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Double asterick indicates "I" or "O" level Installs which are not funded with APN-5 dollars.

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: 11-16 Months

CONTRACT DATES: FY 2000: 4/00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 3/01 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	313	113.7	10	6.4	12	6.6	16	2.6	6	1.6														
FY 2000 ( ) kits							12	0.3																
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**313**	**113.7**	**10**	**6.4**	**12**	**6.6**	**28**	**2.9**	**6**	**1.6**														

	FY 1999 & Prior	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	323	4	3	4	1	6	9	8	5	1	2	1	2												
Out	302	1	7	6	7	5	6	6	5	7	3	2	3												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a

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

MODIFICATION TITLE: Structural Improvements OSIP (152-83)/ECP-1285 (MATL)/ECP-305 (BUFCOM)/ECP-276 (BUFCOM) PT II

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (545) kits	376	4.1	89	1.3	80	0.4																	**545**	**5.8**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**376**	**4.1**	**89**	**1.3**	**80**	**0.4**																	**545**	**5.8**

Installation Schedule

	FY 1999 & Prior	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	465	20	20	20	20																				
Out	432	33	20	20	20	20																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										545
Out										545

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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (194) kits	115	3.2	79	3.0																			**194**	**6.3**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**115**	**3.2**	**79**	**3.0**																			**194**	**6.3**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	194																								
Out	115	23	22	22	12																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										194
Out										194

Exhibit P-3a

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

MODIFICATION TITLE: Structural Improvements (OSIP 152-83) Door Reconfiguration

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 2000: 10/99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 2/00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (10) kits			10	0.1																			**10**	**0.1**
FY 2000 (33) kits					33	0.3																	**33**	**0.3**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**10**	**0.1**	**33**	**0.3**																	**43**	**0.4**

Note: The FY01 procurement of 175 "Door Reconfiguration" will be installed at the "O" level; therefore, will not be funded with APN-5.

Installation Schedule

	FY 1999 & Prior	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	10		16	17																					
Out		10		16	17																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										43
Out										43

Exhibit P-3a

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

MODIFICATION TITLE: Structural Improvements (OSIP 152-83) WING CRACK II/III (ECP-1285 PT II)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2000: 3/00 FY 2001: 10/00 FY 2002: 10/01 FY 2003:

DELIVERY DATE: FY 2000: 7/00 FY 2001: 01/01 FY 2002: 01/02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits					68	0.7	44	0.6	88	0.8														
FY 2001 ( ) kits									10	0.1														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**68**	**0.7**	**44**	**0.6**	**98**	**0.9**														

Installation Schedule

	FY 1999 & Prior	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					68	11	11	11	11	20	23	24	31												
Out					24	44	11	11	11	11	20	23	24												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

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

MODELS OF SYSTEMS AFFECTED: F-14A/B | TYPE MODIFICATION: Life Extension/Structural Upgrade

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 69 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

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
5K HR TCR/ECP-1225/1227	42	8.2																					42	8.2
7K HR TCR/ECP-1243	54	4.5	3	0.4																			57	4.8
AFC-840 UPGRADE/ECP-245	67	11.7			2	0.2																	69	12.0
AFC-844 TARPS/ECP-269	14	1.1			2	0.3																	16	1.4
BOL CHAF/ECP-236	80	0.5																					80	0.5
TCR, AUX Hardware		4.2		0.3		0.2																		4.7
ALR-67 Provisions		0.4																						0.4
NVIS/LANTIRN/BOL Aux H/W						0.2																		0.2
Wiring Kapton Replacement		1.9																						1.9
Installation Kits N/R		15.3																						15.3
Installation Equipment																								
Hybrid 5400B Computer	76	17.1	2	0.4																			78	17.6
PTID	25	12.4			2	1.0																	27	13.4
PMDIG	76	12.2	2	0.3																			78	12.5
AWG-15	76	6.9	2	0.2																			78	7.1
MRSA	4	0.1																					4	0.1
MDL	19	0.7																					19	0.7
Installation Equipment N/R		144.9																						144.9
Engineering Change Orders		1.6																						1.6
Data		5.0																						5.0
Training Equipment		6.8		0.1																				6.9
Support Equipment		26.6		1.6		0.1																		28.4
ILS		22.7		1.8		0.1																		24.6
Other Support		48.3		17.1		8.1																		73.5
Interim Contractor Support																								
Installation Cost	224	44.6	24	6.8	9	2.7	1	0.4															258	54.6
Total Procurement		**397.5**		**29.1**		**13.0**		**0.4**																440.0

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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: 10 Months

CONTRACT DATES: FY 2000: 10/99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 8/00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (67) kits	54	18.9	10	3.5	2	0.9	1	0.4															**67**	**23.6**
FY 2000 (2) kits					2	0.8																	**2**	**0.8**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**54**	**18.9**	**10**	**3.5**	**4**	**1.6**	**1**	**0.4**															**69**	**24.3**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	64	2	1					1	1																
Out	49	2	2	4	4	4	2			2															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										69
Out										69

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 TCRS)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (99) kits	82	22.5	14	3.4	3	1.0																	**99**	**26.9**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**82**	**22.5**	**14**	**3.4**	**3**	**1.0**																	**99**	**26.9**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	96	3																							
Out	80	4	3	3	2	5	2																		

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										99
Out										99

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 commerical installation concurrent with SDLM or drive-in modifications**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (74) kits	74	3.3																					**74**	**3.3**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**74**	**3.3**																					**74**	**3.3**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	74																								
Out	74																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										74
Out										74

Exhibit P-3a

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

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

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Naval Aviation Depot or commerical installations concurrent with SDLM or drive-in modifcations.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: 10/99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 12/99 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (14) kits	14																						**14**	
FY 2000 (2) kits					2	0.1																	**2**	**0.1**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**14**				**2**	**0.1**																	**16**	**0.1**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	2																							
Out	14				2																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										16
Out										16

Exhibit P-3a | Individual Modification

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

MODELS OF SYSTEMS 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 2008. 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 received in May 1998 and aircraft modifications began in May 1998.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
F-14 Kits	54	0.9	21	0.5																			75	1.3
F-14B Kits	21	0.3	40	0.9	5	0.1																	66	1.3
F-14D Kits	10	0.2	28	0.6	12	0.2																	50	1.0
Installation Kits N/R		0.0																						0.0
Installation Equipment	163	29.8	29	5.7																			192	35.6
Installation Equipment N/R		9.1		1.3		1.0																		11.4
Engineering Change Orders																								
Data		2.4		0.3																				2.7
Training Equipment		3.4		0.7		0.1																		4.2
Support Equipment		2.3		0.1																				2.4
ILS		1.2		1.0		0.3																		2.5
Other Support		18.8		7.0		3.9																		29.6
Interim Contractor Support				1.1		0.5																		1.6
Installation Cost	56	2.4	98	2.9	35	1.9	2	0.1															191	7.3
Total Procurement		**70.8**		**22.0**		**7.8**		**0.1**																100.7

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D** MODIFICATION TITLE: Digital Flight Control System Improvements (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 2000: 11/99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 4/00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (174) kits	56	2.4	98	2.9	20	1.0																	**174**	**6.3**
FY 2000 (17) kits					15	1	2	0.1															**17**	**0.9**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**56**	**2.4**	**98**	**2.9**	**35**	**1.9**	**2**	**0.1**															**191**	**7.3**

*The DFCS installation can be completed in less than one month; however; since the majority of the installations are being done concurrently with other ECPs/modifications, the time between induction and completion varies from 1 to 10 months. The decision to perform the installations concurrently with other efforts occurred in order to minimize the impact on fleet work and deployment schedules.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	4	8	11	12	1		1																	
Out	114	9	6	21	35	4		1		1															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										191
Out										191

Exhibit P-3a | Individual Modification

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

MODELS OF SYSTEMS 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).

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
F-14B Kits	47	3.0	19	1.5																			66	4.6
F-14D Kits	33	2.5	15	1.3																			48	3.7
Installation Kits N/R		12.1																						12.1
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders		0.1																						0.1
Data		4.9																						4.9
Training Equipment	4	5.3																					4	5.3
Support Equipment		2.2																						2.2
ILS		1.5																						1.5
Other Support		12.0		0.8		0.5																		13.4
Interim Contractor Support		1.2		0.3		0.3																		1.8
Installation Cost	38	1.9	52	4.9	27	2.3	1	0.1															118	9.2
Total Procurement		**46.6**		**8.9**		**3.1**		**0.1**																**58.6**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14B/D

MODIFICATION TITLE: Global Poaitioning 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. "B" Kits will be intermediate level Installations.**

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (118) kits	38	1.9	52	4.9	27	2.3	1	0.1															**118**	**9.2**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**38**	**1.9**	**52**	**4.9**	**27**	**2.3**	**1**	**0.1**															**118**	**9.2**

Installation Schedule

	FY 1999 & Prior	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	90	12	5	5	5			1																	
Out	70	13	9	13	5	3	1	1	1	2															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										118
Out										118

Exhibit P-3a — Individual Modification

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

MODELS OF SYSTEMS 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) and GPS Guided Weapons against strategic, high value targets (industrial complexes, power plants, bridges, etc.) and mobile battlefield targets (tanks, armored personnel carriers, SAM sites, etc.). The FLIR/LD system will be augmented by the Fast Tactical Imagery System to allow FLIR/LD information to be passed near real time to the battle group. To enhance the survivability of the F-14 defensive countermeasure systems (AN/ALR-67/Bol Chaff), night vision compatible cockpit modification and increasing the operational altitude of the LTS to 40,999 feet will be made to fleet aircraft. 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 was integrated as a stand alone sensor. F-14 FLIR/LD operational capability was established in June 1996.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
F-14B MCAP	10	0.2																					10	0.2
F-14A Kits	70	3.2																					70	3.2
F-14B UPGRADE Kits	51	2.4	12	0.6	4	0.2																	67	3.1
F-14D Kits	44	1.9	4	0.2																			48	2.1
AN/ALR-67 Kits	51	10.0																					51	10.0
NVIS F-14A/B Kits	114	3.2																					114	3.2
NVIS F-14D Kits	15	0.4	28	0.8																			43	1.3
F-14 FTI KITS			117	0.3																			117	0.3
Bol Chaff F-14A Kits	80	1.7																					80	1.7
F-14B/D GBU-24E/B KITS			117	2.2																			117	2.2
Installation Kits N/R		8.1		6.6		1.0																		15.7
Installation Equipment																								
Lantirn Targeting System	48	116.6	27	58.3																			75	174.9
Night Vision Equipment	88	1.5	89	1.5																			177	3.0
ALR-67 BSF	20	1.6	40	2.4																			60	4.0
GBU 24E/B AAE			57	0.6	57	0.6																	114	1.1
PTIDS					28	14.0																	28	14.0
LANTIRN 4OK					74	5.5																	74	5.5
Installation Equipment N/R	19	55.8		3.8		1.1																	19	60.8
Engineering Change Orders		1.5																						1.5
Data		2.6		1.2		0.2																		3.9
Training Equipment	2	2.2	1	1.2		1.1																	3	4.4
Support Equipment		24.2		1.1		1.0																		26.3
ILS		6.4		2.9		1.2																		10.5
Other Support		7.7		1.7		1.2																		10.5
Interim Contractor Support		5.2		1.2		0.8																		7.2
Installation Cost *	424	21.6	227	3.4	64	1.0	2	0.0															719	26.1
Total Procurement *		**278.0**		**90.0**		**28.9**		**0.0**																396.9

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Out Year funding previously in this OSIP has been moved to APN-7

Exhibit P-3a

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

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) F-14B MCLAP, F-14A Kits, F-14B Upgrade Kits, F-14D Kits

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 2000: 11/99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 02/00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (195) kits	164	10.8	24	1.9	6	0.5	1	0.0															**195**	**13.2**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**164**	**10.8**	**24**	**1.9**	**6**	**0.5**	**1**	**0.0**															**195**	**13.2**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	188	5	1					1																	
Out	188	5	1							1															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										195
Out										195

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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (51) kits	51	8.4																					**51**	**8.4**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**51**	**8.4**																					**51**	**8.4**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	51																								
Out	51																								

	FY 2006				FY 2007				To	
	1	2	3	4	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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (80) kits	80	1.7																					**80**	**1.7**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**80**	**1.7**																					**80**	**1.7**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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																								
Out	80																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										80
Out										80

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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (157) kits	129	0.7	28	0.3																			**157**	**1.0**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**129**	**0.7**	**28**	**0.3**																			**157**	**1.0**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	157																								
Out	157																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										157
Out										157

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14B/D** MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) GBU-24

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (117) kits			58	0.7	58	0.6	1	0.0															**117**	**1.3**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**58**	**0.7**	**58**	**0.6**	**1**	**0.0**															**117**	**1.3**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	58	15	15	15	13			1																	
Out	58	15	15	15	13					1															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										117
Out										117

Exhibit P-3a

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

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) FAST TACTICAL IMAGERY (FTI)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (117) kits			117	0.5																			**117**	**0.5**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**117**	**0.5**																			**117**	**0.5**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	85	16	16																						
Out	85	16	16																						

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										117
Out										117

Exhibit P-3a — Individual Modification

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

MODELS OF SYSTEMS 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-18E/F. 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. Modifications included in this OSIP will reduce potential safety risks and improve aircraft mission performance and readiness 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 (safety issue); Vertical Display Indicator Group ECP 308 improves internal thermal control and replace failure parts (safety issue); MDIG ECP 344 improves internal CRT control circuiting to enhance display perfomance; Flap/Slat ECP 310 replaces bearing and control tube components reducing wing binding (safety issue); Nacelle Element ECP 342 adds additional fire warning elements on the F-14B/D to identify potential afterburner wall burn through; ECPs 320/321 correct medium PRF problems with power supplies and get them up to current -170 configurations, Wing Sweep Motors, 15 Degree Elbow Hydraulic Lines, the Turtleback Optical Fire Detection, AICS Programmer, APG-71, F-14D IRST Compressor, the Mission Computer Upgrade, F-14D JTIDS Notch Filter, and HUD, SCADC, F-14D Glareshield and F-14D Readiness Improvement.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AWG-9 Antenna**	65	0.2	105	0.3																			170	0.4
AWG-9 BEAM Power Supply	170	0.4	30	0.1																			200	0.5
AWG-9 COLL Pwr Supp	170	0.6	30	0.1																			200	0.7
AWG-9 DDD**	65	0.0	105	0.7																			170	0.7
AWG-9 Receiver**	65	1.1	105	1.8																			170	2.8
Flap/Slat	104	*	96	*																			200	0
FCBM (ECP-276)			145	0.1																			145	0.1
Throttle Quadrant			200	0.8																			200	0.8
VDIG	64	0.1																					64	0.1
Wing Sweep Motors**					121	2.3	279	5.3															400	7.6
Nacelle Elements					20	0.2	103	1.8															123	2.0
15 Deg Elbow Hyd Line**			200	0.4																			200	0.4
Waveguide Dryers**			48	0.2	152	0.5																	200	0.7
APG-71 Power Conv.**					200	0.5																	200	0.5
F-14D IRST Compressor**					12	1.0																	12	1.0
Mission Computer Upgrade**					6	0.6	42	4.2															48	4.8
F-14D HUD**					10	0.0																	10	0.0
SCADC**			150	0.1																			150	0.1
F-14D Glareshield**			10	0.1	40	0.2																	50	0.3
RWR ANTENNA							75	1.0															75	1.0
Installation Kits N/R		1.5		4.7		1.0																		7.2
Installation Equipment																								
Installation Equipment N/R				0.1																				0.1
Engineering Change Orders																								
Data		0.0		0.6		0.2																		0.7
Training Equipment				0.8		0.5																		1.3
Support Equipment			1	0.3	30	1.3	34	0.4	22	0.4													87	2.4
ILS				0.0																				0.0
Other Support		2.8		2.1		1.8		1.5																8.2
Interim Contractor Support																								
Installation Cost	130	**0.6**	364	**1.6**	193	**3.4**	245	**5.9**															932	11.6
Total Procurement		**7.2**		**14.7**		**13.4**		**20.1**		**0.4**														**55.894**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Double asterick indicated "I" or "O" level Installs which are not funded with APN-5 dollars.

Exhibit P-3a

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

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-321 (AWG-9 BEAM Pwr Supp)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 10 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (200) kits	65	0.3	135	0.4																			**200**	**0.7**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**65**	**0.3**	**135**	**0.4**																			**200**	**0.7**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	200																								
Out	200																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										200
Out										200

Exhibit P-3a

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

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-320 (AWG-9 COLL Pwr Supp)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 10 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (200) kits	65	0.3	135	0.4																			**200**	**0.7**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**65**	**0.3**	**135**	**0.4**																			**200**	**0.7**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	200																								
Out	200																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										200
Out										200

Exhibit P-3a

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

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-276 (FCBM Wiring)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (145) kits			65	0.2	40	0.3	40	0.2															**145**	**0.7**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**65**	**0.2**	**40**	**0.3**	**40**	**0.2**															**145**	**0.7**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	65	13	11	11	5	16	9	8	7																
Out	29	16	15	15	13	12	17	15	9	4															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										145
Out										145

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14 A/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: 4 Months

PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (64) kits					64	0.2																	**64**	**0.2**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**64**	**0.2**																	**64**	**0.2**

Installation Schedule

	FY 1999 & Prior	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				32	32																				
Out						32	32																		

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										64
Out										64

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14 A/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: 1 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (200) kits			29	0.6	89	3.0	82	3.4															**200**	**7.0**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**29**	**0.6**	**89**	**3.0**	**82**	**3.4**															**200**	**7.0**

Installation Schedule

	FY 1999 & Prior	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	29	12	18	34	25	32	36	14																	
Out	15	21	25	26	26	29	23	22	13																

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										200
Out										200

Exhibit P-3a

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

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

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Maintenance**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: 7/00 FY 2001: 10/00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 9/00 FY 2001: 12/00 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 (20) kits							20	0.2															**20**	**0.2**
FY 2001 (103) kits							103	2.1															**103**	**2.1**
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL							**123**	**2.3**															**123**	**2.3**

Installation Schedule

	FY 1999 & Prior	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						27	29	28	39																
Out						18	23	25	25	32															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										123
Out										123

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: **June 2001**					
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy ircraft Modification**							P-1 ITEM NOMENCLATURE **Adversary Series Modifications**					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY												
COST (In Millions)	**7.9**			**6.9**	**34.8**							

These line items fund modifications to an inventory of 36 F-5 Adversary aircraft, and 14 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 2002 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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
29-81	F-5 STRUCTURAL REPAIR PROGRAM	**7.9**		6.9	9.8							
13-02	F-16A/B STAND-UP				25.0							
	Total	**7.9**		**6.9**	**34.8**							

Funding for Reserve Forces

Note: Totals may not add due to rounding.
* indicates amount less than 0.051 Million

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: F-5 STRUCTURAL REPAIR PROGRAM (OSIP 29-81)

MODELS OF SYSTEMS AFFECTED: F-5 Adversary Aircraft — TYPE MODIFICATION: Safety/Reliability

DESCRIPTION/JUSTIFICATION: The Navy F-5 Adversary aircraft inventory, and all applicable funds are for 36 aircraft . USAF updated durability, damage and tolerance analysis, structural inspection, full scale fatigue testing and counting accelerometer data has identified structural fatigue in wings and fuselage areas. The US Navy plans to utilize these aircraft in the Adversary mission through FY2015, and beyond. However, aircraft will be grounded prior to 2015, when maximum fatigue life is reached on major structural components, unless further analysis and replacements are procured and installed. Analysis is required to better define component fatigue lives in the aft fuselage. Also, Wings, as well as, Horizontal Stabilizers, Vertical Stabilizers, Upper Cockpit Longerons, and Dorsal Longerons require replacement as they reach their fatigue life limit. Installation of a Crash Survivable Flight Incident Recorder (CSFIR) is planned to ensure accurate recording of flight profile data which can provide up to a 25% increase in usage of these high cost fatigue critical components. Also, repair of other critical safety-of-flight systems such as, Flight Controls and Canopy Latching mechanisms will be accomplished under this program.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All components and systems required for this program are already qualified, and/or approved for Navy use. No Operational Testing is envisioned under this program.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Various Kits	291	1.2																						
Wings	4	3.9																						
Vertical Stabilizer							12	3.0	8	2.2														
Upper Cockpit Longeron							3	0.3	1	0.1														
Horizontal Stabilizer	6	0.4					8	1.1	15	2.0														
Dorsal Longeron	1	0.2					18	1.2	10	0.7														
CSFIR Kits									7	0.4														
Canopy Latch Mod/Refurb Kits									36	0.2														
Aft Fuselage Struct. Components																								
Installation Kits N/R		1.6		*						1.0														
Installation Equipment							1	0.2	1	0.2														
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1																						
Training Equipment																								
Support Equipment																								
ILS		0.1						0.4		0.6														
Other Support																								
Interim Contractor Support																								
Installation Cost	291	0.4																						
Installation Vstab									12	1.0														
Installation Dorsal Longeron	1	0.1					10	0.8	10	0.9														
Installation Up Cockpit Longeron									3	0.3														
Installation CSFIR's									5	0.3														
Installation Aft Fuselage Struc. Comp																								
Installation Canopy L. Mod/Refurb									36	*														
Total Procurement		**7.9**		*				**6.9**		**9.8**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a F-5 STRUCTURAL REPAIR PROGRAM (OSIP 29-81)
(Vertical Stabilizer, Upper Cockpit Longeron, Dorsal Longeron,CSFIR,

MODELS OF SYSTEMS AFFECTED: F-5 Adversary Aircraft MODIFICATION TITLE: Aft Fuselage Struc. Canopy Latch Mod.)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: N/A FY 2001: Nov-01 FY 2002: Nov-02 FY 2003:

DELIVERY DATE: FY 2000: N/A FY 2001: Jan-01 FY 2002: Jan-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	292	0.5																						
FY 2000 ( ) kits																								
FY 2001 ( ) kits							10	0.8	23	2.0														
FY 2002 ( ) kits									43	0.5														
FY 2003( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**292**	**0.5**					**10**	**0.8**	**66**	**2.4**														

Installation Schedule

	FY 1999 & Prior	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	292						2	4	4		23	23	20												
Out	292						2	4	4		23	23	20												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: F-16A/B STAND-UP (OSIP 13-02)

MODELS OF SYSTEMS AFFECTED: F-16 Adversary Aircraft — TYPE MODIFICATION: Safety/Reliability

DESCRIPTION/JUSTIFICATION: OSD ordered Air Force and Navy to split 28 F-16s left over from the canceled Peace Gate sale to Pakistan . OSIP funding will support the induction of 14 F-16 aircraft into the Adversary fleet at NSAWC, Fallon Nevada. The US Navy plans to utilize these aircraft as a Category-IV Adversary aircraft, simulating the threat of modern high performance fighters. The Navy will operate the 14 F-16's in a training program, providing approximately 300 sorties per aircraft per year. All modifications under this OSIP are to incorporate engine and airframe TCTO's. The airframe mod incorporation will include a structural data recorder.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: OSD directed USN to stand-up 14 F-16 Adversary aircraft at NSAWC, based in Fallon, Nevada. Modification kits procured under this OSIP are to support those aircraft that must incorporate Air Force approved Time Compliance Technical Orders applicable to Navy Adversary mission to improve safety and reliability. Ten F-16A and four F-16Bs have been alloted to the Navy, the exact 14 Bureau numbers of the aircraft are to be identified at a later date. All modifications will install previously qualified systems or equipment. No DT or OT is required. IOC is planned for April 2002 with FOC no later than May 2003.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Various Kits																								
Airframe TCTO Incorporation									10	5.8														
Engine Upgrade Modification									10	5.0														
Installation Kits N/R										1.9														
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data										0.5														
Training Equipment																								
Support Equipment										8.4														
ILS										0.2														
Other Support										3.2														
Interim Contractor Support																								
Installation Cost																								
Total Procurement										**25.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **June 2001**

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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY												
COST (In Millions)	738.6		317.7	261.8	193.2							

This line item funds modifications 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 2002 is to implement commonality/capability. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002
11-84	Correction of Discrep.	209.9	52.2	57.2	58.3
39-92	AN/ARC-210	9.6	1.2	1.9	2.4
19-94	Common Configuration	139.7	10.8	11.0	13.3
36-94	GPS	42.2	10.4	8.0	9.7
38-94	AN/APG-73 RUG	69.7	52.6	18.4	3.7
12-96	PIDS	46.1	3.5	2.4	0.3
3-97	ATARS	162.1	55.3	23.6	
23-98	Naval Reserve Upgrade	25.3	6.7	3.0	
10-99	DCS	2.5	0.3	0.6	4.1
11-99	SLMP	7.6	10.3	1.9	17.6
12-99	MIDS	17.3	51.5	49.3	32.4
20-99	NACES P3I	6.6	4.4	2.6	
21-00	USMC F/A-18A UPGRADE		56.6	68.1	11.6
24-00	JHMCS		1.9		
12-01	ATFLIR			10.9	22.1
16-01	TAMMAC *			3.0	
19-01	E/F Correction of Discrep.				11.7
05-02	AIM-9X				1.0
06-02	C/D Training System				5.0
TOTAL		738.6	317.7	261.8	193.2
	* FY01 funding has been reprogrammed via Below Threshhold Reprogramming (BTR) to PMA 209				
	RESERVE INCLUDED IN TOTAL	32.6	42.1	26.0	11.7

MODIFICATION TITLE: **UNCLASSIFIED** **CORRECTION OF DISCREPANCIES IDENTIFIED DURING PRELIMINARY EVALUATION, SUBSEQUENT FLIGHT TEST PROGRAMS AND FLEET OPERATIONS (OSIP 11-84)**

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

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:

External Stores EMI Protection (ECP 087S1)	Provide for the application of external stores EMI Protection.
Auto AC Bus Isolation (ECP 121R1)	Modifies the 50A Battery Charging Converter installation to automatically isolate the busses and reset the generators following a dual power outage.
Battery Control Relay Unit (ECP 165R1)	Safety modification to the utility/emergency battery control circuits and adds a battery relay control unit. Prevents inadvertent battery discharge
FY86 Block Upgrade (ECP 178R1C1)	Increases the power handling capabilities of the four port antenna and the RF switchable filter in order to accommodate the RF power output requirements of the ASPJ System
Center Fuselage Structural Mods (ECP 241R1)	Improves fatigue for the Dorsal Deck, Duct Skin rivets at Y442, ECS Inlet Casting, and Y419 Nacelle Former at Ramp Truss Attachment.
Dorsal Longeron (ECP 251)	Life extension modification to the Dorsal Longeron.
Dorsal Longeron (ECP 251R1)	Life extension modification to the Dorsal Longeron.
470.5 Bulkhead (ECP 262)*	Improves the fatigue life of the Y470.5 Bulkhead Outer Cap.
Righthand AMAD Bay (ECP 267)*	Reliability and maintainability improvement to the interference between the motive flow tube and the hot fuel recirculation tube
Y508 Former (ECP 276)	Structural improvement of the Y508 Former by increasing the flange thickness and reinforcing the former with integral ribs.
AC Bus Wiring MOD (ECP 284)	Reliability and maintainability improvement to the common cable routing of the primary/backup AC power distribution wires
AFT Engine Mount (ECP 305R1)*	Safety modification improves the aft engine mount support to prevent cracking in the aft engine mount support fitting.
Y657.35 Engine Bay Door Former (ECP 306)	Modifies the existing door former to prevent cracking.
Main Landing Gear (MLG) Planing Link (ECP 311)*	Safety modification to the existing planing link assembly. Belleville washers spring is replaced with nested external compression springs to provide additional overcenter locking force and stroke capability
MLG Trunnion Upgrade (ECP 319)*	Safety modification reconfigures and strengthens the MLG trunnion assembly to prevent catastrophic failure upon landing or takeoff.
Y488 Bulkhead (ECP 320)	Modifies the Y488 bulkhead to reduce structural stress and improve fatigue life.
Deployable Flight Incident Recorder (ECP 321)	Adds a Deployable Flight Incident Recorder Set (DFIRS) to provide nonvolatile storage of the last 30 minutes of flight incident data in a deployable unit
Wing Fatigue Repair (ECP 353)	Modifies the fastener holes in the Wing Panel Forward Spar and the #4 Intermediate Wing Spar to increase fatigue life.
MLG Shoulder Belt (ECP 355)	Safety modification provides new shoulder bolts to correct a deficiency concerning elongation of the AFT bolt hole in the MLG Door Actuator Support Fitting
ASPJ System Improvement (ECP 364)	Improves reliability and maintainability by improving the cooling system and correcting transmit switchable filter qual test problems
Y470 Bulkhead Improvement (ECP 365)	Modifies the Y470 bulkhead to reduce structural stress and improve fatigue life.
#1 Fuel Cell Floor (ECP 367)	Safety modification to improve the fuel cell floor strength to prevent cracking during catapult.
MLG Retract Actuator (ECP 375)	Redesigns the MLG Retract Actuator Support Fitting and the Flange of Y470.5 Bulkhead where the fitting attaches and revises hydraulic timing to lengthen the Fatigue Life of the structures
Fretting on Formers & Spindles (ECP 391)	Safety modification to correct fretting observed on outboard formers of horizontal stabilizer.
Wing Attach Longeron Improvement (ECP 393)	Improves the fatigue of the longeron.
Fuselage Skin, Y518 to Y534 (ECP 402)*	Modifies exterior fittings and adds and internal bathtub to strengthen the area, reduce structural stress, and improve fatigue life.
Fuselage Skin, Y518 to Y534 (ECP 402R1)*	Modifies exterior fittings and adds and internal bathtub to strengthen the area, reduce structural stress, and improve fatigue life.
Encoder/Decoder Silicone Gasket (ECP 414)	Safety modification to the existing access cover to eliminate fuel leaks from the integral wing tanks into the fuselage encoder/decoder.
Inlet Duct Skin at Y453 (ECP 417)	Addresses the retrofit design which will provide 12,000 SFH of life without cracks for the Inlet Duct Skin
Y470.5 Bulkhead MLG Trunnion (ECP 428)	Corrects the deficiency in the MLG Trunnion support at Y470.5 bulkhead.
Speed Brake Trough (ECP 440)	Modifies the existing speed brake trough area to strengthen it and improve fatigue life.
Outboard Aileron Improvements (ECP 463R1)	Reliability and maintainability improvement to the existing aileron hinge and hinge fairing to increase fatigue life
SUU-63 Wing Pylon Door Panel (ECP 488)	Safety modification to the existing door panel to preclude loss of the door during flight
Y470.5 Bulkhead Fatigue Change (ECP 492)	Modifies the thickness of the existing bulkhead web to increase strength and improve fatigue life.
Fuselage Skin at Y453 (ECP 498)	Safety modification to strengthen existing fasteners attaching the P/N 74A324350 former to Y453 bulkhead.
Nacelle Skin Fatigue Improvements (ECP 501)	Retrofits the Inlet Nacelle Skin to correct acoustic vibration related fatigue failures.
LAU-115 Sparrow Mod (ECP 506)*	Modifies the lower rail of the LAU-115 to strengthen the area of the AIM-7 Sparrow missile forward hanger interface and improve fatigue life
ST-16 Failures (ECP 536)*	Modifies aircraft between Lot VI and Lot XVI ro realize Full Life Airframe (6000 Fatigue Hours)
Improvement of Inner Wing SPAR (ECP 544)	Strengthens the existing inner wing spar to improve fatigue life.
Fuel Barrier Web (ECP 548)	Safety improvement to the existing fuel barrier web to prevent fuel leaks.
Wing Drag Longeron (ECP 550)*	Structural improvement to the Wing Drag Longeron due to tabs attached to the closeout webs were cracking during installation.
Y326.5 Plate Nut (ECP 561)	Modifies the existing fasteners at the Y326.5 Bulkhead to improve fatigue life.
Lower Center Keel Fire Hazard (ECP 562)	Safety improvement to the secondary pressure regulator bay to eliminate fire hazards.
TON Anomaly (ECP 571)	Corrects the deficiency of the three second Tone Anomaly in the CC.
Aileron/Trailing Edge Flap (ECP 574)	Provides a full-life improvement for aircraft degradation caused by cracked trailing edge flap and aileron hinges.
Hydraulic Temp Gauges (ECP XXX)	Improves the reliability of the hydraulic temperature gauges.
Environment Control System Wiring (NI 742)	Modifies wiring to the number 3 Relay Panel Assy to connect the Left Main Gear (LMG) Weight on Wheels (WOW) Relay ABD the Dump/RAM Dump Relay.
Wing Fuel Dams (NI 796)	Safety improvement modifies the inner wing inboard closure rib to prevent fuel leaks.
MLG Trunnion Assembly (NI 824)	Safety improvement to the MLG trunnion assembly to improve fatigue life and prevent failed landing gear mishaps.
Heat Exchanger (NI 827)	Provides for the removal of the nickel core and replaces with a more reliable stainless steel and nickel core.
Night Vision Display System (NVDS) (NI 830)	Adds capability to the lighting system to make the NVDS compatible.
Trailing Edge Flap (NI 839)	Safety modification to the trailing edge flap to correct flap departures while in flight.
Birdstrike Res Windshield (NI 843)	Safety modification to the windshield to protect against birdstrikes during flight.
Aileron Hinge Mod (NI 844)	Safety modification to the current aileron hinge to prevent aileron departures, which cause severe damage to the aircraft and pose a threat to safety of flight.
ANTI G VALVE (ECP XXX)	Improves pilot G-Load tolerance as part of the Navy Combat Edge (NCE) Anti-G Protection System.
Fuel Cell Floor Crack (ECP XXX)	Safety modification to correct cracks at Y431, Y442, and Y453 in the fuel cavity floor deck centerline under tank two and three
Side Fuselage Crack (ECP XXX)	Safety improvement to the fatigue life of the forward skin section of the chem-milled panels.
Bay 3 & 4 Shelf Improvement (ECP XXX)	Supports retrofit of Interrogator Transponder (CIT) Identification Friend or Foe (IFF) system into the F/A-18 Weapon System
Front SPAR Crack (ECP XXX)	Strengthens the existing front inner wing SPAR to improve fatigue life.
Forward Lower Keel Modification (ECP XXX)	Improves fatigue life of the Nose Landing Gear (NLG) Drag Brace.
AFT Lower Keel (Tail Hook) (ECP XXX)	Strengthens and improves fatigue life of the Keel/Tail Hook Area.
Inner Wing Torque Box (ECP XXX)	Prevents fuel leaks, and inspects for fatigue cracks in the torque box.
NLG Gear Cover Modification (ECP XXX)	Safety Modification to improve the NLG Steer Cover and to prevent cracking during cats, traps, and runway landing.
Hydraulic Switching Valve Modification (ECP XXX)	Improves reliability due to high failure rates.
Hydraulic High Pump Modification (ECP XXX)	Improves reliability due to high failure rates.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.
ECPs Jax 021, Jax 032, and 342 were moved to OSIP 1994.
ECP 536 moved from OSIP 11-99 to OSIP 11-84 starting in FY02.
Unit cost variances due to: - Many ECP Kits were/are provided to the Navy at no additional costs (warranty kits).*
- Some ECPs have numerous Technical Directives with different unit costs.

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-18 A/B/C/D** TYPE MODIFICATION: **SAFETY /RELIABILITY/IMPROVEMENT**

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP 087S1/External Stores EMI Protection																								
ECP 121R1/Auto AC Bus Isolation	356	0.7																						
ECP 165R1/Battery Control Relay Unit	251	0.5																						
ECP 178/FY86 Block Upgrade	82	4.7																						
ECP 241R1/Center Fuselage Structural Mods	1,719	0.6																						
ECP 251/Dorsal Longeron	1,889	2.8																						
ECP 251R1/Dorsal Longeron	214	2.0	157	4.4	72	2.2	70	0.3	52	1.8														
ECP 262/470.5 Bulkhead	194	0.0																						
ECP 267R1/Righthand AMAD Bay	250	0.0																						
ECP 276/Y508 Former	816	1.0																						
ECP 284/AC Bus Wiring MOD																								
ECP 305/AFT Engine Mount	619	0.0																						
ECP 306/Y657.35 Engine Bay Door Former	688	0.9																						
ECP 311/Main Landing Gear (MLG) Planing Link	10	0.0																						
ECP 319/MLG Trunnion Upgrade	1,405	0.0																						
ECP 320/Y488 Bulkhead	473	1.2																						
ECP 321/Deployable Flight Incident Recorder																								
ECP 353/Wing Fatigue Repair	98	0.7																						
ECP 355/MLG Shoulder Belt	350	0.2																						
ECP 364/ASPJ System Improvement																								
ECP 365/Y470 Bulkhead Improvement	814	0.1																						
ECP 367/#1 Fuel Cell Floor	557	0.3																						
ECP 375/MLG Retract Actuator	1,323	5.7																						
ECP 391/Fretting on Former's & Spindles	582	0.3																						
ECP 393/Wing Attach Longeron Improvement																								
ECP 402/Fuselage Skin, Y518 to Y533	638	0.0																						
ECP 402R1/Fuselage Skin, Y518 to Y534	543	0.0	50	0.3	41	0.6	52	0.5	30	0.4														
ECP 414/Encoder/Decoder Silicone Gasket																								
ECP 417/Inlet Duct Skin at Y453	575	2.0																						
ECP 428/Y470.5 Bulkhead MLG Trunnion	2	0.1																						
ECP 440/Speed Brake Trough	591	1.0																						
ECP 463R1/Outboard Aileron Improvements																								
ECP 488/SUU-63 Wing Pylon Door Panel	1,151	0.7			200	0.1																		
ECP 492/Y470.5 Bulkhead Fatigue Change	721	1.2	80	0.1	150	0.1			58	0.1														
ECP 498/Fuselage Skin at Y453	239	0.1			164	0.2	100	0.2	80	0.2														
ECP 501/Nacelle Skin Fatigue Improvements	523	2.7			100	0.8	70	0.6	18	0.2														
ECP 506/LAU-115 Sparrow Mod	935	0.0																						
ECP 536/ST-16 Failures	9	0.0																						
ECP 544/Improvement of Inner Wing SPAR	29	0.3																						
ECP 548/Fuel Barrier Web	420	0.5	30	0.1	200	0.4	153	0.8																
ECP 550/Wing Drag Longeron			20	0.0	99	0.2	100	0.6	100	0.3														
ECP 561/Y326.5 Plate Nut	532	0.2							75	0.0														
ECP 562/Lower Center Keel Fire Hazard	442	0.1					150	0.1	115	0.1														
ECP 571/TON Anomaly							150	0.0																
ECP 574/Trailing Edge Flaps	60	1.6	81	2.1	92	2.5	70	2.0	50	1.5														
ECP 574/Aileron	60	0.3	81	2.3	92	2.6	70	2.2	50	1.5														
ECP XXX/Hydraulic Temp Guages							100	0.1	75	0.1														
NI 742/Environment Control System Wiring																								
NI 796/Wing Fuel Dams	126	0.1					150	0.2	209	0.3														
NI 824/MLG Trunnion Assembly	316	6.8																						
NI 827/Heat Exchanger	37	0.4																						
NI 830/Night Vision Display System (NVDS)	14	0.3																						
NI 839/Trailing Edge Flap	1,150	9.4																						
NI 843/Birdstrike Res Windsheild																								
NI 844/Aileron Hinge Mod																								
ECP XXX - ANTI G VALVE	800	1.0																						
ECP XXX - Fuel Cell Floor Crack							100	0.5	25	0.1														
ECP XXX - Side Fuselage Crack							75	0.2	75	0.2														
ECP XXX - Bay 3 & 4 Shelf Improvement							100	0.1	85	0.1														
ECP XXX - Front SPAR Crack							50	0.5	50	0.6														
ECP XXX - Forward Lower Keel Modification																								
ECP XXX - AFT Lower Keel (Tail Hook)																								
ECP XXX - Inner Wing Torque Box																								
ECP XXX - NLG Gear Cover Modification																								
ECP XXX - Hydraulic Switching Valve Modification																								
ECP XXX - Hydraulic High Pump Modification																								
Installation Kits N/R		2.7		0.2		0.3		0.9		1.2														
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.4		0.4		0.8		0.9														
Training Equipment																								
Support Equipment		1.5																						
ILS		12.1		6.9		17.6		18.5		12.3														
Other Support										1.2														
Interim Contractor Suppor																								
Installation Cost	10,951	102.5	1,407	23.9	1,687	24.1	1,753	28.2	1,902	35.2														
TOTAL PROCUREMENT		169.1		40.8		52.2		57.2		58.3														

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** TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 (ORD# 486-88-93) 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 SINC GARS. F/A-18 ARC-210 requirements will be satisfied by retrofitting Lot X through Lot XVI and forward fitting Lot XVII through Lot XXI.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

F/A-18 was the lead aircraft for the AN/ARC-210 development program; therefore, retrofit procurement began in FY92. AN/ARC-210 Milestone III was approved in April 1994. First article test completed in January 1994. The additional requirements shown in this budget for FY2001 - 2004 reflect the fleet's desire for a common communications capability for Lots X and above F/A-18C/D. ARC-210 radios removed from other aircraft during DCS upgrade will be installed in F/A-18C/D Lots X and XI.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Lot XII through XXI Kit	79	1.3																					79	1.3
Lot X through XI Kit					36	1.0	60	1.9	45	1.3														
Installation Kits N/R		0.8																						
Installation Equipment **																								
Lot XII through XXI Kit	114	5.6																						
Lot X through XI Kit																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.3																						
Training Equipment																								
Support Equipment																								
ILS						0.06				0.22														
Other Support																								
Interim Contractor Support																								
Installation Cost	75	1.7			4	0.1			36	0.9														
TOTAL PROCUREMENT		9.6				1.2		1.9		2.4														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. ** 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**

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

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **PUBLIC/PRIVATE COMPETITION AND AT NAVAL AVIATION DEPOTS**

ADMINISTRATIVE LEADTIME: **6 Months**

PRODUCTION LEADTIME: **24 Months**

CONTRACT DATES: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: Mar-02 FY 2003:

DELIVERY DATE: FY 2000: Mar-02 FY 2001: Mar-03 FY 2002: Mar-04 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (79) kits	75	1.7			4	0.1																		
FY 2000 (36) kits									36	0.9														
FY 2001 (60) kits																								
FY 2002 (45) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	75	1.7			4	0.1	0	0.0	36	0.9														

Installation Schedule

	FY 1999 & Prior	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	75	0	4	0	0	0	0	0	0	0	18	18	0												
Out	75	0	4	0	0	0	0	0	0	0	18	18	0												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

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: **CAPABILITY IMPROVEMENTS / SAFETY**

DESCRIPTION/JUSTIFICATION:

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) or 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 and beyond. 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, SE, and Operational Flight Program (OFP) software. VPM - "O" Level installs. ECP JAX 023 (High Altitude Laser), ECP JAX 021(NAVFLIR Adapter), and ECP 342(AN/ASQ-173 Laser Detector/Tracker) moved from OSIP 1184 (FY00 & out). The F/A-18 Tactical Automated Mission Planning System (TAMPS) Mission Planning Module (MPM) provides capabilities and displays required by the aircrew to plan and execute a mission from a cockpit perspective by providing a set of aircraft planning functions, report, and graphic display options. ATFLIR has moved to OSIP 12-01 as of FY01.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

CVRS utilizes moderately militarized HI-8MM video recorders that are currently available (no development required) with CVRS installed. The AN/AYK-14 is fully developed. It was production incorporated into Lot XV and subsequent F/A-18C/Ds and has had retrofit funding since 1994.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
INSTALLATION KITS																								
NI818/CVRS	314	2.9																						
CDII-045/VPM("O"Level")	559	57.0																						
CDII-051/VPM("O"Level")	77	7.5	121	11.3	19	1.8																		
INSTALLATION KITS N/R		20.7		1.9		2.5		3.5		3.0														
INSTALLATION EQUIP.																								
NI818/CVRS																								
CDII-045/VPM("O"Level")																								
CDII-051/VPM("O"Level")	291	7.6																						
INSTALLATION EQUIP. N/R																								
ENGINEERING CHANGE ORDERS																								
DATA		2.1		1.8																				
TRAINING EQUIPMENT				0.3																				
SUPPORT EQUIPMENT		17.0		3.8		4.2		6.8		8.7														
ILS		1.6		0.8		0.6		0.1		1.4														
OTHER SUPPORT																								
INTERMIN CONTRACT SUPPORT																								
Installation Cost	219	2.8	54	0.7	230	1.8	144	0.6	80	0.3														
TOTAL PROCUREMENT		119.2		20.5		10.8		11.0		13.3														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 A/B/C/D** MODIFICATION TITLE: **COMMON CONFIGURATION (OSIP 19-94)**

METhOD OF IMPLEMENTATION: **CVRS - FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: **N/A Months** PRODUCTION LEADTIME: **16 Months**

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (314) kits	219	2.8	24	0.3	71	1.0																	314	4.2
FY 2000 (0) kits																								
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (0) kits																								
FY 2005 (0) kits																								
FY 2006 (0) kits																								
FY 2007 (0) kits																								
To Complete (0) kits																								
TOTAL	219	2.8	24	0.3	71	1.0																	314	4.2

	FY 1999 & Prior	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	243	24	24	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Out	243	24	24	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	314
Out	0	0	0	0	0	0	0	0	0	314

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 A/B/C/D** MODIFICATION TITLE: **COMMON CONFIGURATION (OSIP 19-94)**

METhOD OF IMPLEMENTATION: **TFLIR - FMT**

ADMINISTRATIVE LEADTIME: **5 Months** PRODUCTION LEADTIME: **16 Months**

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (413) kits*			30	0.3	159	0.7	144	0.6	80	0.3													413	2.0
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 (0) kits																								
FY 2005 (0) kits																								
FY 2006 (0) kits																								
FY 2007 (0) kits																								
To Complete ( ) kits																								
TOTAL			30	0.3	159	0.7	144	0.6	80	0.3													413	2.0

Installation Schedule * Prior year install purchase was in OSIP 11-84

	FY 1999 & Prior	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	30	51	36	36	36	36	36	36	36	36	36	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Out	30	51	36	36	36	36	36	36	36	36	36	8	0	0	0	0	0	0	0	0	0	0	0	0	0

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	413
Out	0	0	0	0	0	0	0	0	0	413

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 36-94)**

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

DESCRIPTION/JUSTIFICATION:

GPS (ORD# 401-88-95) 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.

The F/A-18 GPS requirements will be satisfied with EGI by retrofitting the EGI into Lot VI through Lot IX. F/A-18C/D requirements will be satisfied with the Miniature Airborne GPS Receiver (MAGR), by retrofiting Lot X through Lot XVI, and forward fitting into Lot XVII through Lot XXI.

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 Embedded GPS/INS (EGI) system was supposed to be an NDI system, however, it has required a significant amount of development, which has resulted in schedule slips. As a result, F/A-18 has been adversely impacted in the following areas:

1. F/A-18A/B/C/D can no longer meet the Congressional mandate to have GPS installed in all A/C by the year 2000.
2. F/A-18 Mission Computer S/W testing to incorporate EGI functionality has experienced continual slips due to EGI hardware immaturity.
3. The immaturity of the EGI has resulted in a delay of the Validation and Verification (Val/Ver) of the EGI A-Kits in all versions of the F/A-18.
4. As a result of the above impacts, a decision was made to install the Miniature Airborne GPS Receiver (MAGR) in F/A-18 C/D Lot X through Lot XVI A/C. MAGR is a lower risk option and has been installed as a forward fit in Lot XVII and above A/C. Since EGI performance has not completed testing, MAGR is the only option that ensures the most rapid, low risk retrofit. This plan results in the least impact to further F/A-18C/D modifications. Furthermore, a decision was also made to continue with the development of the EGI in order to meet GPS requirements for the F/A-18A/B (Lot IX and below) . F/A-18 A/B's cannot be retrofitted with a MAGR integration due to space restrictions and airframe differences. In summary, F/A-18 has had to develop new integration plans for GPS that now include the integration of both MAGR and EGI. EGI A-Kits were put on order using FY96/97/98 funding based on an NDI assumption, however due to above mentioned reasons, the EGI A-Kits now need to be converted to MAGR A-Kits with no pricing impact. The procurement of MAGR B-Kits to catch up with converted MAGR A-Kits has resulted in F/A-18 not meeting the full funding requirement while protecting the risk and schedule of this high visibility program. PMA-209 (OSIP 7188) is funding the procurement of a portion of the installation equipment reflected in the total column below which explains the difference between the installation kits and equipment. Increase in NRE funding in FY01 thru 03 due to requirements for increased testing and integration for "B" kits (installation equipment).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Lot VI through IX Kit	67	5.1																						
Lot X through XVI Kit	327	4.4			15	0.4	15	0.5	15	0.5														
Installation Kits N/R		18.2		5.7		5.1		4.3		0.8														
Installation Equipment																								
Lot VI through IX Kit																								
Lot X through XVI Kit			120	3.9	54	1.8	36	1.3	72	2.5														
Installation Equipment N/R																								
Engineering Change Orders										2.9														
Data																								
Training Equipment		2.0																						
Support Equipment		1.8																						
ILS		0.3		0.2		0.2				0.1														
Other Support																								
Interim Contractor Support																								
Installation Cost	1	0.1	24	0.5	125	2.9	87	1.8	90	2.8														
TOTAL PROCUREMENT		31.8		10.4		10.4		8.0		9.7														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 A/B/C/D** MODIFICATION TITLE: **F/A-18 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 36-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Navy Depot Field Mod Team at Five (5) Locations**

ADMINISTRATIVE LEADTIME: **6 Months** PRODUCTION LEADTIME: **18 Months**

CONTRACT DATES: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: Mar-02 FY 2003: Mar-03

DELIVERY DATE: FY 2000: Sep-01 FY 2001: Sep-02 FY 2002: Sep-03 FY 2003: Sep-04

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 & PY (394) kits	1	0.1	24	0.5	125	2.9	87	1.8	90	2.8														
FY 1999 (0) kits																								
FY 2000 (15) kits																								
FY 2001 (15) kits																								
FY 2002 (15) kits																								
FY 2003 (15) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete (208) kits																								
TOTAL	1	0.1	24	0.5	125	2.9	87	1.8	90	2.8														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	30	31	32	32	21	22	22	22	22	22	23	23												
Out	25	30	31	32	32	21	22	22	22	22	22	23	23												

	FY 2006				FY 2007				To	TOTAL	
	1	2	3	4	1	2	3	4	Complete		
In	0	0	0	0	0	0	0	0			
Out	0	0	0	0	0	0	0	0			

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

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

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. ORD # 199-05-88 (Radar Upgrade Phase I) and ORD # 022-05-83 (Radar Upgrade Phase II).

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 developed improved hardware and software for an all-weather Reconnaissance (RECCE) strip map mode. Additional modes can be incorporated with software changes as required in the future. Development of RUG Phase II completed in FY 1998 and retrofit procurements began in FY 1999.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E (0204136N/E2065)		293.0																					0.0	293.0
PROCUREMENT																								
Installation Kits																								
ECP 508 / RUG - Phase I Kit	20	42.2	5	9.9	26	46.6	7	13.9																
ECP 569 / RUG - Phase II Kit			7	3.2	7	3.7	7	3.4	7	3.5														
Installation Kits N/R		5.1		0.4																				
ECP 508 / RUG - Phase I Kit																								
ECP 569 / RUG - Phase II Kit																								
Installation Equipment																								
ECP 508 / RUG - Phase I Equip																								
ECP 569 / RUG - Phase II Equip																								
Installation Equipment N/R						2.2																		
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment		3.1		0.9																				
ILS		0.2		4.3		0.0		0.6		0.0														
Other Support																								
Interim Contractor Support																								
Installation Cost	13	0.3	3	0.0	7	0.2	20	0.4	10	0.2														
TOTAL PROCUREMENT		50.9		18.8		52.6		18.4		3.7														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C/D** MODIFICATION TITLE: **AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94)**

METHOD OF IMPLEMENTATION: **Phase I kits are Depot Level; Phase II kits are Organization level. Schedule below reflect RUG Phase I installs only.**

ADMINISTRATIVE LEADTIME: **4 Months** PRODUCTION LEADTIME: **18 Months**

CONTRACT DATES: FY 2000: Jan-00 FY 2001: Jan-01 FY 2002: Jan-02 FY 2003:

DELIVERY DATE: FY 2000: Jul-01 FY 2001: Jul-02 FY 2002: Jul-03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998& PY (20) kits	13	0.3	3	0.0	4	0.1																	20	0.4
FY 1999 (5) kits					3	0.1	2	0.0																
FY 2000 (26) kits							18	0.4	8	0.1														
FY 2001 (7) kits									2	0.0														
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (8) kits																								
FY 2005 (8) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete (0) kits																								
TOTAL	13	0.3	3	0.0	7	0.2	20	0.4	10	0.2														

($ in Millions)

Installation Schedule

	FY 1999 & Prior	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	16	0	4	0	3	2	0	0	18	1	7	0	2												
Out	16	0	4	0	3	2	0	0	9	9	8	0	2												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

MODELS OF SYSTEM AFFECTED: **F/A-18 C/D** TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

The Positive Identification Systems (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. Although Lot applicability is back to Lot X, FYDP funding represents an affordable plan. ORD # 446-88-96

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Forward fit of the PIDS (CIT) for the F/A-18 began in FY 1995 with the last block of Lot 19 aircraft. Retrofit kit procurement started in FY1996. Val/Ver kits were installed in FY98. Kit installation began in FY99. PIDS (CIT) had a successful OPEVAL with Software Configuration Set (SCS) 13C.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Lot X through XIX Kit	66	19.8	27	8.1																				
Lot XX through XXI Kit																								
Installation Kits N/R		5.2		1.7																				
Installation Equipment (Note 1)																								
Lot X through XIX Kit																								
Lot XX through XXI Kit																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.7		0.5																				
Training Equipment		2.1		0.6																				
Support Equipment		5.0		0.4																				
ILS		1.5		0.4		0.1		0.3		0.1														
Other Support																								
Interim Contractor Support																								
Installation Cost			2	0.1	38	3.3	27	2.1	3	0.3														
TOTAL PROCUREMENT		34.4		11.7		3.5		2.4		0.3														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C/D** MODIFICATION TITLE: **POSITIVE IDENTIFICATION SYSTEM (OSIP 12-96)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **DEPOT LEVEL**

ADMINISTRATIVE LEADTIME: **6 Months** PRODUCTION LEADTIME: **18 Months**

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (93) kits			2	0.1	38	3.3	27	2.1	3	0.3														
FY 2000 (0) kits																								
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (0) kits																								
FY 2005 (0) kits																								
FY 2006 (0) kits																								
FY 2007 (0) kits																								
To Complete (433) kits																								
TOTAL	0	0.0	2	0.1	38	3.3	27	2.1	3	0.3														

Installation Schedule

	FY 1999 & Prior	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	2	8	8	7	15	0	9	9	9	3	0	0	0												
Out	2	8	8	7	15	0	9	9	9	3	0	0	0												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

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)** 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. ORD # 427-88-96 (Reconnaissance Capable F/A-18).

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-18Ds delivered will contain the reconnaissance modifications in their baseline configuration. 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 F/A-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. Developmental and operational testing led to a go-ahead decision to procure four(4) LRIP-1 ATARS systems in February 1997. These units completed delivery in October 1998. Additional operational testing led to the go-ahead decision to procure six(6) LRIP-2 ATARS systems and four(4) data link pods in March 1998. These units began delivering in June 1999. An Early Operational Capability (EOC) was approved in May 1999 leading to a deployment of the system to Kosovo. Formal OPEVAL began in September 1999 leading to a Milestone III decision in July 2000 for Full Rate Production. This is Fleet Driven. Installs are at the "O" Level .

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E 0603261N/E0534		221.9		1.5																				223.4
PROCUREMENT																								
Installation Kits	17	80.4	8	29.4	5	37.6	9	12.0															39	159.5
Installation Kits N/R		33.8																						33.8
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment						0.2																		0.2
Support Equipment		3.2		2.9		2.1		0.2																8.3
ILS		2.9		1.5		6.6		2.6																13.6
Other Support (Testing)				8.0		7.8		8.8																24.6
Interim Contractor Support						1.0																		1.0
Installation Cost																								
TOTAL PROCUREMENT		120.3		41.8		55.3		23.6																241.0

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

INSTALL KIT COMPONENTS BREAKOUT:

	FY97	FY98	FY99	FY00	FY01	Total
ATARS SUITES	**4**	**6**	**4**	**5**	**0**	**19**
DATA LINK PODS	**0**	**4**	**0**	**0**	**9**	**13**
SQUADRON GROUND STATIONS	**1**	**2**	**4**	**0**	**0**	**7**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18A+ AVIONICS UPGRADE FOR THE U.S. NAVAL RESERVE ECP-560 (OSIP 23-98)**

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

DESCRIPTION/JUSTIFICATION:

This ECP is being executed using FY96 NGRE funding ($21.2M) and FY99 NGRE funding ($4.7M) to procure some of the required Government Furnished Equipment (GFE) and APN-5 funding as shown on this exhibit. The FY98 funding is a result of a Congressional add in the FY98 Appropriations Act.

Upgrade Avionics for F/A-18A Hornets (Lots 8 and 9) for the U.S. Naval Reserve Force. The Avionics Upgrade includes new avionic subsystems already incorporated or in process of being incorporated into USN/USMC and/or FMS F/A-18 aircraft. This ECP incorporates the following subsystems: AN/ARC-210(V) with HAVEQUICK II and SINCGARS; Digital Communication Systems (DCS) Receiver/Transmitter (RT-1824(C)); Mission Computer CP-2360 (XN-8); Stores Management Set (SMS) (AN/AYQ-9); AMRAAM Capability (radar mod, launchers,weapons pylons and control stick); Digital Display Indicator (DDI) Upgrade; Mission Data Loader (AN/ASQ-215); Targeting FLIR provisions (AAS-38B).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ECP was approved in March 1998. All the equipment being incorporated in this ECP has completed development with the exception of DCS. DCS completed its development in the second quarter of FY2000.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	27	7.3																						
Installation Kits N/R	1	5.0		0.2		0.1																		
Installation Equipment		10.8		0.3		2.7																		
Installation Equipment N/R		0.7		0.6																				
Engineering Change Orders																								
Data		0.1				0.1																		
Training Equipment				0.1		0.1																		
Other Support (Testing)		0.1		0.1		1.4																		
Support Equipment																								
ILS						0.5		0.6																
Interim Contractor Support																								
Installation Cost					5	1.7	7	2.4																
TOTAL PROCUREMENT		24.0		1.3		6.7		3.0																

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

16 units of the prior FY total (27 units) were procured with NGRE funding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18A** MODIFICATION TITLE: **F/A-18A+ AVIONICS UPGRADE FOR THE U.S. NAVAL RESERVE ECP-560 (OSIP 23-98)**

INSTALLATION INFORMATION: **APPROX 3 KITS INSTALLED EVERY 6 WEEKS**

METHOD OF IMPLEMENTATION: **CONTRACTOR**

ADMINISTRATIVE LEAD-TIME: **3 Months** PRODUCTION LEAD-TIME: **12 Months**

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & Prior (27) kits					5	1.7	7	2.4																
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					5	1.7	7	2.4																

Installation Schedule

	FY 1999 & Prior	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	0	0	0	0	5	1	2	2	2	0	0	0	0												
Out	0	0	0	0	0	5	1	2	2	2	0	0	0												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

*** NOTE: VALVER installation is incorporated into the "A" Kit procurement contract and the cost is included as part of the Installation Kits Non-Recurring in FY98.**

*** 4 Installs will be completed using NGRE Funds**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

MODELS OF SYSTEM AFFECTED: **F/A-18 C/D (Lots 10-21)** TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

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. ORD# 486-88-98. This accelerates the procurement of 12 Digital Communications Systems into FY99. These radios will replace the current ARC-182 installed in Lot 10/11 as addressed above. Installation of these systems will also be accomplished with funding freed up from pulling the procurement forward.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 RT is being upgraded to a DCS RT. Initial Engineering Developmental Model (EMD) was delivered (using RDT&E,N resources) in FY1998 as scheduled. The F/A-18C/D requirements will be satisfied by retrofitting DCS into Lot X through Lot XXI. Functionality is in Operational Flight Program (OFP) 15C scheduled for fleet release in FY2000. Initial procurement of installation kits was awarded May 1999. F/A-18C/D Lots X and XI require an ACI and DCS radio. The funding on the installation equipment line is for the ACI and Lot XII through XXI "B" Kit. The Lot XII through XXI "B" Kit is being partially funded through PMA209 OSIP 04-94.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Lot XII through XXI Kit			28	0.2	69	0.3	60	0.4	39	0.2														
Lot X through XI Kit																								
Installation Kits N/R				0.4																				
Installation Equipment																								
Lot XII through XXI Kit ("B" Kit)									14	0.7														
Lot X through XI Kit (ACI)									39	2.7														
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment				0.6																				
Support Equipment				0.7																				
ILS				0.6				0.1		0.1														
Other Support																								
Interim Contractor Support																								
Installation Cost							28	0.1	69	0.3														
TOTAL PROCUREMENT				2.5		0.3		0.6		4.1														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C/D (Lots 10-21)** MODIFICATION TITLE: **DIGITAL COMMUNICATIONS SYSTEM (DCS) (OSIP 10-99)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Navy Depot Field Mod Team**

ADMINISTRATIVE LEADTIME: **6 Months** PRODUCTION LEADTIME: **24 Months**

CONTRACT DATES: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: Mar-02 FY 2003:

DELIVERY DATE: FY 2000: Mar-02 FY 2001: Mar-03 FY 2002: Mar-04 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (28) kits							28	0.1															28	0.1
FY 2000 (69) kits									69	0.3														
FY 2001 (60) kits																								
FY 2002 (39) kits																								
FY 2003 (32) kits																								
FY 2004 (108) kits																								
FY 2005 (96) kits																								
FY 2006 (44) kits																								
FY 2007 ( ) kits																								
To Complete (40) kits																								
TOTAL							28	0.1	69	0.3														

Installation Schedule

	FY 1999 & Prior	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	0	0	0	0	0	0	0	14	14	0	23	23	23												
Out	0	0	0	0	0	0	0	14	14	0	23	23	23												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 AIRCRAFT STRUCTURAL LIFE MANAGEMENT PLAN (SLMP) (OSIP 11-99) CBR+**

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

DESCRIPTION/JUSTIFICATION:

Incorporation of structural enhancements and changes identified during Structural Testing (ST-16) are required to attain the F/A-18 design service life of 6,000 fatigue hours. Six thousand hours fatigue life will maintain the F/A-18 aircraft inventory in sufficient quantities to meet fleet operational commitments and requirements through FY2020. The unacceptable alternative to retrofitting would be the failure to reach full fatigue life for these aircraft and to not correct the structural defects discovered on fatigue test articles. In many cases, the mission capability of the aircraft would be adversely affected in addition to its reduced service life. As a result, aircraft may be prematurely removed from useful service. Center Barrel Replacement Plus (CBR+) is applicable to F/A-18As as well as to F/A-18B/C/Ds. Currently F/A-18A's are not in the plan. However, the F/A-18A's being retrofitted with upgraded avionics changes may require a service life extension in the future.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Currently all Lot VI through XVII aircraft have 78% life limits without the SLMP modifications to bring them to 100% airframe life. MDA and NGC developed ECP536 retrofit repair to modify these aircraft so they could restore the airframe to full life. ECP 536 has been approved and Validation will be completed May 2001 and Verification will start July 2001. NADEP North Island has developed ECP904NI (CBR+) which was approved on 27 April 2000. Validation/Verification will start in October 2000 and will be completed in July 2001. ECP 536 moved from 11-99 to OSIP 11-84 starting in FY02.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			3	3.3	4	4.5			9	10.6														
Installation Kits N/R	*1	0.0	**1	3.1		3.7				0.3														
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.6		1.1				1.5														
Training Equipment																								
Support Equipment						0.0				0.5														
ILS						0.5		1.9		2.2														
Other Support																								
Interim Contractor Support																								
Installation Cost			*1	0.7	**1	0.5			***3	2.5														
TOTAL PROCUREMENT				7.6		10.3		1.9		17.6														

Notes:

1. Totals may not add due to rounding

*** ECP536 VAL/VER KIT PROVIDED UNDER WARRANTY.**

**** ECP904NI VAL/VER KIT. VAL/VER KIT BEING PROVIDED BY NAVICP ON HAND ASSET.**

***** INSTALLATIONS SLIPPED ONE YEAR DUE TO FY01 FUNDING REDUCTIONS.**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 B/C/D** MODIFICATION TITLE: **F/A-18 SERVICE LIFE MANAGEMENT PROGRAM (SLMP) (OSIP 11-99) CBR+**

INSTALLATION INFORMATION: **CONTRACTOR PROVIDING 1 WARRANTY KIT**

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

ADMINISTRATIVE LEADTIME: **3 Months** PRODUCTION LEADTIME: **24 Months**

CONTRACT DATES: FY 2000: Jul-00 FY 2001: FY 2002: Jan-02 FY 2003:

DELIVERY DATE: FY 2000: Jul-02 FY 2001: FY 2002: Jan-04 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (4) kits					1	0.5			3	2.5														
IN WARRANTY (1) kit			1	0.7																				
FY 2000 (4) kits																								
FY 2001 (0) kits																								
FY 2002 (9) kits																								
FY 2003 (10) kits																								
FY 2004 (14) kits																								
FY 2005 (15) kits																								
FY 2006 (18) kits																								
FY 2007 (17) kits																								
To Complete (263) kits																								
TOTAL			1	0.7	1	0.5			3	2.5														

Installation Schedule

	FY 1999 & Prior	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	0	0	0	1	0	0	0	0	0	1	1	1												
Out	0	0	0	0	1	0	0	0	1	0	0	1	1												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

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

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

DESCRIPTION/JUSTIFICATION:

The system is Tactical Data Link Communications to provide a secure communications and navigation system. MIDS is a Pre-planned Product Improvement (P3I) to the Joint Tactical Information System (JTIDS) and will be installed in USN/USMC F/A-18 aircraft as the primary U.S. platform, since the aircraft can not accommodate the larger JTIDS Class 2 Terminals due to size and weight constraint. 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. ORD # 337-06-93

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

A MIDS installation kit Critical Design Review (CDR) was held at Boeing in September 1996. MIDS Terminal initial Engineering and Manufacturing Development (E&MD) delivery for F/A-18 occurred in February 1998. Installation into the first three (3) EMD aircraft began in March 1998 and ended in September 1998. In May 1999 Boeing was awarded the ECP contracts required to provision the F/A-18 for the MIDS LVT. These provisions included Avionics Upgrade hardware which is required by other F/A-18 programs and can be installed independently of MIDS LVT. Development delays have caused a program restructure, necessitating the use of FY99 funds to procure MIDS Terminals in FY00.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Lot XII through XXI Kit			28	4.7	36	6.3	60	10.0	12	2.0														
Lot X through XI Kit																								
Installation Kits N/R																								
Installation Equipment (Note 1)																								
Avionics Upgrade			28	4.6	36	7.1	60	10.9	12	2.2														
MIDS LVT					16	6.7	60	23.9	60	20.4														
Installation Equipment N/R				8.0		29.0																		
Engineering Change Orders																								
Data								1.2																
Training Equipment																								
Support Equipment								0.9		1.3														
ILS						2.4		1.2		0.4														
Other Support								0.1		4.7														
Interim Contractor Support																								
Installation Cost							28	1.1	36	1.4														
TOTAL PROCUREMENT				17.3		51.5		49.3		32.4														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. The funding for the Avionics Upgrade includes the following equipment; an Interference Blanking Unit (IBU), an Amplifier Control Intercommunication Unit (ACI), a MIDS Compatible CIT upgrade, and a MIDS Compatible Transponder upgrade.

Exhibit P-3a

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

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **DEPOT LEVEL**

ADMINISTRATIVE LEADTIME: **6 Months** PRODUCTION LEADTIME: **18 Months**

CONTRACT DATES: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Sep-01 FY 2001: Sep-02 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (28) kits							28	1.1																
FY 2000 (36) kits									36	1.4														
FY 2001 (60) kits																								
FY 2002 (12) kits																								
FY 2003 (48) kits																								
FY 2004 (47) kits																								
FY 2005 (60) kits																								
FY 2006 (72) kits																								
FY 2007 (84) kits																								
To Complete (0) kits																								
TOTAL							28	1.1	36	1.4														

Installation Schedule

	FY 1999 & Prior	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	0	0	0	0	0	0	0	0	28	0	0	0	36												
Out	0	0	0	0	0	0	0	0	28	0	0	0	36												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: **F/A-18 C/D/E/F NACES P3I (Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement) (OSIP 20-99)**

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

DESCRIPTION/JUSTIFICATION:

An average of 15 Naval Aircrew fatalities occur each year from in-flight mishaps. Nearly half result from the seat ejecting aircrew into the ground or water at low altitude and adverse attitude. Congressional direction to increase U.S. Navy aircrew anthropometric range to more closely match the general aircrew population. This change will increase anthropometric range from the current 135lbs through 213lbs to 100lbs through 245lbsThe NACES P3I 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 altitudes, and out-of-control ejections.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ECP was approved 19 May 1999.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			180	5.4	135	3.4	74	2.0																
Installation Kits N/R				0.4		0.1		0.1																
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.0																				
Training Equipment			6	0.2	6	0.1																		
Support Equipment				0.0		0.0																		
ILS				0.4		0.5		0.4																
Other Support																								
Interim Contractor Support																								
Installation Cost			180	0.2	135	0.2	74	0.2																
TOTAL PROCUREMENT				6.6		4.4		2.6																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C/D/E/F NACES EJECTION SEATS** MODIFICATION TITLE: **F/A-18 C/D/E/F NACES P3I (OSIP 20-99)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Modification Team**

ADMINISTRATIVE LEADTIME: **6 Months** PRODUCTION LEADTIME: **2 Months**

CONTRACT DATES: FY 2000: Apr-00 FY 2001: Dec-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Jun-00 FY 2001: Feb-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & Prior (180) kits			180	0.2																				
FY 2000 (135) kits					135	0.2																		
FY 2001 (74) kits							74	0.2																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete (165) kits																								
TOTAL			180	0.2	135	0.2	74	0.2																

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	180	0	0	67	68	0	39	35	0	0	0	0	0												
Out	180	0	0	67	68	0	39	35	0	0	0	0	0												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **USMC F/A-18A UPGRADE ECP-583 (OSIP 21-00)**

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

DESCRIPTION/JUSTIFICATION:

This ECP is being executed using FY98 ($15.8M), FY99 ($18M), and FY00 ($17.9M) USMC funding to procure the "A" kits and some of the required Government Furnished Equipment (GFE) and APN-5 funding as shown on this exhibit.

Upgrade Avionics for F/A-18A Hornets (Lots 7, 8 and 9) for the U.S. Marine Corp. The Avionics Upgrade includes new avionic subsystems already incorporated or in process of being incorporated into USMC and/or FMS F/A-18 aircraft. This ECP incorporates the following subsystems: AN/ARC-210(V) with HAVEQUICK II and SINCGARS; Digital Communication Systems (DCS) Receiver/Transmitter (RT-1824(C)); Combined Interrogator/Transponder AN/APX-111 (V); Night Vision Display System (NVDS); Mission Computer CP-2360 (XN-8); Radar (AN/APG-73); Stores Management Set (SMS) (AN/AYQ-9); AMRAAM Capability (radar mod, launchers,weapons pylons and control stick); Digital Display Indicator (DDI) Upgrade; Mission Data Loader (AN/ASQ-215); Targeting FLIR provisions (AAS-38B).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ECP was approved 25 MAR 99. All the equipment being incorporated in this ECP has completed development with the exception of DCS. DCS completes its development in the third quarter of FY2003.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					6	1.7	4	1.8																
Installation Kits N/R						0.1		3.0																
Installation Equipment						51.4		52.2		1.1														
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.1																		
Training						0.2		0.2		3.8														
Other Support (Testing)						1.0		0.9																
Support Equipment						0.0		0.0																
ILS						2.0		4.3		2.5														
Interim Contractor Support																								
Installation Cost					4	0.0	15	5.8	11	4.3														
TOTAL PROCUREMENT						56.6		68.1		11.6														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18A**

MODIFICATION TITLE: **USMC F/A-18A UPGRADE ECP-583 (OSIP 21-00)**

INSTALLATION INFORMATION: **APPROX 3 KITS INSTALLED EVERY 6 WEEKS**

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

ADMINISTRATIVE LEAD-TIME: **4 Months**

PRODUCTION LEAD-TIME: **24 Months**

CONTRACT DATES: FY 2000: Jan-00 FY 2001: Jan-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Jan-02 FY 2001: Jan-03 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (24) kits *					4	0.0	15	5.8	5	2.0														
FY 2000 (16) kits *									6	2.4														
FY 2001 (4) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete (32) kits																								
TOTAL					4	0.0	15	5.8	11	4.3														

* USMC Reserve funded "A" Kits

Installation Schedule

	FY 1999 & Prior	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	2	1	2	3	4	1	2	3	4
In	0	0	0	4	0	3	4	4	4	2	3	3	3												
Out	0	0	0	0	4	3	4	4	4	2	3	3	3												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

*** NOTE: VALVER installation is incorporated into the "A" Kit procurement contract and the cost is included as part of the Installation Kits Non-Recurring in FY98.**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 JOINT HELMET-MOUNTED CUEING SYSTEM (JHMCS) (OSIP 24-00)**

MODELS OF SYSTEM AFFECTED: **F/A-18 C/D** TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

The Joint Helmet-Mounted Cueing System (JHMCS) is a multi-service system that provides United States Air Force (USAF) and United States Navy (USN) aircraft the capability to cue and verify on-board weapons and weapons sensors to a specific azimuth/elevation determined by the pilot's head position and to confirm sensor line-of-sight. The intent is to reduce tasks required of aircrews, verify seeker/sensor position, and enhance weapons employment opportunities. In the air-to-air role, aircrew will be able to cue and verify cueing of off-boresight weapon sensors and weapons (current and future short-range air-to-air missiles) to exploit the full weapons envelopes in the dynamic Within Visual Range (WVR) arena. In the air-to-ground role, this system will enhance lethality and survivability by reducing cockpit "heads down" and target acquisition time. For the strike, strike escort, and force application missions, the JHMCS possesses potential to enhance the flexibility of cueing weapons and sensors in the stressful air-to-ground tactical environment. The JHMCS incorporates an ejection-compatible helmet-mounted display system, with capability to cue and verify cueing of high off-axis sensors and weapons, on USAF and USN single seat and two seat fighter aircraft. The JHMCS includes a flight helmet with display optics, image source, display processor/video hardware and software to drive the display, uplook reticle, magnetic helmet tracker hardware and software, interfaces to the aircraft computers, weapons and sensor hardware, with software to integrate the JHMCS functions with other onboard systems. The JHMCS communicates with airborne sensors (FLIR, RADAR) through the aircraft avionics MUX Bus. It communicates with weapons through the armament MUX Bus via the Stores Management System.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The program is currently in EMD with DT and an Operational Assessment Complete. The JHMCS OPEVAL is currently scheduled for 4th quarter FY01. The FY00 APN-5 Funding was used for production NRE and tooling expenses. The first F/A-18C/D JHMCS retrofit kits will be procured in FY06.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R						1.7																		
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training																								
Support Equipment																								
ILS																								
Spares																								
Other Support - Testing						0.2																		
Installation Cost																								
TOTAL PROCUREMENT						1.9																		

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

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

MODIFICATION TITLE: **F/A-18 JOINT HELMET-MOUNTED CUEING SYSTEM (JHMCS) (OSIP 24-00)**

INSTALLATION INFORMATION: **APPROX 5 KITS INSTALLED EVERY 4 WEEKS**

METHOD OF IMPLEMENTATION: **FIELD MOD TEAMS**

ADMINISTRATIVE LEAD-TIME: **3 Months**

PRODUCTION LEAD-TIME: **12 Months**

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$					Qty	$	Qty	$
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 (60) kits																								
FY 2007 (70) kits																								
To Complete (278) kits																								
TOTAL																								

Installation Schedule

	FY 1999 & Prior	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	2	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	0	0	0	0												
Out	0	0	0	0	0	0	0	0	0	0	0	0	0												

	FY2006				FY2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **ADVANCED TARGETING FORWARD LOOKING INFRARED (ATFLIR) (OSIP 12-01)**

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

DESCRIPTION/JUSTIFICATION:

The Advanced Targeting FLIR (ORD# 437-88-96) will provide the F/A-18C/D with a significantly enhanced capability to detect, track, and attack air and ground targets. New laser guided and GPS standoff weapon systems, and higher altitude attack profiles, require improved performance over the current AAS-38/46 Targeting FLIR. The ATFLIR is designed to provide a quantum leap in operational effectiveness to fully support the standoff precision strike mission. Improved reliability and maintainability technology will increase operational availability while reducing life cycle costs. ATFLIR moved from OSIP 19-94 as of FY01.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ATFLIR development began in FY1997. The E&MD contract was awarded in March, 1998. Preliminary Design Review and Critical Design Review has been completed. TECHEVAL is scheduled for FY2001 with OPEVAL following in FY2002. Functionality on the F/A-18C/D will be with OFP 17C.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment							2	5.8	5	14.8														
Installation Equipment N/R										1.0														
Engineering Change Orders								1.8		1.8														
Data								0.3		0.4														
Training								1.0		0.5														
Support Equipment								1.7		3.2														
ILS								0.2		0.6														
Spares																								
Other Support - Testing																								
Installation Cost																								
TOTAL PROCUREMENT								10.9		22.1														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Installs are "O" Level.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **TACTICAL AIRCRAFT MOVING MAP CAPABILITY (TAMMAC) (OSIP 16-01**

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

DESCRIPTION/JUSTIFICATION:

TAMMAC provides the aircrew an easily assimilated graphical presentation of the aircraft's position and the relative positions of targets, threats, terrain features, planned mission flight path, no fly zones, safe bases and other objects. TAMMAC will present the aircraft's current situation on a map using new or existing cockpit displays. In addition to providing a basic moving map capability, the TAMMAC system will serve as a memory resource for the overall aircraft mission system and will incorporate an improved data transfer and recording capability. This memory resource includes a data loader function of sufficient memory capacity and speed to load/update all required map theater and mission specific databases as well as the ability to record mission and maintenance data. The principle benefits anticipated, increased mission effectiveness and survivability, arise from improved situation awareness, reduced crew workload and enhanced capability for precision navigation, targeting, terrain avoidance, and mission replanning. The TAMMAC system will replace the existing Navy AN/ASQ-196 Digital Map Set which is facing major parts obsolescence problems and is not capable of growing to support future requirements. TAMMAC will also replace the AN/ASQ-194 Data Storage Set which has insufficient memory and loading speed to load map theater databases.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits							79	0.0																0.0
Installation Kits N/R																								
Installation Equipment							79	2.4																2.4
Installation Equipment N/R																								
Engineering Change Orders								0.3																0.3
Data																								
Training																								
Support Equipment																								
ILS																								
Spares								0.3																0.3
Other Support - Testing																								
Installation Cost																								
TOTAL PROCUREMENT								3.0																3.0

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **E/F 2000 HR CORRECTION OF DISCREPANCIES**

MODELS OF SYSTEM AFFECTED: **F/A-18 E/F** TYPE MODIFICATION: **SAFETY /RELIABILITY/IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

Corrections to discrepancies up to 2000 FHs identified during testing and development 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 to meet transition plan and achieve planned life limits of LRIP I / II / III and FRP I / II aircraft:

Trailing Edge Outboard Hinge, Pt 1 (ECP 6035)	Replace hinges on trailing edge flap, aileron and aileron shroud with redesigned hinges to prevent potential departure of flight control surfaces in flight.
Drag Angle (ECP 6136)	Install redesigned wing drag angle to correct acoustic vibration related fatigue failures.
Nose Landing Gear Door Hinges (ECP 6032)	Retrofit redesigned hinge to restore component to its original specification.
MLG Strut Door to Fus Interface (ECP 6057)	Replace with redesigned hinge and clevis, and install bushing into Y520 former to restore component to its original specification.
NLG Fwd Door Aft Hinge (ECP 6137)	Incorparate redesigned drive hinge to prevent potential departure of component in flight.
Y541 Fitting Repair Crack (ECP 6111)	Splice redesigned lower appendage area into Y541 former to restore component to original specification.
ECS Primary Heat Exchanger (ECP 6078)	Replace noncompliant heat exchanger with redesigned full life component and new ECS duct.
APEX Fitting Cracking (ECP 6041)	Retrofit with redesigned apex fitting to restore component to its original specification.
MLG Sidebrace Pin (ECP 6099)	Fit MLG with redesigned pin to prevent possible collapse of MLG during arrestments.
Horiontal Actuator Cover-Door 71 (ECP 6068)	Install steel bushings to prevent improper distribution of stress into adjacent fuselage components.
Door 55 Fastener Hole Wear (ECP 6086)	Retrofit fasteners with steel bushings to prevent distribution of stress into fuselage components.
Wing Torque Box Buffet, Pt 2 (ECP 6035)	Remove noncomplinent TEF and aileron hinges on wing torque box and replace with full life hinges.
Ecology Tank Flange Changes (ECP 6100)	Incorporate redesigned ecology tank and modify mount on the door to prevent tank separation.
Intercostal at Engine Mounting (ECP 6092)	Replace component to restore aircraft to original structural integrity.
Fuel FLR Angle (ECP 6128)	Add titanium bathtub fittings and replace fuel floor to increase fuel floor land area.
Inlet Duct Stiffener (ECP 6094)	Remove & replace with new design Inlet Duct Stiffener to correct design deficiency.
Triangular Keel Web Y604 (ECP 6118)	Replace Keel Web with redesigned component to conform to original aircraft specification.
Keel Web @ Y659 (ECP 6067)	Install doublers to restore component to its original service life.
Keel Web @ Y472 (ECP 6127)	Install doublers to restore component to its original service life.
Visual Identifcation System (ECP 6052)	Provide Pattern Strobe Light System and Circuit Logic Change cues to distinguish E/F from C/D at night.
SUU 79 Aft Attach Fitting (ECP XXX1)	Replace aft attachment fitting with redesigned fitting to prevent potential safety of flight situation with the use of an unauthorized pylon.
AOA Probe Circuitry (ECP XXX2)	Retrofit redesigned AOA Probe Ciruitry to prevent potential safety hazard.
Boarding Ladder Switch (ECP XXX3)	Relocation of boarding ladder switch to preclude inadvertent actuation of the canopy switch, resulting in the possible closing of aircraft canopy on personnel.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.
Some ECPs are "O" Level Installs

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **E/F 2000 HR CORRECTION OF DISCREPANCIES**

MODELS OF SYSTEM AFFECTED: **F/A-18 E/F** TYPE MODIFICATION: **SAFETY /RELIABILITY/IMPROVEMENT**

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits																						
ECP 6035 / Trailing Edge Outboard Hinge, Pt 1																						
ECP 6136 / Drag Angle																						
ECP 6032 / Nose Landing Gear Door Hinges																						
ECP 6057 / MLG Strut Door to Fus Interface																						
ECP 6137 / NLG Fwd Door Aft Hinge																						
ECP 6111 / Y541 Fitting Repair Crack							24	1.1														
ECP 6078 / ECS Primary Heat Exchanger							62	2.5														
ECP 6041 / APEX Fitting Cracking																						
ECP 6099 / MLG Sidebrace Pin																						
ECP 6068 / Horiontal Actuator Cover-Door 71																						
ECP 6086 / Door 55 Fastener Hole Wear																						
ECP 6035 / Wing Torque Box Buffet, Pt 2																						
ECP 6100 / Ecology Tank Flange Changes																						
ECP 6092 / Intercostal at Engine Mounting																						
ECP 6128 / Fuel FLR Angle							24	1.1														
ECP 6094 / Inlet Duct Stiffener																						
ECP 6118 / Triangular Keel Web Y604							24	0.2														
ECP 6067 / Keel Web @ Y659							24	0.1														
ECP 6127 / Keel Web @ Y472							24	0.4														
ECP 6052 / Visual Identifcation System																						
ECP XXX / SUU 79 Aft Attach Fitting																						
ECP XXX / AOA Probe Circuitry							24	0.3														
ECP XXX / Boarding Ladder Switch							24	0.3														
Installation Kits N/R																						
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
ILS								1.4														
Other Support																						
Interim Contractor Support																						
Installation Cost							180	4.3														
TOTAL PROCUREMENT								11.7														

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 C/D DIGITAL WINGTIP/AWM-100 MOD FOR AIM-9X COMPATIBILITY (OSIP 05-02)**

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

DESCRIPTION/JUSTIFICATION:

The AIM-9X Joint Operation Document (JORD), ORD# USN-CAF (USAF 001-93)-IIA, requires a highly expanded off-boresight targeting capability that presently cannot be achieved with the current AIM-9M analog interface signal set. The JORD also requires the missile to communicate with the aircraft through a digital interface. The F/A-18 currently has a tailored MIL-STD-1760 interface on stations 2 through 8. Modifications to the outer wing panel and LAU-7 launcher can provide full digital capability to the wingtip and can support full AIM-9X capability. The current launcher support equipment (AWM-100) must also be modified to support/test this digital wingtip capability. AWM-100 are "O" level installations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AIM-9X missile is currently in the EMD phase. Operational testing, OT-IIA ended during the 1st quarter of FY2000 and OT-IIB began 1st quarter of FY2001 and is scheduled to complete 1st quarter of FY2002. FY2002 through FY2007 represent procurement of kits to support AIM-9x LRIP missiles. The AIM-9X program Milestone III (FRP) is scheduled for 2nd quarter FY2003.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
F/A-18 Digital Wingtip Kits									75	0.2														
AWM-100 Kits									24	0.4														
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training										0.5														
Support Equipment																								
ILS																								
Spares																								
Other Support - Testing																								
Installation Cost																								
TOTAL PROCUREMENT										1.0														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

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

MODIFICATION TITLE: **F/A-18 C/D DIGITAL WINGTIP/AWM-100 MOD FOR AIM-9X COMPATIBILITY (OSIP 05-02)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **O-Level Install for AWM-100**

ADMINISTRATIVE LEAD-TIME: **3 Months**

PRODUCTION LEAD-TIME: **12 Months**

CONTRACT DATES: FY 2000: FY 2001: FY 2002: Dec-01 FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: Dec-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$					Qty	$	Qty	$
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 (75) kits																								
FY 2003 (150) kits																								
FY 2004 (71) kits																								
FY 2005 (45) kits																								
FY 2006 (43) kits																								
FY 2007 (16) kits																								
To Complete ( ) kits																								
TOTAL																								

Installation Schedule

	FY 1999 & Prior	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	2	1	2	3	4	1	2	3	4
In	0	0	0	0	0	0	0	0	0	0	0	0	0												
Out	0	0	0	0	0	0	0	0	0	0	0	0	0												

	FY2006				FY2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **C/D TRAINING SYSTEM (OSIP 06-02)**

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

DESCRIPTION/JUSTIFICATION:

F/A-18C/D training funds will be used to meet current Fleet Readiness Squadron (FRS) requirements by purchasing new components and software to prevent obsolescence of the various trainers as F/A-18C/D aircraft are modified for capability enhancement and service life extension. Funding will also be used to update courseware and computer based training (CBT) as new capabilities are introduced to the fleet, and will enable the fleet to institute and aggressive post-FRS training environment to bring F/A-18C/D trainers into High Level Architecture (HLA) compliance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training										5.0														
Support Equipment																								
ILS																								
Spares																								
Other Support - Testing																								
Installation Cost																								
TOTAL PROCUREMENT										5.0														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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

P-1 ITEM NOMENCLATURE
H-46 Series Modification

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**488.3**	A	**16.8**	**19.4**	**38.7**							

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 accommodating 25 troops and crew members. The cabin also contains an integral cargo and rescue system. The overall goal of the modification budget in FY 2002 is to keep the H-46 a viable platform until a replacement aircraft can be developed and fielded by upgrading flight critical dynamic components, the engine control system, the electrical system, and the T58-16 engine. H-46 helicopters are used by the Marine Corps for troop transport and by the Navy for vertical replenishment of ships. There are currently 309 aircraft (283 active + 26 reserve) in the inventory. USMC: (230) CH-46E + (9) HH-46D; USN: (26) CH-46D + (33) HH-46D + (11) UH-46D. (26) CH-46E's ar reserve aircraft. Original Design Service Life was 10,000 hours. It was subsequently extended to 12,500 hours 18 December 1992 and 15,000 hours 16 February 1996. Aircraft will continue to be flown past 15,000 flight hours on an Age Exploration program.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
25-91	Dynamic Component Upgrade	391.0	5.2	3.2	3.3							
09-92	ARC-210	5.3	0.4									
19-92	Night Vision Goggle HUD	12.6	0.9									
16-93	Navigation/GPS	60.5	3.4									
25-97	Safety Improvement	13.4	0.4	0.4	0.7							
28-99	Engine Control System Retrofit	4.2	5.7	10.9	9.0							
29-99	Electrical System Upgrade	1.3	0.8	2.0	2.5							
15-01	Engine Reliability Improvement Program			3.0	23.2							
	Total	**488.3**	**16.8**	**19.4**	**38.7**							

Note: Totals may not add due to rounding.

H-46 Series Reserves	**0.5**	**0.1**	**0.2**	

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Dynamic Component Upgrade (DCU) (OSIP 25-91)

MODELS OF SYSTEMS AFFECTED: H-46 — 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. Engineering Change Proposal (ECP)-556 incorporates 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, synchronizing shafts and accessory gearbox. ECP-558 changes configuration of 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. DCU was directed by Chief of Naval Operations (CNO) letter 13100 serial 504E/OU603293 dated 30 August 1990, and approved by ASN(RDA) by Program Management Proposal (PMP) 90-7 on 18 January 1991. Currently, there are 309 H-46 aircraft (283 active plus 26 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
The dynamic component fatigue testing commenced in January 1991 and completed in December 1997. The DCU ECP 556 delivered in December 1991, and the AFCS ECP 558 delivered in August 1993. The DCU validation completed in September 1995. The DCU flight testing started in November 1995 and completed in May 1997, and production installations are ongoing. The AFCS modification program is complete.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP #556	312	213.6																						
ECP #558	315	12.6																						
XXX Kit																								
Installation Kits N/R	4	85.1																						
Installation Equipment																								
GFE Equip		0.5																						
Installation Equipment N/R																								
Engineering Change Orders																								
Moisture Debris Covers		0.1																						
Wear Plate Blade Attach Fitting		0.2																						
Accessory Gear Box		1.2																						
Horizontal Hinge Pin Bearing		0.2																						
Pitch Link Assembly		0.7																						
Fuzz Burn-Off		0.2																						
XXX Equip ECO XXX																								
Data		2.0		0.6		0.5																		
Training Equipment	2	1.4				0.5																		
Support Equipment		8.1																						
ILS																								
Other Support		18.9		1.3		1.3		0.8		0.8														
Interim Contractor Support		2.7																						
Installation Cost	2	28.6		13.2	3	2.9	56	2.4	103	2.5														
Total Procurement		**375.9**		**15.1**		**5.2**		**3.2**		**3.3**														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **H-46** MODIFICATION TITLE: **Dynamic Component Upgrade (DCU) (OSIP 25-91)**

INSTALLATION INFORMATION: 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 installation quantities; and dollar figures in the tables include component modification, GFM, and aircraft installation.

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	2	28.6		13.2	3	2.9	56	2.4	103	2.5														
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**2**	**28.6**		**13.2**	**3**	**2.9**	**56**	**2.4**	**103**	**2.5**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	14	14	14	14	23	26	27	27												
Out	2						14	14	14	14	26	26	27												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/ARC-210 Electronic Counter Countermeasures Radio (OSIP 09-92)

MODELS OF SYSTEMS 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. The ARC-210 Operational Requirements Document (ORD) 333-06-93 was approved 20 April 1993. The ARC-210 installation in the H-46 aircraft was approved by ASN(RDA) by Program Management Proposal (PMP) 90-6 on 18 January 1991. Currently, there are 230 CH-46E aircraft (204 active + 26 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Validation completed 30 March 1995 and Developmental Testing completed in July 1995. The Operational Testing (OT) completed January 1996 and production installs are ongoing.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Provision Kit	184	1.3	48	0.6																				
XXX Kit																								
XXX Kit																								
Installation Kits N/R		0.6																						
Installation Equipment																								
Receiver/Transmitter	4	0.2																						
Control Radio Set	4	*																						
Mount	4	*																						
9" Tunable Antenna	4	0.1																						
Converter	4	0.1																						
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data		0.1																						
Training Equipment	5	*																						
Support Equipment																								
ILS		0.1																						
Other Support		0.6		*		*																		
Interim Contractor Support																								
Installation Cost	156	1.1	44	0.4	37	0.4																		
Total Procurement		**4.4**		**1.0**		**0.4**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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 and FMT**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	156	1.1	44	0.4	37	0.4																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**156**	**1.1**	**44**	**0.4**	**37**	**0.4**																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	200	10	9	9	9																				
Out	189	11	10	9	9	9																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Night Vision Goggle Heads-Up Display (NVG HUD) (OSIP 19-92)

MODELS OF SYSTEMS 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). This program was approved by ASN (RDA) by Program Management Proposal (PMP) 90-3 on 18 January 1991. Currently, there are 230 CH-46E aircraft (204 active + 26 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
This equipment is being procured as a nondevelopmental item (NDI) in conjunction with the Army Night Vision Electronics Optical Program Office. The Army awarded a contract 30 September 1991 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 September 1993 and then AEL conducted EMC testing on the validation aircraft. Approval for Full Production was granted 13 December 1993 and production installations are ongoing.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A-Kit	235	1.4																						
B-Kit	235	4.2																						
XXX Kit																								
Installation Kits N/R		1.3																						
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data		0.1																						
Training Equipment	4	0.3																						
Support Equipment		0.2																						
ILS		0.2																						
Other Support		1.0		0.1		0.1																		
Interim Contractor Support		0.1																						
Installation Cost	153	2.9	44	0.9	42	0.8																		
Total Procurement		**11.6**		**1.0**		**0.9**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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: **Field Mod Team**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	153	2.9	44	0.9	42	0.8																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**153**	**2.9**	**44**	**0.9**	**42**	**0.8**																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	197	10	10	11	11																				
Out	186	11	10	10	11	11																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: **Navigation/Global Positioning System (GPS) (OSIP 16-93)**

MODELS OF SYSTEMS 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. The GPS Operational Requirements Document (ORD) USAF 003-78 I/II/III was approved 22 January 1990. The GPS installation in the H-46 aircraft was approved by ASN (RDA) by Program Management Proposal (PMP) 90-4 on 18 January 1991. Currently, there are 230 CH-46E aircraft (204 active + 26 reserve).

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 June 1986. Milestone IIIB completed in January 1992. 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 December 1993, 19 October 1994, and 24 July 1995. Validation completed 30 March 1995 and Developmental Testing completed in July 1995. Operational Testing (OT) completed in January 1996 and production installations are ongoing.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A-Kit	212	14.2	19	1.0																				
XXX Kit																								
XXX Kit																								
Installation Kits N/R		3.5																						
Installation Equipment																								
HHSI	424	6.7	38	0.7																				
ICU	78	1.6																						
HAC Panel		1.1																						
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data		1.2																						
Training Equipment	6	3.7																						
Support Equipment		0.9																						
ILS		0.8		0.2																				
Other Support		4.9		0.6		0.3																		
Interim Contractor Support		1.3																						
Installation Cost	154	14.2	44	3.8	39	3.1																		
Total Procurement		**54.2**		**6.3**		**3.4**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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 and FMT**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	154	14.2	44	3.8	39	3.1																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**154**	**14.2**	**44**	**3.8**	**39**	**3.1**																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	198	10	10	10	9																				
Out	187	11	10	10	10	9																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: **SAFETY IMPROVEMENT OSIP 25-97**

MODELS OF SYSTEMS AFFECTED: H-46 — TYPE MODIFICATION: **Safety (HONA Category A)**

DESCRIPTION/JUSTIFICATION:

The Safety Improvement Program was directed by Chief of Naval Operations (CNO) letter 7100 serial N880F/7U660758 dated 10 January 1997, and approved as an Abbreviated Acquisition Program (AAP) by the Program Executive Officer (PEO) on 24 October 1997. Currently, there are 30 H-46 aircraft (283 active + 26 reserve). This program contains five Engineering Change Proposals (ECP):

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 suffers degrading reliability. The H-46D utility system pump supplies the #2 flight control system, and failure of the pump causes the loss of #2 flight controls and has caused one Class A flight mishap. The CH-46E pump has a history of overheating and igniting hydraulic fluid; and has caused two Class A flight mishaps. This program will engineer, qualify, and procure form/fit/function replacement pumps for both the H-46D and CH-46E configurations. Also, as part of this program, the unused Engine Exhaust Device System (EEDS), a subsystem of the utility hydraulic system, will be removed from the CH-46E. The hydraulic pump modification is being installed in 309 H-46 aircraft (283 active + 26 reserve). The EEDS is being removed from 230 CH-46E aircraft(204 active + 26 reserve).
2. UPPER DUAL BOOST ACTUATOR (UDBA): The housing for the UDBA is highly susceptible to stress corrosion cracking. In addition, the threaded connections in the UDBA control valve assembly have experienced material wear. The material wear and housing cracks have caused one Class A mishap and one hazard report (HAZREP). If the control valve malfunctions, the pilot cannot control the drive direction of the helicopter, a potentially life threatening situation. As a result of these problems, two airframe bulletins have been issued and currently the actuator undergoes a recurring 200 hour inspection to prevent additional failures. This program will procure redesigned UDBAs that eliminate the failure mode in the control valve assembly . This modification is being installed in 130 CH-46E aircraft (104 active + 26 reserve), which is the expected inventory in FY 2006 at the mid-point of installation.
3. 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, and this program will modify the H-46D cockpits with NVG lighting. This modification is being installed in 81 H-46D aircraft (all active, no reserves).
4. RUNNING ENGINE WASH: The poor 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. This program will modify the configuration of 81 H-46D aircraft (all active, no reserves) and 210 CH-46E aircraft (184 active + 26 reserve), which is the expected CH-46E inventory in FY 2003 at the mid-point installation.
5. 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. The hinged rescue hatch has contributed to the loss of aircraft that might have recovered from controlled water landings, and also greatly shortens crew egress time from aircraft that have landed in the water. This upgrade will retrofit the 66 H-46 aircraft (all active, no reserves) with a sliding door configuation that can be secured in flight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

1. HYDRAULIC SYSTEM UPGRADE: This upgrade is complete.
2. UPPER DUAL BOOST ACTUATOR: The ECP and engineering design are scheduled for FY 2004, to be followed by an initial kit procurement late in FY 2004. Kit delivery and O-Level installation will start in FY 2005.
3. NVG COMPATIBLE COCKPIT: This upgrade is complete.
4. T58-16/402 RUNNING ENGINE WASH: The H-46D model ECP was approved in November 1997, and the CH-46E model ECP was approved in December 1997. Kit installations were originally planned to be at O-Level. However, significant problems were encountered installing and operating the wash system, so the H-46 FST re-designed the modification and submitted a new ECP that was approved in May 2000. The revised modification installs an airframe and engine modification kit at the D-level. running engine wash modification will be installed concurrent with the H-46 Engine Control System Retrofit (OSIP 28-99), with installations beginnning in FY 2001.
5. SLIDING RESCUE HATCH (HELL HOLE DOOR): This upgrade is complete.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Hydraulic Sys Upgrade (D-Modl)	81	1.1																						
Hydraulic Sys Upgrade (E-Modl)	229	3.3																						
Upper Dual Boost Actuat (E-Modl)																								
NVG Compatible Cockpit (D-Modl)	81	3.0																						
T58-16/402 Running Engine Wash																								
AFC-477 (D Aircraft)	81	0.1					38	*	32	*														
PPC-165 (E Engine)	687	0.8																						
AFC-492 (E Aircraft)					24	*	1	*	43	*														
Sliding Rescue Hatch (D & E	66	0.8																						
Installation Kits N/R		1.3																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.2				0.2		0.1		*														
Training Equipment	3	*					2	*																
Support Equipment		*																						
ILS		0.3		0.1																				
Other Support		0.1		0.3		0.2		0.1		0.5														
Interim Contractor Support																								
Installation Cost	208	0.6	172	1.5	24	0.1	41	0.1	75	0.2														
Total Procurement		**11.5**		**1.9**		**0.4**		**0.4**		**0.7**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **H-46** MODIFICATION TITLE: **Safety Improvement OSIP 25-97**

INSTALLATION INFORMATION: (1) HYDRAULIC SYSTEM UPGRADE: PUMPS INSTALLED O-LEVEL, EEDS REMOVAL GOCO FMT (2) UPPER DUAL BOOST ACTUATOR: O-LEVEL
(3) NVG COMPATIBLE COCKPIT: GOCO FMT (4) RUNNING ENGINE WASH: GOCO FMT (5) SLIDING RESCUE HATCH: GOCO FMT.

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: Varies Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: Jul-00 FY 2001: Dec-00 FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: Aug-00 FY 2001: Jan-01 FY 2002: Dec-01 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	208	0.6	172	1.5																				
FY 2000 ( ) kits					24	0.1																		
FY 2001 ( ) kits							41	0.1																
FY 2002 ( ) kits									75	0.2														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**208**	**0.6**	**172**	**1.5**	**24**	**0.1**	**41**	**0.1**	**75**	**0.2**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	380				24		13	14	14	15	20	20	20												
Out	380					24		13	14	14	15	20	20												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Engine Control System (ECS) Retrofit (OSIP 28-99)

MODELS OF SYSTEMS AFFECTED: H-46 — TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION:
The current H-46 Engine Condition Control System (ECCS) has several failure modes which cause engines to shut down in flight; this presents a significant safety hazard to the fleet. Three bulletins have been issued by NAVAIR to inspect for system deficiences. A formal system safety analysis utilizing historical failure data defines this as a Category One hazard and predicts six to seven failures per year. In the last three and a half years there have been 22 hazard reports (HAZARD) issued documen this failure mode, and it is estimated that 20 more have occurred which have not been reported through the HAZREP system. The aircraft has a limited single engine operating envelope and is vulnerable to engine failure while flying and hovering over water. There have been five aircraft lost at sea in which pilots reported engine failure as the cause of the mishap. The aircraft were not recovered, and therefore, the specific engine failure mode could not be determined, but it is likely that ECCS caused some of the engine failures and ultimately led to the loss of aircraft. The proposed solution to this safety problem is to convert to an alternative Engine Control System (ECS) utilized by the commercial variant of the H-46. The proposed ECS will eliminate the safety failure modes, has a proven track record, needs only slight modification for military use, increases reliability, and will increase aircraft capability through increased engine responsiveness. Implementation will require configuration changes of the airframe and the engine. This is an urgent safety issue that must be resolved to eliminate future loss of crew and aircraft. Currently, there are 309 H-46 aircraft (283 active +26 reserve). This modification is being installed on (2) H-46D aircraft as validation and verification aircraft and on (1) CH-46E verification aircraft for total installations of 65 H-46D aircraft(all active) which is the expected inventory in FY 2001; and on 194 CH-46E(168 active + 26 reserve) which is the expected inventory midway through FY 2003.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
The contract for Proof of Concept, validation and verification(val/ver) kits for this Non-Development Item (NDI) was awarded May 1999, and the Engineering Change Proposal (ECP) was approved in June 2000. The modification was validated on a D-model aircraft in January 2001. EMI testing is scheduled in April 2001, and verification in May 2001. Verification on an E-model aircraft is scheduled for July 2001. Production installations will follow the verifications.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A-Kit D-Model Airframe Kit					30	0.5	33	0.6																
A-Kit E-Model Airframe Kit							50	1.0	72	1.5														
B-Kit D&E-Model Airframe Kit					30	2.9	83	4.2	57	2.9														
B-Kit (RILOP)									15	0.0														
Engine Kit (D-Aircraft)					60	0.2	66	0.2																
Engine Kit (E-Aircraft)							100	0.3	144	0.4														
Installation Kits N/R			3	3.0		1.3																		
Installation Equipment																								
Control Boxes			79	0.3																				
Installation Equipment N/R																								
Engineering Change Orders																								
ECS ECO																								
XXX Equip ECO XXX																								
Data				0.5				0.6		0.3														
Training Equipment							8	0.8		0.4														
Support Equipment								0.7																
ILS				0.1		0.1		0.3		0.5														
Other Support				0.3		0.8		1.2		0.5														
Interim Contractor Support																								
Installation Cost					1	0.0	36	1.0	79	2.6														
Total Procurement				**4.2**		**5.7**		**10.9**		**9.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **H-46** MODIFICATION TITLE: **ENGINE CONTROL SYSTEM RETROFIT**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Government Owned Contractor Operated (GOCO) Field Mod Team**

ADMINISTRATIVE LEADTIME: (Varies) Months PRODUCTION LEADTIME: (Varies) 8 Months

CONTRACT DATES: FY 2000: Aug-00 FY 2001: Feb-01 FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: May-01 FY 2001: Sep-01 FY 2002: Oct-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits					1	*	2	0.1																
FY 2000 ( ) kits							30	0.8																
FY 2001 ( ) kits							4	0.1	79	2.6														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**1**	*	**36**	**1.0**	**79**	**2.6**														

Installation Schedule

	FY 1999 & Prior	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	1	1	17	17	19	20	20	20												
Out						1	1	1	17	17	19	20	20												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: ELECTRICAL SYSTEM UPGRADE (OSIP 29-99)

MODELS OF SYSTEMS AFFECTED: CH-46E — TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION:
The power generation system has been the cause of ten hazard reports (HAZREP) over the past three years. The causal factor has been traced back to the generators and the voltage control system. Two incidents resulted in dual generator failure, and seven incidents resulted in aircraft smoking/fires. (One of those fires was caused by flammable fluid ingestion into the generator that turned a hydraulic leak into a massive fire that consumed the entire aircraft in a Class A mishap.) A formal system safety analysis utilizing historical failure data defines this hazard as a potential Category One hazard and predicts two to three failures per year. This is an urgent safety problem that must be alleviated to eliminate loss of life and aircraft. The proposed solution is to modify the power generation system to eliminate the safety problem, provide cleaner power to sensitive avionics components, and improve performance of the generator to meet the power demand for future electrical installation in the aircraft. Currently, there are 230 CH-46E aircraft (204 active + 26 reserve). This modification will be installed in 185 CH-46E aircraft (159 active + 26 reserve), the projected inventory in FY 2004.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
The contract for development and qualification of a new generator control panel awarded in June 2000. Preliminary Design Review (PDR), breadboard testing, Critical Design Review (CDR), validation and verification, and bench testing is scheduled for FY 2001. The modification kits will be ordered in FY 2002, and installation is scheduled to begin in FY 2003.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Wiring Harness					1	*	1	*	95	0.3														
XXX Kit																								
XXX Kit																								
Installation Kits N/R				*		0.6																		
Installation Equipment																								
Main Generator Control Unit (GCU)									138	0.3														
Aux Power Unit GCU									69	0.2														
Generator Cowling									185	0.4														
Installation Equipment N/R			6	0.7																				
Engineering Change Orders																								
Wiring ECO																								
XXX Equip ECO XXX																								
Data						0.1		0.6																
Training Equipment				0.5		*			8	*														
Support Equipment						*		*		0.1														
ILS						0.1		0.1		0.2														
Other Support								1.2		1.0														
Interim Contractor Support																								
Installation Cost							1	*	1	*														
Total Procurement				**1.3**		**0.8**		**2.0**		**2.5**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-46E** MODIFICATION TITLE: **Electrical System Upgrade**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Government Owned Contractor Operated (GOCO) Field Mod Team**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2000: Aug-00 FY 2001: Jun-01 FY 2002: Dec-01 FY 2003:

DELIVERY DATE: FY 2000: Feb-01 FY 2001: Dec-01 FY 2002: Sep-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits							1	*																
FY 2001 ( ) kits									1	*														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL							**1**	*	**1**	*														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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														
Out								1				1													

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: T58 Engine Reliability Improvement Program (ERIP) OSIP 15-01

MODELS OF SYSTEMS AFFECTED: CH-46E (T58-GE-16 engine) TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION:
T58-GE-16 reliability and performance trends are unacceptable, and are severely impacting Fleet safety, readiness and warfighting capability. The T58-GE-16 MTBR is projected to fall below 320 hours by FY 2002 and will require 309 major repairs per year. The NAVAIR System Safety Team has determined that the current Hazard Risk Index (HRI) for the T58-GE-16 is "IIC" (critical, occasional) and trending towards IIB (critical, probable). The CH-46E Helicopter must be logistically supported until 2011, howe T58-GE-16 support costs are being driven to unaffordable levels. This program will drastically improve Fleet operating safety and readiness, while providing tremendous reductions in maintenance man-hours and operations & support (O&S) costs. Funds support production and procurement of a T58-GE-16 engine core or "Gas Path", Depot overhaul of key engine accessories, incorporation of all approved engine Component Improvement Program (CIP) changes, and Depot final assembly of manufacturer delivered "Gas Path" with accessory components. This program is projected to restore a 900-hour MTBR, improve performance to the original power specification, and reduce the major engine repairs per year to 70 in FY 2006. Currently, there are 230 CH-46E aircraft (204 active + 26 reserve). This modification will be installed in 152 aircraft (126 active + 26 reserve), the projected inventory midway through FY 2005.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Congress approved $3M plus-up in FY 2001 for risk mitigation, prototypes and NRE; and the contract for these efforts awarded in January 2001. NRE is in-process, and the prototypes are scheduled to deliver in FY 2002. Production buys will begin in FY 2002, followed by kit deliveries and engine modifications in FY 2003.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Engine Kit									30	16.3														
XXX Kit																								
XXX Kit																								
Installation Kits N/R							3	3.0		1.9														
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data										1.1														
Training Equipment																								
Support Equipment										1.3														
ILS										0.8														
Other Support										1.4														
Interim Contractor Support																								
Installation Cost									3	0.4														
Total Procurement								**3.0**		**23.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T58-GE-16** MODIFICATION TITLE: **T58 ENGINE RELIABILITY IMPROVEMENT PROGRAM (ERIP)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Mod engines concurrent with overhual at NADEP Cherry Point**

ADMINISTRATIVE LEADTIME: (Varies) Months PRODUCTION LEADTIME: (Varies) Months

CONTRACT DATES: FY 2000: N/A FY 2001: Jan-01 FY 2002: Jun-02 FY 2003:

DELIVERY DATE: FY 2000: N/A FY 2001: Apr-02 FY 2002: Mar-03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits									3	0.4														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL									**3**	**0.4**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **June 2001**

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 Year	ID Code		FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A											
COST (In Millions)	**351.5**	A		**18.5**	**13.6**	**10.8**							

This line item funds modifications to the AH-1W aircraft. Modifications prior to FY 1997 were funded in the H-1 Series line item. There are 193 AH-1W's. 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 maneuverability 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 firing and gravity released external stores. Operational Requirements Document (ORD) AAS-35 covers all OSIPs listed below. The overall goal of the modifications budgeted in FY 2002 is to continue to fulfill the operational requirement to detect, identify and destroy tactical sized armored 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 and designating system. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Year	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
8-90	AH-1 Night Targeting System	303.0	7.1	4.2								
3-93	AH-1 Embedded GPS/ARC-210 NAV Upgrade	46.5	8.4	4.6	1.9							
16-98	AH-1W APR-39A(V)2	1.9	1.0	1.3								
12-00	H-1 Mission Planning Module and OFP Software Upgrade Program		0.9	0.9	1.2							
13-00	AH-1W Aircraft and T700 Engine Safety Corrections		1.1	2.7	7.7							
02-03	AH-1 20MM Linkless Feed											
	Total	**351.5**	**18.5**	**13.6**	**10.8**							
RESERVE FUNDING INCLUDED IN THE TOTALS:		0.5										

Notes: Totals may not add due to rounding.
Prior to FY 1997 AH-1W OSIPs were budgeted in the H-1 Series P-1 Line Item.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AH-1 Night Targeting System (OSIP 8-90)

MODELS OF SYSTEMS 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 missiles. 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. 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.The Night Vision Goggle Helmet mounted Display and Improved Crew Restraint System completes the NTS modification. NTS will accomplish the USMC requirement for night operations by incorportating a high resolution stabilized forward looking infra-red sensor, charged coupled device camera system, automatic target tracking, and laser range finder/designator into the current M65 telescopic sight unit. Due to changes in the TOW missile control by addition of the NTS, a Buffer Box is being incorporated to ensure proper operation of the TOW missile with the NTS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This was a joint effort with the Israeli Air Force and was 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. 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. This modification will cover 128 AH-1W aircraft and four AH-1W trainers.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Acceleratаed Kits	5	2.0																						
NTS Kit ECP # 1648	118	117.2	5	4.4	5	4.2	4	3.6																
A/F Kit ECP # 1648	123	36.1	5	1.4																				
TOW BUFFER ECP#H1-CP20-98	202	1.8																						
Installation Kits N/R		19.5																						
Installation Equipment																								
GFE Retrofit		5.0		0.1																				
NTS GFE	79	1.2		0.3																				
5 PT RESTRAINT GFE	41	1.8																						
VCRs	123	3.2	5	0.1	5	0.1	4	0.1																
Installation Equipment N/R		2.0																						
Engineering Change Orders		7.5																						
Data		1.2		*		*		*																
Training Equipment	4	3.5		0.5																				
Support Equipment		14.8				0.1																		
ILS		14.2																						
Other Support		20.5		1.7		0.3		0.4																
Interim Contractor Support																								
Installation Cost	106	36.7	17	6.1	5	2.4																		
Total Procurement		**288.3**		**14.7**		**7.1**		**4.2**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. FY01 NTS Units will be shipped directly to the fleet to be installed by the Fleet Squadron (O -Level) All Modifications to the Aircraft have been completed in FY00. The FY01 Funding buys NTS only.

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 FY97. Annualized FY98 and out.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (123) kits	106	36.7	17	6.1																				
FY 2000 (5) kits					5	2.4																		
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**106**	**36.7**	**17**	**6.1**	**5**	**2.4**																		

Installation Schedule

	FY 1999 & Prior	FY2000				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	123		2	3																					
Out	112	6	5		2	3																			

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AH-1W Embedded GPS/ARC-210 Navigation Upgrade Program (OSIP 3-93)

MODELS OF SYSTEMS AFFECTED: AH-1W — TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION: The Department of Defense has mandated that all U.S. military 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 operationtional 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 system solution will be displayed on a modified AN/ASQ-205 Cockpit Control System.

The AN/ARC-210 is 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 Cobra 1.0 series of software operational flight program facilitates use of mission planning software 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 C3I. The Air Force approved a Milestone III Full Rate 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. This modification will cover 181 AH-1W aircraft and two AH-1W trainers. FY 98 and FY 99 Other Support funds H-1 MPM compatibility /conversion.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits ECP # 1686	104	9.1	40	2.3	18	1.2	19	1.1																
Installation Kits N/R		3.1																						
Installation Equipment																								
GFE Retrofit				0.1		0.1		0.1		0.1														
CDNU GFE	204	2.6	80	1.1	36	0.5	38	0.4																
ARC-210 GFE	4	0.3																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.0		0.3		0.2		0.4		0.3														
Training Equipment	2	0.3																						
Support Equipment		0.3		0.6		1.1																		
ILS		1.3																						
Other Support		6.5		2.2		2.7		1.1		0.6														
Interim Contractor Support																								
Installation Cost	76	9.8	30	5.7	26	2.8	32	1.5	19	0.9														
Total Procurement		**34.3**		**12.2**		**8.4**		**4.6**		**1.9**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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 through FY 2000 contractor drive-in modification; and FY 2001 & out contractor field modification team.**

ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: Dec-99 FY 2001: Dec-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Dec-00 FY 2001: Dec-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (106) kits	76	9.8	30	5.7																				
FY 2000 (40) kits					26	2.8	14	0.8																
FY 2001 (18) kits							18	0.8																
FY 2002 (19) kits									19	0.9														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006( ) kits																								
FY 2007( ) kits																								
To Complete () kits																								
TOTAL	**76**	**9.8**	**30**	**5.7**	**26**	**2.8**	**32**	**1.5**	**19**	**0.9**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	106		8	9	9	14	6	6	6	1	6	6	6												
Out	96	10		5	10	11	14	6	6	6	1	6	6												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AH-1W APR-39A(V)2 (OSIP 16-98)

MODELS OF SYSTEMS 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 incorporates a 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 systems. The EW System consists of:

a. Installation of the AN/AAR-47 Missile Warning Set
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. This modification will cover 77 AH-1W aircraft and two AH-1W trainers.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	77	0.5																						
Installation Kit - Unit Price																								
Installation Kits N/R		0.1		*																				
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1																						
Training Equipment	2	0.2																						
Support Equipment		0.4																						
ILS				0.1																				
Other Support		0.1		0.4		0.6		0.1																
Interim Contractor Support																								
Installation Cost	3	0.1	1	*	14	0.4	61	1.3																
Total Procurement		**1.3**		**0.6**		**1.0**		**1.3**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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: 4 Months

CONTRACT DATES: FY2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (79) kits	3	0.1	1	*	14	0.4	61	1.3																
FY 2000 ( ) kits																								
FY 2001 () kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**3**	**0.1**	**1**	*	**14**	**0.4**	**61**	**1.3**																

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	3	4	5	15	15	15	16																
Out	3	3	3	4	5	11	11	12	12	15															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: H-1 Mission Planning Module (MPM) and OFP Software Upgrade (OSIP 12-00)

MODELS OF SYSTEMS AFFECTED: AH-1W | TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION: The H-1 MPM is a unique software module application designed to operate in and interface with the Joint Mission Planning System (JMPS) Core software architecture. The MPM links the JMPS core to the aircraft operational flight program (OFP) software. This OSIP will also provide for periodic OFP software upgrades. It is tailored to meet the mission planning requirements of the H-1 weapon system platform and makes extensive use of generic Core processing with adjustments for unique H-1 requirements. The MPM will provide the capability for the H-1 operator to effectively and efficiently plan a mission in an automated environment, thereby reducing aircrew workload. The MPM will allow for the development and refinement of specific mission data to be produced in the JMPS and then transferred to the aircraft via a Mission Data Loader/Advanced Memory Unit device. This data will include target and waypoint, threats, GPS, ARC-210, EW System, weapons, and aircraft performance information. The MPM will also allow for helicopter performance calculations, taking into consideration terrain and threat information, which will enhance survivability. As a result, the H-1 MPM and OFP software upgrades will enable the operators to more effectively plan the assigned H-1 missions and coordinate with other Service and other Marine assets.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Modification of the existing MPM is necessary to reflect the new Windows NT architecture design. FY 98 and FY 99 H-1 prior year Mission Planning developments were funded under OSIP 3-93. JMPS 7.0 Core and MPM releases are scheduled as follows: Release #1: FY01; Release #2: FY02; Release #3: FY03; Release #4: FY05

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R						0.4		0.7		1.1														
Engineering Change Orders																								
Data								*		*														
Training Equipment								*		*														
Support Equipment																								
ILS																								
Other Support						0.5		0.1		0.1														
Interim Contractor Support																								
Installation Cost																								
Total Procurement						**0.9**		**0.9**		**1.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AH-1W Aircraft and T700 Engine Safety Corrections(OSIP 13-00)

MODELS OF SYSTEMS AFFECTED: AH-1W | TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The AH-1W helicopter is powered by two General Electric T700-GE-401 turboshaft engines which are controlled throughout the normal operating range by the Electrical Engine Control Unit (EECU) and the Hydro-Mechanical Unit (HMU) . Since 1994, 86 total power loss incidents have occurred with the T700-GE-401; 58 ground flameouts, 7 ground roll-backs, 10 inflight shut-downs, and 11 inflight rollbacks. These inadvertent power loss incidents severely jeopardize aircrew safety. Incorporation of a Digital Electronic Control Unit (DECU) with auto-ignition system will reduce the risk of an uncommanded engine flameout and complete power loss. This change will replace the EECU with a DECU w will be carried forward into the AH-1Z. Additionally, a Dynamic Component Change (DCC) to incorporate new chip detectors on the 42 and 90 degree gear boxes are required to provide improved warning of impending failure, and new filler cap prevent internal corrosion caused by water intrusion. The equipments introduced by this change will be carried forward into the AH-1Z.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The DECU is a General Electric proprietary, non-developmental item used on the SH-60B and aircraft equipped with T700-GE-401C. Contract awarded 1st quarter of FY00. Installation of prototypes was accomplished in 2nd quarter of FY01 to complete verification. Organizational level installations will commence in the 2nd quarter of FY02. This modification will cover 189 AH-1W aircraft and eight AH-1W trainers which will carry forward to the AH-1Z.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AFC XXX DECU Install Kits *							4	*	84	0.1														
DCC XXX 42 & 90 Degree Gearbox *																								
Installation Kits N/R					5	0.1		0.1	2	0.2														
Installation Equipment					10	0.2	8	0.3	168	5.6														
Installation Equipment N/R						0.5		0.3																
Engineering Change Orders										0.1														
Data								0.3		0.1														
Training Equipment								0.3	8	0.5														
Support Equipment								0.2																
ILS								0.2		0.1														
Other Support						0.2		0.9		0.6														
Interim Contractor Support										0.3														
Installation Cost																								
Total Procurement						**1.1**		**2.7**		**7.7**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Kits will be installed at the organizational level

Exhibit P-40, BUDGET ITEM JUSTIFICATION							DATE: **June 2001**					
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**							P-1 ITEM NOMENCLATURE **H-53 Modifications**					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**311.7**	A	**27.9**	**24.5**	**16.5**							

This line item funds modifications to the CH-53D/CH-53E/MH-53E aircraft. There are 44 MH-53E Helicopters; 165 CH-53E Helicopters; and 45 CH-53D Helicopters. 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 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 FY02 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 2000**	**FY 2001**	**FY 2002**
67-82	NIGHT VISION GOGGLES	1.9	0.3		
57-88	AN/AAR-47 MISSILE WARNING SET	4.8	0.1		
23-91	MH53E ENGINE ENHANCEMENT	42.1	3.0	0.6	0.1
11-92	AN/ARC-210 ECCM RADIO	16.9	2.0	2.2	0.4
12-92	CH-53E HELICOPTER NIGHT VISION SYSTEM	97.8	0.8	1.8	
20-92	MH GLOBAL POSITIONING SYSTEM (GPS)	35.1	1.1	2.5	2.2
24-93	H-53 GLOBAL POSITIONING SYSTEM (GPS)	25.3	1.0		
20-94	INCORP OF #2 ENGINE FIRE DETECTORS	4.5	0.6	0.3	
21-94	(ANVIS/HUD) AN/AVS-7	12.4	2.8	2.6	2.2
22-94	CRASHWORTHY PILOT & CO-PILOT SEATS	7.8			
26-94	(NVG) COMPATIBLE EXTERIOR LIGHTING	6.2	0.5		
35-94	TRDS SHAFT DISCONNECT COUPLING MONITOR	23.5	0.2	0.1	
20-97	ATTENUATING TROOP SEATS	13.1	4.6	3.2	4.3
6-98	AN/APR-39A (V) 2 UPGRADE	0.6	0.6		
7-98	INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM	18.0	10.4	7.9	5.0
8-98	TACTICAL MISSION PLANNING SYSTEM (TAMPS)	1.7			
08-01	IMPROVED EXTERNAL LIFTING DEVICE (IELD)			1.2	1.0
09-01	NACELLES			2.2	1.0
10-02	CH-53E AVIONICS COMM NAV SURVEILLANCE/TRAF MGT				0.4
XX-05	SERVICE LIFE EXTENSION PROGRAM (SLEP)				
		311.7	**27.9**	**24.5**	**16.5**
TOTAL RESERVE FUNDING INCLUDED IN TOTAL		3.0	0.2	1.2	0.0

Note: Totals may not add due to rounding.
Note: * indicates amounts less then 50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: NIGHT VISION GOGGLES (NVG) (OSIP 67-82)

MODELS OF SYSTEMS AFFECTED: CH-53E (13) + (1) TRNR KIT | TYPE MODIFICATION: SAFETY, MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION: The present and projected threat requires low attitude helicopter operations which cannot now be conducted at night due to a lack of adequate night vision equipment. The third generation aviation NVG, with appropriate cockpit lighting modifications for compatibility, will provide increased capability for the flight crew to perform nap-of-earth and contour flying at night time in conditions of reduced illumination down to overcast starlight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NVG were developed by the US Army and are referred to as Aviator's Night Vision Imaging System (ANVIS) or AVS-6. Army production was authorized in September 1982. US Navy approval for full production (AFP) was received in October 1986. Operational use of the AVS-6 requires modification of existing cockpit lighting to NVG compatible lighting. A quick fix lighting modification for the AVS-6 was developed by the Naval Air Test Center and kits were manufactured by the Naval Avionics Center (NAC) for the H-53 series aircraft.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E (PNCLA-37R1)	13	0.8																						
Installation Kits N/R																								
Installation Equipment																								
CH-53E (PNCLA-37R1)		1.0																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment	1	0.1																						
Support Equipment																								
ILS																								
Other Support						0.1																		
Interim Contractor Support																								
Installation Cost					12	0.2																		
Total Procurement		**1.9**				**0.3**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (12) MODIFICATION TITLE: NIGHT VISION GOGGLES (NVG) (OSIP 67-82)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification Teams and SDLMs**

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits					12	0.2																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**12**	**0.2**																		

Note: (2) Kits not installed at AMARC
Installation Schedule

	FY 1999 & Prior	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		3	3	3	3																				
Out		3	3	3	3																				

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/AAR-47 MISSILE WARNING SET (57-88)

MODELS OF SYSTEMS AFFECTED: CH-53D/E — TYPE MODIFICATION: READINESS AND MAINTAINABILITY

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 aproach warning system consisting of four sensor assemblies housed in two or more sensor domes and a central processor unit. Control and display are via the AN/APR-39A radar warning receiver. The AN/AAR-47 provides attacking missile declaration and sector direction finding (DF) and will be interfaced directly to the AN/ALE-39 countermeasures dispensor. At present, U.S. Marine Corps helicopters have no capability to detect an infrared (IR) missile attack. The AN/AAR-47 will detect missile attack regardless of the fire control method used- IR,radio frequency or electro-optical. Thus, it will not only alleviate a critical deficiency against IR homing missile but can also serve a a limited backup to the radar warning receivers.

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 August 1986. Approval for full production was received in the third quarter FY 1987 with production option exercised in the first quarter FY 1988. The research, development test and evaluation, Navy (RDT&E,N) program element number is 63212N. Tmp NO. J543 applies.

METHOD OF IMPLEMENTATION: Naval Aviation Depot (NADEP) Pensacola and interservice Field Team and NADEP standard depot level maintenance (SDLM) or drive in mod (DIM) NOTE: Government furnished equipment (GFE) is procured under common ECM OSIP 72-88

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53D/E	221	1.6																						
Installation Kits N/R		0.3																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1																						
Training Equipment				*		*																		
Support Equipment																								
ILS		*																						
Other Support		0.4		*																				
Interim Contractor Support																								
Installation Cost	203	2.2	9	0.1	4	0.1																		
Total Procurement		**4.6**		**0.2**		**0.1**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E/D

MODIFICATION TITLE: AN/AAR-47 MISSILE WARNING SET (57-88)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification Teams and SDLMs**

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	203	2.2	9	0.1	4	0.1																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**203**	**2.2**	**9**	**0.1**	**4**	**0.1**																		

Note: (5) HMX A/C Kits not installed.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	212		4																						
Out	212		4																						

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: MH-53E ENGINE UPGRADE T64-GE-419 (OSIP 23-91)

MODELS OF SYSTEMS AFFECTED: CH-53E (1), MH-53E (44 - 32 Active, 12 Reserve), 45 Total | TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The 64-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. Applicable ECP: 2626R1

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 designated 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 procured 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Aircraft Kit -MH (32 Act, 12 Res)	44	7.3																						
Aircraft Kit - CH	1	0.2																						
Engine Oil Cooler Mod MH	90	3.5																						
Installation Kits N/R		19.5																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		2.2		*		*		0.1		*														
Training Equipment	5	0.8		*																				
Support Equipment		0.8																						
ILS		0.6		0.1		0.4		0.1		*														
Other Support		3.0		0.2		0.2		0.1																
Interim Contractor Support																								
Installation Cost	14	1.9	17	1.8	16.0	2.4		0.2																
Total Procurement		**39.9**		**2.2**		**3.0**		**0.6**		**0.1**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (1), MH-53E (44 - 32 Active, 12 Reserve), 45 Total MODIFICATION TITLE: MH-53E ENGINE UPGRADE T54-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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	14	1.9	17	1.8	16	2.4		0.2		*														
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**14**	**1.9**	**17**	**1.8**	**16**	**2.4**		**0.2**		*														

Installation Schedule

	FY 1999 & Prior	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	31	4	4	4	4																				
Out	27	4	4	4	4	4																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AN/ARC-210 ECCM Radio (OSIP 11-92)

MODELS OF SYSTEMS AFFECTED: CH-53D (47) (Note 3), CH-53E (158)(Note 4) , MH-53E (44), 249 Total | 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. Applicable ECPs: CH-53E: PNCLA-4, CH-53D: PNCLA-61, MH-53E: CHPT-006

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 took 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E A Kit (LBAD) Note 6	116	1.3	14	0.2	28	0.3																		
CH-53D A KIT (LBAD) Note 3	46	0.8																						
CH-53D Rev B Kit Note 5			45	0.4																				
MH-53E A KIT (LBAD)	7	0.2	4	0.1	3	0.1	4	0.1	2	*														
MH-53E RESERVE A KIT (LBAD)					2	*	1	*	3	0.1														
Installation Kits N/R		1.5		*																				
Installation Equipment																								
GFE ITEMS - CHE Note 4	4	0.5																						
Installation Equipment N/R		0.1		0.2																				
Engineering Change Orders																								
Data		1.3		0.7		*																		
Training Equipment	5	0.5	1	0.1	1	0.1																		
Support Equipment																								
ILS		0.3																						
Other Support		3.7		0.8		0.2		0.5																
Interim Contractor Support																								
Installation Cost	110	3.2	44	1.2	54	1.4	52	1.6	5	0.3														
Total Procurement		**13.2**		**3.7**		**2.0**		**2.2**		**0.4**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. 44 installs planned. 3 a/c struck since procurment
4. 4 radioes (GFE) procured by PMA-261 for Val/Ver. Balance procured by PMA-209
5. Includes 44 CHD Rev B installs
6. Only 149 installs

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D (47), CH-53E (158) , MH-53E (44),249 Total 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 2000: Nov-99 FY 2001: Nov-00 FY 2002: Nov 01 FY 2003:

DELIVERY DATE: FY 2000: Dec-00 FY 2001: Dec-01 FY 2002: Dec 02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	110	3.2	44	1.2	54	1.4	24	0.7																
FY 2000 ( ) kits							28	1.0																
FY 2001 ( ) kits									5	0.3														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**110**	**3.2**	**44**	**1.2**	**54**	**1.4**	**52**	**1.6**	**5**	**0.3**														

Note:
1. Includes 7 Trainer Installations 2. FY2001 installations include 1 kit bought prior w/NGRE funds.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	13	13	14	14	13	13	13	13	1	1	1	2												
Out	154	13	13	14	14	13	13	13	13	1	1	1	2												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS)(OSIP 12-92)

MODELS OF SYSTEMS AFFECTED: CH-53E (138) (Note 3) — 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/29 FLIR.
Applicable ECP: 0231-E001

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AAQ-16B/29 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 FY 94. Extension of application for CH-53E was granted first quarter FY 95.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kits	138	9.3																						
Installation Kits N/R		3.1																						
Installation Equipment																								
CH-53E installation equipment	138	56.8					3	1.8																
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.6		*																				
Training Equipment	3	8.4		*		*																		
Support Equipment																								
ILS		1.0																						
Other Support		10.6		*		0.2																		
Interim Contractor Support																								
Installation Cost (Note 4)	95	6.6	31	1.6	14	0.6																		
Total Procurement		**96.1**		**1.7**		**0.8**		**1.8**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Program truncated (from 166 kits to 138) by N880 and HQMC in FY'97
4. One A-kit not installed was a Hot Bench Mock up

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (138) MODIFICATION TITLE: CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS)(OSIP 12-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Airframe modifications and engines will be performed concurrent with (SDLM) by NADEP and Interservice Field Mod Teams (FMT)**

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	95	6.6	31	1.6	14	0.6																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**95**	**6.6**	**31**	**1.6**	**14**	**0.6**																		

Installation Schedule

	FY 1999 & Prior	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	126	3	3	3	5																				
Out	126	3	3	3	5																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: MH Global Positioning System (NCS) (GPS) (OSIP 20-92)

MODELS OF SYSTEMS AFFECTED: MH-53E (32 Active, 12 Reserve) - 44 Total | 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 was to be originally accomplished via installation of the Navigation/Communication System (NCS). This system met all AMCM and GIG (DOD guidance for integration of GPS) requirements. Due to funding constraints, the NCS was cancelled in FY-99. As a result, the OSIP below was amended to reflect cancellation of the NCS system and reconfiguration of two aircraft previously outfitted with NCS, and show the procurement and installation of the MAGR 2000 GPS system.

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 with a recommendation of operationally suitable/operationally effective. The MAGR 2000 system in the MH-53E will undergo OT-IIID in FY01. This will be the Navy "lead the fleet" system implementation of GPS non-precision approach (NPA) capability.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
MH-53E GPS Kit (ECP CH53-011)	10	6.0	13	0.3	14	0.2	31	0.7	24	0.7														
Installation Kits N/R		1.8				0.4																		
Installation Equipment																								
GFE Reconfig																								
Installation Equipment N/R		0.4																						
Engineering Change Orders		0.1		*																				
Data		1.6		0.1		0.1		*		0.3														
Training Equipment	2	10.4				0.1	2	0.2																
Support Equipment		0.2																						
ILS		1.2		*				*																
Other Support		9.6		1.4		0.3		0.7		0.3														
Interim Contractor Support																								
Installation Cost	2	1.0	3	1.0	18		28	0.9	26	0.9														
Total Procurement		**32.3**		**2.8**		**1.1**		**2.5**		**2.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Total Kit Qty includes 2 VAL/VER Kits and 2 Reconfigured Kits.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: MH-53E (32 Active, 12 Reserve) -44 Total

MODIFICATION TITLE: MH Global Positioning System (NCS) (GPS) (OSIP 20-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Initial val kit install is a turn key with verification install 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: 5 Months

CONTRACT DATES: FY 2000: Feb-00 FY 2001: Feb-01 FY 2002: FEB 02 FY 2003:

DELIVERY DATE: FY 2000: Jul-00 FY 2001: Jul-01 FY 2002: JUL 02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	2	1.0	3	1.0	17	0.8																		
FY 2000 ( ) kits					1	0.2	13	0.4																
FY 2001 ( ) kits							15	0.5	18	0.5														
FY 2002 ( ) kits									8	0.4														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**2**	**1.0**	**3**	**1.0**	**18**	**1.0**	**28**	**0.9**	**26**	**0.9**														

Notes:

1. (93) Installs= (88) PhaseI/II GPS+ (2) NCS Reconfigurations+ (2) GPS Trnrs+ (1) Validation Install
2. Trnr Kit Installs not separately priced in FY 1996.
3. One prior year kit was not installed

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	4	5	4	5	7	7	7	7	6	6	7	7												
Out	5	4	5	4	5	7	7	7	7	6	6	7	7												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: H-53 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 24-93)

MODELS OF SYSTEMS AFFECTED: RH-53D (2);CH-53D (47); CH-53E (164); Total: 213 | 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 system (VOR/TACAN) as a primary means of navigation in CONUS, by the year 2000.
Applicable ECPs: CH/RH-53D: 1107R1; CH-53E: PN-51

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53D/RH-53D Kit ECP 1107R1	49	3.1																						
CH-53E Kit ECP PN51	164	6.7																						
Installation Kits N/R		1.6																						
Installation Equipment																								
GPS (CH-53E) Equip																								
PPS Equip																								
TACAN RTS (CH-53E) Equip		0.1																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.8		*		*																		
Training Equipment	6	0.9		0.1		0.1																		
Support Equipment																								
ILS		*																						
Other Support		5.8		0.4		0.2																		
Interim Contractor Support																								
Installation Cost	131	4.3	36	1.4	26	0.7																		
Total Procurement		**23.4**		**1.9**		**1.0**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. 193 Installs = 213 kits procured (1- Lab, 2 -RH's, 14 War Reserve Aircraft, 3-Lot XX/XXI) were not installed.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH53D (47); CH53E (164); RH53D (2); Total: 213

MODIFICATION TITLE: H-53 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 24-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification Teams and SDLMs**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	131	4.3	36	1.4	26	0.7																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**131**	**4.3**	**36**	**1.4**	**26**	**0.7**																		

Installation Schedule

	FY 1999 & Prior	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	167	7	7	6	6																				
Out	167	7	7	6	6																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Incorporation of #2 Engine Fire Detectors (OSIP 20-94)

MODELS OF SYSTEMS AFFECTED: CH-53E -(166) & MH-53E (44) = Total (210) Aircraft — 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.
Applicable ECP: PN56R1

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 was completed July 1996. A government field activity will install a COTS temperature sensor and associated cockpit warning lights.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E Kits ECP PN56R1	120	1.1	43	0.4	3	*																		
MH-53E Kits ECP PN56R1	30	0.3	8	0.1	6	0.1																		
Installation Kits N/R		0.2																						
Installation Equipment																								
Installation Equipment N/R		*																						
Engineering Change Orders																								
Data		0.2																						
Training Equipment	1	*	5	0.1		*																		
Support Equipment		*																						
ILS		*																						
Other Support		1.0		*		*		*																
Interim Contractor Support																								
Installation Cost	84	0.6	43	0.3	53	0.4	24	0.2																
Total Procurement		**3.6**		**0.9**		**0.6**		**0.3**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. # of installs procured includes a total of 6 trainers
4. 10 CH-53E /2 MH-53E War Reserve Aircraft not installed.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E -166, MH-53E (44)
Total 210 Aircraft plus 6 Trainers.

MODIFICATION TITLE: Incorporation of #2 Engine Fire Detectors (OSIP 20-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with Naval Aviation Depot Standard Depot Level Maintenance (SDLM) augmented by NADEP interservice Field Mod Teams**

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 13 Months

CONTRACT DATES: FY 2000: Feb-00 FY 2001: Feb-02 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Mar-01 FY 2001: Mar-02 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	84	0.6	43	0.3	53	0.4	15	0.1																
FY 2000 ( ) kits							9	0.1																
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**84**	**0.6**	**43**	**0.3**	**53**	**0.4**	**24**	**0.2**																

Installation Schedule

	FY 1999 & Prior	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	127	8	12	21	12	12	12																		
Out	127	8	12	21	12	12	12																		

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AVIATOR NIGHT VISION IMAGING SYSTEM HEAD-UP DISPLAY (ANVIS/HUD) AN/AVS-7 (OSIP 21-94)

MODELS OF SYSTEMS AFFECTED: CH-53E 166 Aircraft & 4 Trainers — 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.
Applicable ECPs: CH-53E - PN47; CH-53D - PN61R1

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53D Kit ECP PN61R1																								
CH-53E Kit ECP PN47	72	1.0	15	0.2	28	0.4	20	0.3	13	0.2														
Installation Kits N/R		3.6																						
Installation Equipment																								
CH-53E Install Equip (incl 4 trainers)	74	1.4	17	0.9	28	1.6	20	1.1	13	0.7														
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.3				*																		
Training Equipment		0.4	4	0.1		0.1																		
Support Equipment		0.2																						
ILS		0.4																						
Other Support		2.1		0.6		0.4		0.7		0.7														
Interim Contractor Support																								
Installation Cost	39	0.6	34	0.6	18	0.3	21	0.5	22	0.6														
Total Procurement		**9.9**		**2.4**		**2.8**		**2.6**		**2.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E 166 & 4 Trainers

MODIFICATION TITLE: AVIATOR 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: 7 Months

PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 2000: MAY 00 FY 2001: MAY 01 FY 2002: MAY 01 FY 2003:

DELIVERY DATE: FY 2000: JAN 01 FY 2001: JAN 02 FY 2002: JAN 02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	39	0.6	34	0.6	18	0.3																		
FY 2000 ( ) kits							21	0.5	7	0.3														
FY 2001 ( ) kits									15	0.3														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**39**	**0.6**	**34**	**0.6**	**18**	**0.3**	**21**	**0.5**	**22**	**0.6**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	73	4	4	5	5	5	5	5	6	5	5	6	6												
Out	73		4	4	5	5	5	5	5	6	5	5	6												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: CRASHWORTHY PILOT AND CO-PILOT SEATS (OSIP 22-94)

MODELS OF SYSTEMS AFFECTED: CH-53E (96), MH-53E (16) Total 112 Acft | 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 163059 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E CFE Kit ECP 2160S1	96	0.1																						
MH-53E CFE Kit ECP 2632S1	16	*																						
Installation Kits N/R		*																						
Installation Equipment																								
Simula Seats (2 per A/C) - CH	198	5.6																						
Simula Seats (2 per A/C) - MH	32	0.9																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1																						
Training Equipment	3	*																						
Support Equipment		*																						
ILS		*																						
Other Support		0.1																						
Interim Contractor Support																								
Installation Cost	112	0.9	3	*																				
Total Procurement		**7.8**		**0.1**																				

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (96), MH-53E (16) Total 112 Acft

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: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	112	0.9	3	0.1																				
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**112**	**0.9**	**3**	**0.1**																				

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	115																								
Out	115																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 26-94)

MODELS OF SYSTEMS AFFECTED: CH-53D (47); CH-53E (162); MH-53E (44), RH-53D (2 Res) 255 Total & 8 Trainers

TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Current doctrine requires Naval Helicopters to be operated at night by aircrew utilizing Nags. 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. Applicable ECPs: CH-53D/RH-53D: PN59; MH-53E: PN57; CH-53E: PN53R1

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 and testing commenced in 3rd quarter FY96 for the MH-53E and CH-53D. Kit quantities reflect 2 RH-53D Kits (VAL/VER) procured in FY94 that will not be installed due to deactivation of RH-53Ds.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53D/RH-53D Kits (ECP PN59)	49	0.5																						
CH-53E Kits (ECP PN53R1)	162	1.1																						
MH-53E Kits (ECP PN57)	44	0.9																						
Installation Kits N/R		0.4																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.4		*																				
Training Equipment	8	0.1		*		0.1																		
Support Equipment		*																						
ILS		0.2																						
Other Support		0.4		*																				
Interim Contractor Support																								
Installation Cost	180	1.8	31	0.4	38	0.4																		
Total Procurement		**5.7**		**0.5**		**0.5**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Installations do not include 2 RH-53D kits and 11 War Reserve Aircraft, 1 PJT on CHD not being installed

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D (47); CH-53E (162); MH-53E (44) RH-53D (2 Res) 255 Total & 8 Trainers

MODIFICATION TITLE: Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting

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: 12 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	180	1.8	31	0.4	38	0.4																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**180**	**1.8**	**31**	**0.4**	**38**	**0.4**																		

1. Installations do not include 2 RH-53D kits, 11 War Reserve Aircraft, and 1 PJT on the CH-53D.

Installation Schedule, (includes 8 trainer installs)

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	211	9	9	10	10																				
Out	211	9	9	10	10																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: TAIL ROTOR DRIVE SHAFT DISCONNECT COUPLING MONITOR & MAIN ROTOR SWASHPLATE BEARING MONITOR (OSIP 35-94)

MODELS OF SYSTEMS AFFECTED: CH-53E (165), MH-53E (43), (208) Total Aircraft & (6) Trainers — 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 or main rotor swashplate duplex bearing. This program will install a vibration/temperature sensor on the disconnect coupling and swashplate to warn aircrews of duplex bearing degradation or impending failure.
Applicable ECPs: 2175R4/2666R4.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Coupling Monitor mod program commenced in FY92 with installation of 4 prototype systems for a one year demo. After successful completion of the demo four VAL/VER kits (2CH/2MH) were procurred in FY95 with installation scheduled in FY96/97. In June 96 a CH53E experienced a Class "A" mishap as a result of a main rotor swashplate bearing failure. VAL was completed Aug 98, and VER installations of the Coupling Monitor was deferred so that the system could be expanded and redesigned to incorporate monitoring of temperature and vibration in the main rotor swashplate assembly. In April 97 the contract for the Coupling Monitor was modified to include the additional functionality and to accelerate procurement and retrofit of the Bearing Monitor system. The Preliminary Design Review for the modified system was held in January 97 and the critical Design Review was held in April 97.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E/MH-53E Kits ECP 2175R4/2666	214	9.9																						
Installation Kits N/R		6.8																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.0		0.5																				
Training Equipment	6	0.6				*																		
Support Equipment		0.2																						
ILS		0.8																						
Other Support		0.5		0.2		0.2																		
Interim Contractor Support																								
Installation Cost	198	3.1		*		*	6	0.1																
Total Procurement		**22.8**		**0.7**		**0.2**		**0.1**																

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. 2 FY95 kits procured but not installed, 1 Kit for MH Prototype procured but not installed; 9 @ AMARC = 208 total installs.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E (167); MH-53E (44), 211 Total Aircraft & 6 Trainers MODIFICATION TITLE: TAIL ROTOR DRIVE SHAFT DISCONNECT COUPLING MONITOR (OSIP 35-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Turn-key - Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	198	3.1		*		*	6	0.1																
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**198**	**3.1**		*****		*****	**6**	**0.1**																

Installation Schedule

	FY 1999 & Prior	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	198					6																			
Out	198					6																			

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: ATTENUATING TROOP SEATS (OSIP 20-97)

MODELS OF SYSTEMS AFFECTED: CH-53D (46), CH-53E (165), MH-53E (44) 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 decelerations. Due to this operational deficiency, NDI crashworthy troop seat program extablished. 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 are being sought.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: NDI procedures utilized for the Procurement, Installation and Support of the seats for all 46 CH-53D Helicopters. Funding for the 46 seats and associated requirements were appropriated in 1997. Program consists of a one-time procurement with a turn-key installation approach. FY-98 through 05 provides for procurement, installation, and support of the CH-53E and MH-53E helicopters.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53D Kit	46	4.6																						
CH-53E Kit			2	0.6	52	3.7	30	2.0	52	3.6														
MH-53E Kit			2	0.4																				
Installation Kits N/R		0.3		1.0				0.1																
Installation Equipment																								
Seat testing		0.3		0.5																				
Installation Equipment N/R																								
Engineering Change Orders		0.3																						
Data		0.2		0.1		*		0.2																
Training Equipment																								
Support Equipment																								
ILS		0.3		*				0.2																
Other Support		1.3		1.8		0.8		0.6		0.6														
Interim Contractor Support																								
Installation Cost	46	1.5		*	4	0.2	20	0.1	48	0.1														
Total Procurement		**8.7**		**4.4**		**4.6**		**3.2**		**4.3**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D (46), CH-53E (165), MH-53E (44)

MODIFICATION TITLE: ATTENUATING TROOP SEATS (OSIP 20-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification Teams and SDLMs**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 8 on initial buy Months

CONTRACT DATES: FY 2000: Aug-00 FY 2001: Nov-01 FY 2002: Nov-02 FY 2003:

DELIVERY DATE: FY 2000: May-01 FY 2001: Jul-01 FY 2002: Jul-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	46	1.5		*	4	0.2																		
FY 2000 ( ) kits							20	0.1	32	0.1														
FY 2001 ( ) kits									16	*														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**46**	**1.5**		*****	**4**	**0.2**	**20**	**0.1**	**48**	**0.1**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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			4				8	12	12	12	12	12												
Out	46			4				8	12	12	12	12	12												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/APR-39A (V) 2 UPGRADE (OSIP 6-98)

MODELS OF SYSTEMS AFFECTED: CH-53E/MH-53E (165) CH-53E, (44) MH-53E — TYPE MODIFICATION: MISSION/MISSION 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 and an aural warning via the aircraft InterCommunication 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, PMA-272. ECP: H53-008R1.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
VAL/VER			2	0.1																				
CH-53E																								
MH-53E																								
MH-53E Reserve																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment						*																		
Support Equipment																								
ILS						0.1																		
Other Support		0.1		0.4		0.4																		
Interim Contractor Support																								
Installation Cost			1	0.1	1	*																		
Total Procurement		**0.1**		**0.5**		**0.6**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E/MH-53E 165 CH-53E, 44 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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits			1	0.1	1	*																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**1**	**0.1**	**1**	*****																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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																						
Out	1		1																						

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: HELICOPTER INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM (IMDS) (OSIP 7-98)

MODELS OF SYSTEMS AFFECTED: CH-53E - (154); MH-53E - (44) TYPE MODIFICATION: SAFETY, READINESS AND MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: IMD is a helicopter monitoring and diagnostics system that provides continous 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 system on two CH-53E's is scheduled for FY96-98. 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 prototype effort in FY98-99 is a pilot program to be conducted at HMT-302 that validated a production representative system prior to the Milestone III decision in FY00.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E A Kit					5	1.5	11	3.3	6	1.8														
MH-53E A Kit																								
MH-53E Reserve Kit																								
Installation Kits N/R				3.4																				
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.2		1.5		0.5		0.6														
Training Equipment						*		0.2																
Support Equipment										0.1														
ILS		0.6		0.5		1.0		0.6		0.5														
Other Support		7.3		6.1		6.4		2.1		1.5														
Interim Contractor Support						0.1		0.2		0.3														
Installation Cost							13	1.1	3	0.3														
Total Procurement		**7.8**		**10.1**		**10.4**		**7.9**		**5.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E - 154; MH-53E - 44 MODIFICATION TITLE: HELICOPTER INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM (IMDS) (OSIP 7-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR INSTALLED**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: DEC 00 FY 2001: JAN 01 FY 2002: JAN 02 FY 2003:

DELIVERY DATE: FY 2000: JUN 01 FY 2001: JUL 01 FY 2002: JUL 02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits							5	0.4																
FY 2001 ( ) kits							8	0.7	3	0.3														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL							**13**	**1.1**	**3**	**0.3**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	8		1	1	1												
Out									13		1	1	1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: JOINT MISSION PLANNING SYSTEM (JMPS) (OSIP 8-98)

MODELS OF SYSTEMS AFFECTED: CH-53D/E | TYPE MODIFICATION: READINESS AND MAINTAINABILITY

DESCRIPTION/JUSTIFICATION The Joint Mission Planning System (JMPS) is a computer based mission planning system. This system uses platform specific software to aide in the preparation of flight plans and force level products for tactical scenarios. Current H-53 program reflects the base minimum needed to be incorporated in the JMPS core without specific platform requirements.:

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:JMPS 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support		0.2		1.6																				
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**0.2**		**1.6**																				

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Improved External Lifting Device (IELD) (08-01)

MODELS OF SYSTEMS AFFECTED: CH/MH-53E 165 CH-53E 9 MH-53E | TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The (IELD) Improved External Lifting Device will be a non material system to improve the external load capability of the CH/MH-53E. The system will give the aircrew the capability to carry three individual external loads and disburse them in three separate locations. This capability does not currently exist in the H-53E.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The FY00 NRE effort funded in R&D is to establish hardware requirements to effectively use current on board systems to accomplish the IELD goal. This effort commenced at NAWC(AD). APN-5 efforts commence with Val/Ver in 4Q FY01 with kit buys in FY01 and installs beginning in FY02.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E							165	0.5																
MH-53E							9	*																
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data								0.4																
Training Equipment									6	*														
Support Equipment																								
ILS								0.1																
Other Support								0.1																
Interim Contractor Support																								
Installation Cost							1	*	179	1.0														
Total Procurement								**1.2**		**1.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH/MH-53E 165 CH-53E 9 MH-53E

MODIFICATION TITLE: Improved External Lifting Device (IELD) (08-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 2000: FY 2001: Dec-00 FY 2002: Dec-01 FY 2003:

DELIVERY DATE: FY 2000: FY 2001: Jun-01 FY 2002: Jun-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits							1	*	173	0.9														
FY 2002 ( ) kits									6	0.1														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL							**1**	*	**179**	**1.0**														

Installation Schedule

	FY 1999 & Prior	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	45	45	45	44												
Out									1	45	45	45	44												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Engine Nacelles (09-01)

MODELS OF SYSTEMS AFFECTED: CH/MH-53E | TYPE MODIFICATION: MISSION/MISSION ENHANCEMENT

DESCRIPTION/JUSTIFICATION: This modification provides improvements to the engine nacelles which are intended to decrease the maintenance man-hours expended on nacelles repair and replacement. This modification will incorporate the forward and aft engine nacelles for the CH-53E and MH-53E.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Contract award planned for 3nd Qtr. FY 01. Anticipate kit delivery beginning 3 months from award.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E							29	1.1	24	1.0														
CH-53E VAL/VER							1	*																
MH-53E							6	0.2																
MH-53E VAL/VER							1	*																
Installation Kits N/R								0.7																
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost							2	*																
Total Procurement								**2.2**		**1.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: CH-53E Avionics Comm Nav Surveillance/Air Traffic Management (10-02)

MODELS OF SYSTEMS AFFECTED: CH-53E (2) | TYPE MODIFICATION: Mission/Performance Enhancement

DESCRIPTION/JUSTIFICATION: The CNS/ATM upgrade will modernize selected avionics systems to meet EUROCONTROL Minimum Aviation Performance Standards (MASPS). Systems include IFF(CXP), VOR/ILS (MMR) and RAHRS to include Attitude Deviation Indicator (ADI) and Course Direction Indicators (CDI). These systems will be integrated via a 1553 bus structure controlled with existing CDNU's.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development based on existing bus structure and CDI technologies.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
CH-53E Kit																								
Installation Kits N/R										0.1														
Installation Equipment																								
GFE Items																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support										0.3														
Interim Contractor Support																								
Installation Cost																								
Total Procurement										**0.4**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. To be incorporated in FMF Lant and HMX aircraft only

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53E** MODIFICATION TITLE: CH-53E Avionics Comm Nav Surveillance/Air Traffic Management

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Validation by CFA, Verification by LBGAD, and FMT or SDLM installations for follow-on aircraft.**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2004: NOV 03 FY 2005: FY 2006: FY 2007:

DELIVERY DATE: FY 2004: MAY 04 FY 2005: FY 2006: FY 2007:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Installation Schedule

	FY 1999 & Prior	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					2																				
Out						2																			

	FY 2010				FY 2011				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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

P-1 ITEM NOMENCLATURE
H-60 Modifications

Program Element for Code B Items: 28

Other Related Program Elements

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**497.9**	A	**49.0**	**36.8**	**1.7**							

This line item funds modifications to H-60 series aircraft. The H-60 series current inventory is comprised of:: 40 HH-60H, 160 SH-60B and 74 SH-60F aircraft. The design service life of these weapon systems is 10,000 hours, the average service life remaining is as follows: SH-60B 4,946 hours, SH-60F 7,557 and HH-60H 7,691. The SH-60B is the vehicle component of the LAMPS MK III Weapon System on surface combatants. The primary missions of the SH-60B are Anti-Submarine (ASW) and Anti-Surface Warfare (ASUW). The SH-60F is an ASW, dipping sonar helicopter assigned to carrier airwings based aboard aircraft carriers (CV). The SH-60F primary mission is protection of the CV inner zone. The HH-60H is a Combat Search and Recue (CSAR) and Special Warfare Support (SWS) helicopter assigned to carrier airwings aboard CVs and also in two reserve squadrons. SH-60B requirements are driven by the number of LAMPS MK III ships to be supported. The overall goal of the modifications budgeted in FY 2002 is to continue the Block I upgrade, Forward Looking Infrared (FLIR) efforts, the T-700 Engine Improvement program, the Armed Helo program, the Integrated Mechanical Diagnostic System (IMDS), the H-60 Ultra Low Maintenance Battery, and the H-60 Heater Test Set. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
04-91	Block I Upgrade	193.9										
48-92	FLIR/HELLFIRE	8.6										
14-94	GPS MAR Compliance Mission Data Loader	4.4										
15-94	Forward Looking Infrared	117.4	3.8									
26-95	Aircraft Survivability Equipment (ASE)	49.3		0.2								
08-96	T700 Engine Improvements	16.0	3.1	3.1								
10-96	Armed Helo	108.2	28.1	6.5								
17-00	Helicopter Integrated Mechanical Diagnostic System (IMDS)		9.1	11.9								
25-00	Sonar Improvements		5.0	6.0								
06-01	H-60 Ultra Low Maintenance Battery			0.9	1.7							
07-01	H-60 Heater Test Set			0.1								
17-01	Specific Emitter Identifier			8.0								
XX-04	H-60 Safety Related Systems Upgrade											
	TOTAL	**497.9**	**49.0**	**36.8**	**1.7**							

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: BLOCK I UPGRADE (OSIP 04-91)

MODELS OF SYSTEMS AFFECTED: SH-60B — TYPE MODIFICATI Operational Enchancement

DESCRIPTION/JUSTIFICATION:
This block retrofit is to upgrade the 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 configurations or over half of the LAMPS MK III inventory in a less than current configuration. Lot1-8 were retrofit aircraft. Lot IX was off the production line. There were 95 Helo's modified; there are 160 SH-60Bs in inventory, comprising of 2 NSH-60B. 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. T 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. This requirement is required per ORD # SOR 12-18.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
All development milestone were completed prior to FY91.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Kit 1	10	6.9																					10	6.9
Kit2	16	3.4																					16	3.4
Kit 3	13	2.3																					13	2.3
Kit 4	7	1.5																					7	1.5
Kit 5	15	10.9																					15	10.9
Kit 6	23	8.4																					23	8.4
Kit 7	6	0.2																					6	0.2
Kit 8	5	0.6																					5	0.6
Kit A	46	21.7																					46	21.7
Kit B	15	6.0																					15	6.0
Kit C	29	8.7																					29	8.7
Penguin	22	2.4																					22	2.4
Engine	46	2.5																					46	2.5
Antenna	484	1.9																					484	1.9
M-60 Mission Kit	88	1.1																					88	1.1
AN/ARR-84 Kit	45	0.2																					45	0.2
Installation Kits N/R		11.3																						11.3
Installation Equipment																								
ARC-182	97	3.2																					97	3.2
ARR-84	97	14.1																					97	14.1

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: BLOCK I UPGRADE (OSIP 04-91)

MODELS OF SYSTEMS AFFECTED: SH-60B | TYPE MODIFICATI Operational Enchancement

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
ARN-146	91	1.5																						
ALQ-144 (VP)2	79	5.2																						
ALE-39	85	1.6																						
ARR-47	90	4.4																						
AYK-14	91	9.7																						
OA8967	90	0.5																						
MK-50 Cables	78	0.2																						
RIM		1.7																						
Penguin		3.3																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		4.3																						
Training Equipment		11.0																						
Support Equipment																								
ILS																								
Other Support		2.3		2.4																				
Interim Contractor Support																								
Installation Cost	87	36.4	8	2.1																				
Total Procurement	**1,668**	**189.4**		**4.5**																				

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-60B** MODIFICATION TITLE: BLOCK I UPGRADE (OSIP 0491)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 6 PRODUCTION LEADTIME 18 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (95) kits	87	36.4	8	2.1																		
FY 2000 ( ) kits																						
FY 2001 ( ) kits																						
FY 2002 ( ) kits																						
FY 2003 ( ) kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
FY 2006 ( ) kits																						
FY 2007 ( ) kits																						
To Complete ( ) kits																						
TOTAL	**87**	**36.4**	**8**	**2.1**																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	95																				
Out	95																				

	FY 2005				FY 2006				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: FLIR/HELLFIRE (OSIP 48-92)

MODELS OF SYSTEMS AFFECTED: HH-60H | TYPE MODIFICATION: Operational Enchancement

DESCRIPTION/JUSTIFICATION:
The Forward Looking Infared (FLIR) Sensor and Hellfire weapons system, is being incorporated on the HH-60H aircraft. This is required to meet unfulfilled requirements for forward firing weapons and FLIR per ORD# Ser 377-88-94. This OSIP procures and install 24 FLIR/Hellfire "A" kits. This modification provides enhanced target detection, desgination and defensive and survival capabilities. The current HH-60H inventory is 40; 24 active duty Navy aircraft are being modified. 1 HH-60H is currently being rebuilt at Troy, AL.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006			FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty		$	Qty	$	Qty	$	Qty	$
RDT&E																									
PROCUREMENT																									
Installation Kits																									
Provisions	24	4.1																							
Installation Kits N/R		1.9																							
Installation Equipment																									
Installation Equipment N/R																									
Engineering Change Orders																									
Data		0.4																							
Training Equipment		0.1																							
Support Equipment		0.1																							
ILS		0.5																							
Other Support		0.4																							
Interim Contractor Support																									
Installation Cost	10	0.5	14	0.6																					
Total Procurement	**24**	**8.0**		**0.6**																					

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H** MODIFICATION TITLE: FLIR/Hellfire (OSIP 48-92)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002:

DELIVERY DATE: FY 2000: FY 2001: FY 2002:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$		$	**Qty**	**$**
FY 1999 & PY ( ) kits	10	0.5	14	0.6																				
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**10**	**0.5**	**14**	**0.6**																				

Installation Schedule

	FY 1999 & Prior	FY 2000				FY 2001				FY 2002				FY 2003							FY 2005			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	2	3	4	1	2	3	4
In	24																							
Out	24																							

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: GPS MAR COMPLIANCE - MISSION DATA LOADER (MDL) (OSIP 14-94)

MODELS OF SYSTEMS AFFECTED: HH-60H/SH-60F | TYPE MODIFICATION: Operational Enhancement

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 appropriate number of Waypoints required to achieve MAR compliance. The current invenorty is 40 HH-60Hs and 74 SH-60Fs. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, and 1 additional SH-60F aircraft, reflects YSH-60F; this modification is being added to all systems.

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 cirtical design review (CDR) was completed in April 1991. Developomental and operational testing have been completed. PMW-167 is procuring the MDL under common OSIP 71-88.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
SH-60F KIT	78	0.3																						
HH-60H KIT (Active)	24	0.1																						
HH-60H KIT (Reserve)	18	0.1																						
Installation Kits N/R		2.4																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.2																						
Training Equipment		0.2																						
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost	93	1.0	27	0.2																				
Total Procurement	**120**	**4.2**		**0.2**																				

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H/SH-60F** MODIFICATION TITLE: GPS MAR Compliance (OSIP 14-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Navy Field Mod Teams**

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (120) kits	93	1.0	27	0.2																				
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**93**	**1.0**	**27**	**0.2**																				

Installation Schedule

FY 1999	FY 2000				FY 2001				FY 2002				FY 2003					FY 2004				
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3		4	1	2	3		4
120																						
120																						

	FY 2005				FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In														
Out														

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: FLIR (OSIP 15-94)

MODELS OF SYSTEMS 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 are included herein. The FLIR contingency kit will provide a passive detection, classification and tracking capability of surface contacts. The SH-60B inventory is 160. Inventory shows 2 comprise of NSH-60B; all are being modified. This requirement is dictated in ORD#323(1-86-94) Rev.1. Ten additional are kits required for: (4) lab requirements (2) testing requirements and (4) training requirements.

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 is complete.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP-267	173	12.3	5	0.3																				
Installation Kits N/R																								
Installation Equipment																								
FLIR Mission Kit	23	32.4	37	41.8																				
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.3																						
Training Equipment		12.5		8.4		3.3																		
Support Equipment		4.8																						
ILS		0.1																						
Other Support		2.9		1.6		0.5																		
Interim Contractor Support																								
Installation Cost																								
Total Procurement	**196**	**65.2**	**42**	**52.2**		**3.8**																		

Notes:

1. Totals may not add due to rounding
2. *=value less than $50K.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AIRCRAFT SURVIVABILITY EQUIPMENT (ASE) (OSIP 26-95)

MODELS OF SYSTEMS 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 Detector, 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. The HH-60H current inventory is 40. This change will upgrade all Active Navy and the Reserves HH-60Hs to the same configuration.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Installations 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Active Duty Kits	22	2.2																						
Reserve Kits	16	0.1																						
Installation Kits N/R	4	2.8																						
Installation Equipment																								
APR-39(V)2 Active Duty	24	4.8																						
APR-39(V)2 Reserve	18	3.6																						
AVR-2A Active Duty	24	4.0																						
AVR-2A Reserve	18	2.0																						
AAR-47	24	1.7																						
ALE-47	24	1.1																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.9		0.1																				
Training Equipment				21.1																				
Support Equipment		0.8																						
ILS		0.1																						
Other Support		1.3		0.9				0.2																
Interim Contractor Support																								
Installation Cost	42	1.9																						
Total Procurement	**174**	**27.1**		**22.1**				**0.2**																

Notes:

1. Totals may not add due to rounding
2. A total of four (4) kits were procured and installed as part of validation/verification efforts under the install kits non-recurring line. One (1) reserve A/C install was performed with NGRE funds.

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 Teams**

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (42) kits	42	1.9																				
FY 2000 ( ) kits																						
FY 2001 ( ) kits																						
FY 2002 ( ) kits																						
FY 2003 ( ) kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
To Complete ( ) kits																						
TOTAL	**42**	**1.9**																				

Installation Schedule

	FY 1999 & Prior	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	42																				
Out	42																				

	FY 2005				FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In														
Out														

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: T-700 ENGINE UPGRADE (OSIP 08-96)

MODELS OF SYSTEMS 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 reliability improvements; auto ignition, which activates a time delay relay enabling ignition during an overspeed event and subsequent re-light; transient droop improvement (TDI) which minimizes NR droop in hot/heavy gross weight environment and suitable contingency power making increased power available at high gross weight. Current inventory: 40 HH-60H, 160 SH-60B and 74 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. All are systems are being modifed per ORD#s SOR-12-18, 015-05-84 and 085-05-86.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP3930	92	0.8	191	2.2																				
Installation Kits N/R		1.3																						
Installation Equipment																								
DECU s	292	5.6	265	3.8	37	1.1																		
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.4				0.1																		
Training Equipment	14	0.4		0.1																				
Support Equipment		*				0.2																		
ILS		0.5																						
Other Support		0.4		0.4		0.6		0.4																
Interim Contractor Support																								
Installation Cost			15	0.1	74	1.0	208	2.8																
Total Procurement	**398**	**9.4**	**493**	**6.6**		**3.1**		**3.1**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-60B, SH-60F, HH-60H** MODIFICATION TITLE: T700 Engine Improvements (OSIP 08-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2000 Mar-00 FY 2001: FY 2002 FY 2003

DELIVERY DATE: FY 2000: Jun-00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (297) kits	15	0.2	74	1.5	208	1.2																
FY 2000 ( ) kits																						
FY 2001 ( ) kits																						
FY 2002 ( ) kits																						
FY 2003 ( ) kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
To Complete ( ) kits																						
TOTAL	**15**	**0.2**	**74**	**1.5**	**208**	**1.2**																

Installation Schedule

FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
15			30	44	52	52	52	52												
15			30	44	52	52	52	52												

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														
Out														

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: ARMED HELO (OSIP 10-96)

MODELS OF SYSTEMS AFFECTED: SH-60B | TYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: Procures weapons kits and incorporate provisions for a weapons capability into the SH-60B 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. This modification provides enhanced target detection, designation and defensive and survival capabilities. The current SH-60B inventory is 160. Inventory comprise of 2 NSH-60B; 87 aircraft are being modified. The program also procures 60 Hellfire mission systems as ancillary equipment. ORD #Ser 377-88-94 applies.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The weapons capabilitiy for the SH-60B and HH-60H will utilize all Non-Development Items (NDI) equipments. A contract for the rapid deployment capability consisting of (8) aircraft was awarded in June 1996, with installations commencing in December 1996.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Provisions	31	11.6	13	8.1	43	20.4																		
Rapid Deployment	8	4.8																						
Installation Kits N/R		21.8																						
Installation Equipment																								
Rapid Deployment	8	1.2																						
Hellfire Launcher/GAU-16A	17	6.3	16	3.1	19	2.7																		
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.5		0.4		0.3																		
Training Equipment				30.0				4.6																
Support Equipment		0.5		2.4																				
ILS		1.3																						
Other Support		9.9		5.1		0.8		0.7																
Interim Contractor Support																								
Installation Cost	10	0.7	4	0.4	46	3.9	27	1.3																
Total Procurement	**64**	**58.6**	**29**	**49.6**	**62**	**28.1**		**6.5**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-60B** MODIFICATION TITLE: Armed Helo (OSIP 10-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME 7 Months

CONTRACT DATES: FY 2000: Oct-99 FY 2001 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: May-00 FY 2001: FY 2002: FY 2003

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (44) kits	14	1.1	30	2.0																		
FY 2000 & PY (43) kits			16	1.9	27	1.3																
FY 2001 ( ) kits																						
FY 2002 ( ) kits																						
FY 2003 ( ) kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
To Complete ( ) kits																						
TOTAL	**14**	**1.1**	**46**	**3.9**	**27**	**1.3**																

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	14			16	30			27									
Out	10			19	31			12	15								

	FY 2004				FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In																		
Out																		

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Helicopter Integrated Mechanical Diagnostic System (IMD) (OSIP 17-00)

MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H, CH-60, SH-60R | TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: Integrated Mechanical Diagnostic System (IMD) is a helicopter monitoring and diagnostics system that provides continous onboard monitoring and diagnostics of engine health, gearbox, drive train vibrations, oil debris, rotor track & balance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Revised Acquisition Strategy from lease concept to procurement; approved by PEO December 1999. IMD DT started on SH-60B at Rotary Wing January 2000. DT scheduled to finish December 2001. Limited LRIP decision made March 2001. Current inventory: 40 HH-60H, 160 SH-60B and 74 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. "Total CH-60 aircraft will be 237. Lot I and II CH-60 prodction configuration is set prior to MS III decision on IMD, resulting in retrofit to 19 Lot I and II CH-60. Subsequent Lots of CH-60 will be equipped in production."

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
CH-60 Install Kits																								
Legacy A/C Install Kits					5	1.5																		
CH-60 N/R Engineering																								
Legacy A/C NR Engineering																								
Engineering Change Orders						2.9																		
Data						1.9		0.4																
Training Equipment																								
Support Equipment								0.2																
ILS						0.1		0.8																
Other Support						2.7		10.1																
Interim Contractor Support																								
Installation Cost							5	0.5																
Total Procurement					**5**	**9.1**		**11.9**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H, CH-60 MODIFICATION TITLE: HELICOPTER INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM (IMDS) (OSIP 17-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME 6 Months

CONTRACT DATES: FY 2000: FY 2001: Apr-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: Oct-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (0) kits																								
FY 2000 (5) kits							5	0.5																
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (15) kits																								
FY 2005 (15) kits																								
FY 2006 (0) kits																								
To Complete ( ) kits																								
TOTAL							**5**	**0.5**																

FY00 Kits to be installed in FY02 with FY01 funding due to PBCG Offset reduction.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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															
Out											3	2													

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Sonar Improvement (OSIP 25-00)

MODELS OF SYSTEMS AFFECTED: SH-60F

TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: High failure rates of the AN/AQS-13F transmitter/battery assemblies call for an improvement in realibility. The purpose change to the AN/AQS-13F transducer is to 1) Replace 65 tranmitter assemblies with the improved IGBT version (as previously accomplished on 68 transmitters via LECP 12991), the 2) Add auto-disconnects to battery circuitry preventing battery drainage when power is removed. The battery auto-disconnect will be accomplished on 133 transducers. Current inventory: 74 SH60F aircraft. Inventory comprise of 1 additional SH-60F aircraft, reflects YSH-60F.
Installation will be accomplished as an "O" Level Install.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					148	4.4																		
Install Kits N/R						*																		
Installation Equipment						0.3		5.4																
Installation Equipment N/R																								
Engineering Change Orders						*																		
Data																								
Training Equipment																								
Support Equipment																								
Training Equipment																								
ILS						*		0.1																
Other Support						0.2		0.5																
Installation Cost																								
Total Procurement					**148**	**5.0**		**6.0**																

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: H-60 ULTRA LOW MAINTENANCE BATTERY (OSIP 06-01)

MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H — TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: Initiative replaces the current battery for the H-60 weapons system with ULM Battery. The ULM Battery reduces the cost of ownership, by reducing maintenance requirement, reduces weight and reduces the risk of hazmat discharge. This equipment will be provided for the current inventory of 40 HH-60H, 160 SH-60B and 74 SH-60F aircraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. Installations will be accomplished at "O" level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The ULM Battery is currently being used by the Coast Guard H-60 aircraft. This would provide the H-60 community with a common use item.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Retrofit Kits									274	1.1														
Installation Kits N/R**							1	*																
Installation Equipment																								
ULM Battery									270	0.3														
Installation Equipment N/R																								
Engineering Change Orders																								
Data								0.1																
Training Equipment								0.2																
Support Equipment																								
ILS								0.3		0.1														
Other Support								0.3		0.2														
Interim Contractor Support																								
Installation Cost																								
Total Procurement							**1**	**0.9**	**274**	**1.7**														

Notes:

1. Totals may not add due to rounding

2. Asterisk indicates amount less than $50K

** One ULM A-Kit procured as a test asset will be installed into an active aircraft.

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: H-60 Heater Test Set (OSIP 07-01)

MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H | TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: This test set will be used to correct resistance deficiencies in the main rotor and tail rotor blade heater mats. The heating elements of the blade de-ice system tend to build up resistance because of infrequent system use. These resistance deficiences are currently causing the squadron to Beyond Capability Maintenance (BCM) thje Main Rotor Blades (MRB). The rotor system, is the affected aircraft systemthat would be improved as a result of this test set. This test set willbe provided for the current inventory: 40 HH-60H, 160 SH-60B and 74 SH-60F aircfraft. Inventory shows - 1 HH-60H, currently being rebuilt at Troy, AL, 2 additional SH-60B comprise of 2 NSH-60B and 1 additional SH-60F aircraft, reflects YSH-60F. The test set will be installed at the "O" level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Retrofit Kits							14	0.1																
Installation Kits N/R**																								
Installation Equipment																								
ULM Battery																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost																								
Total Procurement							**14**	**0.1**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Specific Emitter Identification (OSIP 17-01)

MODELS OF SYSTEMS AFFECTED: SH-60R — TYPE MODIFICA: Operational Enchancement

DESCRIPTION/JUSTIFICATION: Funding will be used to incorporate the Specific Emitter Identification (SEI) card into the ALQ-210/ESM system. This effort will include procurement of hardware (vendor SEI card), modificaion existing ALQ-210 test and software lab to equipment, hardware and software design to interface documents and systems engineering support to incorporate, test and demonstrate SEI compatibility in the ALQ-210/217 system. Current inventory SH-60R 57.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Phase A: Define Electronic Support Measures (ESM), Specific Emitter Identification (SEI) changes SEI demo. Define concept of operation and operator interface changes. Phase B: SH-60R/SEI integration and Flight Tes

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits (131)																								
SH-60R Install Kits (57)																								
SH-60R (A) Kits (57)																								
SH-60R (B) Kits (57)																								
Installation Equipment N/R								8.0																
Eng Change Order																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost																								
Total Procurement								**8.0**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION											DATE: **June 2001**	
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**							P-1 ITEM NOMENCLATURE **H-1 Series Modifications**					
Program Element for Code B Items:												
	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**154.3**	A	**15.2**	**15.5**	**1.1**							

There are 97 H-1N's in the UH configuration (77 active/20 reserve) and 29 H-1Ns in the HH configuration (4 Marine/25 Navy) for a total of 126. 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, controls/coordination/guidance of supporting fire and aeromedical evacuation. The overall goal of the modifications budgeted in FY2002 is to eliminate safety hazards, remedy obsolescence and maintain significant mission capability until the planned retirement date. The HH configured aircraft provide local civilian and military search and rescue support.

OSIP No.	**Description**	**Prior Years**	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**	**FY 2005**	**FY 2006**	**FY 2007**	**To Complete**	**Total**
15-92	UH-1 COMNAV Block Upgrade	72.7	2.0									
31-92	UH-1 NTIS	62.1	8.0	6.9								
15-98	AN/APR-39A(V)2	1.0	0.3									
18-98	H-1N Safety Upgrades	13.2	4.8	2.6	0.2							
21-98	Internal Rescue Hoist	5.3	*									
14-01	H-1 Upgrades Reclamation/Restoration			6.0								
04-02	AN/ASC-26 Upgrade				1.0							
	Total	**154.3**	**15.2**	**15.5**	**1.1**							
RESERVE FUNDING INCLUDED IN TOTAL		4.7	0.5									

Asterisk indicates amounts less than $50K
Totals may not add due to rounding

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: COMNAV BLOCK UPGRADE (OSIP 15-92)

MODELS OF SYSTEMS AFFECTED: UH-1N | TYPE MODIFICATION: UPGRADE

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states that t he U.S. Marine Corps (USMC) 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 UH-1N COMNAV Block Upgrade installed by AFC#275 via ECP PN76R1consists of the AN/APN-217(V) Doppler NAV, AN/ARN-153 TACAN,and MAGR GPS which provide precise navigation and position information and the AN/ARC-210 radio suite with HAVEQUICK/SINCGARS which provides secure voice communications. An AN/ARC-210 radio installed with a satellite communications antenna provides 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. Additionally, AFC#281 is required to relocate the aircraft searchlight, remove the AN/ARN-89 ADF system, install circuit breaker panel and center pedestal extensions. The CDNU Operational Flight Program (OFP), NVG Heads Up Display (HUD) and ICU-800 will also be improved. The COMNAV Block Upgrade also requires that the UH-1N Computer Based Training (CBT) instructional material be revised and that Electronic classroom equipment be provided to fleet squadrons in order to be properly trained.

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 occured 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AFC-275 ECP# PN76R1	88	11.9	13	2.0																				
AFC-281 ECP# PN86	103	0.3																						
Installation Kits N/R	4	6.4																						
Installation Equipment		18.1		1.1																				
Installation Equipment N/R		2.3				0.1																		
Engineering Change Orders																								
Data		0.4				0.1																		
Training Equipment	4	4.8		0.1		0.1																		
Support Equipment		0.4																						
ILS		0.9																						
Other Support		13.8		1.4		0.7																		
Interim Contractor Support																								
Installation Cost	183	7.3	16	1.5	13	1.1																		
Total Procurement		**66.7**		**6.0**		**2.0**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UH-1N** MODIFICATION TITLE: COMNAV BLOCK UPGRADE (OSIP 15-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MOD TEAM, AND ORGANIC MOD**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	183	7.3	16	1.5	13	1.1																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**183**	**7.3**	**16**	**1.5**	**13**	**1.1**																		

Note: Includes 4 NRE & 4 Trainer Kits.

Installation Schedule

	FY 1999 & Prior	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	199	4	4	3	2																				
Out	195	6	4	3	2	2																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										212
Out										212

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: UH-1N NAVIGATIONAL THERMAL IMAGING SYSTM (NTIS) (OSIP 31-92)

MODELS OF SYSTEMS AFFECTED: UH-1N | TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states that the UH-1N requires a Navigational Thermal Imaging System (NTIS) 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 targets that might not be visible with the naked eye or night vision goggles. The AN/AAQ-22A is a low cost, stabilized system which provides the required capability in the form of high quality real time imagery displayed into the UH-1N aircraft cockpit. The NTIS System is comprised of 5 components; Turret FLIR Unit (TFU), Central Electronics Unit (CEU), Hand Control Unit (HCU), Thermal Image Recorder (TIR), and the Video Display Unit (VDU). The NTIS is installed only in the UH-1N aircraft by AFC 278. The system also includes a Laser Range Finder (LRF) to determine the range to landmarks, targets, and tactical points of interest. Beginning FY97, the NTIS was upgraded from 1st generation to 3rd generation Forward Looking Infrared (FLIR) technology. This COTS modification to the current NTIS configuration will consist of a 3-5 micron focal plane array detector, an eye safe LRF and new optics incorporating three fields of view. The commercial name of this modification is STAR SAFIRE LRF. Additionally, the NTIS will be upgraded with a new Thermal Imaging Recorder (TIR) with mount and a Flat Panel Display replacement for the VDU due to a fire hazard. Investigation of additional modifications to the NTIS are also being investigated in order to add a COTS Las Designator capability. A laser designator capability is an ORD requirement. A contract has been signed to provide a minimum of 1 and a maximum of 125 upgrades to the AN/AAQ-22A and AN/AAQ-22C systems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NTIS is a commercial off-the-shelf (COTS) item. MIL-STD-810C testing is complete. DT-III testing was completed in the fourth quarter 1994 and FOT&E was completed in the second quarter FY 1996. Additional testing occurred during fourth quarter 1998 for the NTIS upgrade. The completion of COTS post Milestone III testing of Laser Designator is planned for 3rd and 4th quarter of FY01 continuing into FY02.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AFC 278 ECP EJH HO 30006	105	2.6																						
AFC-334 TIR ECP#H-1-CP9-97R-1	105	0.1																						
Installation Kits N/R		3.3						0.1																
Installation Equipment																								
NTIS System (GFE)	84	29.7																						
TIR (GFE)	107	1.0																						
NTIS Upgrade	24	8.6	21	7.0	20	6.8	13	4.5																
Flat Panel Display			90	0.8																				
Prototype Upgrade					1	0.8	2	1.3																
Installation Equipment N/R		0.6																						
Engineering Change Orders																								
Data		0.4		*				0.1																
Training Equipment	2	0.6																						
Support Equipment		1.1																						
ILS		0.2				0.1		*																
Other Support		2.9		0.2		0.3		1.0																
Interim Contractor Support																								
Installation Cost	107	3.1																						
Total Procurement		**54.1**		**8.1**		**8.0**		**6.9**																

Notes:

1. Totals may not add due to rounding
2. No installation funding required after FY 1997 - NTIS upgrade will be performed at manufacturer as MOD of GFE
3. No installation funding required after FY 1997- AFC 334 TIR will be incorporated at organizational Level
4. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AN/APR-39A(V) 2 WARNING RECEIVER SYSTEM (OSIP 15-98)

MODELS OF SYSTEMS AFFECTED: UH-1N | TYPE MODIFICATION: SURVIVABILITY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states the requirement for a UH-1N Radar Warning Reciever (RWR). The APR-39A(V)2 is a low-cost, light weight programmable RWR which provides 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 provides a centralized control and display for other components in the EW suite. The AN/APR-39A(V)2 system consists of five antennas, a control indicator, display unit receivers, and a processor. All equipment is installed into the UH-1Ns by AFC 240 part II via ECP # H1-PN72R1.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All initial DT and OT flight testing is complete. AFC 240 kits were originally procured under OSIP 15-90. The AN/APR-39A(V)2 hardware kits have been in storage awaiting an improved software load. During FY00 all required hardware was removed from storage and was loaded with the latest software version prior to installation.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits				0.6																				
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				*																				
Training Equipment				0.1																				
Support Equipment																								
ILS				*																				
Other Support				0.2																				
Interim Contractor Support																								
Installation Cost					86	0.3																		
Total Procurement				**1.0**		**0.3**																		

Notes:

1. Totals may not add due to rounding
2. Installations include 4 trainers.
3. Asterisk indicates amount less than $50K

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: **CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**	**Qty**	**$**
FY 1999 & PY ( ) kits					86	0.3																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**86**	**0.3**																		

Note:

1. Installations include 4 trainers.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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				44	42																				
Out					44	42																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										86
Out										86

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: H-1N SAFETY UPGRADES (18-98)

MODELS OF SYSTEMS AFFECTED: HH-1N/UH-1N — TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51requires that the following safety shortfalls be corrected. 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-2020. This program is designed to address safety issues, such as mishap casual factors associated with maintaining an older type model series aircraft. This safety upgrade program replaces the Tail Drive System (TDS). The existing TDS is subject to failure resulting in complete loss of tail rotor thrust. Since 1991, 44 malfunctions or failure have been reported on current TDS components. In the same time period, two Class A mishaps occurred as result of catastrophic failure of the hanger bearing assemblies 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. A modification to the CH-8500 Vibration Analysis Support Equipment (VASE) will also be needed. Additionally, a COTS replacement Rotor Brake Quill (RBQ) assembly and Low Maintenance Battery (LMB) will be incorporated into all HH/UH/1N aircraft. Component failures due to an obsolete design pose a significant risk to all aircrew Included in this OSIP is the requirement to correct the safety deficiencies of the Defensive Armament System (DAS) mounts, M240 machine gun and GAU-17 machine gun.. Additionally, the overspeed Aural Alert Unit (AAU) will be modified. A COTS Improved Torque Sensor System (ITSS) will be added to provide a digital torque signal to the aircrew to improve low power margin situational awareness.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: These upgrades are proprietary, non-developmental items used in other BHTI produced military and FAA certified commercial helicopters. Prototype installation and flight testing completed in March 1999 at NAS Patuxent River, MD. Post flight analysis and report completed in September 1999.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP # BHTI-1710 (TDS)	55	2.1	49	3.1	27	1.1																		
ECP# HI-CP-24-99 Rotor Brake Quill			46	0.5	16	0.2	64	1.1																
ECP# HI-CP-19-98 Aural Alert Unit			113	0.5																				
Smart Torque Indicator					275	1.0																		
ECP# NAWCWD 97GG023R2 M240	210	0.1																						
ECP# 98-002 GAU-17 Gun Ctrl Unit			79	0.3																				
ECP#98-0014 IDAS Mounts			110	0.7																				
Installation Kits N/R		1.1		*		0.2		*																
Installation Equipment N/R																								
Engineering Change Orders		*																						
Data		0.2		0.1		0.3		0.2																
Training Equipment	1	0.2	1	0.6		0.3	2	0.2																
Support Equipment		0.1	50	0.3																				
ILS		0.4		0.3		0.1		0.2																
Other Support		0.8		1.8		1.4		0.7		0.1														
Interim Contractor Support																								
Installation Cost					88	0.2	130	0.3	16	0.1														
Total Procurement		**4.9**		**8.3**		**4.8**		**2.6**		**0.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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: **CONTRACTOR FIELD TEAM AND ORGANIC MOD TEAM**

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Jul-00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits					88	0.2	119	0.2																
FY 2000 ( ) kits							11	0.1	16	0.1														
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**88**	**0.2**	**130**	**0.3**	**16**	**0.1**														

Installation Schedule reflects 103 AAUs (10 units are being procured as Interim Support and not being installed) and 131 TDS.

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	78	40	40	25	25	16															
Out					83	45	40	25	25	16															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										234
Out										234

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: H-1 INTERNAL RESCUE HOIST (21-98)

MODELS OF SYSTEMS AFFECTED: HH-1N/UH-1N | TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 states the requirement for an Internal Rescue Hoist. The current HH/UH-1N hoist was designed in the 1960s and introduced in the 1970s. The procurement of a new HH/UH-1N rescue hoist will be GFE to the UH-1Y (4BN) upgrade and is projected to remain in the inventory until FY2020. There have been 16 hoist related failure/incidents in the past 13 years. NAWC Lakehurst safety assessment of the HH-/UH-1N internal rescue hoist determined that we can expect at least one hoist failure per year, with possible catastrophic results, and strongly recommends that a modern, reliable, internal rescue hoist be procured. A new internal rescue hoist will provide a state-of-the-art rescue hoist that will increase search and rescue effectiveness well into the next decade.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This upgrade acquires a form, fit and function interchangeable of the existing internal rescue hoist as a non-development item. This procurement is through competitive award based on "best value" to the government. Critical factors included Performance, Life Cycle Support, Program Management, Price and Past Performance. The Request For Proposal (RFP) was announced in Apr 99. The the new Rescue Hoist contract was awarded in July 99.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits																								
Installation Kits N/R		0.1		0.2																				
Installation Equipment																								
Installation Equipment	48	2.6	26	1.4																				
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		*																				
Training Equipment		*		0.7																				
Support Equipment		*				*																		
ILS		0.1		*																				
Other Support		0.1		0.1		*																		
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**2.9**		**2.4**		*																		

Notes:

1. Totals may not add due to rounding
2. No Installation funding required. Rescue Hoist will be incorporated at the organizational level.
3. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: H-1 Upgrades Reclamation/Restoration (OSIP-14-01)

MODELS OF SYSTEMS AFFECTED: HH/UH-1N | TYPE MODIFICATION: UPGRADE

DESCRIPTION/JUSTIFICATION: Reclamation and conversion of Huey aircraft stored at Aerospace Maintenance and Regeneration Center (AMARC). From inception the USMC Upgrades program planned to induct stored HH-1N and UH-1N aircraft into the remanufacture line in the final years of production to provide replacement for planned attrition expected through 2020. Due to unexpected attrtion, fleet operators have insufficient resources to support the remanufacture line without dropping the number of assets in the fleet below the Primary Aircraft Authorized (PAA) and jeopardizing Commander in Chief deployment schedules. Reclamation of the AMARC aircraft will allow these aircraft to be inducted into the remanufacturing line first and will preserve the fleet PAA. The incorporation of previously developed/approved modifications will place these aircraft into the required configuration and material condition for induction into the UH-1Y remanufacture line. Work effort will include transportation, depreservation, and incorporation of airframe changes. Only those previously developed/approved Airframe Changes retained in the UH-1Y configuration will be incorporated in the portions of the fuselage and the GFE associated with these charges will be procured. These changes include: Defensive Armament System; EW suite AAR-47 and AN/APR39A(V)2; AVS-7 Night Vision Goggle (NVG) Heads-up Display; NVG compatible external lighting; Portions of COMNAV Block Upgrade; AAQ-22 Navigational Thermal Imaging System; Searchlight relocation; MA-16 Inertial reel installation; and Video cassette recorder replacement.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Partial AFC/AVC Kit								0.1																
Installation Kits N/R																								
Installation Equipment																								
GFE for Partial AFC/AVC Kits								1.6																
Installation Equipment N/R																								
Engineering Change Orders																								
Data								0.3																
Training Equipment								*																
Support Equipment																								
ILS								0.7																
Other Support								2.2																
Interim Contractor Support																								
Installation Cost							7	1.1																
Total Procurement		**0.0**		**0.0**		**0.0**		**6.0**		**0.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: HH/UH-1N

MODIFICATION TITLE: H-1 Upgrades Reclamation/Restoration (OSIP-14-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2000: FY 2001: Jan-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: Sep-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits							7	1.1																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**7**	**1.1**	**0**	**0.0**														

Installation Schedule

	FY 1999 & Prior	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									7																
Out										7															

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										7
Out										7

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AN/ASC-26 Upgrade (OSIP 04-02)

MODELS OF SYSTEMS AFFECTED: UH-1N | TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS–51 requires the UH-1N to provide airborne communication, control and coordination support during Marine Expeditionary Unit (MEU) special operations. The UH-1N performs this mission through use of the ASC-26 Mobile Communications and Control mission kit. The ASC-26 mission kit requires modification to properly interface with the COMNAV upgraded UH-1N aircraft and effectively provide the Airborne Mission Commander (AMC) and the Helicopter Unit Commander (HUC) the required communication capabilities in the modernized battlefield environment. The upgraded AN/ASC-26 provides increased airborne communication and control capability. The improved system is comprised of multiple independent operator stations. Improved functionality is provided through incorporation of the latest communications technology and an improved antenna suite and possible moving map display.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Part of the nonrecurring engineering was accomplished during the prototype phase by HMX-1. Prototype evaluation continues.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									2	0.2														
Installation Kits N/R										0.2														
Installation Equipment									18	0.1														
Installation Equipment N/R																								
Engineering Change Orders																								
Data										*														
Training Equipment										*														
Support Equipment																								
ILS										0.1														
Other Support										0.3														
Interim Contractor Support																								
Installation Cost									2	*														
Total Procurement										**1.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UH-1N** MODIFICATION TITLE: ASC-26 Upgrade (OSIP 04-02)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: Apr-02 FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: Jun-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits									2	*														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL									**2**	*														

Note: Asterick indicates amount less than $50K

Installation Schedule

	FY 1999 & Prior	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												2													
Out													2												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

	Exhibit P-40	DATE: June 2001
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY												
COST (In Millions)	**4.4**		**3.3**	**0.1**	**4.2**							

This line item funds modifications to an inventory of 52 H-3 aircraft. The H-3 is a twin-engine, single main rotor helicopter utilized in anti-submarine warfare, utility, and search and rescure missions. The overall goal of the modifications budgeted 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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
36-95	EXECUTIVE TRANSPORT CONVERSION	4.4	3.3									
03-99	COMM/NAV UPGRADE	*	*	0.1	4.2							
	Total	**4.4**	**3.3**	**0.1**	**4.2**							
Funding for Reserve Forces		1.7	*	*								

Note: Totals may not add due to rounding.
* Indicates funding less than 0.051 Million.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: UH-3H EXECUTIVE TRANSPORT CONVERSION (OSIP 36-95)

MODELS OF SYSTEMS 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 reached 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 two (2) 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. OPNAV conveyed this requirement in March 1995 via ORD # 404-88-95.

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.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AFC Kit																								
Installation Kits N/R ***	1	3.9			1	2.8																		
Installation Equipment																								
Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS		0.1																						
Other Support		0.4				0.5																		
Interim Contractor Support																								
Installation Costs																								
Total Procurement	**1**	**4.4**			**1**	**3.3**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

** 3. 1 Prototype = GFE (Auxiliary Power Unit, Environmental Control System, interior passenger accomodations) and structures.

*** 4. 2nd Prototype = GFE (Auxiliary Power Unit, Environmental Control System, interior passenger accomodations) and structures.

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: COMMUNICATION/NAVIGATION UPGRADE (OSIP 03-99)

MODELS OF SYSTEMS AFFECTED: UH-3H | TYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: This upgrade consists of: replacing UH-3H legacy/obsolete communication and navigation systems, to optimize total weapons system performance, reduce cost of ownership, and safely operate the helicopter through FY2010. The following communicational systems will be replaced: AN/ARC-159 UHF radio with AN/ARC-210 UHF/VHF radio, KY-58 Secure Voice Comm with AN/ARC-210 UHF/VHF radio, AN/APX-72 IFF with CXP Common Transponder. The following navigational systems will be replaced: A24G-39 Attitude Heading Reference System (AHRS) with the A/A24G-51 AHRS, 1080Y Vertical Gyro & AN/ARN-182 Doppler Radar & AN/APN-171 Radar Altimeter & AN/ASN-163 MAGR GPS with the AN/ASN-1 w/ Rad/Alt card, ML-1 Remote Compass Transmitter (RCT) with AMAD (part of A/A24G-51), AN/ASN-123C TACNAV computer with CNDU C-12284/A computer

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: All systems will be in production and Integration through FY02.
NOTE: OSIP 03-99, XX-02, and XX-04 were combined to reduce Non-recurring engineering, and development/operational test costs. This approach will introduce required systems into the fleet prior to components becoming obsolete.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
RDT&E																								
PROCUREMENT																								
Installation Kits									8	0.1														
AFC Kit																								
Installation Kits N/R ***				*		*		0.1		0.4														
Installation Equipment																								
COMM/NAV Equip									8	2.2														
Installation Equipment N/R										0.3														
Engineering Change Orders																								
Data										0.2														
Training Equipment																								
Support Equipment																								
ILS										0.1														
Other Support										0.8														
Interim Contractor Support																								
Installation Costs									8	0.2														
Total Procurement				*		*		**0.1**		**4.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

*** 3. FY99, FY00, & FY01 are for AHRS only

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-3H MODIFICATION TITLE: COMM/NAV UPGRADE (03-99)

INSTALLATION INFORMATION: **DEPOT LEVEL**

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MODIFICATION TEAM**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 2002: Nov-01 FY 2003: FY 2004: FY 2005:

DELIVERY DATE: FY 2002: Apr-02 FY 2003: FY 2004: FY 2005:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 (8) kits									8	0.2														
FY 2003 (8) kits																								
FY 2004 (6) kits																								
FY 2005 (7) kits																								
FY 2006 (7) kits																								
FY 2007 (6) kits																								
To Complete (2) kits																								
TOTAL									**8**	**0.2**														

Installation Schedule

	FY 1999 & Prior	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												4	4												
Out												4	4												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40							DATE: June 2001					
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY												
COST (In Millions)	93.1		84.2	65.9	123.7							

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 FY2002 is to improve operational capability and aircrew productivity by expanding the ESM frequency coverage, applying state-of-the-art signal exploitation/processing/display techniques, expanding direction finding (DF) frequency coverage, and expanding special signal processing capability.

Research and Development is funded with National Security Agency (NSA) Defense Cryptologic Program (DCP) funds and ASDC4I Defense Airborne Reconnaissance Program (DARP). DCP 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. DCP R&D PE: 0305885G refers. DARP R&D funds are responsible for the development and acquisition of EP-3E sensors, data links, data relays, and ground stations to achieve and maintain interoperability with Defense-wide airborne reconnaissance assets. Active PAA inventory is 11. EP-3 required inventory is 12. Funds budgeted in FY2002 are to continue Joint Sigint Avionics Family (JSAF) Modification Program (JMOD). The EP-3E has an average service life of 29.5 years and the first EP-3E will reach end of service in 2004.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
14-95	EP-3 Sensor Improvement	91.8	49.5	0.5								
17-99	EP-3 GPS Upgrade	1.4										
26-00	Quick Reaction Cabability		21.9									
29-00	P-3C to EP-3E Conversion Program		12.8	60.9	88.4							
11-01	JASA Modification (JMOD)			4.6	35.4							
TOTAL		93.1	84.2	65.9	123.7							

Note: Totals may not add due to rounding.

CLASSIFICATION:

DD Form 2454, JUN 86

UNCLASSIFIED

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) responds directly to Operational Requirement (OR) #057-095-87 and CAF-002-88. 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, 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 and -J (TADIL-A and -J), Tactical Information Broadcast Services (TIBS), Tactical Reconnaissance Information Exchange System (TRIXS), USN/USAF Advisory Support Network (ASN) Intelnet , DAMA-capable radios, and an upgrade to the OE-320 antenna suite. Integration and testing in the EP-3 Integrated Test Facility (ITF) prior to installation in the first production aircraft ensured integrated system functional integrity. The SSIP will provide the hardware and software essential for timely situational analysis and reporting to the fleet tactical commands. LESPA requirement includes NRE for qualifying LESPA parachutes in both EP-3E and Special Project Aircraft. Procurement of parachutes was limited to the EP-3E requirement in this OSIP. Enhanced signal exploitation/processing is achieved by Low Probability of Intercept/Specific Emitter Identification (LPI/SEI).

This OSIP addresses 12 aircraft. Nine of the eleven EP-3E aircraft service lives end during FY2004 through FY2008.

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 of SSIP Phase I . Production approval was based on follow-on qualification testing at the ITF and a COMOPTEVFOR operational assessment completed in the 2nd quarter FY96. DT was completed end of 3rd quarter FY00. OT was completed early 4th quarter FY00. Fleet introduction occured 4th quarter FY00. An LPI/SEI contract is planned for 4th quarter FY01 and OT is anticipated 3rd quarter FY02.

Exhibit P-3a

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

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
SSIP	12	5.4																						
LESPA	12	1.1																						
OE-320			6	.2	6	.2																		
TADIL-J (Link-16)					12	1.2																		
LPI/SEI					12	1.0																		
JMOD MOD 1					2	2.4																		
Installation Kits N/R		2.3		.8		7.2																		
Installation Equipment																								
Storyteller	10	11.1																						
Story Book	10	14.3																						
Story Classic	10	11.7																						
IP-1159 Replacement	10	5.0																						
LESPA	12	1.0																						
OE-320 Upgrade			6	.9	6	.9																		
TADIL-J (Link-16)					12	4.0																		
HBP Equipment				1.2																				
LPI/SEI					12	8.7																		
JMOD MOD 1					2	8.0																		
Installation Equipment N/R																								
Engineering Change Orders																								
Data		4.5		.6		3.2																		
Training Equipment		1.0		*		1.5																		
Support Equipment		.7				.6																		
ILS		5.4		.6		1.8																		
Testing						1.0																		
Other Support		11.4		1.7		6.5																		
Interim Contractor Support																								
Installation Cost	12	11.0			2	1.3	24	.5																
TOTAL PROCUREMENT	76	85.9	12	5.9	64	49.5		.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: EP-3E

MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)

INSTALLATION INFORMATION: OE-320/TADIL-J (Link-16)/LESPA

METHOD OF IMPLEMENTATION: Commercial Contractor Depot Installation

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: 11/99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 5/00 FY 2001: FY 2002: FY 2003:

($ in Million

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (18) kits *			18																					
FY 2000 (18) kits **					6	.1	*** 12	.5																
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL			18		6	.1	12	.5																

* 12 LESPA & 6 OE-320 "O" Level installs.

* * Two (2) OE-320 to be installed by contractor, remaining four (4) to be installed at "O" level.

*** TADIL-J (Link-16) installation.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	3	2	3	4	3																
Out	18			3	3	2	3	4	3																

	FY 2004				FY 2005				To	TOTAL
	1	2	3	4	1	2	3	4	Complete	
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)
LPI/SEI (SP-160)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 2000: 8/00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 2/02 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 (12) kits					**	1.2	12	**																
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL					**	1.2	12	**																

** FY00 Congressional Add funds twelve (12) installs.

Installation Schedule

	FY 1999 & PRIOR	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									12																
Out																									

	FY 2004				FY 2005				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E

MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95) SSIP

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (12) kits	12	11.0																						
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	12	11.0																						

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	1	1	1	1	1	1	1															
Out	4				1	1		1	1	1	1	2													

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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: Mandated

DESCRIPTION/JUSTIFICATION:

The EP-3E has an operational requirement for a Global Positioning System (GPS) Integration Guidance (GIG) upgrade to the current GPS system (ARN-151) to comply with the International Civil Aeronautics organization (ICAO) standards. The Operational Requirements Document (ORD) that applies to this effort is CAPSTONE ORD CAF-002-88.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The procurement of this upgrade began FY 1999 and aircraft deliveries concluded in the first quarter FY 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			12	.4																				
Installation Kits N/R																								
Installation Equipment			12	.4																				
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment				.2																				
Support Equipment																								
Testing																								
ILS				.1																				
Other Support				.1																				
Interim Contractor Support																								
Installation Cost			12	.2																				
TOTAL PROCUREMENT			24	1.4																				

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E

MODIFICATION TITLE: EP-3 Global Positioning System Inertial Guidance System (OSIP 17-99) GPS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

DELIVERY DATE: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (12) kits			12	.2																				
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL			12	.2																				

Installation Schedule

	FY 1999 & PRIOR	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	12																								
Out	11	1																							

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

NOTE: Installation of final kit is in conjuction with the replacement aircraft at the contractor's facility.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: EP-3 Quick Response Capability (OSIP 26-00)

MODELS OF SYSTEM AFFECTED: EP-3E TYPE MODIFICATI: Operational Improvement / Modernization

DESCRIPTION/JUSTIFICATION

The EP-3E program responds directly to Operational Requirement (OR) #057-095-87. This OSIP provides the hardware and software essential for timely situational analysis and reporting to the fleet tactical commands. 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. These improvements in productivity will be achieved by applying state-of-the-art signal exploitation/processing/display techniques with expanding program signal processing and communication capabilities. In order to reduce installation costs and the impact on limited fleet force levels, the QRCs will be installed in conjuction with Fleet Issue 3.0 and 4.0, the periodic installation of software mods and STR resolutions.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

One National Security Agency (NSA) asset has been installed on an ARIES II EP-3E aircraft as a prototype. Another R&D funded unit has been installed on the High Band Prototype (HBP) aircraft. Twelve more with improved technology were procured. Fleet Issue 3.0 and 4.0 installations will be conducted by a contractor field mod team.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					*14	3.0																		
Installation Kits N/R						2.2																		
Installation Equipment					*14	12.5																		
Installation Equipment N/R																								
Engineering Change Orders																								
Data						.9																		
Training Equipment						.2																		
Support Equipment																								
ILS						.4																		
Other Support						1.7																		
Interim Contractor Support																								
Installation Cost					14	1.1																		
TOTAL PROCUREMENT					14	21.9																		

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

* Two (2) kits are for SIL.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Quick Response Capability (OSIP 26-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Team Mod

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: 7/00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 7/01 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 (14) kits *					14	1.1																		
FY 2001() kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 20053 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL					14	1.1																		

* Two (2) kits are for SIL.

Installation Schedule

	FY 1999 & PRIOR	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									14																
Out									7	7															

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | INDIVIDUAL MODIFICATION

MODIFICATION TITLE: P-3C to EP-3E Conversion Program (OSIP 29-00)

MODELS OF SYSTEM AFFECTED: EP-3E | TYPE MODIFICATION: Operational Improvement / Modernization

DESCRIPTION/JUSTIFICATION:

The P-3C to EP-3E Conversion Program, designated as a No ACAT III program, converts four P-3C aircraft to EP-3E aircraft. This OSIP responds to primary and backup EP-3E inventory requirements in VQ-1/2 Required Operational Capabilities Projected Operational Environment (ROC/POE) dated 9 Feb 2000, OPNAVINST 5442.8, and CNO letter Ser N880G10/0U661331 dated 30 May 00. Primary Aircraft Authorization aircraft are required to perform operational missions. Backup Aircraft Authorization aircraft are required to permit scheduled and unscheduled maintenance, modifications, inspections and repair without reduction of aircraft available for operational missions. The OSIP also addresses mission avionics requirements in Operational Requirement (OR) #057-095-87 and the CAPSTONE ORD (CAF-002-88). The first conversion replaces an EP-3E damaged in a 1997 mishap and struck from the PAA inventory. The other two conversions provide two of the four EP-3E Backup Aircraft Authorization inventory.

The replacement aircraft and first pipeline aircraft will be procured under the same contract with an option in FY02 for the 2nd and 3rd pipeline aircraft. All four aircraft will be procured in a configuration sufficient for induction into the JMOD program (OSIP 11-01).

This program was developed to maximize procurement efficiency by grouping the three aircraft versus individual buys. Funding in FY00 covers NRE for four aircraft. Funding in FY01 procures two aircraft while FY02 funding procures two aircraft and ARIES II/SSIP Obsolescence Risk Mitigation NRE.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This program is a post Milestone III, based on SSIP Milestone III dated 29 March 1996. The production contract for the replacement aircraft and first pipeline aircraft contract will be awarded in 3rd quarter FY01. The option for the second and third pipeline aircraft will be awarded 2nd quarter FY02 with delivery in 4th quarter FY03.

Exhibit P-3a INDIVIDUAL MODIFICATION

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
REPLACEMENT AIRCRAFT							1	11.6																
PIPELINE AIRCRAFT							1	13.7	2	29.3														
Installation Kits N/R						12.8				3.7														
Installation Equipment																								
REPLACEMENT AIRCRAFT								**																
PIPELINE AIRCRAFT							1	10.2	2	21.7														
Installation Equipment N/R										5.0														
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment										.3														
Testing										.6														
ILS										.3														
Other Support								.4		1.2														
Interim Contractor Support																								
Installation Cost							2	25.0	2	26.3														
TOTAL PROCUREMENT						12.8	3	60.9	4	88.4														

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

** Replacement aircraft B Kit to be crossdecked from crash-damaged aircraft

NOTE: One (1) replacement and three (3) pipeline aircraft will be procured in a configuration sufficient for the JMOD program.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E

MODIFICATION TITLE: P-3C to EP-3E Conversion Program
Replacement/Pipeline Aircraft

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: 8 Months

REPLACEMENT AIRCRAFT 35 Months
PIPELINE AIRCRAFT: 35 Months

CONTRACT DATES: FY 2000: ____ FY 2001: 8/01 FY 2002: 1/02 FY 2003: ____

DELIVERY DATE: FY 2000: ____ FY 2001: 7/04 FY 2002: 12/04 FY 2003: ____

($ in Millions)

Cost:	Prior years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 () kits																								
FY 2001 (2) kits							2	25.0																
FY 2002 (2) kits									2	26.3														
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL							2	25.0	2	26.3														

Installation Schedule

	FY 1999 & Prior	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		1			1	1										
Out																					1	1			2

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										4
Out										4

* Replacement aircraft (1)
** Pipeline #1 aircraft (1)
*** Pipeline #2 aircraft (1)
**** Pipeline #3 aircraft (1)

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE EP-3E Joint Airborne SIGINT Architecture (JASA) Modification Program (JMOD) (OSIP 11-01)

MODELS OF SYSTEM AFFECTED: EP-3E TYPE MODIFICATION: Operational Improvement / Modernization

DESCRIPTION/JUSTIFICATION:

The EP-3E JASA Modification (JMOD) Program upgrades the capabilities of the Sensor System Improvement Program (SSIP) configuration of the EP-3E. This OSIP responds to Operational Requirement (OR) #057-095-87 and the CAPSTONE ORD (CAF-002-88). MOD 1 of this program updates the EP-3E infrastructure, improves auto-ESM and special processing capability. MOD 2 will incorporate the JASA compliant Low Band Sub-system (LBSS) which improves special collection capability and adds the Common Data Link (CDL) allowing the EP-3E to serve as a network-centric airborne SIGINT collection element capable of sharing data with ground and ship-based operators. MOD 3 which incorporates precision targeting will provide enhanced sensor capability resulting from new or modified sensors. The Joint Airborne SIGINT Program Office Wright Patterson AFB, Dayton OH is developing and will provide the LBSS. This OSIP addresses the current EP-3E aircraft allowance of 12 aircraft which will undergo a series of three block modifications via an evolutionary acquisition process. This OSIP addresses 12 aircraft. Nine of the eleven EP-3E aircraft service lives end during FY through FY08. SLAP/SLEP is planned for FY02 to extend service life of the aircraft to FY15 and beyond.

The block modification definitions are:

MOD 1 procures infrastructure which includes racks, cabling, LAN, computer hardware and software; Story Finder which includes precision DF, SEI, and auto-ESM; and Story Book which includes Common Processor Core (CPC) hardware and software. MOD 1 will reduce weight, accommodate LBSS boxes, enable use of LBSS output and increase throughput of information.

MOD 2 procures the LBSS B kit which has a 24 month production leadtime, CDL, and Story Maker fusion software. The MOD 2 TKI aircraft will utilize an LBSS developmental unit (DU) A and B kit for testing. The LRIP LBSS production unit A and B kit procured in FY03 will be installed on the TKI aircraft subsequent to test to bring the TKI aircraft to a full production representative configuration in FY05. Production MOD 2 aircraft will require one LBSS B kit (24 month production leadtime), one MOD 2 B kit and one A kit which will incorporate all installation requirements for both B kits. A total of five MOD LBSS's are required.

MOD 3 procures Precision Targeting which includes a passive optical system and SAR radar. One additional LBSS for MOD 1 to 3 will be procured for testing.

A Block Mod 1 to 2 adds the LBSS B kit and one MOD 2 B kit to aircraft that already has the MOD 1 infrastructure installed. A total of eight MOD 1 to 2 LBSS's are required. A Block Mod 1 to 3 adds the MOD 2 capabilities (LBSS) and Precision Targeting to aircraft that has MOD 1 infrastructure. A Block 2 to 3 adds the Precision Targeting capability to aircraft that already has infrastructure and LBSS.

The $2.6M additional funding in FY01 will enable procurement of unique, varied components (based on non-uniform aircraft configurations) and support for SSIP/JMOD risk reductions.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

RDT&E funded development commenced in FY-97 with non-recurring engineering for development and integration of a prototype kit / install kit to be installed into an SSIP configured EP-3E during the 1st quarter FY-01. One JMOD 1 LRIP is planned for 3rd quarter FY01. MOD 1 MSIII production approval is planned for 2nd quarter FY02. MOD 2 and MOD 3 production decisions are scheduled for 2nd quarter FY05 and 2nd quarter FY07 respectively. Production deliveries complete in FY12.

Exhibit P-3a INDIVIDUAL MODIFICATION

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E (H2694)				3.0		3.0		12.3		5.7														
PROCUREMENT																								
Installation Kits																								
RISK REDUCTION								.5																
BLOCK MOD 1									2	2.5														
BLOCK MOD 2																								
BLOCK MOD 2/LBSS ONLY																								
BLOCK MOD 1 to 2																								
BLOCK MOD 1 to 3																								
BLOCK MOD 2 to 3																								
Installation Kits N/R								.2		2.0														
Installation Equipment																								
RISK REDUCTION								1.3																
BLOCK MOD 1									2	7.1														
BLOCK MOD 2																								
BLOCK MOD 1 to 2																								
LBSS																								
BLOCK MOD 1 to 3																								
BLOCK MOD 2 to 3																								
Installation Equipment N/R								.4		2.3														
Engineering Change Orders																								
Data										5.7														
Training Equipment										1.2														
Support Equipment								.8		.5														
Testing								.4		2.2														
ILS								.5		1.5														
Other Support								.5		7.2														
Interim Contractor Support																								
Installation Cost							***	.2	** 2	3.2														
TOTAL PROCUREMENT								4.6	4	35.4														

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

** Two kits procured under SSIP OSIP 14-95.

*** Various installations of unique components based on non-uniform aircraft configurations.

NOTE: One (1) replacement and two (2) pipeline aircraft will be procured in a configuration sufficient for the JMOD program.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E

MODIFICATION TITLE: EP-3E Joint Airborne SIGINT Architecture (JASA) Modification Program (JMOD) (OSIP 11-01)
JMOD Installations

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: 8 Months

JMOD PRODUCTION LEADTIME: 12 Months
LBSS PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 2000: 2/01 FY 2001: 2/01 FY 2002: 2/02 FY 2003:

DELIVERY DATE: FY 2000: 2/02 FY 2001: 2/02 FY 2002: 2/03 FY 2003:

($ in Millions)

Cost:	Prior years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 (2) kits *									2	3.2														
FY 2001 () kits **							**	.2																
FY 2002 (2) kits																								
FY 2003 (3) kits																								
FY 2004 (1) kits																								
FY 2005 (1) kits																								
FY 2006 (1) kits																								
FY 2007 (1) kits																								
To Complete (23) kits																								
TOTAL								.2	2	3.2														

* Two kits procured under SSIP OSIP 14-95.

** Various installations of unique components based on non-uniform aircraft configurations.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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														
Out													2												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

* Two kits procured under SSIP OSIP 14-95

** Various installations of unique components based on non-uniform aircraft configurations.

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40											DATE: June 2001	
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY												
COST (In Millions)	1,985.3		401.1	98.4	113.2							

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 FY2002 is to continue the USQ-78 installation (part of Update III), weapon system improvements, upgrading and refurbishing airframe components and systems. Total aircraft inventory is 228. The P-3C has an average service life of 29.5 years. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
80-84	Update III Block Upgrade	890.6	89.3	18.2	34.5							
53-85	Critical Systems Improvements	16.1	1.8	1.0	0.9							
60-86	UHF/VHF Comm. Update	101.5	3.6	5.3	4.9							
28-92	GPS	35.1	3.7	1.1	0.4							
42-92	CNIP	96.6	1.9									
10-94	Sustained Readiness	273.6	41.0	4.9								
29-94	ASUW Improv. Prog.	523.2	196.4	62.5	72.4							
19-96	P-3 Derivative A/C GPS	1.0										
27-97	P-3 (VP-3A SATCOM)	1.5										
33-99	Counter Drug	5.2	15.5									
34-99	Additional Aircraft #1	41.0										
22-00	Additional Aircraft #2		48.1									
13-01	CNS/ATM			5.5								
TOTAL		1985.3	401.1	98.4	113.2							

The amounts listed below show Reserve A/C funding which are included in the amounts above:

			6.5									6.5

* Indicates value less than $51,000.
Totals may vary due to rounding

CLASSIFICATION:

DD Form 2454, JUN 86

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 Common Configuration provides the Fleet with significantly improved anti-submarine warfare detection and classification 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 associated processors, receivers, displays, and recorders. Update III Common Configuration is comprised of two major efforts: the Block Modification Upgrade program and the AN/USQ-78 Upgrade program. Both are based on Decision Coordinating Paper W-080-AS and the Program Management Plan #0526 serial 902D/6U324405. The objective of the Block Modification Upgrade program to standardize the Maritime Patrol Aircraft fleet to the Update III configuration. This OSIP will update the configuration of 25 Update II, and II.5 aircraft towards the total inventory requirement of 188 Update III configured aircraft. Eight of the 25 aircraft are Reserve assets. The objective of the AN/USQ-78 Upgrade program is to correct display shortcomings of the USQ-78 system as identified by Fleet Operational Advisory Group and by Operational Test and Evaluation, to provide for future workload sharing capability as directed by Ch Naval Operations (CNO) and processing growth for the life of the aircraft. Total aircraft and lab trainers to be modified by Loral ECP #LFS-95-0011R2 is 152.

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.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Update III Block Upgrade (OSIP 80-84)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATION: Operational Improvement

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Prior Year Kits	434	72.5																						
MK-50 Kits	147	4.0																						
USQ-78A Kits	17	2.7	8	1.3	10	1.6	2	.3	16	2.8														
Block Mod Upgrade Kits			5	6.0	3	3.6																		
Installation Kits N/R		42.1		14.0		6.8		1.2		2.5														
Installation Equipment																								
Prior Year Equipment	1,181	349.8																						
CP-2044/ASQ CPU Equip	121	64.1																						
USQ-78A/CHRDS Equip	17	52.0	8	8.5	10	8.4	2	2.8	16	11.9														
CHRDS Equip	4	.1																						
Block 1C Harpoon Equip	126	4.8	5	.1	17	.3																		
AN/ASH-33/RDSS	221	24.3																						
Common CONFIG Equip			5	22.0	17	49.3																		
PEP Equip	7	2.7	10	2.4	8	1.5																		
DASD/DASD Docks Equip	45	.4	16	.1	21	.1	4	*	32	.3														
ADR				4.8		2.7																		
SEI Cards								2.1		2.0														
DRR								2.0																
LESPA Equip		7.6		7.1		2.8		1.5																

Notes:

1. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Update III Block Upgrade (OSIP 80-84)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATION: Operational Improvement

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
Installation Equipment N/R		47.7																						
Engineering Change Orders																								
Data		14.2		1.8		.7		.4																
Training Equipment		12.7		.3		2.0		.1		1.8														
Support Equipment		1.6																						
ILS		.9																						
Other Support		91.0		5.4		8.8		5.4		3.3														
Interim Contractor Support																								
Installation Cost	486	21.2	7	.4	10	.6	9	2.5	14	10.1														
TOTAL PROCUREMENT	2,320	816.4	57	74.2	86	89.3	8	18.2	64	34.5														

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: 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: 22 Months

CONTRACT DATES: FY 2000: 1/00 FY 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2000: 11/01 FY 2001: 11/02 FY 2002: 11/03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (25) kits			7	.3	10	.6	8	.6																
FY 2000 (10) kits									8	.5	2	.2												
FY 2001 (2) kits											2	.2												
FY 2002 (16) kits													16	1.3										
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete (99) kits																								
TOTAL			7	.3	10	.6	8	.6	8	.5	4	.3	16	1.3										

** FY02 includes funding for kits & installs. Installation is planned for FY04.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	2	2	3	3	2	2	2	2	2	2	2	2												
Out	7	2	2	3	3	2	2	2	2	2	2	2	2												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Completions same as inductions; one week effort.

- 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) Block Mod Upgrade

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished at contractor's facility.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 2000: 1/00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 1/02 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (5) kits							1	1.9	4	6.4														
FY 2000 (3) kits									2	3.2	1	1.6												
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL							1	1.9	6	9.6	1	1.6												

NOTE: Block Mod Upgrade modifies 25 aircraft; 15 install kits and installations funded via a separate program outside OSIP 80-84; 8 install kits and installations reflected above for USNR; 2 kits and installations support validation effort through NRE.

Installation Schedule

	FY 1999 & Prior	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		1	1	2	2												
Out											1		1												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE Critical Systems Improvements (OSIP 53-85)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATION Readiness

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.

SINGLE ARMAMENT CONTROL PANEL (SACP) ECP JAX P3-649: This ECP replaces existing 9622068 Wing Jettison/Special Weapon Control Box and the A-393 Pilot's Armament Control Box in 228 P-3C aircraft with the PEU-196/A Pilot's Armament Control Box.

KAPTON WIRING REPLACEMENT MOD ECP JAX P3-610: This ECP replaces the Kapton wiring in the wing trailing edge of P-3C aircraft. The initial program will modify 93 P-3C aircraft.

STRUCTURAL DATA RECORDING SYSTEM (SDRS) ECP SEI 196-1A: The SDRS (ASH-37) CCB was approved in June of 1994 to install the ASH-37 in all P-3C aircraft. The funding to procure and install the kits was provided by OSIP 5-93. The funding for SDRS ended in FY95. The task covered in this OSIP include SDRS Pubs, SDRS data reduction and installation of last 20 kits.

STANDBY ATTITUDE INDICATOR (PEANUT GYRO) ECP BFGAAS ID-1481A/A-25583-48: This ECP modifies the P-3C Standby Attitude Indicator (Peanut Gyro) to operate with a DC power vice an AC power. This modification is planned for 203 P-3C's and 5 trainers.

E-J RECEIVER MOD AN/ALR-66 B(V)3 ECP LITTON 970: The AN/ALR-66B(V)3 ECP upgrades certain components of the AN/ALR-66A(V)3 ESM to improve system performance, including the E-J Amplifier Receivers, CD Amplifier Receivers, Processor Interface and Computer Converter. The effort under this OSIP supports the modification and certain RIM in support of AN/ALR-66 B(V)3 installs on 145 P-3C aircraft, 6 operational trainers and 10 test bench installations.

APS-115 FEEDBALL MODIFICATION ECP CUBIC 2509-02F3: This ECP are liability and performance improvement to the APS-115 radar feedball. The unmodified feedballs are susceptible to burning out which decreased the APS 115 sensitivity (or caused failure) and made the feedball incompatible with the AN/ALR-66 B(V)3 ESM system, which uses the feedball as the center channel receiver. This modified will be installed in all APS-115 equipped aircraft. This modification effects 90 P-3C aircraft.

P-3 PILOT/COPILOT/ PLANE CAPTAIN SEAT MODIFICATION FOR THE MA-16 INERTIA REEL ECP JAX P3-519: MA-1 and MA-2 Inertia Reels are no longer available in the supply system and further procurement is anticipated. This ECP provides a kit to modify 50 Pilot/Copilot/Plane Captain seats to install the MA-16 Inertia Reel as a substitute for the MA-1/2 to meet outstanding requirements.

FOLLOW-0N KAPTON WIRING REPLACEMENT (WHEEL WELLS) ECP TBD: The Kapton Wiring in the landing gear retraction housing areas (wheel wells) will require replacement due to weather exposure. Initial program will modify 72 P-3C aircraft

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The changes identified are minor and do not require approval for full production.

Exhibit P-3a

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE Critical Systems Improvements (OSIP 53-85)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATION Readiness

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
APS-115 Feedball Mod	90	1.6																						
EJ Receiver Mod	120	**	25	**																				
Single Arm Cont Panel (SACP)					228	.7																		
Kapton Wire Replace (Wings)			93	1.1																				
Kapton Wire Replace (Wheel Well)																								
Standby (Peanut) Gyro Mod	55	.3					25	.2	40	.3														
MA-16 Inertial Reel Mod kits	50	.1																						
Prior Years Kits	171	7.6																						
Installation Kits N/R		1.0																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.6		.3		.2		.2		.2														
Training Equipment		.1						.1		.1														
Support Equipment		.1																						
ILS		*																						
Other Support		1.1		.4		.1		.3		.3														
Interim Contractor Support																								
Installation Cost		.9				.8		.2																
TOTAL PROCUREMENT	486	14.3	118	1.8	228	1.8	25	1.0	40	.9														

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: P-3C MODIFICATION TITLE: Critical Systems Improvement (OSIP 53-85) Kapton Wiring (Wings)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 2000: 12/99 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 5/00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (93) kits					93	.8																		
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL					93	.8																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	47																				
Out				46	47																				

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3C MODIFICATION TITLE: Critical Systems Improvement (OSIP 53-85) Kapton Wiring (Wheel Well)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 (72) kits																								
To Complete () kits																								
TOTAL																								

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

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: Readiness

DESCRIPTION/JUSTIFICATION:

P-3 aircraft have an operational requirement for UHF satellite communications (SATCOM) and currently have satellite capable communications suites. JCS Memo CJCSI 6251.01 OF 31 July 1996 modified SATCOM access to require Advanced Narrowband Digital Voice Terminal (ANDVT) and Demand Assigned Mulitple Access (DAMA) standards by 30 September 1996. In addition, the ARC-101 VHF radio does not have a 25KHz channel capability and does not 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 degraded performance because of crosstalk 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-182 is currently installed in 129 of the 203 P-3C's covered in the OSIP. The ARC-187 is currently installed in 162 of the 203 P-3C's covered in this OSIP. In FY 1993, Vinson Baseband kits were procured to provide succinct channel identification for the ARC-187 radios currently installed in P-3 aircraft.

The FY 1994 and subsequent programs will bring all 228 P-3C aircraft to a common radio configuration which meets all requirements for SATCOM and Havequick. All 228 P-3C aircraft will receive the ANDVT/SATCOM (CIP) installation. Additionally, 74 P-3C aircraft will have the ARC-182 radio installed in conjunction with CIP and 41 aircraft will have the ARC-187 radio (2 per A/C) installed in conjunction with CIP. Some of the ARC-182 and/or ARC-187 installations may occur as stand-alone to meet fleet requirements.

P-3C Communications Improvement Program (CIP) Engineering Change Proposal (ECP) Lockheed 1025: This ECP covers the installation of the kit and equipment necessary for DAMA SATCOM which includes the AN/ARC-187/VIASAT Modem combination, modified ARC-187 Controls and Advanced Narrowband Digital Voice Terminal (ANDVT). In aircraft that presently do not have an ARC-187 UHF and/or ARC-182 VHF radios installed ,ECP 988 (UHF) and/or ECP 990 (VHF) will be installed in conjunction with ECP 1025 or through stand-alone installations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ARC-182 and ARC-187 radios have Approval for Full Production (AFP) and are verified in the P-3 aircraft. ECP 1025 (CIP) was approved in January 1997. DAMA SATCOM certification for the ARC-187/Viasat Modem combination was received in March 1998. Production installations began in February 1999.

Exhibit P-3a

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: Readiness

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AFC(P-3C)ARC-182	134	2.6	17	.5			10	.3	5	.2														
AFC(P-3C)ARC-187	163	2.2	14	.4			5	.2																
AFC(P-3A/B)ARC-182	11	.3																						
AFC(P-3C)UHF/VHF UPGRADE	26	.3																						
AFC(P-3C)KG-84	143	2.6																						
AFC(P-3C)SATCOM COMPATIBILITY	141	1.6																						
AFC(P-3C)VINSON BASEBAND	378	2.2																						
AFC(P-3C)CIP(ANDVT/DAMA)	43	1.1	46	1.3																				
Installation Kits N/R		24.9		1.6		.3																		
Installation Equipment																								
ARC-187 (2 per A/C)	326	16.0	28	1.5			10	.6																
ARC-210			10	.4																				
ARC-182**	152	4.1	10	*			10	*	5	*														
ARC-187 Control (2 per A/C)	94	1.3	100	1.5																				
CRYPTO Fill Port (2 per A/C)	104	.1	104	.1																				
Interface Adapter Assembly (IAA)	45	.2	46	.3																				
Diplexer	45	.2	46	.2																				
Modem (1 per A/C)	43	1.8	52	1.9	3	.1																		
ANDVT	45	***	46	***		***		***		***														
SEI Cards																								
Installation Equipment N/R		2.7																						
Engineering Change Orders																								
Data		6.1						.2																
Training Equipment	52	2.5	9	.7	5	.4	1	.1	3	.4														
Support Equipment		2.3																						
ILS		.5		.5		.4		.1		.2														
Other Support		6.7		2.5		1.7		.8		2.2														
Interim Contractor Support																								
Installation Cost	1,013	5.7			9	.7	55	2.9	36	2.0														
TOTAL PROCUREMENT	1,945	88.1	528	13.4	8	3.6	36	5.3	13	4.9														

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

** AN/ARC-182 radios to be obtained from F/A18 or other aircraft installing AN/ARC-210 radios.

*** ANDVT provided by NSA. **** Included in Prototype A-Kit cost.

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 2000: FY 2001: 3/01 FY 2002: 3/02 FY 2003:

DELIVERY DATE: FY 2000: FY 2001: 3/02 FY 2002: 3/03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (1132) kits	1,013	5.7			9	.7	55	2.9	21	1.6														
FY 2000 () kits																								
FY 2001 (15) kits									15	.4														
FY 2002 (5) kits																								
FY 2003 (20) kits																								
FY 2004 (34) kits																								
FY 2005 (18) kits																								
FY 2006 (38) kits																								
FY 2007 (37) kits																								
To Complete (31) kits																								
TOTAL	1,013	5.7			9	.7	55	2.9	36	2.0														

Installation Schedule

	FY 1999 & Prior	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	1013		3	3	3		18	18	19		12	12	12												
Out	1013		3	3	3		18	18	19		12	12	12												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 28-92)

MODELS OF SYSTEM AFFECTED: P-3C, SPECIAL PROJECTS TYPE MODIFICATION: Mandated

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. Congress has mandated that GPS be installed by FY00. This modification affects 228 P-3C aircraft (173 active and 49 reserve), and 6 Special Projects aircraft.

GPS Engineering Change Proposal (ECP) NADEP JAX 187: This ECP covers the installation of the GPS kit and equipment. Spawar provides the ARN-151 GPS Receiver, the AE-4 Antenna system, the 1553 data bus and 3 Control Display Navigation Units (CDNUs) as GFE.

ELECTRONIC FLIGHT DISPLAY SYSTEM (EFDS) ECP NADEP JAX 187R5/491: This ECP replaces the existing pilot and copilot analog Flight Director Indicator (FDI) and Horizontal Situation Indicator (HSI) and Navigator/Communicator HSI with Electronic FDIs (EFDI) and Electronic HSIs (EHSI). The Electronic flight instruments are being installed to correct an interoperablity deficiency discovered during Operational Testing.

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. GPS is presently in full production and will complete installations in FY02.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
GPS Airframe Kit	202	6.6	26	.6																				
EFDS Airframe Kit	18	1.2	24	1.3	15	.8																		
Installation Kits N/R		.8																						
Installation Equipment																								
LTN-72	2	1.9																						
EFDS EHSIEFDI	327	5.4																						
EFDS Controls	196	.4																						
ASM	180	1.4	38	.4																				
Installation Equipment N/R																								
Engineering Change Orders																								
Data		.2																						
Training Equipment		.9		2.4		.1																		
Support Equipment																								
ILS		.2		.3																				
Other Support		3.7		.7		.3																		
Interim Contractor Support																								
Installation Cost	142	4.4	60	2.3	25	2.4	1	1.1		.4														
TOTAL PROCUREMENT	925	27.2	88	7.9	15	3.7		1.1		.4														

Notes:
1. Totals do not add due to rounding.
2. Asterisk indicates amount less than 51K

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/Contractor Field Team

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

DELIVERY DATE: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (228) kits	142	4.3	60	1.9	25	.4	1	*																
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	142	4.3	60	1.9	25	.4	1	*																

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	202	9	9	7				1																	
Out	187	15	9	9	7			1																	

	FY 2004				FY 2005				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3C, SPECIAL PROJECTS MODIFICATION TITLE: Global Positioning System (OSIP 28-92) EFDS Installations

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Jax Field Team/Contractor Field Team

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: 6/00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 12/00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (42) kits	1	.1	7	.4	28	2.0	6	.4																
FY 2000 (15) kits							10	.6	5	.4														
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	1	.1	7	.4	28	2.0	16	1.0	5	.4														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	6	6	8	8	6	5	3	2	2	2	1													
Out	7	7	6	8	8	6	5	3	2	2	2	1													

	FY 2004				FY 2005				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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 (N313) 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 Office. ECP JAX-P3-391 for Rigel Equipment procurement and installation into (8) UDII and (5) UDII.5 P-3C aircraft was approved 23 Jan 95. ECP JAX-P3-315 for APG-66 Air-to-Air RADAR and Cluster Ranger Electro-Optical Imaging on (18) non Roll-On Roll-Off and (8) Roll-On Roll-Off kits was approved 30 Jun 94. FY1997 funding was provided under the Economy Act for procurement of Counterdrug equipment for U.S. Customs Agency. FY99 funding was provided to procure AN/AAQ-22 STAR SAFIRE FLIR systems, and initiate AVX-1

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
P-3 Kits (APG-66/AVX-1)	18	.9																						
RIGEL System	18	.4																						
Installation Kits N/R		1.3																						
Installation Equipment																								
P-3 Customs/AEW Mods		46.3																						
APG-66	10	12.0																						
AVX-1	8	6.1		.1																				
RIGEL System	10	8.6																						
FLIR			6	3.4	2	1.2																		
APG-66 Mid-Life Upgrade						.7																		
Installation Equipment N/R		4.8		.2																				
Engineering Change Orders																								
Data		.8																						
Training Equipment		.2																						
Support Equipment		.3																						
ILS		.5																						
Other Support		7.3		.1																				
Interim Contractor Support		.6																						
Installation Cost	36	2.7																						
TOTAL PROCUREMENT	64	92.8	6	3.8	2	1.9																		

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

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 2000: ____ FY 2001: ____ FY 2002: ____ FY 2003: ____

DELIVERY DATE: FY 2000: ____ FY 2001: ____ FY 2002: ____ FY 2003: ____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (36) kits	36	2.7																						
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	36	2.7																						

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	36																								
Out	36																								

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

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, encompassing AFC 578, is an Operational Service Life Extension Program which will extend the operational service life of P-3C from present 30 years to the aircraft's fatigue life (approximately 38 years) by preemptively replacing airframe components and systems identified as having impact on future aircraft availability due to safety, structural performance, and component unsupportability. This will allow full realization of the aircrafts designed service life but will not extend the fatigue life of those aircraft.If left unchecked, these problem 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, this procurement investment 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, and the fuel quantity system. The SRP was restructured 31 March 00 and will deliver 50 Kits, tooling, and 13 SRP installs. The remaining 19 will receive Selected SRP Mod Kits installed under a seperate contract. An SRP upgraded aircraft was delivered 3rd qtr FY99 to act as the fatigue test article for the Service Life Assessment Program. The validating SRP Operational Requirements Document is ORD ser #339-88-93.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Competitive bid contract awarded 19 September 1994. Contract was restructured 31 March 00; delivers 50 kits, 13 SRP Installs and tooling. The remaining 19 aircraft will receive Selected SRP Mod Kits installed via a competitively award dated 13 June 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AFC Kit-SRP	41	52.6																						
AFC Kit-SRP Option	9	13.3																						
Cond Kits		28.5		7.2																				
Sel. SRP Mod Kit Material						1.6																		
Installation Kits N/R		31.4																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		4.4		.2																				
Training Equipment		.2																						
Support Equipment		.1																						
ILS		2.6																						
Other Support		18.4		4.8		11.5		4.9																
Interim Contractor Support																								
Installation Cost	9	68.1	4	40.2	19	27.9																		
TOTAL PROCUREMENT	50	219.6		54.0		41.0		4.9																

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: 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: N/A Months

CONTRACT DATES: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

DELIVERY DATE: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (32) kits	9	68.1	4	40.2	19	27.9																		
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 (5) kits																								
FY 2003 (2) kits																								
FY 2004 (5) kits																								
FY 2005 (5) kits																								
FY 2006 (20) kits																								
FY 2007 (20) kits																								
To Complete (122) kits																								
TOTAL	9	68.1	4	40.2	19	27.9																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	13			3	16																				
Out	5	1	2	1	1	4	3	3	2	3	3	3	1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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 Navy's Maritime Patrol and Reconnaissance Force (primarily P-3C Orion aircraft) provides three deliverables to Navy and joint commanders worldwide: Undersea warfare; Intelligence Surveillance, and Reconnaissance; and Precision Strike Targeting. The ASUW Improvement Program meets the Navy's requirement to rapidly provide a significant increase in the current P-3's ability to perform Anti-Surface Warfare (ASUW), Over-the-Horizon Targeting (OTH-T), and Command, Control, Communications, Computers, and Intelligence (C^4I).The target aircraft for this modification are P-3C Update III's which have been previously upgraded with the CP-2044 computer. This modification focuses on improving the weapon system's capability for standoff targeting and classification. Significant sensor improvements and capabilities are provided by the APS-137B (V) 5 imaging radar, the Advanced Imaging Multi-Spectral Sensor (AIMS) electro optical system, and ESM upgrades that include Specific Emitter Identification (SEI), improved pulse processing, and DF accuracy. C^4I is improved with a DAMA Satcom radio suite and Multi-mission Advanced Tactical Terminal (MATT) that can receive the Officer in Tactical Command Information Exchange System (OTCIXS), and other fleet broadcasts. Survivability enhancements include the ALE-47/AAR-47 missile warning countermeasures, explosive suppressant foam, and small circular area of probability weapon system (Maverick, SLAM, SLAM-ER). Additional funding in FY1995 and FY1996 was utilized to meet an urgent fleet requirement to upgrade 17 Pre-AIP aircraft with Maverick armament control kits. The P3 AIP operational requirement document (ORD) is Ser # 355-88-94.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This modification makes maximum use of previously developed subsystems.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E (H-2417)		9.4																						
PROCUREMENT																								
Installation Kits																								
AFC A Kit	27	31.7	11	12.1	17	17.7	1	2.0	4	4.5														
AFC B Kit		91.4		52.9		59.5		8.5		20.9														
Pre-AIP Armament Kit	17	12.9																						
Installation Kits N/R		29.4		3.0																				
Installation Equipment																								
GFE Sensors and Avionics		104.1		40.4		60.9		12.1		22.8														
Advanced IRDS		4.0																						
Installation Equipment N/R		8.5																						
Engineering Change Orders						9.9		5.0		.9														
Data		10.8		1.5		1.0		.9																
Training Equipment		28.3		1.6		8.6		.5		3.1														
Support Equipment		7.3		2.1		1.0		.8																
ILS		6.4		3.5		1.8		2.1		1.8														
Other Support		53.2		8.7		11.8		6.1		7.0														
Interim Contractor Support																								
Installation Cost	27	8.9		.5	8	24.3	16	24.5	5	11.4														
TOTAL PROCUREMENT	44	396.8	11	126.3	17	196.4	1	62.5	4	72.4														

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: 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: 16 Months

CONTRACT DATES: FY 2000: 10/99 FY 2001: FY 2002: 10/01 FY 2003:

DELIVERY DATE: FY 2000: 2/01 FY 2001: FY 2002: 2/03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (38) kits	27	8.9		.5	8	14.5	3	6.3																
FY 2000 (17) kits					**	9.3	13	16.7	4	11.4														
FY 2001 (1) kits							***	1.5	1	***														
FY 2002 (4) kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete (84) kits																								
TOTAL	27	8.9		.5	8	24.3	16	24.5	5	11.4														

** FY00 Congressional Add funds five (5) installs.
** FY01 Congressional Add funds one (1) installs.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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			4	4	4	4	4	4	2	2	1													
Out	22	1	1	1	2	4	4	4	4	4	3	3	3												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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 10 "Passenger-Carrying" P-3 derivative aircraft, 5 VP-3A, 4 UP-3A and 1 UP-3B.

GPS Engineering Change Proposal (ECP) NADEP JAX P3-479: This ECP installs the AN/ARN-151 GPS and associated equipment to integrate into the Control Display Navigation Unit (CDNU), Mission Data Loader, and 1553B Data Bus System.

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):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit	10	.1																						
Installation Kits N/R		.3																						
Installation Equipment																								
EHSI/FNIB/FNIB Adapter																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		.1																						
Training Equipment																								
Support Equipment																								
ILS																								
Other Support		.2																						
Interim Contractor Support																								
Installation Cost	9	.4	1	*																				
TOTAL PROCUREMENT		1.0		*																				

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2004		FY 2005		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (10) kits	9	.4	1	*																				
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	9	.4	1	*																				

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002					FY 2003				FY 2004				FY 2005			
	& Prior	1	2	3	4	1	2	3	4	1	2			3	1	2	3	4	1	2	3	4	1	2	3	4
In	10																									
Out	10																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: ADDITIONAL AIRCRAFT #1 (OSIP 34-99)

MODELS OF SYSTEM AFFECTED: P-3 Special Projects TYPE MODIFICATION: Investment

DESCRIPTION/JUSTIFICATION

This requirement is to provide an additional special project aircraft that can be used to maintain force structure while other mission aircraft are being replaced or upgraded.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The current inventory is four mission aircraft. Periods of maintenance and major modifications typically reduced inventory to three or less available for CINC's tasking. This additional fifth mission aircraft would allow for four aircraft to be available for CINC tasking at all times. Special Projects aircraft are directly tasked by JCS, opeating as a Lo Density High-Demand asset under Global Military Force Policy. An additional special project mission aircraft is the number 2 priority of the FY99 Special Projects Operational Advisory Board.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			1	3.5																				
Installation Kits N/R				3.1																				
Installation Equipment			1	22.0																				
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support				1.4																				
Interim Contractor Support																								
Installation Cost			1	11.0																				
TOTAL PROCUREMENT			2	41.0																				

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3 Special Projects MODIFICATION TITLE: Additional Aircraft #1

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Modification

ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: ____ FY 2001: ____ FY 2002: ____ FY 2003: ____

DELIVERY DATE: FY 2000: ____ FY 2001: ____ FY 2002: ____ FY 2003: ____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (1) kits			1	11.0																				
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL			1	11.0																				

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: ADDITIONAL AIRCRAFT #2 (OSIP 22-00)

MODELS OF SYSTEM AFFECTED: P-3 Special Projects TYPE MODIFICATION: Investment

DESCRIPTION/JUSTIFICATION

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The current inventory is four mission aircraft. Periods of maintenance and major modifications typically reduced inventory to three or less available for CINC's tasking. This additional fifth mission aircraft would allow for four aircraft to be available for CINC tasking at all times. Special Projects aircraft are directly tasked by JCS, opeating as a Low-Density High-Demand asset under Global Military Force Policy. An additional special project mission aircraft was the number 2 priority of the FY99 Special Projects Operational Advisory Board.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					1	4.0																		
Installation Kits N/R																								
Installation Equipment					1	32.7																		
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support						1.4																		
Interim Contractor Support																								
Installation Cost					1	10.0																		
TOTAL PROCUREMENT					2	48.1																		

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3 Special Projects MODIFICATION TITLE: Additional Aircraft #2

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot Level Modification

ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2000: 7/00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 04/01 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 (1) kits					1	10.0																		
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007() kits																								
To Complete () kits																								
TOTAL					1	10.0																		

Installation Schedule

	FY 1999 & PRIOR	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																	
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Communications Navigation Surveillance/Air Traffic Management (OSIP 13-01)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATION Mandated

DESCRIPTION/JUSTIFICATION

P-3C aircraft have a requirement for a Communications, Navigation and Surveillance/Global Air Traffic Management (CNS/ATM) upgrades to meet expanding CNS/ATM requirements and ensure global access to commercial airspace. The CNS/ATM requirements consist of various avionics systems upgrades/replacements which currently include; VHF radio with 8.33 kHz channel spacing and VHF data link (VDL), IFF (Mode S and Mode 5), traffic alert and collision avoidance system (TCAS), protected ILS/VOR with FM Immunity, and an upgraded GPS to provide increased navigation accuracy (RNP5, BRNAV, RVSM). Successful integration of any or all of these capabilities, and any future Federal Aviation Administration (FAA) or International Civil Aviation Organization (ICAO) mandates, requires an upgraded processing capability which provides for growth and interface flexibility. This OSIP provides non-recurring engineering for the development of a CNS/ATM architecture for the P-3C aircraft.

P-3C CNS/ATM Engineering Change Proposal (ECP) TBD: There is presently no specific ECP associated with the CNS/ATM architecture design and development.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The CNS/ATM architecture development is in the first year of funding (Congressional Plus-up).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R								3.0																
Installation Equipment																								
P-ILS (MMR Receiver)							28	1.0																
P-ILS (VIR-31A Receiver)							16	.3																
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support								1.2																
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT							44	5.5																

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40									DATE: June 2001			
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY												
COST (In Millions)	205.7		80.2	68.4	43.2							

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 of Anti-Surface Warfare (ASUW) operations and tanking. The overall goal of the modifications budgeted in FY2002 is to continue the UHF/VHF communications improvement and the Co-Processor Memory Unit efforts; and to upgrade critical avionics, and critical structures within the aircraft. Total Active Inventory (TAI) is 112. The S-3B will reach end of service in 2015. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
39-94	UHF/VHF Comm. Impr. Prog.	27.0	22.3	6.7	13.0							
12-95	Critical Structures	29.9	8.8	12.3	9.7							
13-95	Global Positioning System	20.5	0.2									
20-95	Critical Avionics Upgrade	104.9	40.1	42.4	15.1							
4-96	Co-Processor Memory Unit	23.3	8.9	7.0	5.4							
TOTAL		205.7	80.2	68.4	43.2							

Totals may vary due to rounding

CLASSIFICATION:

DD Form 2454, JUN 86

UNCLASSIFIED

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Ultra High Frequency (UHF) / Very High Frequency (VHF) Communications Improvement Program (CIP) (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 Satellite Communication (SATCOM) users. The radio is common with the P-3C 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 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 112 S-3B aircraft. This modification is validated in ORD 3 88-95, approved 23 Mar 95. S-3B ECP#423 constitutes the CIP integration, and Communication Control Group (CCG) modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-182 has Approval for Full Production (AFP), and will be verified in the S-3B with trial kit installation (TKI). The AN/ARC-187 installation was 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):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
PROTOTYPE/TKI	2	1.8																					2	1.8
CIP A Kit			5	2.1	19	6.2	2	0.5	7	1.8	12	3.2	9	2.5	19	5.2	17	4.9	7	2.1	13	4.0	110	32.5
Installation Kits N/R		10.7		.7																				11.4
Installation Equipment																								
ARC-182 - R/T & Mount	2	**	5	*	20	*	2	*	8	*	12	*	9	*	19	*	17	*	7	*	13	*	114	.1
MD-1324 Modem	8	.2	9	.3	10	.4	2	.1	8	.3	12	.4	9	.3	19	.7	17	.7	7	.3	13	.6	114	4.3
Crypto Fill Panels	24	*	24	*	6	*	4	*	16	*	24	.1	18	*	38	.1	34	.1	14	*	26	.1	228	.5
CCG Modification	2	**	5	1.7	22	5.7	2	.5	13	3.6														
AS-3557 Antenna					28	.1	2	*	7	*														
Diplexer Preamp			9	.1	19	.1	2	*	7	*														
ARC-187 - B Kit (2 per A/C)	4	.4	10	.7	40	3.1	4	.3	16	1.4														
Installation Equipment N/R																								
Engineering Change Orders																								
Data		.5				.5		.5																
Training Equipment		.3		.5	3	2.3	2	1.3	4	1.4														
Support Equipment						.3		.6																
ILS		1.3		.2		.2		.2		.2														
Other Support		3.9		.8		2.2		1.1		1.5														
Interim Contractor Support																								
Installation Cost	2	.8			4	1.0	9	1.5	18	2.8														
TOTAL PROCUREMENT	42	19.9	67	7.0	167	22.3	22	6.7	86	13.0														

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

** AN/ARC-182 radios to be obtained from F/A-18 or other aircraft installing AN/ARC-210 radios.

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: 6 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: 3/00 FY 2001: 3/01 FY 2002: 3/02 FY 2003:

DELIVERY DATE: FY 2000: 3/01 FY 2001: 3/02 FY 2002: 3/03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (7) kits	2	.8			4	1.0	1	.2																
FY 2000 (22) kits							8	1.3	14	2.2														
FY 2001 (4) kits									4	.6														
FY 2002 (11) kits																								
FY 2003 (12) kits																								
FY 2004 (9) kits																								
FY 2005 (19) kits																								
FY 2006 (17) kits																								
FY 2007 (7) kits																								
To Complete (13) kits																								
TOTAL **	2	.8			4	1.0	9	1.5	18	2.8														

** Includes trainer install(s).

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	1		3	3	3		6	6	6												
Out	2		2	1	1		3	3	3		6	6	6												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Critical Structures (OSIP 12-95)

MODELS OF SYSTEM AFFECTED: S-3B TYPE MODIFICATION: 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), based on ORD #0927-AS dated 25 Mar 77. 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 Service Life Assessment Program (SLAP) (FY98) will certify that the fatigue and operational loads of the aircraft are accurately represented in the full scale reaction frame.

RECURRING KIT STATUS: The Critical Structures Airframe kit (consisting of horizontal stabilizer hinge fitting - ECP AL-808, counterweights - ECP AL-802, flap track ribs - ECP AL-796, and flow/bleed air select vent valves ECP AL-789), the Flight Control Elements kit, - ECP-AL807-R1 and the Inner Wing Empennage Kit for all 112 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. First production buy began in FY 1996 and installs commenced in FY 1997. The non-recurring engineering will include design and integration efforts of Critical Structures airframe components.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E - H2452				16.1		17.9		4.6																
PROCUREMENT																								
Installation Kits																								
Critical Structures Airframe	40	1.2	20	.7	24	.9	24	1.0	4	.2														
Flight Controls Elements	39	1.3	13	.4	13	.4	13	.4	13	.4														
Inner Wing BL144			20	.2	20	.2	20	.3	20	.3														
Inner Wing BL71			20	*	92	.2																		
Wingfold Rib					8	3.1	5	2.3	4	2.2														
Installation Kits N/R		11.5		5.1				.3																
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		.2																						
Training Equipment		.1		*		*																		
Support Equipment																								
ILS		.1																						
Other Support		2.0		.9		.5		.5		.8														
Interim Contractor Support																								
Installation Cost	20	3.5	20	2.5	20	3.4	24	7.5	24	5.9														
TOTAL PROCUREMENT	79	20.0	73	9.9	157	8.8	62	12.3	41	9.7														

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: S-3B

MODIFICATION TITLE: Critical Structures (OSIP 12-95) Inner Wing - BL144

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod Team

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2000: 1/00 FY 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2000: 10/00 FY 2001: 10/01 FY 2002: 10/02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (20) kits					20	.2																		
FY 2000 (20) kits							20	.3																
FY 2001 (20) kits									20	.3														
FY 2002 (20) kits																								
FY 2003 (20) kits																								
FY 2004 (12) kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL					20	.2	20	.3	20	.3														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	5	5	5	5	5	5	5												
Out			5	5	5	5	5	5	5	5	5	5	5												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B

MODIFICATION TITLE: Critical Structures (OSIP 12-95) Inner Wing - BL71

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod Team

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: 4/00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: 6/00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (20) kits					20	.1																		
FY 2000 (92) kits					92	.4																		
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL					112	.5																		

Installation Schedule

	FY 1999 & Prior	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				20	92																				
Out				20	92																				

	FY 2006				FY 2007				To	TOTAL
	1	2	3	4	1	2	3	4	Complete	
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B

MODIFICATION TITLE: Critical Structures (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 2000: 1/00 FY 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2000: 10/00 FY 2001: 10/01 FY 2002: 10/02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (52) kits	26	2.1	13	1.1	13	1.1																		
FY 2000 (13) kits							13	1.1																
FY 2001 (13) kits									13	1.1														
FY 2002 (13) kits																								
FY 2003 (13) kits																								
FY 2004 (8) kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	26	2.1	13	1.1	13	1.1	13	1.1	13	1.1														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	3	3	3	4	3	3	3	4	3	3	3	4												
Out	29	3	3	4	3	3	3	4	3	3	3	4	3												

	FY 2006				FY 2007				To	TOTAL
	1	2	3	4	1	2	3	4	Complete	
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B

MODIFICATION TITLE: Critical Structures (OSIP 12-95) Wingfold Rib

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP Field Mod Team

ADMINISTRATIVE LEADTIME: 7 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2000: 4/00 FY 2001: 4/01 FY 2002: 4/02 FY 2003:

DELIVERY DATE: FY 2000: 1/01 FY 2001: 1/02 FY 2002: 1/03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 (8) kits							8	4.4																
FY 2001 (5) kits									5	2.8														
FY 2002 (4) kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL							8	4.4	5	2.8														

Installation Schedule

	FY 1999 & Prior	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							2	3	3		2	2	1												
Out										2	3	3													

	FY 2006				FY 2007				To	TOTAL
	1	2	3	4	1	2	3	4	Complete	
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B

MODIFICATION TITLE: Critical Structures (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 2000: 1/00 FY 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2000: 10/00 FY 2001: 10/01 FY 2002: 10/02 FY 2003:

($ in Millions)

Cost:	Prior years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (60) kits	20	1.3	20	1.5	20	1.5																		
FY 2000 (24) kits							24	1.7																
FY 2001 (24) kits									24	1.7														
FY 2002 (4) kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	20	1.3	20	1.5	20	1.5	24	1.7	24	1.7														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	5	5	5	5	6	6	6	6	6	6	6	6												
Out	35	5	5	5	5	5	6	6	6	6	6	6	6												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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 Tactical Air Navigation (TACAN) / Inertial Navigation Systems (INS) as a navigation aid. Chief of Naval Operations (CNO) has mandated GPS as a replacement for TACAN. FAA certifiable GPS/Radio Navigation (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 Anti-Surface Warfare (ASUW) prosecutions, and on scene tactical coordination and turnover with otherASUW platforms. Trainer procurement is for Weapons Systems Trainer (WST) / Position Trainer Complex Module (PTCM) and maintenance trainer A kits; B kits will be procured under Common Avionics GPS OSIP 72-88. This effort was originally approved under Operational Requirements Document #OR-927-AS dated 27 Mar 77. The ECP for this effort is LMAS 53-421R1 which will modify 113 aircraft.

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. Follow-on contract for Lots 3 & 4 was awarded June 98.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	115	6.5																						
Installation Kits N/R																								
Installation Equipment																								
GFE(AN/ARN 153)	99	3.1	14	.4																				
LAB (Includes A & B Kits)		.1																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		.7				*																		
Training Equipment		2.3																						
Support Equipment																								
ILS		.8																						
Other Support		1.7		.7		.1																		
Interim Contractor Support																								
Installation Cost	58	2.5	55	1.6																				
TOTAL PROCUREMENT	214	17.8	14	2.7		.2																		

Notes:

1. Totals do not add due to rounding. ** Purchased 115 kits. Loss of two (2) aircraft allow for installation of only 113 kits.
2. Asterisk indicates amount less than 51K.

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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (113) kits	58	2.5	55	1.6																				
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	58	2.5	55	1.6																				

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2002				FY 2003			
	& 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	113																								
Out	86	14	13																						

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: S-3 Critical Avionics Upgrade (OSIP 20-95)

MODELS OF SYSTEM AFFECTED: S-3B TYPE MODIFICATION: Operational Improvement/Obsolescence

DESCRIPTION/JUSTIFICATION:

This program replaces the Automatic Flight Control Systems (AFCS), Inertial Navigation Systems (INS), Flight Instruments, Mission Displays, and Armament Control Systems (ARMCOS) which have become significant obsolescence/non-supportability degraders for the S-3B aircraft. Modification of these critical avionics systems will ensure respective system operation and availability for the current and projected (2015) service life of the airframe. Trainer procurement is to incorporate all four systems into the S-3B Fleet Weapons Systems Trainers (WST), Position Trainer Complex Modules (PTCM) and Maintenance Trainers. The requirement for these modifications is described in Operational Requirements Document (ORD) 408-88-95 dated 13 July 95.

DIGITAL FLIGHT DATA COMPUTER (DFDC) (Engineering Change Proposal (ECP) 426): The Flight Data Computer (FDC) is the central computing component of the Automatic Flight Control System (AFCS). The present obsolete FDC is subject to failure modes which have been demonstrated to cause uncommanded roll input to the flight control system. This modification will be installed in all of the existing 112 S-3B aircraft.

CARRIER AIRCRAFT INERTIAL NAVIGATION SYSTEM (CAINS II); EMBEDDED Global POSITIONING SYSTEM (GPS) INERTIAL (EGI); ELECTRONIC FLIGHT INSTRUMENTS (EFI) (ECP 427): This is a replacement program f the S-3B navigation, heading and attitude system, and associated flight instruments. The existing system has become increasingly non-supportable due to parts obsolescence and material condition of the chassis and internal wiring. Replacement avionics hardware consists of a CAINS II, an EGI, four new EFIs for the cockpit, and 1553B digital Navigation Interface Unit (NIU) which connects the flight instruments to the navigation system bus and mission computer. The CAINS II and the EGI provide the two required heading platform stabilization sources necessary for embarked operations or night/instrument flight. This modification will be installed in all of the existing 112 S-3B aircraft.

STORES MANAGEMENT SYSTEM (SMS)(ECP XXX (not yet assigned)) : This modification provides an obsolescence upgrade of the Armament Control Panel, Bomb Bay/Wing Decoders and wiring that comprise the current S-3 Armament Control System (ARMCOS) and a NDI digital Stores Management System (SMS) including small circular error probability weapon. An operable SMS is required for loading, carriage and/or jettison of any internal or external stores including the Aerial Refueling Store, torpedoes, and/or Harpoon. This modification will be installed in all of the existing 112 S-3B aircraft.

DISPLAYS (ECP XXX (not yet assigned)) : This program replaces obsolete/non-supportable Cathode Ray Tube (CRT) Multi-Purpose Displays (MPDs). Current mission displays are adversely impacting readiness due to poor reliability, high failure rate, and the inability to repair or replace inoperable CRT's. These 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. This modification will be installed in 65 of the existing 112 S-3B aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES

Milestone III decision for Critical Avionics Upgrade approved Oct 1995. DFDC hardware CDR held SEP 96, software CDR held MAY 97, EDM testing commenced DEC 97. CAINS/EGI/EFI system CDR held OCT 97, prototype install commenced July 1998. RFP for SMS released May 1998. Displays CDR commenced June 1998.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: S-3 Critical Avionics Upgrade (OSIP 20-95)

MODELS OF SYSTEM AFFECTED: S-3B TYPE MODIFICATION: Operational Improvement/Obsolescence

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits ***																								
SMS (ARMCOS)					1	***	6	.3	20	1.2														
CAINS/EFI/NIU	24 ***	3.8	25	4.5	33	5.9	30	5.5																
Installation Kits N/R		12.3				3.8		2.6																
Installation Equipment																								
DFDC	35 ***	3.1	18	1.7	18	1.6	41	3.9																
CAINS	24 ***	8.8	25	10.4	33	13.9	30	12.8																
SMS (ARMCOS)					1	***	6	2.0	20	6.6														
DISPLAYS					2	.2	7	.8	11	1.2														
Installation Equipment N/R		23.0				5.8		3.6																
Engineering Change Orders																								
Data		.3		.2				.5																
Training Equipment		.6		2.2		2.2		4.0		2.3														
Support Equipment																								
ILS		1.3		.1		.1		.5		.3														
Other Support		24.6		7.1		4.2		3.3		.5														
Interim Contractor Support																								
Installation Cost		*		1.1		2.4		2.8		3.0														
TOTAL PROCUREMENT	83	77.7	68	27.3	88	40.1	120	42.4	51	15.1														

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

*** One (1) Prototype (CAINS, DFDC,ARMCOS) and one (1) Trial Kit Installation (TKI) (CAINS,DFDC) procured via NRE will be installed in fleet aircraft bringing total aircraft to 112.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B

MODIFICATION TITLE: S-3 Critical Avionics Upgrade (OSIP 20-95) SMS (ARMCOS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: _____ FY 2001: 1/01 FY 2002: 1/02 FY 2003: _____

DELIVERY DATE: FY 2000: _____ FY 2001: 1/02 FY 2002: 1/03 FY 2003: _____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY () kits																								
FY 2000 (1) kits							1	.1 ***																
FY 2001 (6) kits									6	.5														
FY 2002 (20) kits																								
FY 2003 (21) kits																								
FY 2004 (18) kits																								
FY 2005 (7) kits																								
FY 2006 (8) kits																								
FY 2007 (31) kits																								
To Complete () kits																								
TOTAL							1	***	6	.5														

*** Includes one (1) Prototype

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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												
Out							1				2	2	2												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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 procured as contractor "turn-key". FY 98 and out are Contractor Field Mod Team (Airframe Block).

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: 1/00 FY 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2000: 1/01 FY 2001: 1/02 FY 2002: 1/03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (49) kits	2	***	17	1.1	30	2.4																		
FY 2000 (33) kits							33	2.6																
FY 2001 (30) kits									30	2.6														
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL	2	***	17	1.1	30	2.4	33	2.6	30	2.6														

*** Includes one (1) Prototype and one (1) TKI.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	19		10	10	10		11	11	11		11	10	9												
Out	7	12		10	10	10		11	11	11		11	10												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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 Operational Requirements Document (ORD) # OR-927-AS was approved 27 Mar 77. 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 both Weapons System Trainers (WST) / Position Trainer Complex Module (PTCM) and maintenance trainers A and B kits. The ECP for this effort is Loral AYK-23-002 which modifies 65 systems.

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 commenced August 1998. Operational Testing was successfully completed in March 1999. Milestone III decision was approved in June 1999. First fleet installs began in June 1999.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E (H0489)		24.2		8.1		4.9		0.5		0.4														
PROCUREMENT																								
Installation Kits	17	.3	10	.2	17	.5	11	.3	8	.2														
Installation Kits N/R		.1																						
Installation Equipment	17	9.1	10	4.7	17	7.5	11	5.5	8	4.0														
Installation Equipment N/R		2.4																						
Engineering Change Orders																								
Data		.3																						
Training Equipment	1	.6				.2																		
Support Equipment		.1																						
ILS		.3		.2		.1		.1		.1														
Other Support		3.8		1.1		.5		.5		.5														
Interim Contractor Support																								
Installation Cost	3	.1	5	.1	7	.2	23	.7	18	.6														
TOTAL PROCUREMENT	38	17.0	25	6.3	41	8.9	45	7.0	34	5.4														

Notes:
1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B

MODIFICATION TITLE: Co-Processor Memory Unit (OSIP 04-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Field Mod Team

ADMINISTRATIVE LEADTIME: 11 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 2000: 8/00 FY 2001: 8/01 FY 2002: 8/02 FY 2003:

DELIVERY DATE: FY 2000: 12/01 FY 2001: 12/01 FY 2002: 12/02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (28) kits	3	.1	5	.1	7	.2	13	.4																
FY 2000 (17) kits							10	.3	7	.2														
FY 2001 (11) kits									11	.4														
FY 2002 (8) kits																								
FY 2003 (2) kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL **	3	.1	5	.1	7	.2	23	.7	18	.7														

* Indicates amount less than 51K.
** Includes fleet end items for training.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	4			7	6	3	7	3	3	6	6												
Out	8	3	4			7	6	3	7	3	3	6	6												

	FY 2006				FY 2007				To	TOTAL
	1	2	3	4	1	2	3	4	Complete	
In										
Out										

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

Date: **JUNE 2001**

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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY												
COST (In Millions)	795.8		71.5	42.1	14.6							

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. The E-2C aircraft design service life is 10,000 flight hours with an average service life remaining through FY 2015. 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, Mission Computer Upgrade (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 1998 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. As the result of today's technological advancements, the Commercial-Off-The-Shelf (COTS) hardware/software of the MCU will change or become obsolete in the very near future. The Technology Insertion OSIP (5-01) beginning in FY 2001 will support capability for assembly, validation and configuration management of COTS hardware/software of the MCU. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
121-87	Structural Enhancements	275.6	1.2	0.9	1.1							
74-88	Block Upgrade II	373.9	6.7	1.6	2.3							
87-88	Outer Wing Panels	108.3	4.3	5.9	3.8							
1-98	Aircrew Safety & Survival	7.0	2.9									
19-99	Block Upgrade III	31.0	56.4	26.3								
5-01	Technology Insertion			7.5	7.5							
TOTAL		**795.8**	**71.5**	**42.1**	**14.6**							

Note: Totals do not add due to rounding.

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 into thirty-four (34) aircraft 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 Navy Inventory Control Point (NAVICP) projects an E-2C propeller shortage in FY 2000. As a result, NAVICP approved a Logistics Engineering Change Proposal (LECP) to procure a new eight-blade propeller for the
E-2C program office. The LECP funds the non-recurring and the procurement of 187 propellers only. The E-2C program office is responsible for funding the ground/flight test and overall system integration between Northrop Grumman (airframe), Allison (engine) and Hamilton-Standard (propellers). The ground/flight test and prototype propeller kits were funded with APN-1 funds starting in FY99. Starting in FY00 retrofit propeller kits and install are being funded with APN-5 funds for seventy-five (75) Group II aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Developmental Component Testing began in November 1998 and is ongoing. First sucessful developmental flight test took place in April 01. Flight test is still ongoing.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$		
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP 367R1-WCS Enhance.	28	138.6																						
Installation Kits N/R		14.3																						
Installation Equipment																								
ECP XXX-Propellers					25	0.4	25	0.4	25	0.4														
Vibration Suppression																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.8																						
Training Equipment		*																						
Support Equipment		1.4																						
ILS																								
ECP XXX-Propellers		0.4				0.8		0.5		0.4														
Other Support		26.2																						
ECP XXX-Propellers		1.5																						
Interim Contractor Support																								
Installation Cost																								
ECP 367R1-WCS Enhance.	28	92.5																						
ECP XXX-Propellers									25	0.3														
TOTAL PROCUREMENT		**275.6**				**1.2**		**0.9**		**1.1**														

Exhibit P-3a

Note: Totals do not add due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C **MODIFICATION TITLE:** Structural Enhancements (OSIP 121-87)

INSTALLATION INFORMATION: This installation information is for the Propellers Only.

METHOD OF IMPLEMENTATION Depot Field Mod Team.

ADMINISTRATIVE LEADTIME: 4 Months **PRODUCTION LEADTIME** 24 Months

CONTRACT DATES: FY 2000: 1/00 FY 2001: 1/01 FY 2002: 1/02 FY 2003: N/A

DELIVERY DATE: FY 2000: 1/02 FY 2001: 1/03 FY 2002: 1/04 FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (0) kits																								
FY 2000 (25) kits									25	0.3													**25**	**0.3**
FY 2001 (25) kits											25	0.3											**25**	**0.3**
FY 2002 (25) kits													25	0.3									**25**	**0.3**
FY 2003 (0) kits																								
FY 2004 (0) kits																								
FY 2005 (0) kits																								
FY 2006 (0) kits																								
FY 2007 (0) kits																								
To Complete (0) kits																								
TOTAL									25	0.3	25	0.3	25	0.3									**75**	**0.9**

Installation Schedule

	FY 1999	FY2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	5		10	10	5		10	10	5				
Out												10	10	5		10	10	5		10	10	5				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										75
Out										75

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:

ECP 400 - "Group I to Group II Configuration" consists of the following items.

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. 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.

4. 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 information to suitably equipped users anywhere on or near the earth. Production incorporation was in the first FY90 aircraft A145. GPS was an out-of-production installation in aircraft A140 thru A144.

5. Enhance Displays: The enhanced displays will permit full utilization of all processed tracks using the latest state-of-the-art in man-machine interface. Production incorporation was in the first FY90 aircraft (A145). Enhanced displays were an out-of-production installation in aircraft A140 thru A144.

6. Improved Identification Friend or Foe (IFF) System: Incorporation of the improved IFF will provide an increased capability to discriminate between friendly forces and potentially hostile target tracks and make room for installation of JTIDs boxes. Production incorporation in USN E-2C was in the second FY89 aircraft (A140).

ECP 403 - "Navigation Upgrade" consists of the following items:

1. 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.

2. 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.

ECP XXX -"Dual Element Fire Warning System" -Replaces the single loop Fire Warning Detection System in the E-2C aircraft with a dual loop system configuration. The dual loop system will alleviate false warning indications.

There are seventy-five (75) aircraft in the inventory. Sixteen (16) aircraft will be modified from a Group I to Group II configuration and thirty-seven (37) aircraft will receive the Navigation Upgrade modification.

ORD Number 31-20 dated 23 Jan 66.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Kits are being procured and installed on all applicable aircraft.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		0.1																						
PROCUREMENT																								
Installation Kits																								
ECP 400-Grp I to Grp II:	13	93.7																						
ECP 403-NAV Upgrade:	10	9.1																						
ECP 402R1-Eng. Oil Warning	13	1.1																						
ECP 246R1-Eng. Fire Wall	78	0.1																						
ECP 410-SATCOM	4	0.3																						
Installation Kits N/R		47.6																						
Installation Equipment																								
ECP 400-Grp I to Grp II:	13	29.5																						
ECP 403-NAV Upgrade	10	5.5																						
ECP 934-01- Dual Fire Warning Sys.									**49	2.3														
Installation Equipment N/R		1.0																						
Engineering Change Orders																								
Data		15.2																						
Training Equipment		39.0	2	16.5		3.9																		
Support Equipment		31.3		9.6																				
ILS		11.5				1.4																		
Other Support		16.6		2.2		1.4		1.6																
Interim Contractor Support																								
Installation Cost																								
ECP 400-Grp I to Grp II	12	34.5	1	3.2																				
ECP 403-NAV Upgrade	9	6.0	1	0.5																				
TOTAL PROCUREMENT		**341.8**		**32.1**		**6.7**		**1.6**		**2.3**														

Exhibit P-3a

* Includes ISMT Trainer installation (1ea)

**Kits will be "0" Level Installation

Note: Totals do not add due to rounding.

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: 4 Months **PRODUCTION LEADTIME:** 24 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (13) kits	12	34.5	1	3.2																			**13**	**37.8**
FY 2000 (0) kits																								
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (0) kits																								
FY 2005 (0) kits																								
FY 2006 (0) kits																								
FY 2007 (0) kits																								
To Complete (3) kits																					3	5.5	**3**	**5.5**
TOTAL	12	34.5	1	3.2																	3	5.5	**16**	**43.3**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	13																				
Out	13																				

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														
Out														

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 1998 and subsequent.

ADMINISTRATIVE LEADTIME: 4 Months **PRODUCTION LEADTIME:** 24 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (10) kits	9	6.0	1	0.5																				
FY 2000 (0) kits																								
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (0) kits																								
FY 2005 (0) kits																								
FY 2006 (0) kits																								
FY 2007 (0) kits																								
To Complete (28) kits																								
TOTAL	10	6.0	**1**	**0.5**																				

* Includes ISMT Trainer installation.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	10																				
Out	10																				

	FY 2005				FY 2006				FY 2007					
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														
Out														

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 6,000 flight hours and OWP's installed on T56-A-427 configured aircraft are limited to 7,500 flight hours. Teardowns of fleet OWP's showed that overhaul of the OWP is neither technically practical nor cost effective. This modification develops and incorporates enhancements to the OWP which extends the aircraft service life thru FY 2015. There are seventy-five (75) aircraft in the inventory. Forty-seven (47) aircraft will be retrofitted with the redesigned OWP.

The Program includes enhancements that improve operational capability such as 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.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP 362R2C2-OWP	82	77.7																					82	77.7
ECP 378-Redesigned OWP	1	2.2	6	13.2	2	4.3	3	5.9	2	3.8											33	73.7	47	103.0
Fatigue Life Enhancement																					22	94.1	22	94.1
ECP 383R1C1-SDRS	108	0.6																					108	0.6
Attaching Hardware	5	1.4																					5	1.4
Installation Kits N/R		6.8																						6.8
Installation Equipment																								
ECP 383R1C1-SDRS		3.0																						3.0
ECP TBD-Rotodomes																					26	44.9	26	44.9
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.7																						1.7
Training Equipment																								
Support Equipment		0.9																						0.9
ILS																								
Other Support		0.1																						0.1
Interim Contractor Support																								
Installation Cost																								
ECP 362R2C2-OWP	82	0.7																					82	0.7
ECP TBD-Redesigned OWP																								
Fatigue Life Enhancement																					22	15.8	22	15.8
ECP 383R1C1-SDRS																								
ECP TBD-Rotodomes																					26	15.8	26	15.8
TOTAL PROCUREMENT		**95.1**		**13.2**		**4.3**		**5.9**		**3.8**												**244.5**		**366.7**

Note: 1) Installation of the Redesigned OWP for FY98 thru "To Complete" Kits will be an "O" Level Installation.

2) Totals do not add due to rounding.

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.

There are seventy-five (75) aircraft in the inventory. Fifty-five (55) aircraft will be retrofitted with this ECP.

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. The final qualification phase began in January 1998. Laboratory testing for the major components is complete. Final flight qualification testing is ongoing and is expected to be completed by July 2001. IOC is planned for FY2001.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP 16336R3-PSE KIT	65	1.4	145	4.0	65	2.2																	275	7.6
Installation Kits N/R		0.7																						0.7
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.3																						0.3
Training Equipment		0.1																						0.1
Support Equipment		*																						*
ILS		0.1				*																		0.2
Other Support		0.2		0.1		0.6																		1.0
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**2.9**		**4.1**		**2.9**																		9.9

Note: 1) A total of 275 PSE's are required. 1 kit of 5 PSE assemblies = 1 aircraft. 'O' Level installation.

2) Totals do not add due to rounding.

3) * Indicates a dollar value is less than $50,000.

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. The funding in FY99 thru FY00 for training equipment is to support the HAWKEYE 2000 production aircraft being delivered in FY02. The funding will procure one (1) Weapon System trainer, one (1) CEC Antenna trainer, one (1) Maintenance trainer design and one (1) Computer Based Trainer (CBT) update. There are seventy-five (75) total aircraft in the inventory. Fifty-three (53) aircraft will be retrofitted with this ECP.

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. ORD Number 174-094-87 dated 12 Aug 87. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.

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. ECP 418 involves the re-design of the current 12-ton vapor cycle so that it will provide adequate cooling and environmentally acceptable coolant necessary to operate the Hawkeye 2000 systems. Previously OSIP# 22-95. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.

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. ORD Number 371-88-94 dated 20 Sep 94. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.

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 53 E-2Cs and developing the support structure necessary to successfully deploy the system. Previously OSIP# 12-97. ORD Number 388-86-95 dated 4 Jan 95. There are seventy-five (75) aircraft in the inventory. Fifty-Three (53) aircraft will be retrofitted with this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

SATCOM: PMW-156 is the sponsor on the Mini-DAMA. LRIP deliveries started in June 1996. Operational Assessment completed and production has resumed.
Vapor Cycle: N/A.
Mission Computer Upgrade (MCU): LRIP decision was granted in July 1997. TECHEVAL was sucessfully completed in Oct. 2000. OPEVAL began in Nov 2000 and is ongoing. Full Rate Production is scheduled for FY 01.
Cooperative Engagement Capability (CEC): PEO TAD(C) is the sponsor of Cooperative Engagement Capability.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
ECP 418-Hawkeye 2000				0.5	1	8.8	1	8.8																
Installation Kits N/R																								
Installation Equipment																								
ECP 418-Hawkeye 2000					1	12.2	1	12.2																
Install Equipment N/R					4	21.9																		
Engineering Change Orders																								
Data						0.7																		
Training Equipment			1	21.6	1	9.8	1	2.3																
Support Equipment				0.9																				
ILS				0.1																				
Other Support				7.8																				
Interim Contractor Support																								
Installation Cost																								
ECP 418-Hawkeye 2000					1	3.0	1	3.0																
TOTAL PROCUREMENT				**31.0**		**56.4**		**26.3**																

Notes: 1) Installation costs and quantities in To Complete include one (1) ISMT Trainer.

2) Totals do not add due to rounding.

3) Funding to procure 5 CEC boxes for production aircraft. *

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C **MODIFICATION TITLE:** Block Upgrade III (OSIP 19-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Drive-In Modification (2 year lead-time).

ADMINISTRATIVE LEADTIME: 3 Months **PRODUCTION LEADTIM** 24 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (0) kits																								
FY 2000 (1) kits					1	3.0																		
FY 2001 (1) kits							1	3.0																
FY 2002 (0) kits																								
FY 2003 (0) kits																								
FY 2004 (5) kits																								
FY 2005 (0) kits																								
FY 2006 (0) kits																								
FY 2007 (0) kits																								
To Complete (47) kits *																								
TOTAL					**1**	**3.0**	**1**	**3.0**																

* Note: Includes one (1) ISMT trainer installation.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
	& Prior	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				1												

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In					5									
Out						5								

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Technology Insertion (OSIP 5-01)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Mission Performance Enhancement

DESCRIPTION/JUSTIFICATION:

Commercial technology obsolescence drives hardware and software changes in an MCU-based fleet. As MCU squadrons standup, video boards, memory boards, CPU cards, and operating systems will change or become obsolete. The new configuration must be validated, integrated, and controlled. Funding is required to support capability for assembly, validation, and configuration management of Commercial Off-The-Shelf (COTS) hardware/software provided to MCU squadrons and updated on a 4-year technology insertion cycle.

There are seventy-five (75) aircraft in the inventory. Sixty-two (62) aircraft will be retrofitted with this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Hawkeye 2000 Program Support Activity (PSA) will insure software is upgraded, revised, and integrated so it functions with the versions of the COTS hardware and software delivered with the Mission Computer and ACIS. The integration effort must start no less than one year prior to the delivery.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS								0.9		0.4														
Other Support																								
ACIS & MC CM Upgrade Support								0.4		0.4														
CEC CM & Upgrade Support								0.4		0.4														
Software Tools								0.8		0.6														
Software Integration & CM								3.0		3.7														
Software Upgrades								2.0		2.0														
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT								**7.5**		**7.5**														

Exhibit P-3a

Note: Totals do not add due to rounding.

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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

P-1 ITEM NOMENCLATURE
TRAINER AIRCRAFT MODIFICATION

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**15.9**	A	**8.7**	**19.2**	**5.2**							

This line item funds modifications to a group of trainer aircraft which includes T-34C, CT-39, T-39, T44A, TH-57 and TH-6. The training aircraft are described as follows: The T-34C is a single engine turbo-prop, multi-seat aircraft produced by Beech Aircraft used to simulate jet aircraft flight; the CT-39 is a dual engine multi-purpose light transport aircraft to be converted to trainer (T-39) usage; the T-44 is a twin engine, multi-seat aircraft produced by Beech Aircraft used to simulate operation of twin engine aircraft, specifically the P-3; the TH-57 and
TH-6 are a single engine, multi-seat rotary wing aircraft used for helicopter training.

The overall goal of the modification 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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
05-96	T-44 GPS	5.7	0.5	2.7								
13-97	T-34 GPS	4.8	2.0	4.1	0.7							
24-97	CT-39 CONV TO T-39	5.4										
02-00	TPS TH-6 COMMERICALIZATION		0.2	0.3								
03-00	TH-57 AUTOFAULT CHIP DETECTOR		1.0	0.9								
04-00	T-44 FIRE WARNING SYSTEM		0.3	0.1								
05-00	UNFOTS UPGRADE		3.7	7.9	1.3							
28-00	T-39 WING REPLACEMENT		0.9	3.2	3.1							
	TOTAL	**15.9**	**8.7**	**19.2**	**5.2**							

Note: Totals may not add due to rounding.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 5-96)

MODELS OF SYSTEMS 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. In the T-44A aircraft, this will be accomplished by intregration of the Interstate Electronics 9002M Flight Management with Integral Global Positioning System Sensor and Collins AP-106 Autopilot and FD-112V Flight Director. This system will allow enroute and terminal GPS navigation as well as nonprecision GPS approach. Incorporation of GPS in the T-44A enhances mission capability as such operations were heretofore not possible in this aircraft. 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. Directed by ASSISTANT SECRETARY OF DEFENSE MEMORANDUM OF 1 DEC.94 SUBJ, COMMERCIAL GPS RECEIVER FOR T-44 AIRCRAFT. There are 55 T-44A in the inventory and all 55 will receive this modification. The T-44 GPS/FMS "A" Kit is comprised of components/software provisions such as wiring, connectors, antennas, mounting trays, circuit breakers, etc. The "B" Kit is comprised of the major equipment hardware such as "black boxes."

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit	22	1.4	13	0.8	2	0.1	18	1.3																
B Kit	22	0.9	13	0.6	2	0.1	18	1.0																
XXX Kit		0.2																						
Installation Kits N/R																								
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data		0.2																						
Training Equipment		1.0																						
Support Equipment																								
ILS																								
Other Support		0.1		0.1		*		*																
Interim Contractor Support		0.1		0.1		0.1		0.3																
Installation Cost			34	0.2	40	0.2	36	0.2																
Total Procurement		**3.9**		**1.8**		**0.5**		**2.7**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-44A**

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 5-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Forced Retrofit**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2000: Dec-99 FY 2001: Dec-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Mar-00 FY 2001: Mar-00 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits			34	0.2	36	0.2																		
FY 2000 ( ) kits					4	0.0																		
FY 2001 ( ) kits							36	0.2																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**34**	**0.2**	**40**	**0.2**	**36**	**0.2**																

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	34		17	17	6		16	10	10																
Out	17	17		17	17	6		16	10	10															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 13-97)

MODELS OF SYSTEMS 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 Ssytem, Flight Management System, on selected applications. A waiver to use commercial, Standard Positioning Service (SPS) GPS receivers was approved by ASD. In the T-34 aircraft, this will be accomplished by intregration of the Allied Signal KLN-900 GPS. This system will allow enroute and terminal GPS navigation as well as nonprescision GPS approach. Incorporation of GPS in the T-34 enhances mission capability as such operations were heretofore not possible in this aircraft. Directed by Assistant Secretary of Defense Memorandum of 1 Dec 94, Subj, Commercial GPS Receiver for T-34C Aircraft. There are 316 T-34s in the Active Inventory, all 316 will be modified.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit	67	1.7	57	1.2	85	1.7	107	2.5																
XXX Kit																								
XXX Kit																								
Installation Kits N/R		0.4																						
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data		0.1																						
Training Equipment	16	1.0					6	0.7	9	0.5														
Support Equipment																								
ILS																								
Other Support				0.1		*		0.2																
Interim Contractor Support		0.0		0.1		*		0.1		0.2														
Installation Cost			75	0.2	81	0.3	160	0.6																
Total Procurement		**3.2**		**1.6**		**2.0**		**4.1**		**0.7**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-34C** MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 13-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Forced Retrofit**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: Nov-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Dec-99 FY 2001: Dec-00 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits			75	0.2	49	0.2																		
FY 2000 ( ) kits					32	0.1	53	0.2																
FY 2001 ( ) kits							107	0.4																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**75**	**0.2**	**81**	**0.3**	**160**	**0.6**																

Installation Schedule

	FY 1999 & Prior	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	75		27	27	27		54	53	53																
Out	50	25		27	27	27		54	53	53															

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: CT-39 Conversion to T-39 (OSIP 24-97)

MODELS OF SYSTEMS AFFECTED: CT-39G Aircraft | TYPE MODIFICATION: Conversion/Safety

DESCRIPTION/JUSTIFICATION: This modification converts passenger/cargo CT-39G aircraft to T-39G training configuration. Conversion consists of an additional instructor station (folding seat), a student instrument panel in the rear of the aircraft, inter-communications (ICS) stations for student/instructor in rear of a and smoke/oxygen masks (safety equipment). Conversion of CT-39G aircraft is directed by Training System Requirements Documents of Nov 94. All 8 aircraft in the inventory will be modified. Kit costs reflect configuration differences between BuNos. This modification is being accomplished via an ECP from Avtel Services, Inc. An "A" kit consists of seat assembly (with cushion), smoke/oxygen masks, oxygen supply, instrument console, flight instruments, three ICS stations (controllers), amplifiers, wiring, mounting structure, and mounting hardware. A "B" kit consists of a stand alone refrigerant air conditioning system compressor, evaporator, condenser, accumulator, lines, ducting, and mounting hardware. A "C" kit consists of recorder, engine/flight control sensors, wiring and mounting hardware.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit INSTR JUMPSEAT, ICS	3	0.9	5	1.7																				
B Kit AIR CONDITIONING	1	0.1	7	0.6																				
C Kit FDR/CVR	1	0.1	7	0.9																				
Installation Kits N/R		0.2																						
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data																								
Training Equipment																								
Support Equipment																								
ILS		0.2																						
Other Support				0.2																				
Interim Contractor Support																								
Installation Cost			24	0.6																				
Total Procurement		**1.5**		**3.9**																				

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CT-39G

MODIFICATION TITLE: CT-39 Conversion to T-39 (OSIP 24-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with Aircraft Condition Inspection (ACI) - Contractor Installed Commercial Kits**

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits			24	0.6																				
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**24**	**0.6**																				

Installation Schedule

	FY 1999 & Prior	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	24																								
Out	24																								

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: TPS TH-6 COMMERCIALIZATION (OSIP 02-00)

MODELS OF SYSTEMS AFFECTED: TH-6B — TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: These United States Test Pilot School aircraft require configuration to commercial FAA standards for continued airworthiness. Four engines and four rotor heads require modification to commercial standards. The mod will extend the Time Between Overhaul (TBO) of the engine to 3500 hours (from 1530 hours). The main rotor hub will extend its TBO to 2665 (from 1200) and improve aircraft performace by reducing helicopter vibration. The conversion to commerical standards was directed by NAVAIRSYSCOM 1.0 First Endorsement ltr dtd 21 Mar 96. Of the 6 aircraft in the TH-6B inventory, four require mod completion.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: These are commercially available non-developmental items. Kits will be delivered to the Test Pilot School for installation by commercial contractor as organizational level maintenance.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Engine Kit					1	0.1	3	0.3																
Hub Kit					4	0.1																		
XXX Kit																								
Installation Kits N/R																								
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost																								
Total Procurement						**0.2**		**0.3**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Auto- Fault Detection System (OSIP 03-00)

MODELS OF SYSTEMS AFFECTED: TH-57 — TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The existing chip detection system remains silent when the critical wire that connects the detector to the control panel is broken. This could lead to extended flight in an unsafe aircraft. The Autofault System provides continuous monitoring of up to eleven crucial, one wire, warning systems. It immediately allerts the pilot when a broken wire occurs and allows the pilot to safely land before a problem can become critical. In addition, unnecessary engine removals for nuisance chips (due to normal wear) will be significantly reduced. There are 126 TH-57 in the Inventory, of which all 126 will be modified.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Auto- Fault Detection System to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit					56	0.5	70	0.6																
XXX Kit																								
XXX Kit																								
Installation Kits N/R						0.2																		
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data						*																		
Training Equipment																								
Support Equipment																								
ILS																								
Other Support						0.1		0.1																
Interim Contractor Support						0.1		0.1																
Installation Cost					56	0.1	70	0.2																
Total Procurement						**1.0**		**0.9**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TH-57** MODIFICATION TITLE: Auto- Fault Detection System (OSIP 03-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Forced Retrofit**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: Nov-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Dec-99 FY 2001: Dec-00 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits					56	0.1																		
FY 2001 ( ) kits							70	0.2																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**56**	**0.1**	**70**	**0.2**																

Installation Schedule

	FY 1999 & Prior	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			18	19	19		23	23	24																
Out				18	19	19		23	23	24															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Engine Fire Warning System (OSIP 04-00)

MODELS OF SYSTEMS AFFECTED: T-44A | TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: Over the past 5 ½ years, the T-44 has experienced approximately 83 false fire warnings with the current configuration optical flame detectors resulting in sortie aborts, decreased safety, and unnecessary maintenance actions. The Chief of Naval Air Training (CNATRA) requested in their letter 13127 Ser N42/02163 dated 14 Nov 96 that PMA-207 identify a reliable replacement engine fire warning system. The Original Equipment Manufacturer (OEM) recommended replacement system is the Wittaker Model 801-DHR Pneumatic Fire/Overheat Detector System. Safety of aircraft operation is the primary reason to replace the T-44 engine fire warning system. When the fire warning light is illuminated in flight, an emergency shutdown of the engine is initiated and a single engine landing must be made. False fire warnings increase the number of emergency engine shutdowns and single engine landings. False engine fire warnings also result in sortie aborts which degrade CNATRA's ability to meet T-44 Pilot Training Requirements (PTR). Each false warning costs an estimated $2200 in troubleshooting and required maintenance. Numerous changes to maintenance and pre-flight procedures have been implemented to improve reliability and test and check engine flame detectors. However, these maintenance and pre-flight procedures are time-consuming, costly, and have not substantially improved the engine flame detector failure rate. There are 55 T-44A Inventory and all 55 will receive this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Engine Fire Warning System to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit							26	0.1																
XXX Kit																								
XXX Kit																								
Installation Kits N/R						0.2																		
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data						*																		
Training Equipment																								
Support Equipment																								
ILS																								
Other Support						*		*																
Interim Contractor Support																								
Installation Cost							26	*																
Total Procurement						**0.3**		**0.1**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-44A

MODIFICATION TITLE: Engine Fire Warning System (OSIP 04-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Forced Retrofit**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: FY 2001: Dec-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: Jan-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits							26	*																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL							**26**	*																

Installation Schedule

	FY 1999 & Prior	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								13	13																
Out									13	13															

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: UMFOTS Upgrade (OSIP 05-00)

MODELS OF SYSTEMS AFFECTED: T-39N and T-39G Aircraft and Ground Based Training System (GBTS) | TYPE MODIFICATION: Conversion/Safety

DESCRIPTION/JUSTIFICATION: The block upgrade to the Undergraduate Military Flight Officer Training System (UMFOTS) is needed to enable the system to continue training and the latest mandates. This block upgrade consists of the following aircraft and GBTS improvements: radar array upgrade, and incorporation of GPS into T-39N aircraft; incorporation of enhanced radar and GPS into the GBTS; and incorporation of an Emergency Locator Transmitter (ELT) into the T-39G aircraft. The incorporation of GPS into the T-39N aircraft complies with minimum FAA requirements for future U.S. airways operation. ECPs for these modification shall be generated by the Logistics Support Contractor. The GPS kit consists of a computer, antenna, wiring, and mounting hardware. GPS prototype was accomplished under separate modification with funds from PMA187. One radar array upgrade prototype is included in the NR for FY00. There 17 T-39N aircraft and 8 T-39G aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: With the exception of the GBTS, the components of this block upgrade will be COTS as turnkey items. The major development effort for the GBTS is software.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit (GPS)					6	0.9	7	1.0	2	0.4														
B Kit (Radar)					5	2.1	8	3.4	2	1.0														
C Kit (ELT)					4	0.1	4	0.1																
Installation Kits N/R **						0.7																		
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data																								
Training Equipment								3.4																
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost *					5		10		10															
Total Procurement						**3.7**		**7.9**		**1.3**														

Notes:

1. Totals may not add due to rounding 2. Asterisk indicates kits are turnkey and installation is not separate. 3. Double asterisk indicates one radar prototype included in N/R. 4. Total affected aircraft does not equal total assets because two aircraft will be inducted twice for modification.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-39N, T-39G and Ground Based Training System

MODIFICATION TITLE: UMFOTS Upgrade (OSIP 05-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with ACI or Drop-in at CLS Depot Facility

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: Apr-00 FY 2001: Nov 00 FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: May 00 FY 2001: Dec 00 FY 2002: Dec 01 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits					5		10																	
FY 2001 ( ) kits									10															
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**5**		**10**		**10**															

Installation Schedule

	FY 1999 & Prior	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				3	2	2	3	2	3	2	3	2	3												
Out						3	2	2	3	2	3	2	3												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: T-39 Wing Replacement (OSIP 28-00)

MODELS OF SYSTEMS AFFECTED: **T-39N Aircraft** | TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The T-39 Aircraft is a commercial off-the-shelf aircraft utilized for training Undergraduate Military Flight Officers. The aircraft was structurally reinforced and a Supplemental Type Certificate (STC) was issued to allow the aircraft to fly within the operational envelope. The wings are rapidly approaching expiration of their fatigue life. Wing replacement is mandatory to avoid safety of flight issues. A rotational replacement of wings is required every four years under the existing operational envelope and known data. A full stress fatigue analysis and fatigue tracking system monitoring program may allow an additional 3 years of wing fatigue life and eliminate one rotational replacement of aircraft wings. This modification provides replacement for one rotation with used wings. The fleet consists of 17 T-39N aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The wings are commercially available, non-developmental item (NDI) and will be installed during ACI by the commercial contractor.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
A Kit					2	0.7	5	1.9	5	2.0														
XXX Kit																								
XXX Kit																								
Installation Kits N/R																								
Installation Equipment																								
XXX Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
XXX Kit ECO XXX																								
XXX Equip ECO XXX																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost					1	0.2	6	1.2	5	1.1														
Total Procurement						**0.9**		**3.2**		**3.1**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-39N Aircraft**

MODIFICATION TITLE: T-39 Wing Replacement (OSIP 28-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with ACI or as Drop-In Modification at CLS Contractor Depot Facility**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: Jul-00 FY 2001: Nov 00 FY 2002: Nov 01 FY 2003:

DELIVERY DATE: FY 2000: Aug-00 FY 2001: Dec 00 FY 2002: Dec 01 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits					1	0.2	1	0.2																
FY 2001 ( ) kits							5	1.0																
FY 2002 ( ) kits									5	1.1														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**1**	**0.2**	**6**	**1.2**	**5**	**1.1**														

Installation Schedule

	FY 1999 & Prior	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	2	2		2	2	1												
Out						1		2	2	2		2	2												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION					DATE: **June 2001**							
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**					P-1 ITEM NOMENCLATURE **C-2A(R) Series Modification**							
Program Element for Code B Items:					Other Related Program Elements							
	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY												
COST (In Millions)	**119.6**	A	**25.2**	**3.1**	**27.4**							

This line item funds modifications to 36 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 Onboard 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 moblilization support for special operations forces from land bases and carriers. The overall goal of the modifications in FY 2002 is to continue initial procurement efforts for the C-2A(R) Service Life Extension Program (SLEP). The design service life of the C-2A(R) is 10,000 flight hours with 15,000 landings. The service life remaining on the aircraft is 4,000 flight hours with 4,800 landings.

(TOA, $ in Millions)

OSIP No.	**Description**	***Prior Years**	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**	**FY 2005**	**FY 2006**	**FY 2007**	**To Complete**	**Total**
24-94	C-2A SLEP	119.6	25.2	3.1	27.4							
	Total	**119.6**	**25.2**	**3.1**	**27.4**							

Note: Totals may not add due to rounding.

*** Prior to FY1998, funding for the C-2A Modifications was contained within the Cargo & Transport Aircraft Series Modification line.**

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: C-2A(R) Blk Upgrade/Service Life Extension Program (OSIP 24-94)

MODELS OF SYSTEMS AFFECTED: C-2A(R) Aircraft — TYPE MODIFICATION: SAFETY/SLEP

DESCRIPTION/JUSTIFICATION:

In accordance with ORD 352-88-94 the C-2A(R) Block Upgrade/SLEP will permit extended operations of the total active inventory of 36 aircraft providing the Navy's Carrier Onboard Delivery (COD) beyond its current projected service life. It will also provide for the installation of avionic systems required to improve performance and preclude obsolescence during the extended life of this critical Fleet asset. One C-2A(R) has reached 100% of fatigue life in FY2000 and 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 lincluding that of Outer Wing Panels (OWPs) will be less than designed life. This OSIP will provide for OWP structural Airframe Change (AFC) enhancements. 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 O2 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 modification will be installed on an accelerated basis in advance of the other SLEP changes. FY00 has been increased by $6,000K by Congress in support of the new 8 blade propeller. N88 funded the procurement and the installation of the 8 blade propeller beginning in FY02. Incorporation of the NP2000 will eliminate the top three readiness degraders and one of the highest AVDLR cost components on the C-2A. The new Interrim AFC requirement in FY 2001 was directed by the resource sponsor(N88). Based on results of the Full Scale Fatigue Test, it was determined that the C-2(R) would fall 5 aircraft below the designated Primary Aircraft Authorization(PAA) of 29 aircraft. The Interim AFC mod will change the engine nacelle, wingfold rib, injections ports and horizontal slab of five (5) aircraft to satisfy the PAA.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development and operational testing (DT and OT) have been completed for the avionics systems included in this OSIP. DT and OT of the various modifications for the SLEP systems in the C-2A(R) began in FY 1997 and will complete in FY 2003. The Congressional plus-up in FY00 for the new 8 blade propeller will provide a program flying analyses, propeller system design, an engine structural load fatigue analysis, and a control system analsysis by mid FY02.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
L-Probe Kit	25	0.2	5	*	6	*																		
CAINS II A Kit	25	1.7	5	0.3	6	0.3																		
ARC-210 Kit			1	0.1	1	0.1	6	0.5	10	0.8														
Rewire Kit									4	3.0														
Structure Kit									4	1.7														
Interim AFC							5	0.3																
Enhanced OWP Kit	1	4.2	3	6.6																				
OWP Enhancement Kit					12	2.6			10	2.3														
OWP Conversion Kit	3	0.5	8	1.2	3	0.4			3	0.4														
NP-2000									1	0.6														
Installation Kits N/R		17.8								2.8														
Installation Equipment CAINS II	20	2.6	30	3.5																				
Installation Equipment N/R		4.2																						
Engineering Change Orders																								
Data		4.7		1.9		2.5				0.3														
Training Equipment		1.4		1.3		1.6																		
Support Equipment		0.8								0.4														
ILS		1.8		0.7		1.6				0.2														
Other Support		57.6		6.0		12.3				6.8														
Interim Contractor Support																								
Installation Cost	4	0.5			36	3.6	45	2.3	27	8.0														
Total Procurement		**98.0**		**21.6**		**25.2**		**3.1**		**27.4**														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Enhanced OWP Kit and OWP Conversion Kit installed by fleet.
4. Funding in FY98/99 for 20 and 30 CAINS II B Kits respectively were reprogrammed to the C-2A Program from the Common Avionics Program.

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: **Contract**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 2000: Feb-00 FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: Oct-00 FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (60) kits	4	0.5			22	0.8	34	1.2															60	2.4
FY 2000 (12) kits							6	0.2	6	0.2													12	
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**4**	**0.5**			**22**	**0.8**	**40**	**1.4**	**6**	**0.2**													**72**	**2**

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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			10	12	10	10	10	10	6															
Out	4				10	12	10	10	10	10	6														

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										72
Out										72

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 2000: Jan-00 FY 2001: Jan-01 FY 2002: Jan-02 FY 2003: Jan-03

DELIVERY DATE: FY 2000: Oct-00 FY 2001: Oct-01 FY 2002: Oct-02 FY 2003: Oct-03

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (1) kits					1	0.1																		
FY 2000 (1) kits					1	0.1																		
FY 2001 (6) kits									6	0.4														
FY 2002 (10) kits																								
FY 2003 ( ) kits																								
FY 2004 (9) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete (9) kits																								
TOTAL					**2**	**0.1**			**6**	**0.4**														

Installation Schedule

	FY 1999 & Prior	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				1				6				10											
Out			1				1				6				10										

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP V24-94) - Structures/Rewire

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Current w/SDLM**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 14 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: Oct-01 FY 2003:

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: *Mar-02 FY 2003:

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 (8) kits									*4	4.9														
FY 2003 (8) kits																								
FY 2004 (8) kits																								
FY 2005 (8) kits																								
FY 2006 (8) kits																								
FY 2007 (8) kits																								
To Complete (24) kits																								
TOTAL									**4**	**4.9**														

* 2 Structures and 2 Rewire kits will deliver 5 months after award of the FY 2002 contract award.

Installation Schedule

	FY 1999 & Prior	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											2	2													
Out												2	2												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP V24-94) - Interim AFC

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Navy Field Modification Team (FMT)**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 2000: N/A FY 2001: Oct-00 FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: Feb-01 FY 2002: N/A FY 2003: N/A

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 (5) kits							5	0.9															5	0.9
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL							**5**	**0.9**															5	**0.9**

Installation Schedule

	FY 1999 & Prior	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							2	2	1																
Out							2	2	1																

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										5
Out										5

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP V24-94) - Outer Wing Panel Enhancement

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Navy Forced Retrofit Component**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 2000: Oct-99 FY 2001: N/A FY 2002: Oct-01 FY 2003:

DELIVERY DATE: FY 2000: Feb-00 FY 2001: N/A FY 2002: Feb-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																								
FY 2000 (12) kits					12	2.8																		
FY 2001 ( ) kits																								
FY 2002 (10) kits									10	2.5														
FY 2003 (10) kits																								
FY 2004 (7) kits																								
FY 2005 (10) kits																								
FY 2006 (6) kits																								
FY 2007 (5) kits																								
To Complete (24) kits																								
TOTAL					**12**	**2.8**			**10**	**2.5**														

Installation Schedule

	FY 1999 & Prior	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							4	4	4		2	4	4												
Out								4	4	4		2	4												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP V24-94) - NP-2000

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Current w/SDLM/Drive in Mod**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: Oct-01 FY 2003:

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: Feb-02 FY 2003:

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 (1) kits									1	*														
FY 2003 (1) kits																								
FY 2004 (5) kits																								
FY 2005 (8) kits																								
FY 2006 (9) kits																								
FY 2007 (2) kits																								
To Complete (10) kits																								
TOTAL									**1**	*														

Installation Schedule

	FY 1999 & Prior	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														
Out												1													

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**		P-1 ITEM NOMENCLATURE **C-130 SERIES**
Program Element for Code B Items:		Other Related Program Elements

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**51.3**	A	**17.0**	**7.8**	**5.4**							

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 monoplane capable of all weather transport of cargo or personnel and in-flight refueling. The majority of the modifications budgeted in FY2002 and beyond is to correct safety deficiencies. There are currently 99 aircraft in the Navy and Marine Corps inventory (51 active and 48 reserve). The expected Service Life is as follows:

T/M/S	Service Date	Service Life	Expected Life
C-130T	10/91 - 11/95	450 mos.	2028-2032
KC-130F	3/60 - 11/62	504 mos.	2002-2008
KC-130R	9/75 - 6/78	432 mos.	2011-2014
KC-130T	4/84 - 2/96	450 mos.	2021-2033
TC-130G	1/64	216 mos.	1982-TBD

OSIP No.	**Description**	**Prior Years**	**FY 2000**	**FY 2001**	**FY 2002**	**FY 2003**	**FY 2004**	**FY 2005**	**FY 2006**	**FY 2007**	**To Complete**	**Total**
02-92	ARC-210 RADIO SYSTEM	5.0	1.9	1.7								
25-92	GLOBAL POSITIONING SYSTEM (GPS)	29.8	1.8									
09-94	NIGHT VISION LIGHTING (NVL)	3.2	2.8	1.3								
19-98	SAFETY IMPROVEMENT PROGRAM	13.3	6.9	4.9	5.4							
19-00	VISUAL SIMULATOR		3.6									
	Total	**51.3**	**17.0**	**7.8**	**5.4**							
	RESERVE FUNDING INCLUDED IN TOTAL	2.5	2.7	2.0	1.9							

Note: Totals may not add due to rounding.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/ARC-210 RADIO (OSIP 02-92)

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T — TYPE MODIFICATION: Performance Enhancement (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). This modification is covered by a singular ECP (C-130-99) and will be incorporated in 84 C-130 aircraft (36 active and 48 reserve). PMA209 funded the 4 validation/verification aircraft. This OSIP covers the remaining 80 aircraft. This modification was approved 20 Apr 93, ORD 333-06-093.

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 was performed in FY97 for the KC-130F and KC-130R configurations. Recurring production installations started in April 1997. The previous program plan called for 77 aircraft to be equipped with 1556 radios and 14 aircraft to be equipped with 1794C radios that were SATCOM capable. Changes in the technical requirements for SATCOM capability have caused us to alter the program. All aircraft will have to be 1794C SATCOM capable. OSIP has been changed to reflect SATCOM incorporation in all 84 aircraft (four funded under a Common Avionics OSIP). Twenty-one aircraft previously modified will have to be retrofitted with this additional capability (The 21 reflects the kits acquired in FY98 and prior). Reduction in quantity from 91 to 84 is based on current plan to retire KC-130F aircraft as they are replaced by KC-130J aircraft.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Kit	21	1.2			10	1.2	7	0.9																
Installation Kits N/R		0.8				0.7		0.2																
Installation Equipment		0.4																						
Equip																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1																						
Training Equipment	1	*																						
Support Equipment		*																						
ILS		0.2																						
Other Support		0.6		*				*																
Interim Contractor Support																								
Installation Cost	16	1.3	5	0.3			10	0.5																
Total Procurement		**4.7**		**0.3**		**1.9**		**1.7**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-130T, KC-130F/R/T** MODIFICATION TITLE: AN/ARC-210 ECCM RADIO (OSIP 02-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by Commercial FMT (2 radios per aircraft).**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2000: Dec-99 FY 2001: Dec-00 FY 2002: Dec-01 FY 2003:

DELIVERY DATE: FY 2000: Oct-00 FY 2001: Oct-01 FY 2002: Oct-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	16	1.3	5	0.3																				
FY 2000 ( ) kits							10	0.5																
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**16**	**1.3**	**5**	**0.3**			**10**	**0.5**																

NOTE: One of the 21 kits purchased in prior years/FY99 will not be installed due to the change in radio configuration. The kit will be used for the Software Integration Laboratory.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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						4	3	3																
Out	21							4	3	3															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: C/KC-130 GLOBAL POSITIONING SYSTEM (GPS) (OSIP 25-92)

MODELS OF SYSTEMS AFFECTED: C-130T, KC-130F/R/T

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 Radio navigation 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 enroute, 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). This modification is covered by a singular ECP (C-130-98) and will be incorporated in 93 aircraft (45 active and 48 reserve). This is a joint service modification approved 22 Jan 90, ORD USAF 003-78, I/II/III.

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 commenced in September 1993, immediately followed by the KC-130 installations. Both aircraft were successfully tested at NAWC Patuxent River which became 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 and completed during FY 2000.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Kit	94	11.0																						
Installation Kits N/R		5.0																						
Installation Equipment		1.2																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.7																						
Training Equipment	4	3.1																						
Support Equipment																								
ILS		0.5																						
Other Support		1.2		0.3		0.1																		
Interim Contractor Support																								
Installation Cost	49	3.8	27	1.9	21	1.7																		
Total Procurement		**27.6**		**2.2**		**1.8**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-130T, KC-130F/R/T** MODIFICATION TITLE: GLOBAL POSITIONING SYSTEM (GPS) (OSIP 25-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Commercial / Organic Field Mod Team**

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	49	3.8	27	1.9	21	1.7																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**49**	**3.8**	**27**	**1.9**	**21**	**1.7**																		

NOTE: 98 KITS WERE PROCURED. ONLY 97 WERE INSTALLED IN AIRCRAFT/TRAINERS. REMAINING KIT WAS USED FOR THE SOFTWARE INTEGRATION LAB.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	76	6	6	5	4																				
Out	70	6	6	6	5	4																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: KC-130 NIGHT VISION LIGHTING (NVL) (OSIP 09-94)

MODELS OF SYSTEMS AFFECTED: KC-130F/R/T and OPS Trainer

TYPE MODIFICATION: Performance Enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: Description/Justification: The KC-130 has no NVL capability to support flight operations to accomplish tactical missions at night. The lack of NVL capability creates significant interoperability problems with other NVD capable aircraft. Incorporation of a non-developmental NVL system, that has been prepared for other USMC/USAF tactical aircraft and is compatible with KC-130 tactical missions and avionics, will alleviate this critical shortfall and allow the accomplishment of tactical missions without unnecessarily jeopardizing the crew's safety and the safety of the aircraft. This modification will allow C-130 aircraft to navigate visually at night at low altitudes (using night vision and rear vision devices), aerial refuel at night with NVG capable receivers, conduct clandestine (NVD only) tactical landings and takeoffs from austere sites, conduct ground refueling (using rapid ground refueling pods) and air-landed support operations. This modification is covered by a singular ECP and will be incorporated in 24 aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The initial in-production engineering change proposal to incorporate non-developmental NVL in USMCR KC-130T aircraft was funded with NG&RE. Design/development of retrofit aircraft affected by this OSIP was originally based on the KC-130T NG&RE program. Development commenced in FY 1994 with procurement of two trial kits that were installed in FY 1995. Funding constraints delayed continuation of this program. Limited funds were required in FY97/98 to provide Maintenance Plans, pubs, and other logistics support for the aircraft already fielded. A newly competed contract has allowed us to restart this program in FY00 with non-recurring engineering, kit manufacture, and installation. Program completion is expected in FY 2005.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Kit	2	0.9			4	1.1	4	1.1																
Installation Kits N/R		0.7				0.6																		
Installation Equipment		0.3																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1				0.2																		
Training Equipment																								
Support Equipment						*																		
ILS		0.2				*																		
Other Support		*				0.6		*																
Interim Contractor Support																								
Installation Cost	2	1.0			4	0.2	4	0.2																
Total Procurement		**3.2**				**2.8**		**1.3**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **KC-130F, KC-130R, KC-130T, trainer** MODIFICATION TITLE: Night Vision Lighting (NVL) (OSIP 09-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by Contractor Field Mod Team**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 (FY00 only) Months

CONTRACT DATES: FY 2000: Dec-99 FY 2001: Dec-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Sep-00 FY 2001: Jun-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	2	1.0																						
FY 2000 ( ) kits					4	0.2																		
FY 2001 ( ) kits							4	0.2																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**2**	**1.0**			**4**	**0.2**	**4**	**0.2**																

Installation Schedule

	FY 1999 & Prior	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	2				4			2	2																
Out	2					4			2	2															

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a Individual Modification

CLASSIFICATION: **UNCLASSIFIED**

MODIFICATION TITLE: SAFETY IMPROVEMENT PROGRAM (OSIP 19-98)

MODELS OF SYSTEMS AFFECTED: C-130T,KC-130F/R/T, TC-130G, TRAINERS TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION: This OSIP represents several safety related modifications to various C-130 aircraft.

1. Bleed Air Ducts/Overheat Detection System (ODS). During FY98, a modification was begun to replace critical bleed air ducts and install an improved Overheat Detection System. The bleed air system uses high pressure and high temperature bleed air from the compressor of all engines to pressurize the fuselage, provide heating and air conditioning, remove ice from the wings and tail section, and many other uses. Bleed air duct failures are the top emerging hazard to safe operations of C/KC-130 aircraft in the Department of the Navy. Leaks in the system, often undetected, can cause severe heat damage. This modification replaces bleed air ducts in 61 older aircraft (51 active and 10 reserve), using inconel ducts wherever available. To identify potential failures, this modification also installs an improved overheat detection system in 99 aircraft (51 active and 48 reserve). This system consists of a continuous loop sensor wire that will provide real time bleed air leak detection warnings to flight crews. The system will detect overheat conditions occurring in hidden structural areas and allow the crew to control serious collateral heat damage.
2. Propeller Valve Housing. Older model prop valve housing governors fail during flight causing the engine to be shut down. The replacement governor uses a dual bearing configuration which greatly reduces bearing failure. This modification is required in 99 aircraft (51 active and 48 reserve).
3. LOX Heat Exchanger. An Air Force Study, resulting from several mishaps, has determined that the existing flat plate type liquid oxygen heat exchanger is insufficient to heat the amount of oxygen necessary to support the full crew in the event of a mishap requiring 100% oxygen. A higher capacity coil type heat exchanger is required. This modification removes the flat plate type and replaces it with a coil type heat exchanger. It is required on the 49 aircraft.
4. IFR Pump Replacement. On 7 March 1997, a fire inside a fuselage tank during aerial refueling of a F-18 aircraft brought attention to a deficiency with the design of the current IFR pump. Investigation revealed three similar incidents with USN and USMC aircraft caused by a design deficiency in the sealed upper bearing that allows it to overheat. The replacement pump offers many improvements over the existing pump including a sealed flash proof upper bearing . This modification effects 78 aircraft (51 active and 28 reserve).
5. Towed Parachute Retrieval System (TPRS). USN/USMC C/KC-130 aircraft are currently operating under an N85 restriction limiting paratrooper weight to 250 pounds for static-line door exits; CNO Washington DC 251626Z Oct 99 refers. This policy restricts retrieving most combat-equipped jumpers and thus hampers realistic training. Installation of this system (currently in use by the USAF) allows for retrieval of paratroopers weighting up to 400 pounds. A Class One ECP is in development and effects 36 aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: 1. Bleed Air Duct/Overheat Detection System. Non-recurring engineering and design as well as procurement of the kits began in FY98 via a turn-key contract with the OEM (Lockheed). Validation/verification was performed during second quarter FY99. Recurring installs began FY98.
2. Propeller Valve Housing. Solution identified and first procurement contract for valves was placed on contract during FY99. Recurring installations began in the 4th quarter of FY99. Program completion expected FY02.
3. LOX Heat Exchanger. Program will be initiated during 1st quarter FY02. Validation/verification expected 2nd quarter with recurring installs complete by the end of FY02.
4. IFR Pump Replacement. Non-recurring engineering began FY01. Validation/Verification expected by 4th quarter FY01 with recurring installations to begin FY02.
5. TPRS. These items are currently in use by the USAF and can be manufactured at Warner Robins ALC, GA. Items were procured 3rd quarter FY00 and were provided to the affected squadrons for O-Level install during 4th quarter .

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Bleed Air Duct Kit	32	4.6	5	0.8	21	0.6	3	0.1																
ODS Kit	32	2.2	5	0.4	41	2.2	21	1.0																
Prop Valve Kit			22	0.8	24	0.8	53	1.9																
Towed Parachute Retrieval Sys.					36	0.1																		
APR-39A(V)2					22	*																		
LOX Heat Exchanger Kit									49	0.6														
IFR Pump Kit							5	0.3	73	3.7														
Installation Kits N/R		1.5				0.5		0.2		0.3														
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		*		0.2		0.1		0.2														
Training Equipment		*																						
Support Equipment																								
ILS						*		*		0.2														
Other Support				0.1		0.2		0.2		0.3														
Interim Contractor Support																								
Installation Cost	58	2.1	35	0.6	71	2.2	24	1.2	49	0.2														
Total Procurement		**10.6**		**2.7**		**6.9**		**4.9**		**5.4**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amounts less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-130T, KC-130F/R/T, TC-130G** MODIFICATION TITLE: Bleed Air Ducts / Overheat Detection System (OSIP 19-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team as part of a turn-key contract**

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: Nov-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	58	2.1	16	0.4																				
FY 2000 ( ) kits					62	2.1																		
FY 2001 ( ) kits							24	1.2																
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**58**	**2.1**	**16**	**0.4**	**62**	**2.1**	**24**	**1.2**																

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	74		10	26	26		8	8	8																
Out	70	4		10	26	26		8	8	8															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-130T, KC-130F/R/T, TC-130G** MODIFICATION TITLE: Prop Valve Housing & LOX Heat Exchanger (OSIP 19-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level FMT and specialized I & O - Level**

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: Nov-00 FY 2002: Nov-00 FY 2003:

DELIVERY DATE: FY 2000: Jan-00 FY 2001: Jan-01 FY 2002: Jan-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits			19	0.3																				
FY 2000 ( ) kits					9	0.1																		
FY 2001 ( ) kits																								
FY 2002 ( ) kits									49	0.2														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**19**	**0.3**	**9**	**0.1**			**49**	**0.2**														

Installation Schedule ***Prop Valve install is combination of Depot level (28 acft) and specialized I-level (71-no cost), LOX is depot Level FMT, IFR pump, TPRS, & APR-39(V)2 installs are O-level (no cost).

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	19		3	3	3						17	16	16												
Out		19		3	3	3						17	16												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: VISUAL SYSTEM UPGRADE FOR SIMULATORS (OSIP 19-00)

MODELS OF SYSTEMS AFFECTED: KC-130F/R Visual Simulators (2F107 + 2F152) TYPE MODIFICATION: Performance enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: Funds are provided to procure visual system upgrades to the visual flight simulators located at El Toro (being moved to Miramar via BRAC) and Cherry Point. The existing visual systems are fifteen years old and are based on 1960's technology. They are no longer supported by the OEM. Reliability and maintainability issues are the main reason for upgrade to 1990's technology. They presently cannot network with other simulators because of incompatible databases.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This will be a competitive contract award through NAWC TSD, Orlando FL. Contracts were awarded during FY00. Work completed in FY01.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Kit																								
Installation Kits N/R						1.9																		
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment					2	1.2																		
Support Equipment																								
ILS						*																		
Other Support																								
Interim Contractor Support																								
Installation Cost					2	0.5																		
Total Procurement						**3.6**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **KC-130F/R VISUAL SIMULATORS (2F107 + 2F152)** MODIFICATION TITLE: VISUAL SYSTEM UPGRADE FOR SIMULATORS (OSIP 19-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Turn Key Contract for NRE, procurement and installation**

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: Mar-00 FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Sep-00 FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits					2	0.5																		
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**2**	**0.5**																		

Installation Schedule

	FY 1999 & Prior	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					2																				
Out						2																			

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: June 2001

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

P-1 ITEM NOMENCLATURE
FEWSG (Fleet Electronic Warfare Support Group) Series Modifications

Program Element for Code B Items: 0204575N

Other Related Program Elements

	Prior Years	ID Code	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A											
COST (In Millions)	**55.5**	A	**0.5**	**0.6**	**0.6**	**0.6**							

This line item funds modifications to several aircraft and equipment. The overall goal of the budgeted modifications is to accurately simulate the known and postulated electronic warfare characteristics and tactics of different threats for fleet training. 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, F-14, and are planned for carriage on the Gulfstream G-1.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
119-83	AN/DLQ-3, AN/AST-6(V), ULQ-21, ALQ-167	**55.5**	**0.5**	**0.6**	**0.6**	**0.6**							
Total		**55.5**	**0.5**	**0.6**	**0.6**	**0.6**							

Note: Totals may not add due to rounding.

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: FEWSG (OSIP 119-83) AN/DLQ-3, AN/AST-6(V), AN/ULQ-21 & AN/ALQ-167

MODELS OF SYSTEMS AFFECTED: N/A

TYPE MODIFICATION: RELIABILITY, MAINTAINABILITY, AND CAPABILITY UPGRADES

DESCRIPTION/JUSTIFICATION: The AN/ALQ-167 pods electronically simulate threat airborne radar jamming systems. 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 and AN/ULQ-21. The AN/AST-6(V) pod electronically simulates 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 AN/ALQ-167 avionics are being upgraded. When these upgraded avionics are internally installed in aircraft, they are nomenclatured as AN/ULQ-21 systems.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		13.7		2.2																				
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment	1,000	48.9	2	0.5	2	0.5	2	0.5	2	0.6														
Installation Equipment N/R		0.2		*		*		*		*														
Engineering Change Orders																								
Data		0.1		*		*		*		*														
Training Equipment		0.2																						
Support Equipment		5.2																						
ILS		0.7		*		*		*		*														
Other Support		0.2																						
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**55.5**		**0.5**		**0.6**		**0.6**		**0.6**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **May 2001**

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: **N/A**

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**75.6**	A	**16.1**	**7.9**	**4.2**	**4.0**	**8.9**	**8.6**	**5.2**	**5.3**		**135.8**

This line item funds modifications to the following cargo and transport aircraft: C-9B/DC-9, CT-39G, C-20D/G, RC-12F/M, UC-12B/F/M, NC-12B, TC-12B, EC/RC-26D, C-40A, UC-35C/D . The C-9B/DC-9 Skytrain II, CT-39G (Sabreliner), C-20D/G (Gulfstream IV), C-40A (Boeing) and UC-35C/D (Cessna Citation) 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, NC-12B, TC-12B 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-40A will provide time-critical logistics support for the fleet CINCs and will accommodate 121 passengers, or eight pallets of cargo, or a combination configuration consisting of 3 pallets and 70 passengers. The C-40A has a range of 3,400 NM with 5,000 lbs of cargo. The UC-35C/D will provide transport for high-priority passenger/cargo missions with time, place or mission sensitive requirements. The UC-35C/D will carry 6 passengers or 1200 lbs of cargo and has a range of 1,400 NM. The C-26D and EC/RC-26D are twin turbo-prop aircraft (Fairchild Metro) capable of passenger/cargo transport and range control missions. The C-26D can carry 19 passengers up to 1,300 NM at 234 knots.The overall goal of the modifications budgeted in FY 2002 and out is to continue the FAA Configuration Updates to these cargo aircraft and Flight Safety Upgrades to C-12 and C-20 Aircraft. The specific modifications budgeted and programmed are as follows:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
71-86	FAA Configuration Updates	16.2	0.5	0.4	0.8	0.5	0.8	0.8				**20.1**
10-95	C-12 Global Positioning System	11.8										**11.8**
09-97	C-9 Upgrade Standardization	39.6	10.2									**49.8**
12-98	C-20 Flight Safety Upgrade	3.1	0.3									**3.5**
13-98	CT-39 Global Positioning System	1.1										**1.1**
14-98	C-12 Flight Safety Upgrade	3.8	5.1	7.5	3.4	1.1	5.6	6.2	5.2	5.3		**43.1**
01-03	C-20 Flight Management Systems					2.4	2.5	1.6				**6.5**
	Total	**75.6**	**16.1**	**7.9**	**4.2**	**4.0**	**8.9**	**8.6**	**5.2**	**5.3**		**135.8**
Reserve Funding Included in Total			13.6	1.1	1.3	0.4	0.4	0.4	0.4	0.5		

Note: 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 SYSTEMS AFFECTED: C-9B/DC-9/C-20D/C-20G/UC-12B/UC-12F/UC-12M/RC-12F/RC-12M/TC-12B/NC-12B
CT-39G/C-26D/UC-35/C-40A

TYPE MODIFICATION: SAFETY/RELIABILITY/MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: Federal Aviation Regulations require manufacturers of commercial aircraft and associated systems/subsystems to investigate discrepant conditions, failures, and potential safety problems reported by all operators. The resu 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 incorporation of C-9B/DC-9, C-20, and C-12 FAA Bulletins and Directives.

EVELOPMENT 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) NOTE: Kit quantities include "turnkey efforts".

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
C-12 Propellers	4	0.4	34	0.1	25	0.3	12	0.2																
C-9 Engines	13	0.2																						
C-20	132	0.2	26	0.1			29	0.1	51	0.2														
C-9	278	4.7							2	0.1														
CT-39	111	1.1																						
C-26					4	0.2																		
Installation Kits N/R		2.5		0.0				*		*														
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		0.0				*																
Training Equipment				0.2																				
Support Equipment																								
ILS		*		0.0				*																
Other Support		0.1		0.5																				
Interim Contractor Support										0.1														
Installation Cost	538	6.0	60	0.1	29	0.0	41	0.2	53	0.4														
Total Procurement		**15.2**		**1.0**		**0.5**		**0.4**		**0.8**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. C-12 Propeller (Prop Hub Kits) FY 99-01 are being installed in conjunction with A/C overhaul as a turnkey effort.
4. C-26 8.33Khz radio kits in FY00 are being installed in conjunction with A/C overhaul as a turnkey effort.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-9B/DC-9//C-20D/C-20G/UC-12B/UC-12F/UC-12M/RC-12F /RC-12M/TC-12B/CT-39G/C-26D

MODIFICATION TITLE: Federal Aviation Administration (FAA) Configuration Update (OSIP 71-86)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Depot

ADMINISTRATIVE LEADTIME: Various Months

PRODUCTION LEADTIME: Various Months

CONTRACT DATES: FY 2000: Various FY 2001: Various FY 2002: Various FY 2003:

DELIVERY DATE: FY 2000: Various FY 2001: Various FY 2002: Various FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	538	6.0	60	0.1																				
FY 2000 ( ) kits					29	*																		
FY 2001 ( ) kits							41	0.2																
FY 2002 ( ) kits									53	0.4														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**538**	**6.0**	**60**	**0.1**	**29**	**0.0**	**41**	**0.2**	**53**	**0.4**													**721**	**6.7**

Installation Schedule quantities include "turnkey kits".

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	598	8	10	11		14	14	13		17	17	19													
Out	598		8	10	11		14	14	13		17	17	19												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 10-95)

MODELS OF SYSTEMS AFFECTED: UC-12B/F/M, RC-12F/M — TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The crash of the U.S.Air Force CT-43 while flying a non-directional radio beacon (NDB) instrument approach 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 all eighty seven (87) aircraft in the inventory 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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Kit	162	7.3																						
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	128	2.8	34	1.7																				
Total Procurement		**10.1**		**1.7**																				

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003:

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	128	2.8	34	1.7																				
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**128**	**2.8**	**34**	**1.7**																				

Installation Schedule

	FY 1999 & Prior	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	162																								
Out	162																								

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: UPGRADE STANDARDIZATION (OSIP 09-97)

MODELS OF SYSTEMS AFFECTED: C-9B / DC-9 AIRCRAFT — TYPE MODIFICATION: SAFETY / RELIABILITY / MAINTAINABILITY

DESCRIPTION/JUSTIFICATION: Urgent upgrade of avionics in C-9B/DC-9 aircraft is required for operation in controlled airspace, installation of mandated systems, and to replace obsolete, out of production systems for which the 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 international airspace. Without these new COTS / NDI systems, these USMC / NAVRESFOR aircraft connot support the CINC's for trans-oceanic and European missions, and in the near future for United States 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 may be jeopardized. Additionally, most of the avionics systems / components are obsolete and out of production. Replacement parts and repair facilities have been 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 exisitng commercial stock of obsolete or out of production items is depleted, support / spares will be nonexistent. Requirements document is the Mission Needs Statement N81/5U648370 of Jul 95. Lockheed ECP's 1/2/3 apply for this ACAT IVM program that passed Milestone III Approval for Full Rate Production in Jun 97. The Upgrade incorporates Phase I into 17 C-9B and 12 DC-9 a/c. Phase II will be installed in only the 17 C-9B a/c.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: A. Phase I began in FY97 and installed a kit to provide urgently needed collision avoidance, updated radios and navigation aids simultaneously with installation of GPS navigation systems under related OSIP 09-95. Prototype installation began during FY97. Testing was completed Oct 97. Initial Operating Capability was reached Nov 97. Last of 29 C-9B/DC-9 aircraft was completed Fall 98.
B. Phase II kit installation began in FY99. 17 C-9B aircraft will be provided with the remaining needed items (predictive wind sheer alert radar, enhanced ground proximity warning system, cockpit integrated computer displays). The critical Design Review was completed 24 Feb 99. The completion of Phase II C-9B prototype will occur in FY00. Kit and Technical Directive Verification and Validation will occur in FY00 on the second aircraft. DC-9 aircraft are not included in Phase II.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Phase I Kit	29	6.1																						
Phase II Kit	4	3.6	13	12.5																				
Installation Kits N/R		3.8		2.2		0.8																		
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Kit ECO		0.1		0.0		0.1																		
Data		0.5		0.9		0.2																		
Training Equipment		0.3		0.3		0.1																		
Support Equipment																								
ILS		0.1		0.0		0.1																		
Other Support																								
Interim Contractor Support																								
Installation Cost	29	8.0	3	1.3	14	8.8																		
Total Procurement		**22.4**		**17.2**		**10.2**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-9B / DC-9 AIRCRAFT** MODIFICATION TITLE: UPGRADE STANDARDIZATION (OSIP 09-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **All hardware is COTS / NDI avionics that will be procured to prepare 29 Phase I kits & 17 Phase 2 kits for installation by / at the C-9 Depot maintenance contractor facilities.**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 2000: Dec-99 FY 2001: N/A FY 2002: N/A FY 2003:

DELIVERY DATE: FY 2000: Oct-00 FY 2001: N/A FY 2002: N/A FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	29	8.0	3	1.3	14	8.8																		
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**29**	**8.0**	**3**	**1.3**	**14**	**8.8**																		

Installation Schedule

	FY 1999 & Prior	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	32				2	4	4	4																	
Out	29			1	2	3	4	4	3																

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Flight Safety Upgrade (OSIP 12-98)

MODELS OF SYSTEMS AFFECTED: C-20 D/G — TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: This modification provides C-20 D/G aircraft with Traffic Collision Alert System (TCAS) and the Enhanced Ground Proximity Warning System (EGPWS). TCAS provides Air traffic collision avoidance capabilities to C-20D/G aircraft. EGPWS provides ground proximity warning information. The TCAS 2000 and EGPWS (with wind shear detection) are SECNAV requirements. The Navy Program Office will utilize the original equipment manufacturer to identify suitable commercial equipment. TCAS 2000 will be installed in all seven C-20 D/G aircraft in the inventory. The wind shear detection system component of EGPWS will be installed in two C-20D aircraft. EGPWS will be installed in five C-20G aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FAA approved Supplement Type Certifications (STC) have been approved and commercial off the shelf (COTS) equipment has been purchased/ installed.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
C-20 Flight Safety Upgrade Kits	2	0.7	10	0.5																				
Installation Kits N/R		0.8																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.4																						
Training Equipment						0.2																		
Support Equipment																								
ILS		0.1																						
Other Support		0.2				0.1																		
Interim Contractor Support																								
Installation Cost	2	0.1	10	0.4																				
Total Procurement		**2.2**		**0.9**		**0.3**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-20D/G

MODIFICATION TITLE: Flight Safety Upgrade (OSIP 12-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Kits to be installed by Maintenance contractor at Depot.

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: Dec-99 FY 2001: N/A FY 2002: N/A FY 2003:

DELIVERY DATE: FY 2000: Jan-00 FY 2001: N/A FY 2002: N/A FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	2	0.1	10	0.4																				
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**2**	**0.1**	**10**	**0.4**																				

Installation Schedule

	FY 1999 & Prior	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	12																								
Out	10	2																							

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: CT-39 Global Positioning System (OSIP 13-98)

MODELS OF SYSTEMS AFFECTED: CT-39G Aircraft | TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The Global Positioning System (GPS) is a space-based radio positioning system that will provide three-dimensional position, velocity and time information to suitably equipped users on or near the earth. Installation of the Allied Signal GNS XLS GPS in the CT-39G aircraft will allow continual operation of CT-39G aircraft in U.S. National Airspace (aircraft without an operational GPS will not be allowed in controlled U.S. Airspace). Installation of GPS is directed by Assistant Secretary of Defense Memorandum of 1 December 1994, Subj: Commercial Global Positioning System Receivers for T-44, TH-57, T-34 and T-39 aircraft. There are a total of 9 CT-39G aircraft in the USN inventory; all 9 will receive GPS installation via an Engineering Change Proposal provided by Avtel, Inc. A GPS kit consists of a computer, antenna, wiring, and mounting hardware.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The GPS installed in these aircraft is a commercially available, non-developmental item (NDI).

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
GPS Kit	4	0.3	5	0.3																				
Installation Kits N/R		0.2																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost	1	*	8	0.2																				
Total Procurement		**0.6**		**0.6**																				

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CT-39G Aircraft

MODIFICATION TITLE: CT-39 Global Positioning System (OSIP 13-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Installed Kits

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003:

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	1	*	8	0.2																				
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**1**	*	**8**	**0.2**																				

Installation Schedule

	FY 1999 & Prior	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	9																								
Out	9																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Flight Safety Upgrade (OSIP 14-98)

MODELS OF SYSTEMS AFFECTED: UC-12 B/F/M, TC-12B, RC-12M — TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: The crash of a 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 81 C-12 model aircraft and identifies flight safety systems required to provide capability /upgrade to directed requirements. All C-12 aircraft require installation of Enhanced Ground Proximity Warning Systems (EGPWS) and Traffic Collision Avoidance Sytems (TCAS II). The UC-12B aircraft require upgrades to provide a more reliable radar altimeters. Forty-six (46) UC-12B/TC-12B aircraft require color radar to support upgrade enhancements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Systems are Commercial of the Shelf (COTS) and do not require development. System prototype is required in three aircraft.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Flight Safety Upgrade Kits			3	0.7	7	2.5	18	5.8	5	1.7														
Installation Kits N/R		0.3		2.3		1.7		0.7																
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.2																		
Training Equipment				0.2		0.3		0.2		0.2														
Support Equipment																								
ILS						0.1		0.2		0.2														
Other Support		0.1		0.2		0.4		0.1		0.1														
Interim Contractor Support																								
Installation Cost *					3		7	0.5	18	1.3														
Total Procurement		**0.4**		**3.4**		**5.1**		**7.5**		**3.4**														

Notes: *FY 2000 installations were engineering prototypes installed as a "Turnkey effort".

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UC-12 B/F/M, TC-12B, RC-12M** MODIFICATION TITLE: Flight Safety Upgrade (OSIP 14-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Installed Kits**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: Nov-00 FY 2002: Nov 01 FY 2003:

DELIVERY DATE: FY 2000: Dec-99 FY 2001: Dec-00 FY 2002: Dec-01 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits					3																			
FY 2000 ( ) kits							7	0.5																
FY 2001 ( ) kits									18	1.3														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL					**3**		**7**	**0.5**	**18**	**1.3**														

Installation Schedule

	FY 1999 & Prior	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				2	1	1	2	2	2	4	4	5	5												
Out					3	1	2	2	2	4	4	5	5												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**560.5**	A	**84.4**	**60.1**	**74.8**							

This line item funds modifications to E-6A "Take Charge and Move Out", 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 Fiscal Year (FY) 2002 is to continue Military Strategic Tactical and Relay (MILSTAR) and High Power Transmit Set (HPTS) mission avionics upgrades and consolidation of Joint Chiefs of Staff (JCS) strategic command and control tasking. Operational Safety Improvement Programs (OSIPs) 24-92, Avionics Block Upgrade, and OSIP 32-93, Airborne Command Post, were combined in FY 1995 as the modifications had been fully integrated by the contractors. At the beginning of FY98 additional ABNCP requirements were included OSIP 32-93. Completion of these modifications results in aircraft being reclassified as E-6B aircraft. The Multifunction Display System (MDS), OSIP 27-99, was approved as the solution to maintaining worldwide deployability due to changing Global Air Traffic Management/Global Air Navigation System standards. In FY 01 the Modified Miniature Receiver Terminal (MMRT), OSIP 10-01, will be installed to enhance command and control of the strategic forces. In order to correct safety discrepancies. OSIP 07-02 will correct safety and Follow On Test & Evaluation (FOT&E) (Sep 98) deficiencies by funding redesign and integration of an upgraded Vaber Cooling System (VCS) for mission avionics, update the design of and fabricate new rewind machines and purchase of "off-the shelf" power carts to provide adequate aircraft power for full mission checkout. Another new start in FY02 is OSIP 08-02 is initiated which includes smoke and fire detection systems, Signal Data Recording System (SDRS) upgrades and installation of a Crash Survivable Memory Unit. OSIP XX-05, Mission Deficiencies, replaces the Digital Airborne Intercommunication Switching Set (DAISS) and the Very Low Frequency (VLF) transmit terminal and installs an Open System Architecture which will allow low cost modifications for emerging requirements.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
32-93	E-6B Mod	**548.5**	**62.6**	**38.1**	**36.5**							
27-99	Multifunction Display System	**12.0**	**21.8**	**19.0**	**29.0**							
10-01	E-6B Modified Mini Rcv Terminal			**3.0**	**6.0**							
07-02	E-6 Mission Support				**2.5**							
08-02	Safety Deficiencies				**0.9**							
XX-05	Mission Deficiencies											
	Total	**560.5**	**84.4**	**60.1**	**74.8**							

Note: Totals may not add due to rounding.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: E-6B Modifications (OSIP 32-93)

MODELS OF SYSTEMS AFFECTED: E-6A — TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Mission Needs Statement: E-6A TACAMO/Airborne Command Post (ABNCP) Consolidation Program, MO-40-88-93, dated 22 Sep 93, substantiates the transfer of avionics equipment from the Air Force EC-135 ABNCP platform to the Navy E-6A TACAMO aircraft. This program consolidates Joint Chiefs of Staff (JCS) Strategic Command and Control tasking into one survivable airborne strategic platform and achieves significant operations and maintenance savings of minimally $50M annually. The addition of the ABNCP mission to the TACAMO aircraft results in one platform having the ability to relay emergency action messages from the National Command Authorities (NCA U. S. Strategic Forces and for CINCSTRAT to directly execute command and control of those forces. Operational Requirements Document (ORD) 389-88-98, Revised 20 Mar 97, supports modifications for the High Power Transmit Set, Original ABNCP avionics systems and MILSTAR capabilities. These are encompassed in ECP CTAS-100R3. ORD 389-88-95, revised 14 Aug 98, incorporates newly identified requirements, including approved ECP RCS-100R1 for Voice Satellite (VOSAT) Communications and future Engineering Change Proposals (ECPs) for Cryptographic (CRYPTO) equipment upgrades, Ultra High Frequency (UHF) Demand Assigned Multiple Access (DAMA) installation, Automated Data Processing Capability (ADP) and Weight Savings. VOSAT capability is a voice recognition system that is required by CINCSTRAT for uncompromised communications, CRYPTO upgrade is required by CINCSTRAT to ensure ABNCP receipt and distribution of encrypted messages in accordance with relay timing parameters. UHF DAMA is required for communications across the spectrum of Command and Control responsibilities. ADP capability is required by CINCSTRAT for efficient operations by the embarked Battle Staff and for the capability to receive and generate encrypted and classified correspondence. The weight removal is required to offset the effects of other mods on zero gross fuel weight parameters. These modifications will be applied to all 16 E-6s in the active fleet inventory. This modification program is not applicable to any aircraft in either the National Guard or the Reserve

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone III decision on ABNCP modifications granted January 1995. Milestone III decision for Avionics Upgrade and HPTS granted December 1995. FOT&E completed June 1998. Eleven E-6B aircraft delivered to the fleet to date. Initial Operating Capability (IOC) date of 1 October 1998 was met. September message from CINCUSSTRATCOM delineated additional requirements and associated program cost growth resulted in program restructure with Full Operating Capability shifting from January 2001 to February 2003. IOC for VOSAT modification was 1 October 1998 and IOC for CRYPTO was 1 July 2000. ECPs will be processed for UHF DAM ADP and Weight reduction as programs mature. Contract was awarded Sep 00. Full Operational Capability (FOC) is FY04

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E	1	107.3																						
PROCUREMENT																								
Installation Kits																								
HPTS Kit	16	19.7																						
ABNCP Kit	9	29.8	2	8.9	2	8.8	1	5.2	1	5.3														
VOSAT Kit	10	0.2	2	*	2	*	1	*	1	*														
CRYPTO Kit			12	0.8	3	0.2	2	0.2	1	0.2														
DAMA Kit					7	1.4	8	1.7	1	0.3														
Weight Kit					8	0.2	8	0.1	1	*														
ADP Kit					8	0.8	8	0.8	1	0.1														
Installation Kits N/R		40.3		2.6		4.8		0.6																
Installation Equipment																								
HPTS/CFA Equip	18	139.3																						
ABNCP Equip	9	22.0	2	3.4	2	3.5	1	2.1	1	2.1														
VOSAT Equip	10	1.3	2	0.3	2	0.3	1	0.2	1	0.2														
CRYPTO Equip			12	0.3	3	0.1	2	0.1	1	*														
DAMA Equip					7	3.8	8	4.5	1	0.7														
Weight Equip					7	0.1	8	0.1	1	*														
ADP Equip					7	3.0	8	3.0	1	0.6														
MILSTAR Equip	7	38.1																						
HPTS TIMING DIV Equip	19	5.8																						
SDRS Equip	1	0.6																						
Installation Equipment N/R		18.7		4.7		7.3		0.1																
Engineering Change Orders																								
Data		21.9		1.1		1.4		0.2		0.5														
Training Equipment	8	33.4	1	2.7	4	2.1	2	1.4																
Support Equipment		6.2																						
ILS		13.2		1.8		2.6		0.1		0.3														
Other Support		74.3		11.7		8.6		1.9		5.8														
Interim Contractor Support		1.1																						
Installation Cost	30	32.1	7	12.5	19	13.7	37	16.0	31	20.5														
Total Procurement		**497.8**		**50.7**		**62.6**		**38.1**		**36.5**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. 1 ABCNP Prototype Kit procured in R&D.
4. Installation quantities include HPTS and ABNCP kits separately to account for kit purchases although they were combined for installation purposes in 1996.
5. Installation Kits include 4 lab kits (2 Crypto kits in FY 99, 1 Weight kit in FY 00 and 1 ADP kit in FY 00). In addition install equipment kits in FY 99 for Crypto include 2 lab kits.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6A** MODIFICATION TITLE: E-6B Modifications OSIP (32-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive-in/Field Modification**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: Varies

CONTRACT DATES: FY 2000: Varies FY 2001: Varies FY 2002: Varies FY 2003:

DELIVERY DATE: FY 2000: Varies FY 2001: Varies FY 2002: Varies FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	24	20.9	6	12.3	16	13.3	1	2.9	2	6.45														
FY 2000 ( ) kits							26	10.1	2	3.43														
FY 2001 ( ) kits							3	1.0	25	10.1														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**24**	**20.9**	**6**	**12.3**	**16**	**13.3**	**30**	**13.9**	**29**	**20.0**														

Note: Installations do not include 15 Trainers, 2 Crypto kits, 1 ADP kit, and 1 Weight Reduction kit, but does include 1 kit bought in R&D in prior years.

Note: Monthly Phasing Schedules reflect only installations to Aircraft. They do not include Trainer installations.

HPTS Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	9		1		1			1		1			1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

ABNCP Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	9		1		1			1		1			1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

VOSAT Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	9		1		1			1		1			1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

CRYPTO Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	4	5		2	1		1			1												
Out				4	6		2	1		1			1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

DAMA Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	3	4	2	2	3				1									
Out							1	3	4	2	2	3				1									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										16
Out										16

ADP Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	3	4	2	2	3				1									
Out							1	3	4	2	2	3				1									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										16
Out										16

Weight Savings Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	3	4	2	2	3				1									
Out							1	3	4	2	2	3				1									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Multifunction Display System (OSIP 27-99)

MODELS OF SYSTEMS AFFECTED: E-6B — TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) 389-88-98, revised 14 Aug 98, requires installation of the Multifunction Display System (MDS). Current and future changes to Communications, Navigation and Surveillance/ Air Traffic Management (CNS/ATM) required by Federal Aviation Administration/ International Civil Aviation Origination (FAA/ICAO) are satisfied by the installation of the MDS. Modifications to E-6 cockpit display system are required d to changes in the FAA/ICAO Required Vertical Separation Minimums and other airspace restrictions. Analog gauges are becoming antiquated and difficult to maintain and require replacement in order to meet these and upcoming navigational chan Incorporation of MDS into the cockpit will replace over 100 dials and gauges with integrated display screens that are customizable for the E-6. The MDS requires modification of a Commercial Off-the-shelf (COTS) item to an E-6 configuration -- because it is similar to commercial industry, any further modifications will be less costly. Upgrades to installed systems and changes to Mission Computer Systems can then be accomplished by changing software without changing the hardware.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: MDS was granted a Milestone III decision on 9 May 1998. Contract award September 1999. Specific and separate Non-Recurring Engineering (NRE) efforts for systems integration of COTS hardware/software occurred in the first two years. Production of NRE COTS article for E-6 configuration Oct 00 with subsequent installation and testing beginning in February 01. Production deliveries/installations funded through September 04. Funding provided via Program Decision Memorandum (PDM) -1 requires partial spread of NRE efforts. Cost growth from original estimates allows for 1 NRE A/C Kit/Installation, 15 Production A/C Kits/Installations and 1 Flight Trainer Kit/Install. Initial Operating Capability scheduled for July 03.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
MDS Kit					1	1.3	2	1.4	5	3.6														
Installation Kits N/R				11.4		9.3		0.2																
Installation Equipment																								
MDS Equip					1	9.1	2	11.3	5	18.3														
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.5																		
Training Equipment							1	1.0		1.3														
Support Equipment																								
ILS				0.1		0.6		0.5		0.2														
Other Support				0.5		1.0		1.3		1.2														
Interim Contractor Support																								
Installation Cost							1	3.3	3	4.4														
Total Procurement				**12.0**		**21.8**		**19.0**		**29.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Trainer installation include; one in FY02, one in FY03 and one in FY04

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6B** MODIFICATION TITLE: Multifunction Display System (OSIP 27-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive In Modification**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 2000: Nov-99 FY 2001: Nov-00 FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: Nov-00 FY 2001: Oct-01 FY 2002: Oct-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits							1	3.3																
FY 2001 ( ) kits									3	4.4														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL							**1**	**3.3**	**3**	**4.4**														

Note: Total qantities and dollars include three trainers

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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													
Out										1		1													

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Modified Miniature Receive Terminal (OSIP 10-01)

MODELS OF SYSTEMS AFFECTED: E-6B — TYPE MODIFICATION: Obsolescence

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. The Office of Security the Defense (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-NAV OPORD 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 Command, Control and Comunication (C3) architectur

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Joint program with Air Force as lead service. Preliminary Design Review completed. Critical Design Review completed March 1998. Prototype installation achieved October 1999. Contractor Test/Developmental Test achieved November/December 1999. Congress reduced FY00 funding to $0 due to program slippage. Initial Operational Test and Evaluation complete 24 Mar 2000. MSIII decision 25 May 2000. Production contract November 2000.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
MMRT Install Kit							10	1.3													6	0.8	16	2.1
Installation Kits N/R																								
Installation Equipment																								
DKU Equip							10	0.4													6	0.3	16	0.7
Installation Equipment N/R																								
Engineering Change Orders								0.1																0.1
Data								0.2		0.1														0.3
Training Equipment								0.2	1	0.8											1	0.3	2	1.3
Support Equipment								0.1																0.1
ILS								0.5		0.2												0.2		0.9
Other Support								0.2		0.5												0.5		1.2
Interim Contractor Support								0.1		0.1												0.1		0.3
Installation Cost									11	4.3											7	2.7	18	7.0
Total Procurement								3.0		6.0												**5.0**		**14.0**

Note:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Lab Kit buy in FY01 -installed in FY02
4. Trainer #1 kit buy in FY02 : installed in FY02
5. Trainer #2 kit buy in "To complete" : installed in "To complete"

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6B** MODIFICATION TITLE: Modified Miniature Receive Terminal (OSIP 10-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification**

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 7 Months

CONTRACT DATES: FY 2000: FY 2001: Jun-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: Nov-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits									10	3.8														
FY 2002 ( ) kits									1	0.5														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL									**11**	**4.3**														

Note: Includes one lab and two trainer installs

MMRT Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	3												
Out											3	3	3												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Note: One aircraft modification with Air Force RDT&E

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: E-6 MISSION SUPPORT (OSIP 07-02)

MODELS OF SYSTEMS AFFECTED: E-6B — TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: The program will correct safety and FOT&E (Sep 98) deficiencies by funding redesign and integration of an upgraded Vapor Cycle System (VCS) for mission avionics; updating the design and fabrication of rewind machines and purchasing "off-the shelf" power carts to provide adequate A/C power for full mission checkout.
The cooling system safety and environmental hazards have been addressed -- The cooling system is a top readiness degrader, experiencing high pressure blowouts causing catastrophic core failure (identified in Fleet Hazard Reports.) There are currently too few rewind machines which are rapidly becoming unsupportable, resulting in the inability to replace the mission antenna at multiple locations when the Long Trailing Wire Antenna is lost. Current power carts do not provide adequate ground power causing system shutdown and failure of critical system components on A/C startup.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Contract award November 01 for ECP for VCS upgrade. NRE and fabrication in FY02-FY03, to incorporate use of lower pressure, more environmentally friendly coolant, followed by manufacturer bench testing for proof of concept. Prototype installation aboard the E-6 A/C and validation/verification in FY04 -- Upgrade complete FY07. November 05 procure 7 "off-the-shelf" Power Carts with 8 additional units procured in FY07. November 05 contract award for NRE to update the design of Rewind Machines, replacing obsolete components with off-the shelf technology, and to procure 3 units -- additional 5 units procured in FY07.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
VCS									1	0.1														
Installation Kits N/R										0.1														
Installation Equipment																								
VCS									1	0.2														
POWER CARTS																								
Installation Equipment N/R										0.3														
Engineering Change Orders																								
Data										0.1														
Training Equipment									1	1.1														
Support Equipment																								
ILS										0.1														
Other Support										0.6														
Interim Contractor Support																								
Installation Cost																								
Total Procurement										**2.5**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6B** MODIFICATION TITLE: E-6 MISSION SUPPORT (OSIP 07-02)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Field Modification**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: Nov-03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Note: Install dollars and quantities include 1 trainer

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Correction Of Safety Deficiencies (OSIP 08-02)

MODELS OF SYSTEMS AFFECTED: E-6B | TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: Correction of safety deficiencies for the protection of personnel and equipment. FAA APA 19-98 requires a smoke detection system in the aircraft lower avionics bays. Additionally, modifications to the Structural Data Recorder System (SDRS) will identify adverse engine material conditions prior to experiencing catastrophic failure. The safety modification also replaces boost pump Kapton wiring, as well as Kapton wiring in other safety critical areas. Safety improvements will be added to the High Power Transmit Set (HPTS), Poly-Vinyl Chloride (PVC) cables will be replaced, and new improved inertia reels and shoulder harnesses will be installed. The Electrical Load Control Unit will be modified using the requirements resulting from two Hazard Reports and an Engineering Investigation, and the ability to transmit will be added to the second Reel Operator's ICS position. The program takes advantage of available and emerging commercial technology for crew/aircraft safety and removes PVC cables.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: ECP to modify existing equipment -- Contract award FY01.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
SDRS																								
SMOKE DETECTOR																								
KAPTON WIRE FUEL PUMP																								
PVC																								
ELCU																								
KAPTON A/C/ WIRE																								
REEL OPS																								
INERTIA REELS																								
Installation Kits N/R										0.1														
Installation Equipment																								
SDRS																								
SMOKE DETECTOR																								
HPTS									2	0.1														
INERTIA REELS																								
Installation Equipment N/R										0.6														
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support										0.2														
Interim Contractor Support																								
Installation Cost									2	0.1														
Total Procurement										**0.9**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E6-B** MODIFICATION TITLE: Correction Of Safety Deficiencies (OSIP 08-02)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Field Modification**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: Mar-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits									2	0.1														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL									**2**	**0.1**														**0.1**

Note: Quantities and cost include one panel trainer

SDRS

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Wire Replacement

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Smoke Detectors

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

PVC Replacement

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

ELCU Upgrade

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Reel Ops ICS

	FY 1999 & Prior	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																				4	4			4	4
Out																				4	4			4	4

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

Fuel Pump Wire

	FY 1999 & Prior	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				5	5	5
Out																			1				5	5	5

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										16
Out										16

HPTS Upgrades

	FY 1999 & Prior	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													2		8	1			1	3	1				
Out													1	1	8	1			1	3	1				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										16
Out										16

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **JUNE 2001**

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

P-1 ITEM NOMENCLATURE
Executive Helicopter Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**254.6**	A	**12.6**	**7.6**	**16.2**							

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 from the year 1998 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 VH-60N Cockpit consists of an upgrade to an all-glass instrumentation, moving map display, color radar with stormscope, ARC-210 with SINCGARS/HAVEQUICK capability, coupled autopilot function, and cordless headsets. The Communication Suite Upgrade modification includes the replacement of the current SATCOM radio in both the VH-3D and VH-60N with a DAMA capable radio, an ECP to install the radio in both aircraft, a replacement data transfer computer and printer for the VH-60N, an ECP to install this equipment in the VH-60N, and the development of software to allow all the new equipment and the HF/ALE to operate. The overall goal of modifications budgeted in FY 2002 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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
07-89	VH-60N Navstar GPS	6.7	0.1	0.1								
25-90	VH-3D Safety, Reliability and Service Life Extension Program (SLEP)	116.2	3.4	0.3								
27-92	VH-3D Navstar GPS	3.6	0.1									
22-93	Executive Helicopter Survivability Program	89.8	7.1	6.5	5.7							
23-93	VH-60N Mid-Life Upgrade	38.3	2.0	0.8								
09-02	VH-60N Cockpit Upgrade				3.0							
14-02	Communication Suite Upgrade				7.5							
	Total	**254.6**	**12.6**	**7.6**	**16.2**							

Note: Totals may not add due to rounding.

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: VH-60N NAVSTAR GPS (OSIP 07-89)

MODELS OF SYSTEMS AFFECTED: VH-60N | 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. Congress has mandated installation of GPS in all military aircraft by the year 2000. 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 and were installed under ECP 3600R2. One Miniaturized Airborne GPS Receiver (MAGR) was provided June 1994. Seven MAGRs were provided FY 1996 through FY 1998 and were installed under ECP 3407. 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 VH-60N fleet achieved Full GPS Operating Capability in August 1997. First MAGR deliveries were in FY 1994. Prototype GPS MAGR installations began in May 1995 and completed in June 1997. The MAGR installation completed DT/OT testing in November 1998 with Initial Operating Capability in May 1999. Full Operating Capability is scheduled for September 2002.

NOTE: Procured 2 III A Receivers that will not be installed.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
3A Receivers	9	0.2																						
MAGR	8	0.5																						
Installation Kits N/R		2.0																						
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.7																						
Training Equipment		*																						
Support Equipment		*																						
ILS		0.1																						
Other Support		2.4																						
Interim Contractor Support																								
Installation Cost	10	0.6	2	0.1	1	0.1	2	0.1																
Total Procurement		**6.6**		**0.1**		**0.1**		**0.1**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **VH-60N** MODIFICATION TITLE: VH-60N NAVSTAR GPS

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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	10	0.6	2	0.1	1	0.1	2	0.1																
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**10**	**0.6**	**2**	**0.1**	**1**	**0.1**	**2**	**0.1**																

Installation Schedule - VH-60N MAGR

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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				1			1	1																
Out	3				2				1			1	1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										8
Out										8

Installation Schedule - 3A Receivers

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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																								
Out	7																								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										7
Out										7

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: VH-3D SAFETY, RELIABILITY AND SERVICE LIFE EXTENSION PROGRAM (SLEP) (OSIP 25-90)

MODELS OF SYSTEMS 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 reached its Executive mission life in FY 1997-2000. 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 2015, 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 include:

Completed ECP's under this OSIP including strakes (part of ECP 5976), ALQ-144 (ECP 5966), IBIS and Overtorque Warning System (ECP 5962) and reliability kits to improve mission availability, reduce maintenance manhours, and cut life-cycle costs. Ongoing ECP's include:

(1) 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 extend the VH-3D service life. Portions of the Phase I kit were installed on the VH-3D SLEP/CNSU Prototype. The remainder will be installed on the VH-3D SLEP/CNSU prototype during an FY 2000 update. Phase II incorporates cockpit sliding windows and will be installed at the O-Level.

(2) 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 were 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 1998.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: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 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. Development and Operational Testing was completed in November 1998. Initial Operating Capability was March 1999. Full Operating Capability is planned by October 2002.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$		$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Reliability Kit	11	0.8																						
ALQ-144 Kit	8	0.2																						
SLEP Kit	22	9.6																						
Comm System Upgrade Kit	12	10.9																						
IBIS Kit	11	0.3																						
Installation Kits N/R		37.6																						
Installation Equipment																								
IBIS	11	0.5																						
FM Executive Radio	17	0.8																						
Mil Aide/Fill Panels		0.6																						
APN-194		0.1																						
IRU's		0.1																						
Strake Support		*																						
RF Switches		0.2																						
Comm System Upgrade	12	6.0																						
OWS Upgrade				0.1																				
Installation Equipment N/R		7.5																						
Engineering Change Orders																								
Data		1.7																						
Training Equipment		0.1																						
Support Equipment		1.9																						
ILS		0.3		0.2																				
Other Support		23.5		1.0		1.1		0.3																
Interim Contractor Support																								
Installation Cost	49	9.5	4	2.7	3	2.3	3	*																
Total Procurement		**112.3**		**4.0**		**3.4**		**0.3**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3D

MODIFICATION TITLE: VH-3D Safety, Reliabilty, and SLEP

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation of IBIS, SLEP Phase I kits, Communications Systems 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 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

DELIVERY DATE: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	49	9.5	4	2.7	3	2.3	3	*																
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**49**	**9.5**	**4**	**2.7**	**3**	**2.3**	**3**	*																

Note: Asterisk indicates amount less than $50K

Installation Schedule - Comm System Upgrade

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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																			
Out	8			1	1			1		1															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										12
Out										12

Installation Schedule - SLEP

	FY 1999 & Prior	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	10			1		1																			
Out	8			1	1			1		1															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										12
Out										12

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: VH-3D NAVSTAR GPS (OSIP 27-92)

MODELS OF SYSTEMS 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. Congress has mandated installation of GPS in all military aircraft by the year 2000. The 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 were procured in FY 1995 through FY 1998 for incorporation in FY 1996 through FY 2001. MAGR is required for the VH-3D to minimize the increase in weight and conserve space for future White House directed requirements.

NOTE: FY-95 buy includes 4 accelerated GPS as interim fix until MAGR kits are installed as part of CNSU. MAGR Prototype kit procured under SPAWAR RDT&E funds.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The first MAGR deliveries were in FY 1994. Prototype MAGR installation began in October 1994 and completed in July 1997 (part of ECP 5976). Development and Operational Testing was completed in November 1998. Initial Operating Capability was in March 1999 with Full Operating Capability scheduled in October 2002.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E	1																							
PROCUREMENT																								
Installation Kits																								
Accelerated GPS Kit	4	0.4																						
MAGR Kit	10	1.0																						
Installation Kits N/R		0.1																						
Installation Equipment																								
Installation Equipment N/R		0.2																						
Engineering Change Orders																								
Data		*																						
Training Equipment		*																						
Support Equipment																								
ILS		*																						
Other Support		1.4																						
Interim Contractor Support																								
Installation Cost	7	0.4	2	0.1	1	0.1																		
Total Procurement		**3.5**		**0.1**		**0.1**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3D

MODIFICATION TITLE: VH-3D NAVSTAR GPS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor during SDLM (turn-key in FY 1996 and prior fiscal years.)**

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 20 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	7	0.4	2	0.1	1	0.1	1																	
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**7**	**0.4**	**2**	**0.1**	**1**	**0.1**	**1**																	

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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			1		1																			
Out	9							1		1															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										11
Out										11

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM (OSIP 22-93)

MODELS OF SYSTEMS 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 were procured for the VH-3D in FY 1995 through FY 1998, and 7 VH-60N production kits were 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. 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. Installation of these systems are being performed as part of ECP 5976 (VH-3D) and ECP 3407 (VH-60N).

(3) Traffic Alert and Collison Avoidance System (TCAS) install kits and IFF (8 VH-60N), included as part of the MUG/CNSU kits in FY 1996 through FY 2002. VH-60N TCAS production kits were procured as part of the MUG/CNSU kits in FY 1996 through FY 1998 and was installed as part of ECP 3407. TCAS/IFF kits for the VH-3D were procured in FY 1998 through FY 2001 and installed under ECP 5981 in FY2000 through FY2004. Mode "S" update will follow as technology matures. ORD OR-315-05-92 and OR-316-05-92 apply.

(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.

(5) 2 Simulators in FY 99 (1 VH-60N & 1 VH-3D)

(6) In FY 01 an FM immunity capability will be procured/installed on the VH-60N and VH-3D to prevent receiving erroneous signals and false position indications for the VOR/ILS system.

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 NAWCAD. The VH-3D and VH-60N survivability prototype installation commenced in October 1994 and completed in July 1997. Development and Operational testing of the APR-39 Missile Detector, AAR-47 Radar Warning Receiver, ALE-47 chaff and flare dispenser and the AVR-2 & AVR-2(A) Laser Detectors installed in the VH aircraft was completed in November 1998. These systems failed OT. Initial Operating Capability for these systems was in March 2000 and Full Operating Capability is scheduled in the first quarter FY 2002. The first installation of TCAS/IFF was in May 1999 for the VH-60N and was in February 2001 for the VH-3D.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
VH-3D Survivability Kit	12	11.9																						
VH-60N Survivability Kit	9	5.5																						
VH-3D TCAS Kit	1	0.1	4	0.6	4	0.6	2	0.3																
VH-60N Auto Ignition Kit	8	1.1																						
Installation Kits N/R		20.4																						
Installation Equipment																								
ALQ-144	19	2.4																						
MUST Radio	3	0.3																						
ALE-47 MLVS		0.1																						
ALE-47	10	0.7																						
VH-3D TCAS	1	0.1	4	0.3	4	0.3	2	0.3																
APX-100 Upgrade							1	*																
FM Immunity VH-3D							11	0.2																
FM Immunity VH-60N							8	0.1																
Installation Equipment N/R		0.0						0.1																
Engineering Change Orders		0.1		0.7				0.1																
Data		3.8						0.4																
Training Equipment		0.5	2	12.6		0.1																		
Support Equipment		1.2						*																
ILS		1.0																						
Other Support		14.0		1.5		3.0		0.9		1.9														
Interim Contractor Support																								
Installation Cost	39	8.2	4	2.6	3	3.1	7	4.1	4	3.8														
Total Procurement		**71.4**		**18.4**		**7.1**		**6.5**		**5.7**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Installation Kits for the ALQ-144 (19) were procured in FY 1990 for the VH-3D under OSIP 25-90. Installation Kits for the VH-60N delivered with the production aircraft.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **VH-3D/VH-60N** MODIFICATION TITLE: EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **ALQ-144 Phase Lock kits will be installed as Drive-In Mod. Survivability kits (AAR-47, APR-39, AVR-2 and ALE-47) will be installed on VH-3D and VH-60N 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: 9 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	39	8.2	4	2.6	3	3.1	7	4.1																
FY 2000 ( ) kits									4	3.8														
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**39**	**8.2**	**4**	**2.6**	**3**	**3.1**	**7**	**4.1**	**4**	**3.8**														

Installation Schedule - VH-3D Survivability

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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																			
Out	8			1	1			1		1															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										12
Out										12

Installation Schedule - VH-60N Survivability

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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				1			1	1																
Out	4				2				1			1	1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										9
Out										9

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **VH-3D**

MODIFICATION TITLE: EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Collision avoidance warning systems will be incorporated during SPAR.**

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 2000: Jun-00 FY 2001: Jun-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Oct-02 FY 2001: Oct-03 FY 2002: FY 2003:

Installation Schedule - VH-3D Survivability

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	2	1	1	2		1		1									
Out								1			1	1	2	1	1	2		1		1					

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										11
Out										11

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: VH-60N Mid-Life Upgrade (OSIP 23-93)

MODELS OF SYSTEMS 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 are performed under ECP 3407 and 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 were 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. Eight production MUG kits were procured in FY 1996 through FY 1998. The MUG kit will consist of:

(a) Aircraft modifications to improve aircraft performance and reliability. Airframe modifications are as follows:

(1) An improved rotor brake system.

(2) New APU components, including 35KVA generators, to improve reliability.

(3) Improved tail landing gear to absorb greater stress and impact landings due to stress from increase operating weight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-recurring engineering (NRE) for the Mid-Life Upgrade began in 1993. Communications System Upgrade software integration, which started in FY 1992, is being developed by NAWC AD Warminster using the NVH-3A Testbed as an integration platform. The Naval AIr Warfar Center Aircraft Division is modifying off-the-shelf components for incorporation into CSU 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. Development and Operational testing of the CSU software was completed in November 1999. First production MUG VH-60N aircraft was inducted in June 1998. Initial Operational Capability occurred in September 1999 and Full Operational Capability is scheduled in August 2002.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Comm System Upgrade/MUG Kit	9	5.9																						
Installation Kits N/R		8.6																						
Installation Equipment																								
Comm System Upgrade	8	3.5																						
FM Radios	10	0.5																						
35KVA Generators			8	0.2																				
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.6		0.3																				
Training Equipment		0.2																						
Support Equipment		1.0																						
ILS		0.7				0.1																		
Other Support		11.8		2.4		1.1		0.3																
Interim Contractor Support																								
Installation Cost	4	1.6	2	1.0	1	0.8	2	0.5																
Total Procurement		**34.4**		**3.9**		**2.0**		**0.8**																

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-60N

MODIFICATION TITLE: VH-60N Mid-Life Upgrade

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation of Communication Systems 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 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	4	1.6	2	1.0	1	0.8	2	0.5																
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**4**	**1.6**	**2**	**1.0**	**1**	**0.8**	**2**	**0.5**																

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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				1			1	1																
Out	4				2				1			1	1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										9
Out										9

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: VH-60N Cockpit Upgrade (OSIP 09-02)

MODELS OF SYSTEMS AFFECTED: VH-60N | TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: In order to meet the requirement of providing safe and timely transportation for the President, Vice President, and other parties as directed by the Director of the White House Military Office (WHMO) in support of the alert and contingency mission requirement of the WHMO Operations plan, the VH-60N aircraft cockpit must be upgraded to provide enhanced communication and navigation capabilities while reducing pilot workload. The cockpit upgrade should be an all-glass instrumentation built around multi-function pilot workload. A moving map display complete with terrain database must be incorporated, while maintaining the current capabilities of TACAN, VOR, ILS, ADF, TCAS, CSFIR, FM Immunity, and Mode S IFF. The navigation system should include laser ring gyros with embedded GPS that has integrity monitoring/IFR certification. A color radar with stormscope should be incorporated. Communication capabilities must be consistent with WHCA (White House Communications Agency) planning and NSA requirements. Three AN/ARC-210 UHF/VHF/FM radios with SINCGARS/HAVEQUICK capability shall be included. Four FM radios, SATCOM, HF with ALE currently on the VH-60N must be maintained. A coupled autopilot function shall be incorporated into the cockpit management system. Cordless headsets shall be incorporated into the cockpit.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Recurring Engineering (NRE) for the cockpit ugrade will begin in FY 2002 with a prototype kit scheduled for FY 2004. Installation of prototype will begin in FY2005 and end in FY 2006. Development and Operational Testing is scheduled for FY 2006. Initial Operating Capability is scheduled for FY 2008 with Full Operating Capability scheduled for FY 2011.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
VH-60N Cockpit Upgrade Kit																								
Installation Kits N/R																								
Installation Equipment																								
Prototype Kit																								
Production Kit																								
ARC-210 Kits (3 per aircraft)																								
Embedded GPS Kit																								
Weather Radar Kit																								
Cordless Headset Kit																								
Moving Map Display																								
Installation Equipment N/R										2.5														
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support										0.5														
Interim Contractor Support																								
Installation Cost																								
Total Procurement										**3.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **VH-60N**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation of Cockpit Upgrade during SPAR.**

ADMINISTRATIVE LEADTIME: _____ Months PRODUCTION LEADTIME: _____ Months

CONTRACT DATES: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

DELIVERY DATE: FY 2000: _____ FY 2001: _____ FY 2002: _____ FY 2003: _____

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Communication Suite Upgrade (OSIP 14-02)

MODELS OF SYSTEMS AFFECTED: VH-60N/VH-3D | TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: JCS Directive MJCS-63-89 states that all access to UHF SATCOM will use demand assigned multiple access (DAMA). The White House Communication Agency (WHCA) has directed that all White House Military Organization (WHMO) elements be connected and have the ability to operate in the DAMA mode by the year 2005. WHCA has also directed that all WHMO elements have the ability to operate in the High Frequency/Automatic Link Establishment (HF/ALE) mode by the year 2007. Additionally, the WHMO directed the upgrade to the data transfer computer and printer on board the VH-60N which is required to transmit, receive, and print secure data files via the SATCOM and HF radios. Satisfaction of the DAMA SATCOM requirement will require the incorporation of 2 DAMA capable radios in each aircraft to satisfy the need for full duplex communication. OFP software will be modified by NAWC-AD to allow the new system to work in the aircraft. An install kit wil be built to house the radio and equipment and then installed in the aircraft. Satisfaction of the Data Transfer Computer/Printer requirement will require the procurement of a compatible, TEMPEST certified data transfer computer and printer. OFP software will be modified by NAWC-AD to allow the new equipment to operate in the aircraft. This is to be an operational level install. To satisfy the HF/ALE requirement will require a software modification to the OFP to enable the current HF radio to utilize this function. OFP software will be modified by NAWC-AD.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: . The Acquisition Strategy has not been approved. DAMA SATCOM upgrade will be performed between FY-2002 through FY-2006. Installations are performed in conjunction with scheduled depot maintenance. VAL/VER will be performed on the delivery of the first production VH-3D and VH-60N. This is planned for FY-2003. HF/ALE modification will be performed between FY-2005 through FY-2007 with a Val/Ver scheduled for FY-2007. The Data Transfer capability modification will be performed between FY-2003 through FY-2005 with a Val/Ver in FY-2005. Performance testing and EMC/EMI testing will be performed by NAWC-AD. Val/Ver will be performed by HMX-1 to ensure interoperability with all WHMO elements.

FINANCIAL PLAN: (TOA, $ in Millions)

	FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																
PROCUREMENT																
Installation Kits																
VH-3D SATCOM	4	0.6														
VH-60 SATCOM	3	0.5														
VH-60N DTC/P																
Installation Kits N/R		5.2														
Installation Equipment	14	0.7														
Installation Equipment N/R		0.2														
Engineering Change Orders																
Data																
Training Equipment																
Support Equipment																
ILS																
Other Support		0.4														
Interim Contractor Support																
Installation Cost																
Total Procurement		**7.5**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **VH-60N/VH-3D**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation of Cockpit Upgrade during SPAR**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2002: JAN 02 FY 2003: FY 2004:

DELIVERY DATE: FY 2002: OCT 02 FY 2003: FY 2004:

($ in Millions)

Cost:	FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																
FY 2000 ( ) kits																
FY 2001 ( ) kits																
FY 2002 ( ) kits																
FY 2003 ( ) kits																
FY 2004 ( ) kits																
FY 2005 ( ) kits																
FY 2006 ( ) kits																
FY 2007 ( ) kits																
To Complete ( ) kits																
TOTAL																

Note: VH-60N Data Transfer Computer/Printer = "O" Level Install (Not included above)

Installation Schedule

	FY 1999	FY 2000				FY 2003				FY 2004				FY 2005			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																	
Out																	

	FY 2006				
	1	2	3	4	TOTAL
In					
Out					

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: JUNE 2001

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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY												
COST (In Millions)	58.3		34.9	1.9	3.1							

The Special Projects program modifies and/or replaces obsolete intelligence collection equipment as required in (4) P-3 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. There are 4 aircraft in the Special Mission inventory. They have an average service life of 29.5 years and without replacement the first aircraft will reach end of service in 2001. The specific modifications budgeted and programmed are:

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
18-97	P-3 Special Project Aircraft	41.7	27.6	1.7	3.1							
19-97	P-3 Intelligence Sensors/Systems	16.6	7.3	0.2								
TOTAL		58.3	34.9	1.9	3.1							

Note: Totals may not add due to rounding

CLASSIFICATION:

DD Form 2454, JUN 86

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. Replacement of two (2) P-3 Special Project aircraft that reach 100% FLE (fatigue life expenditure) in FY01.
   This effort includes upgrading two (2) existing aircraft to the same configuration and operational capability as the replacement P-3 Special Project aircraft.
   The increased capability is classified.
2. Procurement of common Navy systems for increased capability, reduced operator workload and common logistics.
3. Update of radio frequency distribution hardware for selected sensors.
4. 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):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
P-3 System A (Mission Unique)	4	.5																						
P-3 System B (Mission Unique)																								
LESPA	4	.9																						
Replacement Aircraft	4	3.3		9.7																				
Installation Kits N/R		7.2																						
Installation Equipment		4.4		2.9				.1		1.0														
Installation Equipment N/R		4.8				.5																		
Engineering Change Orders																								
Data						.1				.3														
Training Equipment		.2																						
Support Equipment																								
ILS		.7				.2																		
Other Support		5.0		2.1		3.0		1.7		1.8														
Interim Contractor Support																								
Installation Cost					4	23.8																		
TOTAL PROCUREMENT	12	27.0		14.6		27.6		1.7		3.1														

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

* Installation of FY01-02 Mission Unique Installation Equipment and LESPA to be accomplished at field (O) level.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3B/C

MODIFICATION TITLE: P-3 Special Project Aircraft (OSIP 18-97)
Replacement Aircraft / Block Mod

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Drive In.

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (4) kits					4	23.8																		
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
FY 2004 () kits																								
FY 2005 () kits																								
FY 2006 () kits																								
FY 2007 () kits																								
To Complete () kits																								
TOTAL					4	23.8																		

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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		3																				
Out					1				1				1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

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 contained in OSIP 18-97.
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):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	4	.7																						
Installation Kits N/R																								
Installation Equipment																								
Mission Unique Equipment		7.7		6.9		7.0																		
Installation Equipment N/R		.2																						
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support		.5		.6		.3		.2																
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT	4	9.1		7.5		7.3		.2																

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K

* Installation of FY98 Mission Unique Installation Kits to be accomplished under OSIP 18-97.

* Installation of FY97-00 Mission Unique Installation Equipment to be accomplished at field (O) level.

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **June 2001**

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

P-1 ITEM NOMENCLATURE: **T-45 Series Modification**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**45.7**	A	**10.2**	**9.0**	**12.8**							

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 2002 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 designed service life of the aircraft is 14,400 hours with the average remaining service life of inventory aircraft estimated at 11,896 hours.

The specific modifications budgeted and programmed are:

(TOA, $ in Thousands)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
08-95	T45TS Correction to Deficiencies	39.0	7.5	6.3	5.4							
16-96	T45TS Digital Cockpit	3.8										
04-99	T45TS NACES P3I	2.8	2.7	2.7	0.0							
11-02	Improvement Directional Control				7.4							
03-03	Engine Surge											
-04	T-45TS GPS											
	Total	**45.7**	**10.2**	**9.0**	**12.8**							

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

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: T45TS Correction to Deficiencies (OSIP 8-95)

MODELS OF SYSTEMS AFFECTED: T-45 Training System (T45TS) | TYPE MODIFICATION: Safety, Reliability, Increased Service Life, Imroved Mission Capabilities

DESCRIPTION/JUSTIFICATION:

Ejection Seat Handle MB-9155
Modification will standarize ejection seat firing handle to enhance aircrew safety. Incoporation will lower the seat bucket firing handle assembly to eliminate interference with flight controls. Installation of this ECP is in response to a F-18 mishap report that documented a safety deficiency and proposed recommendations relating to incidents of inadvertent ejection.

Uncommanded Gear Extension: MDA-T45TS-TBDs
Modification will increase travel of the landing gear control interconnect cable, increase cable friction, and change the gear selector valve actuation signal to only when the handle is in the full up or full down position. Installation of this ECP is in response to a T45TS Engineering Investigation that documented a deficiency and proposed recommendations relating to incidents of uncommanded landing gear extensions.

Ground Training Systems: MDA-T45TS-TBDs
Updates to the T-45 aircraft simulator to match evolving aircraft flight characteristics and software and academics enhancements to improve training capabilities. The following Ground Trainer Systems ECP's are included in the controls: Flap Actuation Simulators, Touch and Go Engine Surges, current and future Simulator Upgrades.

Structural ECPs
Modifications will incorporate changes to improve structural details to increase aircraft service life beyond 14,400 flight hours, per initial design specifications, to a projected 21,000 flight hours. During FSD testing of the T45 aircraft it was determined that incorporation of redesigned components applicable to the critical load paths will significantly increase the service life of the aircraft. This structural correction OSIP effects several structural components to include: Wing Dolly, SS 02 Monitor Bracket, Horizontal Stabilators, Frame 24 Crossbeams Lugs, Wing Leading Edge Redesign, Frame 29 Lower Flange, Uplock Beam Forward Attach, Slat Track Rib 5 Downstop Bolt, Frame 28/32 Boundary/Vert Fin, Inlet Close-Out Fuel, Airframe Engine Mount, Frame 21 Structure, MLG Bay Tilted & Fasteners, Longitudial Systems Viscous, Frame 20 Structures, Frame 12 Vertical Splice, NLF Trunnion Beam, Slat Actuator Fitting Angle, Structure Life Improvement, Speed Brake Upgrade, Engine Mount Link Option, Stabilizer Back-Up Structures, Fuselage/Frame 10 Door, and Fin Bracket Lever Box Assembly.

Avionics
Software modifications to the T45TS will update the Display unit, heads Up Display, and Global Positioning System and Inertial Navigation Assembly to enhance effectiveness of pilot training. The Air Data Recorder improvements will increase available memory and allow monitoring of additional aircraft characteristics which will allow improved component tracking and increase service life. The following ECP's are part of the Avionics package of the aircraft and include: Avionics Stress Life Tracking, Air Data Recorder Upgrade (current and future), Gina Updates, C/P-21 Software Updates, and GPS Upgrades.

Engines
Modifications will increase engine service life and correct safety related issues. These modifications include High Pressure Fuel Pump, Front Combustion Liner, High Pressure Compressor Ladder Assembly, Low Pressure Nozzle Guide Vanes, High pressure Nozzle Guide Vanes and a modification to address engine surge/compressor stall. Modification will increase the overhaul interval from 1000 starts to 2000 starts. This also addresses a T45TS Engineering Investigation that documented a deficiency with the combustor liner and oil galley. The Engine ECP's include the Dual Boost Pump, Low Pressure Nozzle Guide Vanes, High Pressure Nozzle Guide Vanes, HP Fuel Pump, Front Combustion Liners, Gas Turbine Starters, Engine Rising Idle, Engine Surges, and the Engine Ladder Assembly.

T45TS Correction to Deficiencies (OSIP 08-95)

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Ejection Seat Handle MB-9155					112	0.5																		
Uncommanded Gear Extension	1	0.1	34	0.5																				
Ground Training Systems TBD's	24	1.2		*	8	0.9	8	0.8	9	0.8														
Structural ECP's	533	13.1	127	1.4	56	0.9	41	1.3	41	0.4														
Avionics	52	0.5	100	0.4	25	0.5	95	1.3	25	0.4														
Engines	437	5.4		*	50	0.3		*	90	*														
Installation Kits N/R		1.2																						
Installation Equipment																								
Ejection Seat Handle MB-9155		0.2																						
Uncommanded Gear Extension				*		*		*																
Ground Training Systems TBD's		0.0				*		*		*														
Structural ECP's		0.2		*		0.1		*		0.1														
Avionics		0.0		*		*		*		*														
Engines		0.2																						
Installation Equipment N/R		0.2																						
Engineering Change Orders																								
Data		0.3		0.1		0.2		0.1		0.2														
Training Equipment		1.6		0.3		1.0		0.1		0.2														
Support Equipment		0.2		0.1		0.5		0.1		0.6														
ILS																								
Other Support		0.3		0.6		*		*		*														
Interim Contractor Support																								
Installation Cost	951	8.6	251	2.2	301	2.6	150	2.6	215	2.7														
TOTAL PROCUREMENT	**1,047**	**33.4**	**261**	**5.6**	**251**	**7.5**	**144**	**6.3**	**165**	**5.4**														

Notes:
1. Totals may not add due to rounding.
2. *indicates amounts less than 51K

Exhibit P-3a

MODELS OF SYSTEM AFFECTD: **T45TS** MODIFICATION TITLE: T45TS Correction to Deficiencies (OSIP 08-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **"I" and "D" Level Installation: Contractor Field Modification Team-Separate Contract**

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: N/A FY 2003: N/A

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits	951	8.6	251	2.2	106																			
FY 2000 ( ) kits					195	2.6	56																	
FY 2001 ( ) kits							94	2.6	50															
FY 2002 ( ) kits									165	2.7														
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**951**	**8.6**	**251**	**2.2**	**301**	**2.6**	**150**	**2.6**	**215**	**2.7**														

Installation Schedule

	FY 1999 & Prior	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	1202	75	75	75	76	37	37	37	39	53	54	54	54												
Out	1202	75	75	75	76	37	37	37	39	53	54	54	54												

	FY 2006				FY 2007				To	TOTAL	
	1	2	3	4	1	2	3	4	Complete		
In											
Out											

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 SYSTEMS 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. A total of 119 aircraft (2 seats per A/C) and 6 trainers will be retrofitted. 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. ECP approval 19 May 1999. Contract awarded August 1999.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			82	2.2	82	2.1	74	2.1															238	6.4
Installation Kits N/R				0.3		0.2		0.2																0.7
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.1																				0.1
Training Equipment			5	0.1			1	*															6	0.2
Support Equipment						*		*																*
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost			18	0.1	87	0.4	129	0.4	10	*													244	0.9
TOTAL PROCUREMENT			**87**	**2.8**	**82**	**2.7**	**75**	**2.7**		*													**244**	**8.2**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

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: 5 Months

CONTRACT DATES: FY 2000: Apr-00 FY 2001: Nov-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: Sep-00 FY 2001: Apr-01 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY (87) kits			**18**	**0.1**	**69**																		**87**	**0.1**
FY 2000 (82) kits					**18**	**0.4**	**64**																**82**	**0.4**
FY 2001 (75) kits							**65**	**0.4**	**10**	*													**75**	**0.4**
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**18**	**0.1**	**87**	**0.4**	**129**	**0.4**	**10**	*													**244**	**0.9**

Installation Schedule

	FY 1999 & Prior	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	18	20	23	24	20	32	32	32	33	10															
Out		18	20	23	24	20	32	32	32	33	10														

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										244
Out										244

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: T45TS IMPROVED DIRECTIONAL CONTROL (OSIP 11-02)

MODELS OF SYSTEMS AFFECTED: T-45 TRAINING SYSTEM (T45TS) | TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

Directional Control: Problems with the T-45 have resulted in six Class A mishaps. The changes associated with this modification will significantly improve the Ground Handling characteristics of the Aircraft, thus eliminating the hazard.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Non-Recurring Engineering Efforts associated with this modification will be conducted and completed during FY01. Kit deliveries will commence in FY02 with installations beginning in FY03.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
PROCUREMENT																								
Installation Kits									32	7.2														
Installation Kits N/R																								
Installation Equipment										0.2														
Installation Equipment N/R										0.1														
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost																								
Total Procurement									**32**	**7.4**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-45 TRAINING SYSTEM (T45TS) MODIFICATION TITLE: T45TS IMPROVED DIRECTIONAL CONTROL (OSIP 11-02)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **TBD**

ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2000: N/A FY 2001: N/A FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: N/A FY 2001: N/A FY 2002: May-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out	16	16	16	15						63

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**242.3**	A	16.8	16.9	13.1							

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 finances the 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-2002 is to continue modification efforts previously initiated on the engines for the F/A-18, F-14, AV-8B, H-53, H-46, S-3, H-60, E/A6-B, A-6, A-4, H-3, C-2, E-2 , H-2, AH-1, C-130, T-2, T-38, F-5, T-45 and P-3 aircraft. The following depicts the current funding levels budgeted and programed for power plant changes:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
N/A	Power Plant Changes	242.3	16.8	16.9	13.1							
	Total	**242.3**	**16.8**	**16.9**	**13.1**							

Note: Totals may not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**
36770

MODIFICATION TITLE: Power Plant Changes (OSIP: N/A

MODELS OF SYSTEM AFFECTED: All Active In-Service Navy and Marine Corps Aircraf

TYPE MODIFICATION: Approx. 80% Safety, 20% 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 avoida in excess of $50M annually.

ECP-T086 - F110-GE-400 Vented IDG Ejector Valve changes the assembly solenoid to vented solenoid to prevent the entrapment of moisture and contaminants within the solenoid assembly, which reduces the corrosion build-up.
ECP T130 - Master Chip Detector Relocation moves the MCD to an area which is easily accessible through the daily inspection doors. The redesigned MCD has an improved capture efficiency, and is less prone to leakage.
ECP T144 - LPT Stage 1 Shroud Life Improvement to provide a shroud configuration that will consistently achieve a 4000 TAC inspection interval. The assembly will eliminate ingestion of flow path air and add a disassembly feature to the shrouds.
ECP T139 - Fuel Boost Pump Durability Improvement introduces a new Fuel Boost Pump with an increased orifice diameter. This change will prevent the oil supply source from being lost due to contamination in the oil system.
ECP T151 - Fuel Nozzle Moeller Fittings Introduction to replace the safety wire and to prevent fuel tube failures resulting from chafing of the core fuel manifold pig tail by the termination loop of the safety wire
EMSP Improvements to upgrade the EMS from P03/P04/P06 to P09
Pyrometer Improvements introduce a new pyrometer and new kit to replace the existing pyrometers to reduce maintenance requirements.
ECP T158 Front Frame Strut Damper Migration Repair to reduce the potential for damper migration by reworking the product and field configurations .
T2.5 Sensor Brazejoint Improvement develops a timely and economical field solution that has minimal customer impact/inconvenience and eliminates the need to replace the 1-2 High Pressure Compressor.
CMC Flameholder develops a flameholder design that is more durable then the current HS188 component using ceramic materials.
ECP T155 - Proposes a new actuator link pin, an improved centrifugal servo (Hydroclone) filter, and a unitized Variable Stage Vane spring assembly be introduced as improved to the Main Engine Control (MEC)

F402 Engine A/V-8B:

ECP 3606 - INCO 718 Bolt introduces Inconel 718 material bolts in place of Jethete material bolts in four engine locations with superior material qualities.
ECP 3709C2 IGVC Redesigned bushings introduces a set of modified pump floating bearing bushes embodying a longer locating diameter and reduced 'O' seal diameter to reduce thrust faces tilting away from the gear teeth side face.
ECP 3763 FMU Mod - Safety modification package to the Fuel Metering Unit which will supply a high-pressure fuel supply to the hydro-mechanical backup unit.
ECP 3784 Engine Wiring Harness- Encapsulation of main engine harness to prevent foreign material penetration (sand, dust, moisture) into the harness and resultant loss of signal quality
ECP 3782 ARMCO Liner/LPC Rear Lip- Fan case liner moves forward and requires a more robust attachment scheme. The LPC fan case rear lip cracks and can fall into the gas path. The redesign fixes the design deficiency.
ECP 3683 ECS &EMS P3 Pipe- Provides revisions to the environmental control system and engine monitoring system P3 signal pipe and associated clippings to accommodate earlier redesign of the P3 transducer mount.
ECP 3722 Bleed Pipe Extension- Increases sleeve length between stage 3 bleed pipe and heat exchanger to accommodate installation difficulties.
ECP 3729 Revised Attachment JPT- Provides revisions to JPT harness with revised attachment nuts to alleviate clearance problems.
ECP 3733 Curvic Coupling Corrosion - Introduces corrosion protection to the curvic coupling to eliminate corrosion attack and resultant reduction in component life.
ECP 3739 NGV Locating Ring - Introduces an improved outer high pressure stage 1 turbine nozzle guide vane locating ring to alleviate assembly problems.
ECP 3744 #2 BRG Seal Housing - Introduces an elongated bore shape to the #2 bearing to correct a design deficiency.
ECP 3748 #1 BRG Nut Channel - Revised material and plating the number 1 bearing to alleviate design deficiency.
ECP 3771 HP Rotor Nut Revision - Revised high pressure rotor center front nut and cupwasher to improve structural weakness.
ECP 3787 DECU Hybrid Circuits - Revised T1 thermocouple hybrid circuits to the DECU for improved data accuracy.
ECP 3794 FMU Shielded Bearings- Revised fuel metering unit shielded bearings to the stepper motor assembly to alleviate design deficiency.
ECP 3797 FMU Bonded Shells- Revised bonded electrical connector shells to the fuel metering unit to improve durability.
ECP 3798 PLAU Bonded Shells - Revised bonded electrical connector shells to the power lever angle unit to improve durability.
ECP 3800 P3 Transducer New Mount - New vibration isolation mount for the P3 transducer to prevent premature failures of the transducer.
ECP 3806 Hot Nozzle Cracking - Redesign of the hot nozzles to minimize or prevent the current problem of cracking and part attrition

J52 Engine E/A 6/B, A-6, A-4:
ECP 95XA013 Redesigned Pressure Ratio and Compressor Stator Controls reduce the susceptibility of contamination that can cause friction between the shank and the reset diaphrag
ECP CP93XA069 Thermal Barrier Coated (TBC) 1st Stage Turbine Stator Vane Assembly will increase the durability of the vanes. This change is also required for a 1500 hr engine bu

TF34 Engine S-3:

ECP TF34-JAX-001 Reconcile discrepancies contained in ECP 23EG5504, Variable Geometry System Improvements, ECP 23EG5512 Compressor Arm Retention, and ECP 23EG5529 for Improved Compressor Abradable Coating and combine in the correct sequence the improvements into one ECP. The combined approach will streamline incorporation and reduce t maintenance actions including replacement of separate right and left VG linkages with a single improved linkage; installation of VG linkage retaining hardware; and incorporation of an improved stator coat Incorporation of these modifications will improve readiness.

T64 Engine H-53:

ECP 64E-55 Improved Single Ring Carbon Seals at the Nos 2,3, and 4 bearing positions with more durable single-ring seals.

T700 Engine H-2, H-60, AH-1

ECP 136R2 Nr 2 Bearing Housing and Damper Improvement provides an Output Drive Assembly (ODA) with improved housing, damper and spline lubrication for the No two bearing housing.
ECP 122 Stage 3 Rotor Ring adds a stage three containment ring to the power turbine module on all T700-GE-401C and T700-GE-701C engines to compensate for the increase in temperature when these engines operate in aircraft equipped with infrared suppressors.
ECP 123 Stage 1 Blade Tip Corrosion Resistance will incorporate an improved tip material to preclude deterioration.
ECP 124 Exhaust Frame Drain Hole replaces oil rings and drill drain holes to prevent oil build up in the 730 strut of T-700 exhaust.
ECP 125 HydroMechanical Unit (HMU) Improvements prevent internal contamination in the Woodward Governor HMU
ECP 126 HMU O Ring - Replaces the Noton O-Ring in the Hamilton Standard HMU with a Fluorocarbon based O-Ring to prevent fuel leakages.

T56 Engine P-3, C-2, E-2, C-130:

ECP 2112R1 15 Micron Oil Filter replaces the 104 micron oil filter in both the power section and reduction gear box assembly pressure oil system with 15 micron oil filters on T56 engin

F405 Engine T-45
ECP TS-234 Rising Idle Modification
ECP TS-0235 Module 3 Bolt Redeisgn
ECP MGSE 1389 Transportaion stands
ECP TS-00136 Low Pressure Nozzle Guide Vanes
ECP TS-00169 Forward Combustion Liner
ECP TS-00211 Upgrades to Test Cells

F404 F/A-18C/D
ECP E-91 Incorporation of Improved MFC Radio Boost Piston
ECP E78 Main Fuel Control Selector Valve
ECP E79 Power Level Control Improvemen
ECP A27 VEN Position Transmitter Improvemen
ECP C67 MFC Manifold Redesign
ECP E70 T1 Caution Capacitor Improvemen

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

All engineering effort will be accomplished prior to procurement of kits

Exhibit P-3a

36770

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION: **UNCLASSIFIED**

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		196		40.800		36.067		38.707		30.624		30.301		37.764		28.263		31.816		32.343				
PROCUREMENT																								
Installation Kits																								
F110 Engine (F-14 B/D)																								
ECP T093 - Modification'/installation					62	0.224																	62	0.224
ECP T113 - Turbine Frame Forwd Fairg Redesign	151	1.523	80	0.789	60	0.412	46	0.492															337	3.216
ECP - T115 - Modificatiuon/installation for removal and preperation of 56 EMSP circuit cards					56	0.045																	56	0.045
ECP T057 - HPT Shroud Cooling Mod	329	0.236																					329	0.236
ECP T109 - Turbine Frame Oil Tube Brackt & Dmp	151	0.151	80	0.065	80	0.067	26	0.030															337	0.313
ECP T119 - Exhaust Nozzle Hinge Joint Corrison	138		62	0.450	60	0.435	20	0.145															280	1.030
ECP T146 - Combuster Joint Wear	130	0.026	70	0.018	51	0.014																	251	0.058
ECP T121 - Nr.2 Bearing Seal Drain Tube Redesgn	226	0.117	111	0.060																			337	0.177
ECP T086 - Vented IDG Ejector Valve	78	0.101	78	0.106	72	0.102	64	0.094	45	0.071													337	0.474
ECP T130 - Master Chip Detector Relocation					30	0.189	60	0.378	60	0.385	60	0.393	60	0.404									270	1.749
ECP T135 - W6 Cable Chafing Improvement			200	0.015	115	0.011																	315	0.026
ECP T142 - MEC RMA Throttle Improvement			200	0.054	137	0.037																	337	0.091
ECP T144 - LPT Stg 1 Shroud Improvement					60	0.240	60	0.245	60	0.251	60	0.256	30	0.131									270	1.123
ECP T139 - Fuel Boost Pump Mod					60	0.120	60	0.124	60	0.129	60	0.132	30	0.070									270	0.575
ECP T151 - Fuel Nozzle Moeller Fittings					70	0.154	70	0.161	70	0.168	60	0.147											270	0.630
EMSP IMPROVEMENTS					45	0.112	60	0.150	45	0.120													150	0.382
1DG- AIR/OIL HEAT EXCHANGER					106	0.217	165	0.350															271	0.567
PYROMETER IMPROVEMENTS					30	0.075	60	0.150	60	0.156	60	0.163	60	0.172									270	0.716
ECP-T158- FRONT FRAME DMPER MIGRA R			60	0.082	60	0.084	60	0.090	60	0.090	30	0.048											270	0.394
T 2.5 SENSOR BRAZEJOINT IMPROVEMENT			60	0.012	120	0.024	120	0.024	120	0.024	60	0.012											480	0.096
CMC FLAMEHOLDER			40	0.169	40	0.160	80	0.325	80	0.332	30	0.126											270	1.112
T155 MEC IMPROVEMENT							60	0.060	63	0.063	30	0.030											153	0.153
F402 Engine (A/V-8B)																								
ECP 3641 - Improved Bearing Bolting	197	0.044	35	0.009	72	0.018	10	0.004															314	0.075
ECP 3509 - Improved P3 Limiter Capsule	243	0.733	14	0.041																			257	0.774
ECP 3525 - AGB Drive Shaft	202	1.619	12	0.098																			214	1.717
ECP 3586 - Incipient Blockage Indicator on FMU	106	0.374	58	0.207			53	0.184															217	0.765
ECP 3606 - INCO 718 BOLT							40	0.017	31	0.011	40	0.015											111	0.043
ECP 3725 - Improved DECU Mounting Rails	230	0.574	103	0.287																			333	0.861
ECP 3709C2 - IGVC Redesigned Bushings	25	0.078	35	0.109			48	0.145	73	0.190	54	0.014	25	0.078									260	0.614
ECP 3699 Plau Rear Bearing					96	0.365	45	0.070															141	0.435
ECP 3763 FMU Mod					48	0.438	21	0.282	10	0.231	17	0.371	28	0.684	31	0.704							155	2.710

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION: **UNCLASSIFIED**

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
ECP 3769 - DECU SOFTWARE	0	0.074																						0.074
ECP 3757 - IGVC VACTRIC TRANSMITTER	40	0.050																					40	0.050
ECP F402-002 ENGINE WIRING HARNESS IMP	142	0.265	70	0.142																			212	0.407
ECP F402 HP Compressor Coating													147	0.735	150	0.750	300	1.623	503	2.653	800	4.000	1,900	9.761
ECP 3784 Engine Wiring harness					127	0.531	18	0.199	20	0.133	18	0.155	18	0.205									201	1.223
ECP 3782 ARMCO Liner/LPC Rear Lip							50	0.006	39	0.004	50	0.015	50	0.005									189	0.030
ECP 3683 FCS & EMS P3 Pipe							50	0.038	39	0.025	50	0.017	50	0.040									189	0.120
ECP 3722 Bleed Pipe Extension							50	0.024	39	0.016	50	0.025	50	0.025									189	0.090
ECP 3729 Revised Attachment JPT							50	0.047	39	0.033	50	0.050	50	0.050									189	0.180
ECP 3733 Curvic Coupling Corrosion							50	0.192	39	0.129	50	0.150	50	0.200					50	0.200			239	0.871
ECP 3739 NGV Locating Ring							50	0.192	39	0.129	50	0.155	50	0.200					50	0.200			239	0.876
ECP 3744 #2 BRG Seal Housing							50	0.049	39	0.033	50	0.050	50	0.050									189	0.182
ECP 3748 #1 BRG Nut Changes							50	0.049	39	0.033	50	0.050	50	0.050									189	0.182
ECP 3771 HP Rotor Nut Revison							50	0.024	39	0.016	50	0.020	50	0.025									189	0.085
ECP 3755 - REVISED LPC STG 2 VANE STOPS	62	0.068	106	0.092	48	0.041																	216	0.201
ECP 3787 DECU Hybrid Circuits							50	0.240	39	0.162	50	0.225	50	0.250					550	0.250			739	1.127
ECP 3794 FMU Shielded Bearings							50	0.145	39	0.097	50	0.134	50	0.150									189	0.526
ECP 3797 FMU Bonded Shells							50	0.049	39	0.033	50	0.075	50	0.050									189	0.207
ECP 3798 PLAU Bonded Shells					48	0.140	38	0.049	27	0.033	38	0.045	38	0.050									189	0.317
ECP 3800 Transducer							50	0.240	39	0.162	50	0.230	50	0.250									189	0.882
ECP 3806 Hot Nozzle Cracking							29	0.277	42	0.350	72	0.600	110	1.100	160	1.600	160	1.800	160	1.819			733	7.546
ECP 3703 METCO 12 FNS coating on spool valve			29	0.108																				
F404 Engine (F/A-18 C/D)																								
ECP C63 - Steel Compressor Case Modification	1015	14.801	140	2.105																			1,155	16.906
ECP E32 - Main Fuel Control Block Change	1674	8.654	84	0.353																			1,758	9.007
ECP A23 - VEN Acuator Seal	3589	1.165	650	0.221	646	0.188																	4,885	1.574
ECP E41 - ECU Tan-Tan Capacitor	767	5.778	160	1.160	125	1.000																	1,052	7.938
ECP F12 - Improved Life Stage 1 Fan Disk	1103	0.294	300	0.082																			1,403	0.376
ECP E65 - Alternator Connector Redesign	1100	2.371	250	0.585																			1,350	2.956
ECP E78 - Main Fuel Control Selector Valve	881	0.153	528	0.092	528	0.312	528	0.328					142	0.093									2,607	0.978
ECP E79 - Power Lever Control Improvement	176	0.007	300	0.013	400	0.022	400	0.026															1,276	0.068
ECP L15 - Nr. 4 Bearing Rotating Air Seal Damper			400	0.080																			400	0.080
ECP A27 - VEN Position Transmitter Improvement	600	0.469	300	0.258	300	0.205	300	0.215					32	0.025	32	0.025							1,564	1.197
ECP C67 - MFC Manifold Redesign			84	0.226	540	0.713	540	0.748					36	0.056	36	0.056							1,236	1.799
ECP E70 - T1 Caution Capacitor Improvement	655	1.012	320	0.512	340	0.500	340	0.524					30	0.530	30	0.053							1,715	3.131
ECP E63 - Bay Fire Ignition Source Elimination	1261	2.374	500	1.163	318	0.731																	2,079	4.268
ECP E91 - Improved MFC Ratio Boost Pston					200	0.425	500	0.629					69	0.080	69	0.080							838	1.214
ECP F15 - Front Frame Transducer Bracket							1100	0.551					25	0.011	25	0.011							1,150	0.573
ECP - Slotted Flameholder							200	0.500															200	0.500

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION: **UNCLASSIFIED**

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
J52 Engine (E/A-6B, A-6, A-4)																								
ECP 92XA158C1 Difusion bonded IGVs	370	10.363																					370	10.363
ECP 95XA013 - Redesigned Pressure Ratio & Compressor Stator Controls	26	0.051	40	0.091	48	0.107	38	0.092	38	0.101	38	0.106	38	0.110	38	0.124	38	0.124	38	0.124			380	1.030
ECP CP93XA069 Thermal Barrier Coated 1st Stage Turbine Stator Vanes							40	1.624	37	1.252	37	1.550	37	1.550	37	1.550							188	7.526
ECP TBD Various																	74	3.099	74	3.099	100	4.189	248	10.387
T58 Engine (H-3, H-46)																								
ECP 58T-18 Procurement of OF 225 Kits/basiccs					225	0.100																	225	0.100
ECP 58T-15 - Improved Nr.3 Bearing O-Ring	730	3.374																					730	3.374
ECP 58A-13R1 Training					165	0.075																	165	0.075
ECP 58N-17 T5 Thermocouple Harnesses	783	3.796	85	0.389																			868	4.185
ECP 58T-16C2 - NR. 3 SUMP IMPROVEMENT	689	0.636																					689	0.636
ECP 58F-27 - IMPROVED FUEL MANIFOLD KIT	354	0.199	191	0.115	191	0.115																	736	0.429
ECP 58N-18R1 - IMPROV RELIABILITY T5 HARN	434	1.175	202	0.526	210	0.550	102	0.270															948	2.521
TF34 Engine (S-3)																								
ECP TF34 - JAX 001 - ENGINE COMPRESSOR S	194	0.127					52	0.110	64	0.136	64	0.136	24	0.051									398	0.560
T64 Engine (H-53)																								
ECP 64E-55 - Impr. Single Ring Carbon Seals	240	0.493	60	0.099	60	0.109	60	0.120	60	0.130	60	0.141	44	0.106									584	1.198
ECP 64T-20 MID SUMP DRAIN	481	1.013	273	0.559	274	0.684																	1,028	2.256
ECP T64 Improved Main Fuel Control													160	0.480	200	0.600	400	1.250	238	1.314			998	3.644
T700 Engine (H-2, H-60, AH-1)																								
ECP 700117C1 Interstage Seal Improvement	550	0.866																					550	0.866
ECP - 70012 TD Modification Kits					712	0.313																	712	0.313
ECP 136R2 - Nr.2 Bearing Housing & Damper Improvement							150	1.200	200	1.620	200	1.660	200	1.700	200	1.740	200	1.780	148	1.317			1,298	11.017
ECP 122 - Stage 3 Rotor Ring					255	0.510	209	0.439	209	0.439	209	0.460	209	0.460	207	0.476							1,298	2.784

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION: **UNCLASSIFIED**

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
ECP 123 - Stage 1 Blade Tip Corrosion Resistance					40	0.600	50	0.755	136	2.077	169	2.603	189	2.911	190	2.945							774	11.891
ECP 124 - Exhaust Frame Drain Hole					200	0.200	200	0.200	200	0.200	200	0.220	200	0.220	200	0.220	98	0.108					1,298	1.368
ECP 125 - HydroMechanical Unit (HMU) Improvements					52	0.208	52	0.213	95	0.399	104	0.447	108	0.497	108	0.497							519	2.261
ECP 126 - HMU O-Ring							85	0.340	153	0.627	153	0.627	176	0.792	176	0.792	36	0.180					779	3.358
ECP T700 Turbine Blade Redesign													57	0.400	443	3.195	519	3.746	474	3.418	600	4.211	2,093	14.970
ECP T700 TBD VARIOUS																	255	1.788	255	1.788	510	3.580	1,020	7.156
TF-30 Engine(F-14A)																								
ECP 93XA008 - Automatic Restart Switch	614	0.173	169	0.047																			783	0.220
ECP 95XA039 - LDCV Assembly	356	0.066	170	0.035	158	0.031	99	0.024															783	0.156
ECP 87XA046C1 - MGB Deaeration Carbon Seal	588	0.115	120	0.018	75	0.011																	783	0.144
ECP 91XA093A - Nr.4 Bearing Seal Torque Pins	693	0.206	90	0.049																			783	0.255
T56 Engine (P-3, C-2, E-2, C-130)																								
ECP 2112R1 - 15 Micron Oil Filter	1416	1.352	646	0.411	576	0.540	683	0.511	683	0.515													4,004	3.329
ECP 2115	105	0.167																					105	0.167
COMPLETED ECPS FROM PRIOR YRS		109.451																						109.451
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.029		0.045		0.050		0.050														
Training Equipment																								
Support Equipment																								
ILS		1.318		0.680		0.600		0.472		0.500														
Other Support		22.787		2.852		2.129		0.456		0.259														
Interim Contractor Support																								
Installation Cost		24.263		1.537		1.540		1.169		1.169														
TOTAL PROCUREMENT	**23,894**	**225.102**	**7,565**	**17.200**	**8,391**	**16.818**	**7,691**	**16.906**	**3,308**	**13.083**														

Notes:

1. Totals may not add due to rounding

Exhibit P-3a

Exhibit P-3a

9/1/00

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, three 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.

METHOD OF IMPLEMENTATION: Current with engine/module repair (where installation cost is zero), or by forced retrofit (shown below).

ADMINISTRATIVE LEADTIME: Average 6 months 16.9 Months

PRODUCTION LEADTIME: Average of 12 months

CONTRACT DATES: FY 2000: Varies FY 2001: Varies FY 2002: Varies FY 2003: Varies

DELIVERY DATE: FY 2000: Varies FY 2001: Varies FY 2002: Varies FY 2003: Varies

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1999 & PY (3,220) kits	1,945	4,421	1,042	1,115	233	249																		
FY 2000 (1,250) kits			270	235	821	1,040	159	169																
FY 2001 (1,072) kits					249	103	823	1,021																
FY 2002 (244) kits							185	27	59	64														
FY 2003 (528) kits									528	504														
FY 2004 (1.649) kits									216	58														
FY 2005 (716) kits																								
FY 2006 (910) kits																								
FY 2007 (720) kits																								
To Complete ( ) kits																								
TOTAL	1,945	4,421	1,312	1,350	1,303	1,392	1,167	1,217	803	626														

16.9

Installation Schedule

	FY 1998 & Prior	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004			
		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	1945	335	337	340	300	323	330	330	320	290	300	280	297	201	199	202	201	131	128	132	132	228	227	230	225
Out	1945	320	330	350	312	318	325	340	320	285	295	285	302	195	201	202	205	129	130	131	133	230	228	230	222

	FY 2005				FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In	180	181	171	184	228	227	230	225	180	178	181	181	0	10,309
Out	175	182	175	184	225	230	231	224	179	178	182	181	0	10,309

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**633.7**	A	**54.1**	**41.5**	**33.3**							

This line item funds common equipment (B kits) for multiple aircraft. The overall goal of the modification budget is to provide a reprogrammable radar and missile warning system, provide attacking missile declaration and sector direction finding, laser detection, and self production capability devices to applicable user aircraft.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
114-85	AN/ALR 67(V)2	211.8	6.3	4.0	6.9							
72-88	AN/AAR-47 MAWS Hardware	152.2	6.7	8.9	12.2							
14-90	AN/APR-39 (V)2 RWR & AN/AVR 2 Hardware	143.9	10.4	2.7	1.1							
30-92	LAU 138A/A BOL System	35.7	0.7	1.9	0.6							
22-97	ASPJ	44.6	1.4									
26-99	AN/ALR 67(V)3 & 4	10.2	23.4	11.3	4.1							
06-00	ALE-39 to 47 Retrofit		5.1	7.1	8.5							
018-01	ALQ-144A			5.6								
XX-05	IDECM											
	Total	**633.3**	**54.1**	**41.5**	**33.3**							

Note: Totals may not add due to rounding.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/ALR-67(V)2 Radar Receiving Set (OSIP 114-85)

MODELS OF SYSTEMS AFFECTED: F/A-18, F-14, AV-8B

TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: This Operational, Safety and 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(V)2 is an airborne radar warning receiver and EW Bus controller system for advanced tactical aircraft.The TEMP, CNO Project Number 521, AN/ALR-67(V)2, defines the requirement. The system provides radar band frequency coverage, displays threat azimuthal bearing, provides audio warning for critical threats and coordinates the operation of onboard electronic warfare equipment. The ALR-67(V)2 is an old system that is planned to be used through the year 2015 on the F/A-18C/D, AV-8B and F-14 aircraft. The total number of systems is 1209, including F-14, F-18 A,B,C,D, and AV-8B aircraft. A rewrite of the AN/ALR-67(V)2 software in High Order Language (HOL) will improve maintainability to allow for future growth and reduced technical risk, costs and schedule. The HOL software will be used to implement low cost, low risk software updates required to improve system performance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The contractor delivered the HOL software in first quarter 99. Development and testing is being conducted within the government with release scheduled for first quarter FY 2001. The program is currently correcting systems sensitivity (Phase I) and computer processing (Phase 2) deficiencies noted during past operational testing. Congressional add in FY 99 funds initial Phase I correction of deficiencies effort for AV-8 and F-14 aircraft . A contract was awarded first quarter FY 2001 for Phase I of correction of deficiencies. During the POM 02 budget cycle N88 decided to retrofit all ALR-67(V)2 systems with Phase I as soon as possible, and delay introduction of Phase II until FY 04. The Phase II correction of deficiencies effort will be incorporated in all AN/ALR-67(V)2 equipped aircraft that will not receive the AN/ALR-67(V)3.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
AN/ALR-67(V)2 kit	133	23.3																						
Installation Kits N/R																								
Installation Equipment																								
V2 Upgrade Equip	194	45.7																						
Installation Equipment N/R										0.7														
Installation Equiupment Correction			268	1.8	106	0.9	264	2.1	367	2.9														
Engineering Change Orders		72.2				0.8																		
Data		3.0																						
Training Equipment		0.8																						
Support Equipment		11.7		1.2		0.2		*		0.2														
ILS		3.1		0.6		0.4		0.3		0.4														
Other Support		44.4		4.1		4.1		1.5		2.8														
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**204.1**		**7.6**		**6.3**		**4.0**		**6.9**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/AAR-47 Missile Approach Warning System (MAWS) (OSIP 72-88)

MODELS OF SYSTEMS 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: Mission Capability

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 domes, 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 Fixed Wing Aircraft have no capability to detect an infrared (IR) missile attack.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Milestone II was passed in 1982. A contract for eight Engineering Models was awarded to Honeywell (now Lockheed Martin) in Mar 83, with fixed-price options for up to 810 production systems. OPEVAL (on the CH-53E) was passed in Oct 86.

Milestone III was passed in May 87 for full production with extension of application to all other platforms. Production of 709 systems and preparation of a Level III data package followed, with deliveries completed in early 1992. Under full and open competition, a contract for up to 1200 systems was awared to Hercules (now Alliant) in Dec 91. Actual orders were for 1122 systems with deliveries completed in Jan 97. Under full and open competition, a contract for up to 1077 systems was awarded to Lockheed Martin in Sep 95. Deliveries began in Jan 97 and were completed in Jul 99.

There are two upgrade programs: FY-97/98/99 funded a microprocessor upgrade to replace the 8086 board with an 80486 running new software to enhance threat declaration and to better control false alarms. This software delivers the maximum performance attainable using current sensors. FY-01 and beyond also funds a sensor upgrade. The current sensors are starting to wear out after 5 years, due to temperature sensitive materials. The new sensors will remove this limitation and will also provide improved performance. This will allow the AAR-47 to better respond to new threats via software changes only. Both upgrades are 100 percent retrofit. There are 2500 systems for installation on all applicable aircraft. TEMP # 543 documents the current requirement. ORD #500-88-98 documents existing requirements for the upgrades.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		24.0																						24
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
AAR-47 Equip	1,250	90.2																						
Installation Equipment N/R																								
CP Upgrade N/R		4.7																						
Sensor Upgrade N/R		12.3				2.7																		
Engineering Change Orders																								
CP Upgrade Equip ECO	652	3.8	598	3.2																				
Sensor Upgrade Equip ECO							113	5.6	263	11.1														
Data		0.3						*																
Training Equipment	4	0.6				*																		
Support Equipment		4.3						0.3		0.3														
ILS		4.3		0.3				0.2		0.2														
Other Support		24.2		4.0		4.0		2.8		0.6														
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**144.7**		**7.4**		**6.7**		**8.9**		**12.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/APR-39A(V)2/AN/AVR-2/2A(V) Electronic Warfare Receivers (OSIP 14-90)

MODELS OF SYSTEMS AFFECTED: AN/APR-39(V)2:AH-1W, AH-1Z, UH-1N, UH-1Y, HH-60H, CH-53D/E/HM-53E, KC-130F/R/T, VH-3D VH-60N, SH-60B,MV-22; AN/VR-2/2(V):AH-1W, AH-1Z, MV-22, UH-1N, UH-1Y, VH-3, VH-50, HH-60H, SH-60R

TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The AN/APR-39A(V)2 Radar Signal Detecting Set (RSDS) is designed for use on US Marine Corps, US Navy, and US Army Assault Support aircraft to provide onboard warning of radar threats. The AN/APR-39A(V)2 provides control and display of the entire Assault Support Equipment(ASE) Suite, and is required for control and display of the AN/AVR-2/2A(V) and the AAR-47. The system consists of five antennas, one Cockpit Control Unit, one or two Display indicators, two to four receivers, and one processor. The AN/AVR-2/2A(V) laser detection set (LDS) is designed for use on U.S. Army, U.S. Marine Corps, and U.S. Navy Assault Support aircraft. The AN/AVR-2/2A(V) reduces the susceptability of helicopters to attack from laser guided and laser aided threats by providing warning of laser illumination. The system consists of four to six sensor units and one or two comparators. The system requires the APR-39A(V)2 Cockpit Control Unit for On/Off and BIT. AVR-2/2A(V) warnings are displayed on the APR-39A(V)2 cockpit display.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The U. S. Army awarded a production contract for the AVR-2 in FY 90 and for the AVR-2A(V) in FY 94. Procurement for the U.S. Marine Corps and the U.S. Navy is via Military Interdepartmental Purchase Request (MIPR) to the U.S. Army.

The AN/APR-39A(V)2 is in the production phase of development (MSIII 3Q/96). The U.S. Navy is the lead service of this joint service program. The U.S. Army awarded the production contract 3Q/96, and continues to administer the contract. U. S. Navy delivery of production systems commenced June 99. Procurement of an AN/AVR-2/2A(V) in the AN/APR-39(V)2 for the additional requiring platforms will be by extension of application with the required follow-on test and evaluation conducted on each platform.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		6.8																						6.8
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
AN/AVR-2/AN/APR-39A Equip.	563	81.3	21	3.1	6	0.8																		
Installation Equipment N/R		16.7																						
Engineering Change Orders																								
Equip ECO		9.2		1.8		6.2		0.4		0.5														
Data		0.9				*		*		*														
Training Equipment		0.9		*		0.1		0.1																
Support Equipment		2.0		*				*																
ILS		5.5		0.1		0.4		0.3																
Other Support		17.9		4.5		3.0		1.9		0.6														
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**134.4**		**9.5**		**10.4**		**2.7**		**1.1**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: LAU 138/A/A BOL System (OSIP 30-92)

MODELS OF SYSTEMS AFFECTED: F-14A/B/D and F/A-18 C/D and upgrade and other aircraft | TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The original Operational, Safety and Improvement Program (OSIP) provided for the procurement of LAU-138/BOL for the F-14 A/B/D and upgrade aircraft. The BOL system (LAU-138A/A) is composed of an electro-mechanical chaff dispenser (D-46/ALE-39), a modified "Sidewinder" guided missile launch rail, a Nitrogen Receiver, and an Interconnecting Box (J-4937/ALE-39). The system was procured on a basis of two systems per aircraft, but up to four may be carried on the F-14. A total of 400 LAU-138A/A systems were procured. The associated remaining aircraft Kit install schedule/funding by PMA 241 is found in OSIPs 33-92 and 44-92. This update reflects funding for Engineering Changes required to the pool of launchers/dispensers for changes necessary for compatibility with the new ALE-47 Countermeasures Dispensing System, the upgraded ALE-39 to 47 retrofit conversions (OSIP 6-00), and addresses changes to the launcher to correct some corrosion issues to improve reliability and expendable accountability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: 400 LAU 138A/As were procured as non-developmental items under two separate contracts and are now operationally deployed on F-14 aircraft. Full logistics support and spares support are not yet in place. 25 Common Rack and Launcher Test Sets (CRALTS) adapters are needed to fill Support Equipment Requirements Management Information System (SERMIS) requirements to replace the interim ULM-5 Test set. The CRALTS software was updated to test the changes to the LAU 138 launcher. The pool of 400 launchers under PMA 201 control will be modified by the contractor supported Depot Repair Facility at Indianapolis as part of a combined corrosion retrofit and LAU 138 Mod Kit installed IAW the class I LAU 138 ECP-00001. Five Val-Ver Mod kits were designed, built and tested in FY 00 including a live Fire Missile test using a modified LAU 138. 60 LAU 138 Production Kits were then procurred to begin installation in FY 01 on a rotable pool of launchers. The bulk of the remainder of the kits will be procurred in FY 01 with installation and testing completed in FY 03. The new launcher designation will be LAU 138B/A, fully functional with ALE 47 retrofit configuration for the F-14B/D and will be backwards compatible on F-14As which will still carry the ALE 39 Countermeasures dispenser.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		5.8																						
PROCUREMENT																								
Installation Kits D46-ALE-39	54	0.4			60	0.3	240	0.7	100	0.2														
Installation Kits N/R		0.2				0.1		0.7		0.2														
Installation Equipment																								
Equip	1,630	24.8																						
Installation Equipment N/R		0.1																						
Installation Change Orders																								
Equip ECO TBD		1.8																						
Data		0.6																						
Training Equipment		0.2																						
Support Equipment		2.8				0.1		*																
ILS		3.1				*		0.2																
Other Support		1.8				0.3		0.3		0.2														
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**35.7**				**0.7**		**1.9**		**0.6**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: ASPJ (OSIP 22-97)

MODELS OF SYSTEMS AFFECTED: F/A-18 C/D | TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The AN/ALQ-165 is a fully integrated internally mounted Electronic Protection (EP) system capable of detecting, identifying and countering modern land, sea and airbased radar threats. In FY97 Congress directed procurement of additional AN/ALQ-165 systems and racks for installation in F/A-18C/D aircraft to support emergent operational requirements.

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 for AN/ALQ-165 installation. FY 1997 contract was awarded first quarter FY 98 to comply with Congressional direction. Contract to update 1000 racks for F/A-18C/D/E/F was awarded last qtr FY99.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment	36	39.4																						
ASPJ Equip		3.2		0.2		1.4																		
Racks		0.8																						
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS		0.5																						
Other Support		0.5																						
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**44.3**		**0.2**		**1.4**																		

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AN/ALR-67(V)3&4 Radar Receiving Set (OSIP 026-99)

MODELS OF SYSTEMS AFFECTED: F/A-18 | TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: DESCRIPTION/JUSTIFICATION: This Operational, Safety and Improvement Program (OSIP) provides for the procurement of common equipment for the F/A-18. Provisions, i.e., airframe changes needed for the installation of this equipment, are budgeted separately.

The AN/ALR-67(V)3 is a radar warning receiver designed to enhance pilot situational awarness by providing accurate indentification, lethality and azimuth displays of hostile and friendly emitters. It also controls the electronic warfare (EW) data bus and interfaces with other EW systems, the onboard radar, airborne mission computer, and other weapons systems. The Radar Warning Receiver's (RWR) Operational Requirements Document (ORD) number is 360-88-94 dated 27 May 94. The total number of systems is 698 (150 F/A-18 C/Ds and 548 F/A-18 E/Fs).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ALR-67(V)3 system is in the Production Fielding/Deployment and Operational Support Phase. The system received Milestone III approval in July 99 and awarded a full rate production contract option in August 99. OPEVAL was successfully completed in Feb 99. Production delivery commenced July 2000. Current computer processor is obsolete and will be replaced beginning in FY 03. This replacement will increase processor speed by a factor of 10. 156 computers will be backfit. All others will be forward fit in production.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		188.1		2.3																				190
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment																								
AN/ALR-67(V)3 Equip			4	6.6	10	13.1	3	4.2																
Install Equip Processor Replacem																								
Install Equip N/R (Engineering)						0.7																		
Engineering Change Orders						0.4																		
Equip ECO																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support				3.7		9.3		7.1		4.1														
Interim Contractor Support																								
Installation Cost																								
Total Procurement				**10.2**		**23.4**		**11.3**		**4.1**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AN/ALQ-144 INFRA-RED COUNTERMEASURES REBASELINE (OSIP 018-01)

MODELS OF SYSTEMS AFFECTED: AH-1W, UH-1N, HH-60H | TYPE MODIFICATIO: Mission Capability

DESCRIPTION/JUSTIFICATION: This program re-baselines AN/ALQ-144 basic systems into AN/ALQ-144A systems in order to correct a potential safety of flight issue.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ALQ-144A system is in production. The U.S. Army is the lead service and administers the program. Deliveries of the systems under this OSIP commenced in April 2001 and should be completed no later than April 2002.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Upgrade Kits																								
Installation Kits N/R																								
Installation Equipment																								
Upgrade Kits							240	4.8															240	4.8
Installation Equipment N/R																								
Engineering Change Orders																								
Kit ECO																								
Equip ECO																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support								0.1																0.1
Interim Contractor Support								0.7																0.7
Installation Cost																								
Total Procurement								**5.6**																**5.6**

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-40, BUDGET ITEM JUSTIFICATION		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**	P-1 ITEM NOMENCLATURE **Common Avionics**	
Program Element for Code B Items:	Other Related Program Elements	

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A										
COST (In Millions)	**589.9**	A	**79.5**	**70.4**	**65.1**							

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), 17-98 (Helo GPWS), and 24-99 (CAS), the individual aircraft platforms fund the "A" kits and installation in the appropriate aircraf 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 Spac System after the year 2000. (2) 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 MIL-STD-1553 multiplex data bus. (3) The Crash Survivable Flight Incident Recorder is a crash hardened recorder which will be used in support of aircraft mishap and incident investigations. (4) The Embedded Global Positioning System/Inertial Navigation System (EGI) contains full Precise Position Service GPS on a single electronic module, plus a state-of-the-art Ring Laser Gyro inertial navigation system. (5) 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. (6) 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. (7) The Collision Avoidance System (CAS) will provide a display of situation awareness to aid in the prevention of mid-air mishaps. (8) The Advanced Mission Computer and Display (AMC&D) system will replace existing aging/obsolete and performance limited AN/AYK-14(V) Mission Computer and Contractor Furnished Equipment Displays. (9) The Tactical Air Moving Map Capability (TAMMAC), the common solution for US Naval Aviation, provides a common tactical aircraft moving map and data loading capability and replaces current obsolete Fleet equipment. (10) Communication Navigation Surveillance/ Air Traffic Management provides civil upgrades to communications, navigation, and surveillance systems enabling shift from Air Traffic Control to Air Traffic Management in increasingly congested airspace and frequency spectrum. (11) HH-60 H A/A24G-39 AHRS Reliability Improvement Program. The overall goal of the modifications budgeted in FY 2002 is 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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
71-88	NAVSTAR GPS (Hardware)	253.1	9.1	12.9	7.1							
04-94	AN/ARC-210 (Hardware)	174.5	21.0	17.8	9.2							
43-94	Flight Incident Recorders	55.7	6.7	6.9	6.8							
38-95	EGI (Hardware)	59.5	4.0	4.2	1.5							
40-95	AN/ARC-182 Reuse Program	1.7	0.1	0.2	0.2							
14-97	KC-130T GPWS	12.2	11.9	8.6	5.9							
17-98	Helo GPWS	21.7	10.8	9.4	11.9							
25-98	Collision Avoidance System	11.3	15.8	8.3	7.2							
01-02	AMC&D/ MPCD				14.4							
20-01	Tactical Air Moving Map Capability*			2.3	1.0							
04-03	CNS/ATM											
xx-04	HH-60 AHARS Reliability & Improvment (CREI)											
	Total	**589.9**	**79.5**	**70.4**	**65.1**							

***FY 2001 Below Threshold Reprogramming (BTR) Action from F-18 Modifications line.
Value shown here reflects the net sum adjustment from other OSIPs to meet the budget control. Actual OSIP 20-01 value will be $5.307; see the P-3a exhibit for details.

Note: Totals may not add due to rounding.

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 71-88)

MODELS OF SYSTEMS AFFECTED: All aircraft | TYPE MODIFICATION: Common Avionics (Safety) (Added Capability)

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 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. Approximately 2500 aircraft will be modified with equipment provided through this OSIP. The Global Positioning System Operational Requirement Document (ORD) 003-78 dated 22 Jan 90 was based on an Air Force General Operating Requirement (GOR) dated 28 Jan 1978. The Navy ORD for Enhanced GPS User Equipment for Navigation Warfare and GPS Modernization was approved on 7 June 2000.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																							0	0.0
PROCUREMENT																								
Installation Kits																								
NAVWAR							140	2.2	50	0.8														
Installation Kits N/R																								
Installation Equipment																								
GPS	1,898	160.1	112	10.8	18	1.4	19	1.5																
NAVWAR							140	4.3	50	1.6														
Installation Equipment N/R		10.0		7.8																				
Engineering Change Orders																								
Data		4.8		0.9		1.0		1.0																
Training Equipment																								
GPS	109	7.6	5	0.2																				
NAVWAR																								
Support Equipment		0.3																						
ILS																								
Other Support		42.9		7.7		6.7		3.9		3.2														
Interim Contractor Support																								
Installation Cost																								
NAVWAR									70	1.5														
Total Procurement		**225.7**		**27.4**		**9.1**		**12.9**		**7.1**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**

Notes:

1. Totals may not add due to rounding.
2. Asterisk indicates amount less than $50K.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: All aircraft

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 71-88)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Equipment is provided to the platform PMA and installed as per airframe ECP.

ADMINISTRATIVE LEADTIME: three to six Months

PRODUCTION LEADTIME: nine to eighteen Months

CONTRACT DATES: FY 2000: Mar-00 FY 2001: Mar-01 FY 2002: Mar-02 FY 2003:

DELIVERY DATE: FY 2000: Apr-01 FY 2001: Apr-02 FY 2002: Apr-03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
NAVWAR Installs	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																							**0**	**0.0**
FY 2000 ( ) kits																							**0**	**0.0**
FY 2001 (140) kits									70	1.5													**70**	**1.5**
FY 2002 (50) kits																							**0**	**0.0**
FY 2003 ( ) kits																							**0**	**0.0**
FY 2004 ( ) kits																							**0**	**0.0**
FY 2005 ( ) kits																							**0**	**0.0**
FY 2006 ( ) kits																							**0**	**0.0**
FY 2007 ( ) kits																							**0**	**0.0**
To Complete ( ) kits																							**0**	**0.0**
TOTAL	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**70**	**1.5**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**70**	**1.5**

Installation Schedule (NAVWAR)

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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												35	35												
Out												35	35												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/ARC-210 Electronic Protection (EP) Combination Radio (OSIP 04-94)

MODELS OF SYSTEMS AFFECTED: AH-1W, AV-8B, C-2, CH-46E, C/MH-53D/E, EA-6B, KC-130F/R/T, F/A-18C/D, UH-1N, C-130 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 information 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. Engineering Change Proposal (ECP) 12 incorporated embedded Demand Assigned Multiple Access (DAMA) Satellite Communications (SATCOM), embedded COMSEC, embedded Variable Message Format (VMF), Link 4A, and is compatible with the memory loader verifier. ORD # 333-06-93 dated 4/20/93 validated this modification.

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-130F/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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits															10	0.2	70	0.9	37	1.6	71	0.9	188	3.5
Installation Kits N/R														5.9		1.6								7.5
Installation Equipment	1,808	106.2	361	19.8	255	16.0	162	10.7	61	5.3	16	1.6	180	11.2	126	7.4	176	10.9	104	9.0	145	10.8	3,394	208.9
Installation Equipment N/R		1.8		1.1		0.7		0.9		0.1		0.1		0.1		0.1		0.1		0.1		0.1		5.4
Engineering Change Orders		8.0												0.7										8.7
Data		2.6		0.4		0.2		0.6		0.1		0.1		0.1		0.2		0.2		0.2		0.2		4.7
Training Equipment	22	1.6	14	1.0		0.1		0.1		0.1		0.1	2	0.2	2.0	0.2		*		*		*	40	3.4
Support Equipment		8.5		0.4		0.2		0.2		0.1		0.1		0.1		0.1		0.1		0.1		0.1		10.1
ILS		5.5		1.1		1.1		1.0		0.6		0.6		0.7		0.7		0.7		0.7		0.7		13.5
Other Support		13.2		3.3		2.8		4.2		2.8		2.6		2.4		2.9		3.0		2.5		2.5		42.3
Interim Contractor Support																								
Installation Cost																	10	0.4	31	1.3	108	4.5	149	6.2
Total Procurement		**147.3**		**27.2**		**21.0**		**17.8**		**9.2**		**5.3**		**21.4**		**13.4**		**16.3**		**15.5**		**19.9**		**314.2**

Notes:

1. Totals may not add due to round 3. FY 04 and FY 05 - Common Avionics will fund the A-kit.
2. Asterisk indicates amount less than $50K
3. A-Kits and ACI Kits for F/A-18 being procured in FY 06. Installs are reflected in F/A-18 OSIP #10-99.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18 MODIFICATION TITLE: AN/ARC-210 Radio (OSIP 04-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME 3 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 (10) kits																	10	0.4					**10**	**0.4**
FY 2006 (31) kits																			31	1.3			**31**	**1.3**
FY 2007 (37) kits																					37	1.5	**37**	**1.5**
To Complete (71) kits																					71	3.0	**71**	**3.0**
TOTAL																	**10**	**0.4**	**31**	**1.3**	**108**	**4.5**	**149**	**6.2**

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Crash Survivable Flight Incident Recorders (CSFIR) (OSIP 43-94)

MODELS OF SYSTEMS AFFECTED: AV-8B, F/A-18, VH-3D/60N, C/T-130, C-2, C-12, T-39, U/VP-3, UH-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 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. RDC01-88-97 validate this modification.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Commercial off-the-shelf and non-developmental systems will be procured to the maximum extent feasible via open competition. Completed F/A-18 val/ver in 3rd quarter FY00.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	153	11.2	9	*	60	0.2	60	0.2	60	0.2														
Installation Kits N/R	12	19.5		0.7		0.5																		
Installation Equipment	170	4.5	9	0.2	60	1.2	60	1.2	60	1.2														
Installation Equipment N/R		2.1		0.9																				
Engineering Change Orders																								
Data		1.0		0.2		0.1																		
Training Equipment	2	0.1		*		0.2		*																
Support Equipment		0.9		1.1		0.7		0.3		0.2														
ILS		0.6		0.4		0.7		0.5		0.5														
Other Support		3.7		1.9		3.1		3.8		3.9														
Interim Contractor Support																								
Installation Cost	151	6.7			4	0.1	61	0.9	54	0.8														
Total Procurement		**50.2**		**5.5**		**6.7**		**6.9**		**6.8**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18, VH-3D/60N, C/T-130, C-2, C-12, T-39, U/VP-3, UH-3

MODIFICATION TITLE: Crash Survivable Flight Incident Recorders (CSFIR) (OSIP 43-94)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 2000: Mar-00 FY 2001: Jan-01 FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2000: Jan-01 FY 2001: Feb-02 FY 2002: Dec-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY (164) kits	151	6.7			4	0.1	9	0.1															**164**	**6.9**
FY 2000 (60) kits							52	0.8	8	0.1													**60**	**0.9**
FY 2001 (46) kits									46	0.7													**46**	**0.7**
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**151**	**6.7**			**4**	**0.1**	**61**	**0.9**	**54**	**0.8**													**270**	**8.5**

*Prior Yrs - 2 kits AV-8B VAL /VER NOT INSTALLED

*Quantity differences represented in install schedule are caused by a 15 month delivery schedule of A-kits.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	151				4		3	33	25	8		10	36												
Out	151				4		3	33	25	8		10	36												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Embedded Global Positioning System / Inertial Navigation System (EGI) (OSIP 38-95)

MODELS OF SYSTEMS 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 on 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. ORD # 401-88-95 dated 25 May 95 validates this modification.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment	512	36.5	77	4.7	38	1.3	40	1.6																
Installation Equipment N/R		0.5		0.7				0.3																
Engineering Change Orders				3.1		0.6		0.5																
Data		0.8		0.2		0.1		0.1		0.1														
Training Equipment	4	0.2																						
Support Equipment																								
ILS		1.7		1.0		0.5		0.5		0.2														
Other Support		7.8		2.3		1.5		1.3		1.2														
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**47.5**		**12.0**		**4.0**		**4.2**		**1.5**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. FY 98 through FY 01 include EA-6B quantity requirements. Kits were previously procured as F/A-18 assets. FY02 & FY 03 are F/A-18 previously purchased assets only to be used on EA-6Bs.

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: AN/ARC-182 Reuse Modification Program (OSIP 40-95)

MODELS OF SYSTEMS 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. The 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. ORD # W0661-CC dated 13 June 78, validates this modification.

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 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment	99	0.4			10	*	14	*	13	*														
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1						*		*														
Training Equipment																								
Support Equipment																								
ILS																								
Other Support		0.9		0.3		0.1		0.1		0.1														
Interim Contractor Support																								
Installation Cost																								
Total Procurement		**1.5**		**0.3**		**0.1**		**0.2**		**0.2**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K

Exhibit P-3a Individual Modification

MODIFICATION TITLE: Ground Proximity Warning System (GPWS CAT I) (OSIP 14-97)

MODELS OF SYSTEMS AFFECTED: KC-130T/F/R, VP-3, C-2A, S-3, UP-3, EA-6B, T-45 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. ECP-130-108 increases system safety by eliminating known deficiencies and applies to military application during normal and low level mission requirements. ORD # 555-88-00 signed 1 May 00 validates this modification.

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 in C-130.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	33	0.5	42	0.5	30	0.5	29	0.5	22	0.3														
Installation Kits N/R		1.1		1.9	2	2.9		1.5		0.5														
Installation Equipment	33	1.7	42	2.1	30	1.8	29	1.6	22	1.4														
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		*		0.4				0.1														
Training Equipment		0.3				0.8		0.1		0.1														
Support Equipment																								
ILS		0.1		0.1		0.5		0.3		0.3														
Other Support		1.1		2.0		4.4		3.5		2.4														
Interim Contractor Support																								
Installation Cost	4	0.2	35	0.6	38	0.6	30	0.9	29	0.9														
Total Procurement		**5.0**		**7.3**		**11.9**		**8.6**		**5.9**														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Installation qty differ from Install kits/equipment due to installation of OFT trainers listed in training material.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KC-130T/F/R, VP-3, C-2A, S-3, UP-3, EA-6B, T-45 MODIFICATION TITLE: Ground Proximity Warning System Category I (GPWS CAT I) (OSIP 14-97)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME:

CONTRACT DATES: FY 2000: Feb-00 FY 2001: Feb-01

DELIVERY DATE: FY 2000: Oct-00 FY 2001: Dec-01

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002												To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$											Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits	4	0.2	35	0.6	38	0.6																		
FY 2000 ( ) kits							30	0.9																
FY 2001 ( ) kits									29	0.9														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**4**	**0.2**	**35**	**0.6**	**38**	**0.6**	**30**	**0.9**	**29**	**0.9**														

Note: TOTAL includes 2 NRE kits installations.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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		1	15	22	8	8	8	6	8	7	7	7												
Out	39		1	15	22	8	8	8	6	8	7	7	7												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Ground Proximity Warning System (GPWS CAT III) (OSIP 17-98)

MODELS OF SYSTEMS AFFECTED: C/MH-53, H-46, H-60, UH-3

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 glidescope and descent below minimum. Commercial GPWS implementation has demonstrated dramatic reduction in controlled flight into terrain (CFIT) accidents. NADEP CP ECP H53-004 and H46-75 will assist pilots in preventing collisions with the ground or water. ORD # 555-88-00 signed 1 May 00 validates this modification.

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. Milestone III was completed in May 1997.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	28	0.3	75	0.9	92	0.8	86	1.0	83	1.0														
Installation Kits N/R		1.1		0.2																				
Installation Equipment	** 29	1.9	75	3.5	92	4.1	86	4.1	83	4.0														
Installation Equipment N/R		1.0		2.3		2.4		2.0		2.5														
Engineering Change Orders																								
Data		0.5		0.5		0.1																		
Training Equipment		0.1		0.5		0.6		0.1		0.1														
Support Equipment																								
ILS		0.2		0.3		0.4		0.2		0.2														
Other Support		3.9		4.5		1.6		0.5		2.7														
Interim Contractor Support																								
Installation Cost			28	0.5	75	1.0	92	1.5	86	1.4														
Total Procurement		**8.9**		**12.9**		**10.8**		**9.4**		**11.9**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Two Asterisks indicate that one additional B-Kit was procured for software integration laboratory use in FY98.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C/MH-53, H-46, H-60, UH-3

MODIFICATION TITLE: Ground Proximity Warning System Category III (GPWS CAT III) (OSIP 17-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor or USN Depot Field Modification Team**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 2000: Feb-00 FY 2001: Feb-01 FY 2002: Feb-02 FY 2003:

DELIVERY DATE: FY 2000: Dec-00 FY 2001: Dec-01 FY 2002: Dec-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits			28	0.5	75	1.0																		
FY 2000 ( ) kits							92	1.5																
FY 2001 ( ) kits									86	1.4														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**28**	**0.5**	**75**	**1.0**	**92**	**1.5**	**86**	**1.4**														

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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		23	34	18	23	23	23	23	21	21	22	22												
Out	28		23	34	18	23	23	23	23	21	21	22	22												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Tactical Collision Avoidance System (TCAS) (OSIP 25-98)

MODELS OF SYSTEMS AFFECTED: C-2, C-130T, VP-3, KC-130, UP-3, UH-3

TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:
CNO memorandum of 12 June 1997 directed TCAS implementation policy on Naval Aircraft. This modification will provide procurement and logistics support of a Navy common TCAS. The TCAS will provide a display of situation awareness to aid in the prevention of midair mishaps. An ECP was approved in FY 99 to incorporate this change.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
TCAS Off-The-Shelf processor has been selected. The ECP NRE effort for C-2, VP-3, and C-130T/KC-130 was accelerated and began in FY 98. Milestone III approval March FY01.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			18	1.2	47	2.2	3	0.3	12	1.0			17	1.4	7	0.4	18	1.1	6	0.4	12	1.1	140	9.0
Installation Kits N/R		0.3		2.3	1	1.9		2.2		0.6								0.4		0.7		0.9	1	9.3
Installation Equipment	18	2.3			48	5.0	3	0.3	12	1.7			17	2.6	7	0.9	18	2.5	6	0.9	12	1.8	141	18.0
Installation Equipment N/R		0.4		1.5		0.5		0.3		0.1										0.4		0.4		3.5
Engineering Change Orders						1.0		0.7		0.2		0.2												2.0
Data				0.3		1.0		0.3		0.3		0.2								0.1		0.6		2.8
Training Equipment				0.1	3	0.8	5	0.7		0.1		0.3		*		*		*				0.2	8	2.2
Support Equipment																						0.2		0.2
ILS				0.3		0.5		0.7		0.4		0.3		0.2		0.2		0.2		0.2		0.7		3.5
Other Support		0.3		2.3		2.8		2.0		1.6		1.3		1.0		1.3		1.1		1.1		3.9		18.7
Interim Contractor Support																								
Installation Cost			1	0.1	3	0.2	18	0.8	46	1.3	12	0.5			17	0.7	7	0.2	18	0.9	18	1.0	140	5.7
Total Procurement		**3.2**		**8.1**		**15.8**		**8.3**		**7.2**		**2.7**		**5.2**		**3.5**		**5.5**		**4.7**		**10.7**		**75.0**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Trail Kit Install

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2, C-130T, VP-3, KC-130, UP-3, UH-3

MODIFICATION TITLE: Tactical Collision Avoidance System (TCAS) (OSIP 25-98)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: Dec-99 FY 2001: May-01 FY 2002: Jan-02 FY 2003:

DELIVERY DATE: FY 2000: Dec-00 FY 2001: Apr-02 FY 2002: Dec-02 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits			1	0.1	3	0.2	14	0.6																
FY 2000 ( ) kits **							4	0.2	43	1.2														
FY 2001 ( ) kits									3	0.1														
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL			**1**	**0.1**	**3**	**0.2**	**18**	**0.8**	**46**	**1.3**														

Note: * Value under $50K.
** 1 Kit installed as val/ver under A-Kit NRE.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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	5	5	4	4	11	11	12	12												
Out	1			1	2	5	5	4	4	11	11	12	12												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: ADVANCED MISSION COMPUTER & DISPLAYS (AMC&D)/ MULTIPURPOSE COLOR DISPLAY (MPCD) (01-02)

MODELS OF SYSTEMS AFFECTED: F/A-18C/D/E/F, AV-8B

TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:
Advanced Mission Computer and Displays(AMC&D) System is targeted to replace existing aging/obsolete and performance limited AN/AYK-14(V) Mission Computer (MC) and Contractor Furnished Equipment Displays. AMC&D system consists of an Advanced Mission Computer (AMC) which includes Mission Processing and Display Processing, Display Heads (DH), High-Speed Data Bus interfaces with Fibre Channel Network Switches (FCNS) and an 8x10 display. AMC&D system will have modular components integrated on an Open Systems Architecture so that it can be tailored and configured for each application, and can address new performance requirements and technologies with minimum cost. AMC&D will provide improved mission computers and displays to handle increased requirement for flight, mission, and imagery data. Due to obsolescence problems with the current Mulltipurpose Color Display (MPCD) display, the AMC&D program is leveraging the 5x5 DH to provide a form, fit, function replacement. MPCD Production buys begin in FY02 and AMC&D production buys begin in FY04.
AMC&D MNS - M061-88-94 of 2 December 1994. AMC&D ORD Ser. No. 549-88-00 Approved 21 March 2000.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
AMC and 5x5 display CDR - 2nd Qtr FY99. Qualification testing currently underway.
F/A-18E/F: TECHEVAL - 3rd Qtr FY02, OPEVAL - 2nd Qtr FY03, Milestone III - 1st Qtr FY04.
AV-8B TECHEVAL - 2nd Qtr FY01, OPEVAL - 1st Qtr FY02, Milestone III - 3rd Qtr FY02.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment									53	10.9														
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS										1.0														
Other Support										2.5														
Interim Contractor Support																								
Installation Cost																								
Total Procurement										**14.4**														

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. MPCD is a drop-in replacement. No A-kit required.
4. MPCD quantities have reduced due to the fact they are now listed as shipsets vs WRAs in the President's Budget

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18C/D/E/F, AV-8B

MODIFICATION TITLE: ADVANCED MISSION COMPUTER & DISPLAYS (AMC&D) (01-02)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: FY 2001: FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Note: Asterick represents a value under $50K.

Installation Schedule

	FY 1999 & Prior	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																									
Out																									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: TACTICAL AIRCRAFT MOVING MAP CAPABILITY (TAMMAC) (20-01)

MODELS OF SYSTEMS AFFECTED: F/A-18C/D/E/F, AV-8B

TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION: TAMMAC provides the aircrew an easily assimilated graphical presentation of the aircraft's position and the relative positions of targets, threats, terrain features, planned mission flight path, no fly zones, safe bases and other objects. TAMMAC will present the aircraft's current situation on a map using new or existing cockpit displays. In addition to providing a basic moving map capability, the TAMMAC system will serve as a memory resource for the overall aircraft mission system and will incorporate an improved data transfer and recording capability. This memory resource includes a data loader function of sufficient memory capacity and speed to load/update all required map theater and mission specific databases as well as the ability to record mission and maintenance data. TAMMAC will also provide a Terrain Awareness Warning System (TAWS) capability. The principle benefits anticipated, increased mission effectiveness and survivability, arise from improved situation awareness, reduced crew workload and enhanced capability for precision navigation, targeting, terrain avoidance, and mission replanning. The TAMMAC system will replace the existing Navy AN/ASQ-196 Digital Map Set which is facing major parts obsolescence problems and is not capable of growing to support future requirements. TAMMAC will also replace the AN/ASQ-194 Data Storage Set which has insufficient memory and loading speed to load map theater databases.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Milestone III planned for second quarter FY 01.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Total	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kits N/R																								
Installation Equipment							29	0.7																
Installation Equipment N/R																								
Engineering Change Orders								3.0		0.2														
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support								1.6		0.8														
Interim Contractor Support																								
Installation Cost																								
Total Procurement								**5.3**	*****	**1.0**														

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Difference in A and B kit is AMU only - no A kit required.
* 4. FY 2001 value reflects $2.3M net sum adjustment from other OSIPs and $3M BTR from F-18 Modifications Line for a total value of $5.3M.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18C/D/E/F, AV-8B

MODIFICATION TITLE: TACTICAL AIRCRAFT MOVING MAP CAPABILITY (TAMMAC) (20-01)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2000: FY 2001: May-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2000: FY 2001: Apr-02 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 1999 & PY ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
FY 2004 ( ) kits																								
FY 2005 ( ) kits																								
FY 2006 ( ) kits																								
FY 2007 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Note: Asterick represents a value under $50K.

Installation Schedule

	FY 1999	FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& 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 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										
Out										

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **June 2001**

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

P-1 ITEM NOMENCLATURE
V-22 MODIFICATION

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY		B										
COST (In Millions)	0.0	B	0.0	0.0	35.0							

The V-22 is a tilt-rotor, vertical takeoff and landing aircraft currently being developed for joint service application. The program is being designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and supplement USSOCOM special mission aircraft. The aircraft will be capable of flying 2,100 miles with one refueling, giving the Services the advantage of a Vertical/Short Takeoff and Landing (V/STOL) aircraft the could rapidly self-deploy to any location in the world.

As a result of the December 11, 2000 mishap the Department conducted a comprehensive external and internal review of the program. An independent Blue Ribbon panel was appointed to conduct this review. The FY 2002 budget request reflects the funding level necessary to correct currently known deficiencies and allow the program to move forward. The FY 2002 modifications program procures retrofit kits necessary to correct discrepancies identified during initial flight testing as well as those resulting from any redesign efforts.

The current procurement objective is 459 with funding programmed for 411. 361 MV-22 Marine Corps aircraft (includes one Maintenance Trainer), 50 CV-22 aircraft for USSSOCOM (funded by USSOCOM and the Air Force) and 48 HV-22 Navy aircraft. A total of 10 V-22 aircraft have been delivered.

Type Modifications: Safety, Reliability, Increased Service Life, Improved Mission Capabilities

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
22-01	V-22 Correction of Deficiencies			*	35.0							
TOTAL		**0.0**	**0.0**	**0.0**	**35.0**							

Note: *$35.0M is pending for a supplemental reprogramming in FY01.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: V-22 CORRECTION OF DEFICIENCIES (OSIP 22-01)

MODELS OF SYSTEM AFFECTED: V-22 TYPE MODIFICATION: Safety, Reliability, Increased Service Life, Improved Mission Capabilities

DESCRIPTION/JUSTIFICATION:

REGULATED CONVERTER: Incorporates fixes to alleviate concerns associated with spec compliance and eliminate nuisance failures for fleet aircraft.
SHAFT DRIVEN COMPRESSOR SCREEN: Incorporates a new shaft drive compressor screen with one piece inner and outer frames to reduce the number of parts and larger holes to increase air flow.
RAMP ACTUATOR: Incorporates fixes for reliability and life limit deficiencies. There are two ramp actuators per aircraft.
CARGO RESTRAINT SYSTEM: Changes the cargo restraint factors from a dynamic to a static tie down system to improve Fleet suitability.
FUEL ISOLATION TUBES: Incorporates the productionized final design for resistive tubes on hoses for lightning strike protection.
AVIONICS: Avionics modifications to the V-22 wil improve display reliability, eliminate communication security issues and alleviate parts obsolescence/vendor problems. Changes to the V-22 avionics will include: Display System upgrade, Cockpit Inter Communication System modification, upgraded Mission Computer, updated Data Transfer Module, Control Display Unit/Engine Instrument Caution Advisory System upgrade, Control Display Unit Keyboard upgrade, and Avionics Interface Units upgrades.
POWER TRANSMISSION AND CONTROL: Changes to the V-22 Power Transmission and Control System will improve reliability and maintainability. Changes to the V-22 Power Transmission and Control System will include swashplate reliability upgrades, engine gimbal ring/spherical bearing installation revision, updated refuel/defuel valve, bull gear shroud and engine gimbal ring.
COCKPIT: Changes to the V-22 cockpit will improve crew safety, mission suitability and overall reliability. Changes to the V-22 cockpit include: night vision goggle compatible hardware, upgraded inertial reels, upgraded pilot and co-pilot restraint system, throttle control lever soft stop modification, and improved rain removal.
STRUCTURAL: Structural changes to the V-22 will increase survivability, improve maintainability and aircraft availability, eliminate component interferences, improve suitability and correct safety related issues. Structural changes include: forward sponson fuel bladder access redesign/install powder panels, environmental control unit Ram air barrier filter, avionics left hand mounting tray, aft upper door strut, add manual drive decal, fold blades in high winds and modified trunnion fitting.
RELIABILITY & MAINTAINABILITY FIXES: Includes Corrective Action Plans to make the aircraft compliant with Operation Requirements Document requirements.
FULL FIDELITY SIMULATOR (FFS) UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FFS to reflect most current aircraft configuration.
FLIGHT TRAINING DEVICE (FTD) UPGRADES: Improves training and pilot proficiency by incorporating modifications to the FTD to reflect most current aircraft configuration.
STANDBY FLIGHT DISPLAY (SFD) (901-T-100): Retrofit plan to add radius blocks to structurally support new SFD.
DUAL MODE DOME LIGHTS: Improves operational suitability by providing both Night Vision Goggles (NVG) and unaided lighting in the cabin.
STRAKE REDESIGN: Introduces corrective action for fatigue cracking and reduces fabrication and installation costs.
LANDING GEAR CONTROL UNIT (LGCU): Modifies LGCU software to reliably provide visual indication of gear up in low and slow environment. LGCU software is additionally modified to annunciate ext gear down and locked indicator fault.
FULL AUTHORITY DIGITAL ELECTRONIC CONTROLS (FADEC) COOLING SCOOP: Provides structural modification for cooling air to improve FADEC reliability. Without modification, FADEC is not operating in specification environment. Therefore, failures will be considered as excluded. FADEC overheating was identified during EMD testing.
ENGINE WATER RINSE: Incorporates modifications that incorporate a single point fitting to perform post flight engine fresh water rinse in accordance with Power by the Hour requirements.
ACTIVE VIBRATION SUPPRESSION SYSTEM: Reduces aircraft weight by replacing 100% and 84% vibration dampness.
CONSTANT FREQUENCY (CF) GENERATOR (V22-0172): Improved reliability and lower cost constant frequency generator for LRIP Lot V.
ENGINE AIR PARTICLE SEPARATOR (EAPS) MONITORING SYSTEM: Improve EAPS Monitoring System to report reliable statuses and failures and to integrate monitoring of case drain pressures to detect impending blower motor failures into the avionics system.
THRUST CONTROL LEVER (TCL) GRIP ASSY: Required to prevent TCL nacelle tilt control switch from binding and subsequent uncommanded nacelle movement.
PRIMARY LIGHT CONTROL UNIT: Corrects a built in test false alarm in NVG mode.
VARIABLE FREQUENCY GENERATOR (VFG): Upgrades the VFG to support icing system. Support for 10,000-hour life testing and modifications to the pressure relief drain to improve maintainability are also included.
PRODUCTION ROTOR LIGHTNING PROTECTION: Improves rotor system lightning protection by adding improved bonding harness and grounding strap bracket.
LNDG GR CONT UNIT (LGCU): Improves reliability by incorporating fixes for rain, salt fog and electromagnetic interference qualification test failures and corrects intermittent LGCU Fail indications.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The V-22 aircraft is currently in Lot V of Low Rate Production. Development is complete for all of the installation kits listed in this exhibit. First acceptance and incorporation has been in production aircraft.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: V-22 CORRECTION OF DEFICIENCIES (OSIP 22-01)

MODELS OF SYSTEM AFFECTED: V-22

TYPE MODIFICATON: Safety, Reliability, Increased Service Life, Improved Missioin Capabilities

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
ECP10641R2/Display System Upgrade/Flat Panels																				
ECP 10670R1/Implementation of Cockpit Intercom Mod																				
ECP10703r1/Advanced Mission Computer Post Part Number																				
ECP10716/Swashplate Actuator																				
ECP 10718/Eng Gimbaling Ring Spherical Bearing Instl																				
ECP 40008/Night Vision Goggles Compatibility Rqmt Cockpit H																				
ECP V-22-0161/Shaft Driven Compressor Reliability Improvem																				
ECP V-22-0177R1/Instl Pwdr Panels, Fwd Sponsor Fuel Bladd																				
ECP V-22-0188/Data Transfer Module Proposal																				
ECP V-22-0192R1/Regulated Converter					4	0.5														
ECP V-22-0206/Inertial Reels																				
ECP V-22-0216/Control Display Unit/Engine Instrument Crew A																				
ECP V-22-0217/Shaft Driven Compressor																				
ECP V-22-0224/Avionics Left Hand Mounting Tray																				
ECP V-22-0249/Environmental Control Unit Ram Air Barrier Fl																				
ECP V-22-0279/Update Ramp Actuator - 113					10	0.2														
ECP V-22-0290/Pilot/Copilot Restraint Sys																				
ECP V-22-0296/Cargo Restraint System					10	*														
ECP V-22-0301/Control Display Unit Keyboard Redesign																				
ECP V-22-0319/Refuel/Defuel Valve																				
ECP V-22-0107/Thrust Control Lever Soft Stop																				
ECP V-22-0138/Aft Upper Door Strut																				
ECP V-22-0147/Rain Removal																				
ECP V-22-0151/Add Manual Drive Decal																				
ECP V-22-0160/Fold Blades in High Winds																				
ECP V-22-0162/Bull Gear Shroud																				
ECP V-22-0163/Swashplate Gimbal Ring																				
ECP V-22-0348/Interface Units																				
ECP V-22-0208/Fuel Isolation Tubes																				
ECP 10692/Trunnion																				
ECP-TBD Reliability and Maintainability Fixes					4	5.8														
901-T100 Standby Flight Display					5	0.2														
901-T-0172 Dual Mode Dome Lights					5	0.1														
901-T-0198 Strake Redesign					5	0.3														
901-T-207 Landing Gear Control Unit					5	0.2														
901-P0183 Full Authority Digital Electronic Controls Cooling Sc					5	0.3														
ECP 10658R2 Engine Water Rinse					5	0.4														
4006 Active Vib Sup Sys					4	2.8														
ECP V-22-0172 Constant Frequency Generator					5	1.7														
ECP V-22-0187 Engine Air Particle Separator Monitoring Syst					5	0.2														
ECP V-22-0195 Thrust Control Lever Grip ASSY					5	0.2														
ECP V-22-0197 Prel Light Control Unit					5	0.1														
ECP V-22-0270 Variable Frequency Generator					5	0.3														
ECP V-22-0120 Prod Rotor Ltng L Bracket					5	0.7														
ECP V-22-0142 Landing Gear Control Unit					5	0.1														
ECP TBD NACELLE Safety Improvements					1	1.0														
Installation Kits N/R						7.5														
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support																				
Interim Contractor Support																				
Installation Cost					**268**	**12.7**														
TOTAL PROCUREMENT			**	**	**98**	**35.0**														

Notes:

1. Totals do not add due to rounding

2. Asterick indicates amount less than 50K

3. **$35.0M is pending for a supplemental reprogramming in FY 01. The FY 02 Installation Cost reflects the installation of those items procured in FY 2001.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **V-22** MODIFICATION TITLE:V-22 CORRECTION OF DEFICIENCIES (OSIP 22-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished by contractor field modification team.

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: Approx. 12 Months

CONTRACT DATES: FY2001 N/A FY2002 TBD FY2003 FY2004

DELIVERY DATE: FY2002 N/A FY2002 TBD FY2003 FY2004

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	1997	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000& PY (0) kits																				
FY 2001 (268) kits					**268**	**12.7**														
FY 2002(0) kits																				
FY 2003(0) kits																				
FY 2004(0) kits																				
FY 2005 (0) kits																				
FY 2006 (0) kits																				
FY 2007(0) kits																				
To Complete (0) kits																				
TOTAL					268	12.7														

Installation Schedule (Reflects quantity of aircraft being modified)

	FY 2001	FY 2002				FY 2003				FY 2004				FY 2005				FY 2006					
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0		**3**	**3**	**4**																		
Out	0		**3**	**3**	**4**																		

	FY 2007				To	
	1	2	3	4	Complete	TOTAL
In						
Out						