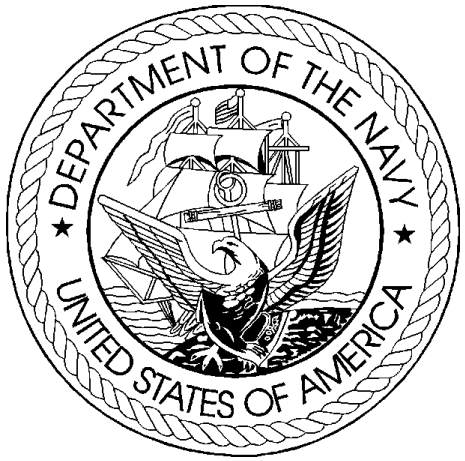
DEPARTMENT OF THE NAVY
FISCAL YEAR (FY) 2003
BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES
FEBRUARY 2002

AIRCRAFT PROCUREMENT, NAVY
Volume II:
BUDGET ACTIVITY 5

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 2003 UNIT COST	TOA, $ IN MILLIONS FY 2001 QUANTITY	FY 2001 COST	FY 2002 QUANTITY	FY 2002 COST	FY 2003 QUANTITY	FY 2003 COST	S E C
	BUDGET ACTIVITY 05: Modification of Aircraft									
	Modification of Aircraft									
23	0511 EA-6 Series	A			184.4		149.7		223.5	U
24	0514 AV-8 Series	A			119.5		73.6		32.2	U
25	0519 F-14 Series	A			30.6		6.9		3.7	U
26	0522 Adversary	A			6.9		34.3		10.5	U
27	0525 F-18 Series	A			271.1		223.8		421.7	U
28	0526 H-46 Series	A			19.0		38.2		67.2	U
29	0527 AH-1W Series	A			12.9		15.1		10.2	U
30	0528 H-53 Series	A			24.4		18.8		22.5	U
31	0530 SH-60 Series	A			33.3		9.6		15.4	U
32	0532 H-1 Series	A			9.4		1.6		1.8	U
33	0534 H-3 Series	A			.6		4.1		-	U
34	0537 EP-3 Series	A			65.9		123.1		26.1	U
35	0538 P-3 Series	A			99.9		191.9		102.7	U
36	0541 S-3 Series	A			68.2		42.7		45.1	U
37	0544 E-2 Series	A			49.8		48.5		17.2	U
38	0549 Trainer A/C Series	A			16.1		5.1		2.8	U
39	0556 C-2A	A			3.0		22.1		29.8	U
40	0560 C-130 Series	A			7.7		5.3		6.3	U
41	0561 FEWSG	A			.6		.6		.6	U
42	0562 Cargo/Transport A/C Series	A			8.2		7.1		3.8	U

LINE NO		ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 2003 UNIT COST	TOA, $ IN MILLIONS FY 2001 QUANTITY	FY 2001 COST	FY 2002 QUANTITY	FY 2002 COST	FY 2003 QUANTITY	FY 2003 COST	S E C
43	0564	E-6 Series	A			60.0		73.9		57.1	U
44	0566	Executive Helicopters Series	A			13.9		12.0		10.2	U
45	0567	Special Project Aircraft	A			1.9		3.0		-	U
46	0569	T-45 Series	A			9.0		5.5		28.2	U
47	0570	Power Plant Changes	A			19.0		12.9		13.7	U
48	0576	Common ECM Equipment	A			41.7		35.4		28.0	U
49	0577	Common Avionics Changes	A			68.4		68.3		63.2	U
50	0590	V-22 (Tilt/Rotor Acft) Osprey	B			35.0		17.3		5.0	U
TOTAL Modification of Aircraft						1,280.3		1,250.5		1,248.6	

Fiscal Year 2003 Budget Estimates
Budget Appendix Extract Language

AIRCRAFT PROCUREMENT, NAVY (APN)

For construction, procurement, production, modification, and modernization of aircraft, equipment, including ordnance, spare parts, and accessories therefore; specialized equipment; expansion of public and private plants, including the land necessary therefore, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway, **[**$7,938,143,000**]** *$8,203,955,000*, to remain available for obligation until September 30, **[**2004**]** *2005, of which $19,644,000 shall be available for the Navy Reserve and Marine Corps Reserve. (10 U.S.C. 5013, 5063, 7201, 7341; Department of Defense Appropriations Act, 2002.)*

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE: **February 2002**			
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**1465.4**	A	**184.4**	**149.7**	**223.5**	**242.8**	**209.2**	**195.7**	**192.9**	**622.8**	**3486.4**

This line item funds modifications to the EA-6 aircraft. The EA-6B Prowler is a four-seat derivative of the A-6 Intruder medium attack aircraft. Among its features are a computer controlled electronic surveillance and control system and high power jamming transmitters in various frequency bands that are contained in pods mounted externally on the five aircraft pylons. The overall goal of the modifications budgeted in FY 03 is the procurement of a Universal Exciter Upgrade, Wing Center Sections (WCS), Low Band Transmitters, Block 89A upgrades, ASN-130A Replacement, J52 Reliability Improvements, Multifunctional Information Distribution System (LINK-16) and ICAP III upgrades.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
19-79	ALQ-99 PODS	651.4	53.2	36.0	3.6	8.6	11.8	11.8	15.5	191.3	**983.2**
32-85	EA-6B Structural Improvements	455.3	48.0	48.4	69.4	89.5	63.9	26.4	15.9	10.6	**827.4**
111-87	J-52 Engines	5.0	7.8	8.3	8.3	4.9	0.4				**34.6**
42-93	EA-6B Block 89A Avionics	323.9	75.5	56.1	19.3	8.7					**483.4**
01-01	ICAP III	29.9		0.9	115.1	121.4	121.2	145.2	149.5	395.1	**1078.2**
05-03	MIDS				7.9	9.6	11.9	12.3	12.0	25.8	**79.6**
	Total	**1465.4**	**184.4**	**149.7**	**223.5**	**242.8**	**209.2**	**195.7**	**192.9**	**622.8**	**3486.4**

Totals may not add due to rounding

Exhibit P-3a Individual Modification

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

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

DESCRIPTION/JUSTIFICATION:

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 98-01, 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. GFE and consumables are required to support to these deliveries until FY03. 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 all the 122 aircraft, which includes four 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. The LBT inventory objective is 208. 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. Aircraft Operational Flight Program changes are required to support aircraft integration of this transmitter. This capability will be available for all 122 aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard.

PAO 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 converted by a government/contractor field modification team. This requirement does not apply to the National Guard.

SUPPORT EQUIPMENT

Introduction of new/modified ALQ-99 pod equipment requires new/modified organizational, intermediate and depot level support equipment. such as modifications to the pod test set to support Low Band Transmitter and Band 7/8 Transmitter, modifications to High Power Device Test Set (HPDTS) to extend frequency coverage to test Band 9/10 transmitters, new Test Program Sets to test Low Band Transmitter and Band 9/10.Transmitters and modified Intermediate/depot level support equipment to test Band 7/8 Transmitters.

ENGINEERING CHANGES

This ALQ-99 PODS Operational and Safety Improvement Program covers ALQ-99 Pod modifications required to improve reliability/maintainability/availability, enhance mission capability, resolve obsolescence issues, and correct defiencies found in testing or in the field

BAND 9/10 TRANSMITTER:

The Band 9/10 Transmitter (Band 9/10) provides the EA-6B an expanded jamming capability against 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 Band 9/10 was initiated in Jan 92. Production began in FY98, with Initial Operational Capability being accomplished in Nov 99. A total of 204 Band 9/10 Transmitters were procured between FY98 and FY00 with the last transmitter planned to deliver in Nov 02. The Band 9/10 inventory objective is 263. 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 all the 122 EA-6B aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard. In FY02, total program increases $13.0M as result of a Congressional Plus-up to procure ten (10) additional Band 9/10 Transmitters.

EXTENDED HIGH BAND RADOME:

A modified ALQ-99 Extended High Band Radome is required for compatibility with the Band 9/10 Transmitter (Band 9/10). This Radome incorporates unique sections of the radome composite structure to prevent damage by impinging energy radiation from the Band 9/10. Between FY98 and FY01, 250 ALQ-99 radomes were modified to this configuration. Future requirements for these radomes will be met by new production, vice modification, as there are no more existing assets to modify. ALQ-99 Radomes 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 122 EA-6B aircraft, which includes four Naval Air Reserve aircraft. This requirement does not apply to the National Guard. In FY02, total program increases $.5M as result of a Congressional Plus-up to procure ten (10) Band 9/10 Radomes.

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 2001		FY 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		8.7		4.0		5.5		2.0												20.2
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment	2,575	199.9																	2,575	199.9
Universal Exciter Upgrade	402	180.4	78	42.8															480	223.3
Lowband Transmitter									9	7.7	13	11.2	13	11.2	17	15.0	156	147.8	208	192.9
PAO Transmitter Mod	1,012	4.5	284	1.3															1,296	5.8
Band 9/10 Transmitter	209	106.4			10	13.0											49	36.0	268	155.4
Band 9/10 Radome	250	4.4			10	0.5											49	3.0	309	7.9
Installation Equipment N/R		7.1		2.6		1.5														11.2
Engineering Change Orders						0.1		0.1												0.2
Data		9.5																		9.5
Training Equipment		1.6																		1.6
Support Equipment	6	85.1		0.8		11.8						0.6							6	98.3
ILS		2.7				1.6														4.3
Other Support		30.8		5.7		7.4		3.5		0.9				0.6		0.5		4.5		53.9
Interim Contractor Support																				
Installation Cost	1,207	18.9																	1,207	18.9
Total Procurement		**651.4**		**53.2**		**36.0**		**3.6**		**8.6**		**11.8**		**11.8**		**15.5**		**191.3**		**983.2**

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).
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. 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.
5. Total Band 9/10 Transmitters include 5 EDM's.
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 that 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.

ASN-130A Replacement: Funding for this upgrade was provided via a Cost Reduction Effectiveness Improvement Council (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.

Outer Wing Panel (OWP) program will include an engineering evaluation of the fatigue life expenditure (FLE) rate and design solution to the problem. The solution may range from an airframe change to improve FLE to replace the OWP to ensure the EA-6B availability through FY-2015.

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 1-01 during the PB01 process.

EA-6B Power PC initiative: This initiative proposes to add a COTS PowerPC processor to the AYK-14, XN-11/CP-2357. This special EA-6B AYK-14 chassis has already been upgraded to support COTS SRAs on its VME backplane. Funding is required for COTS hardware (Processor SRA) and integration kit (Memory Bridge SRA), addition of a few laboratory support tools, development testing, and modification to technical publication source data and maintenance plans.

EA-6B (MK-GRU-EA7) Ejection seat initiative: The GRUAE7 ejection seat, used in the EA-6B aircraft uses standard British hardware to build the GRUAE7 ejection seat. Rhis hardware is replaced 100% during depot rework and 224 day "O" level maintenanace. The cost of standard British hardware is 4 to 5 times more that the US (NAS/MS) hardware. Replacing the standard British hardware with US(NAS/MS) hardware will drastically reduce the material cost for the GRUAE7 ejection seat.

EA-6B Digital Flight Control System (DFCS): The DFCS program comprises the adaption of existing Digital Flight Control Computer (DFCC) and Digital Control Panel (DCP) to replace the existing Air Navigational Computer (ANC) and control panel presently fitted to the EA-6B aircraft. This replacement DFCS will be configured to ensure only the minimum number of aircraft changes are required. Intended to eliminate the problem of spurious inputs to Flight Control Systems.

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

	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&EN																				
Procurement																				
Installation Kits	3,246	39.4																	3,246	39.4
SDRS Kit	82	1.1	40	0.6															122	1.7
ASN-130A Replacement					44	0.3	28	0.2	21	0.2	23	0.2	5	0.1					121	0.9
Wing Center Section	47	154.3	10	28.8	10	30.0	15	45.8	19	57.4	11	30.5							112	346.9
Outer Wing Panel													1	3.0	1	3.4			2	6.4
DFCS											50	7.1	50	7.1					100	14.2
Installation Kits N/R		19.7		0.1		0.6		3.0		3.0		1.3		1.0				2.0		30.6
Installation Equipment	1,949	88.5																	1,949	88.5
Mission Reprogramming Unit				7.9		3.3														11.2
ASN-130A Replacement						0.6		0.3		2.4		2.3		*						5.7
Power PC Integration								2.0		0.6		0.5		0.5		0.5				4.1
Ejection Seat								0.2												0.2
Installation Equipment N/R		17.9		*				1.5		5.2		2.1								26.7
Engineering Change Orders		0.3		0.5		0.5		0.5		0.5		0.5		0.6		0.5				3.8
Data		11.4				0.2		0.2		0.8										12.6
Training Equipment	15	2.6				0.4				0.2									15	3.2
Support Equipment		15.1																		15.1
ILS		1.5				0.1		0.2		0.5				0.5						2.8
Other Support		46.1		4.4		1.2		0.8		1.6		2.1		1.5		0.2				57.9
Interim Contractor Support																				
Installation Cost	792	57.6	62	5.7	90	11.1	34	14.8	44	17.1	79	17.5	68	12.1	15	11.3	6	8.6	1,190	155.9
Total Procurement		**455.3**		**48.0**		**48.4**		**69.4**		**89.5**		**63.9**		**26.4**		**15.9**		**10.6**		**827.4**

* Totals less than $50K.
1. Totals may not add due to rounding.
2. ASN-130A Installation Kit quantities (121) do not include VEP aircraft quantity (1) obtained via FY00 Congressional Add.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series Modifications** MODIFICATION TITLE: Wing Center 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: 22 Months

CONTRACT DATES: FY 2001: Nov-00 FY 2002: Nov-01 FY 2003: Nov-02

DELIVERY DATE: FY 2001: Mar-03 FY 2002: Mar-04 FY 2003: Mar-05

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & Prior (47) kits	26	27.1	5	5.0	10	10.1	6	5.8											**47**	**48.0**
FY 2001 (10) kits							9	8.7	1	1.1									**10**	**9.8**
FY 2002 (10) kits									10	11.1									**10**	**11.1**
FY 2003 (15) kits									4	4.4	11	12.1							**15**	**16.5**
FY 2004 (19) kits											4	4.4	10	11.1	5	5.6			**19**	**21.0**
FY 2005 (11) kits															5	5.6	6	8.6	**11**	**14.2**
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL	**26**	**27.1**	**5**	**5.0**	**10**	**10.1**	**15**	**14.5**	**15**	**16.7**	**15**	**16.5**	**10**	**11.1**	**10**	**11.1**	**6**	**8.6**	**112**	**120.7**

1. Totals may not add due to rounding

Installation Schedule

	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
In	26		3	2			1	5	4	4	4	4	3	4	4	4	3	4	4	4	3
Out	23	3					3	2			1	5	4	4	4	4	3	4	4	4	3

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	3	3	2	2	3	3	2	2	6	112
Out	4	4	4	3	3	3	2	2	16	112

*FY00 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 2001: Nov-00 FY 2002: N/A FY 2003: N/A

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & Prior (82) kits	30	0.8	48	0.6	4	0.1													**82**	**1.5**
FY 2001 (40) kits					40	0.5													**40**	**0.5**
FY 2002 () kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete ( ) kits																				
TOTAL	**30**	**0.8**	**48**	**0.6**	**44**	**0.6**													**122**	**2.0**

Installation Schedule

	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
In	30	12	12	12	12	12	12	10	10												
Out	14	16	12	12	12	12	12	12	10	10											

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										122
Out										122

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

DELIVERY DATE: FY 2001: N/A FY 2002: Feb-02 FY 2003: Feb-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & Prior ( ) kits																						
FY 2001 ( ) kits																						
FY 2002 (44) kits							36	0.5	8	0.1											**44**	**0.6**
FY 2003 (28) kits									11	0.2	17	0.2									**28**	**0.4**
FY 2004 (21) kits											12	0.2	9	0.1							**21**	**0.3**
FY 2005 (23) kits													15	0.3	8	0.2					**23**	**0.5**
FY 2006 (5) kits																	5	0.2			**5**	**0.2**
FY 2007 () kits																						
To Complete ( ) kits																						
TOTAL							**36**	**0.5**	**19**	**0.3**	**29**	**0.4**	**24**	**0.4**	**8**	**0.2**	**5**	**0.2**			**121**	**2.0**

Installation Schedule

	FY 2000 & Prior	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
In							6	15	15	4	5	5	5	7	7	7	8	6	6	6	6
Out								6	15	15	4	5	5	5	7	7	7	8	6	6	6

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	2	2	2	2	2	2	1			121
Out	6	2	2	2	2	2	2	1		121

* 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. 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.

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																				
Turbine Blade Containment Kit	40	4.1	68	7.5	66	7.7	64	7.6	33	4.8	2	0.3					18	2.1	291	34.1
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		0.6		0.7		0.1		0.1								2.0
Installation Cost																				
Total Procurement		**5.0**		**7.8**		**8.3**		**8.3**		**4.9**		**0.4**		**0.0**		**0.0**		**2.1**		**34.6**

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 89A Avionics systems modifications to install required communications, navigation, and miniaturized technology improvements. 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 MPS. (6) Misc. Avionics: Additional Engineeriing Change Proposals (ECP) and procurements of avionics, such as ARC-199 Radios, CIU/E, HARM, Dual EGI, and Night Vision capability in 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 PB02 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 completed successful OPEVAL and was approved for full rate production 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 in 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 are currently being conducted.

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	$
PROCUREMENT																				
Installation Kits	20	59.5																	20	59.5
Block 82 to 89A Kit	19	18.0	25	22.5	3	3.1													47	43.6
Block 89 to 89A Kit	33	11.8	6	0.9	6	1.2													45	13.9
Installation Kits N/R	8	5.8																	8	5.8
Installation Equipment	101	21.3																	101	21.3
Block 82 to 89A Equip	3	4.6		7.0		3.2													3	14.8
Block 89 to 89A	23	1.6		0.1		0.3													23	2.0
ARC-210 Equip	40	0.9		0.8		2.6													40	4.2
AN/AYK-14	35	5.7		0.0		1.5													35	7.3
NVD Equip	123	12.3																	123	12.3
CIU/Encoder	56	15.5			10	3.1													66	18.6
Installation Equipment N/R	2	4.4		3.0		0.8													2	8.2
Engineering Change Orders				0.2		0.2		0.2												0.6
Data		11.2		1.0		0.1														12.2
Training Equipment		12.9		0.2		0.3														13.4
Support Equipment		23.0		12.2		8.0														43.2
ILS		7.4		1.1		0.4														9.0
Other Support		81.8		1.4		6.3		0.6		0.2										90.2
Interim Contractor Support																				
Installation Cost	91	26.3	82	25.0	22	25.0	14	18.5	5	8.5									214	103.2
Total Procurement		**323.9**		**75.5**		**56.1**		**19.3**		**8.7**										523.5

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.
6. 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 2001: Mar-01 FY 2002: Dec-01 FY 2003: Dec-02

DELIVERY DATE: FY 2001: Mar-02 FY 2002: Dec-02 FY 2003: Dec-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & Prior (52) kits	29	24.5	22	25.0	1	1.1													**52**	**50.6**
FY 2001 (31) kits					19	21.6	12	15.8											**31**	**37.4**
FY 2002 (9) kits					2	2.3	2	2.6	5	8.5									**9**	**13.4**
FY 2003 ( ) kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete ( ) kits																				
TOTAL	**29**	**24.5**	**22**	**25.0**	**22**	**25.0**	**14**	**18.5**	**5**	**8.5**									**92**	**101.4**

Installation Schedule

	FY 2000 & Prior	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
In	29	5	5	6	6	5	5	6	6	4	4	3	3	5							
Out	21	4	4	5	5	6	6	5	5	6	6	4	4	3	3	5					

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										92
Out										92

1. A/C inducted four months ahead of delivery, as this is done concurrent with SDLM, and tear down 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 2001: N/A FY 2002: N/A FY 2003: N/A

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (122) kits	62	1.7	60	*															**122**	**1.7**
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**	**60**	*															**122**	**1.7**

Installation Schedule

	FY 2000 & Prior	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
In	62	30	30																		
Out		31	31	30	30																

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										122
Out										122

* 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 Replaceable 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, updates mission planning for ICAP III, 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 an OA and an LRIP decision, an LRIP contract will be awarded in FY03. Following completion of OPEVAL and a Milestone III decision, a full rate production contract will be awarded in FY04.

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		153.5		37.5		54.5		40.1												285.6
PROCUREMENT																				
Installation Kits							10	64.7	16	87.0	16	83.4	20	94.9	22	103.0	36	174.3	120	607.4
Installation Kits N/R								1.5												1.5
Installation Equipment									14	5.8	16	6.8			11	6.0	57	35.8	98	54.3
Installation Equipment N/R										0.5		1.0		5.3				4.5		11.3
Engineering Change Orders																				
Data								3.0		1.5		0.5		2.5		1.5				9.0
Training Equipment	2	29.9						37.1		2.3									2	69.3
Support Equipment						0.4		4.9		4.7		4.0		7.5		6.2		20.0		47.6
ILS										1.5		1.5		4.0		0.5		2.0		9.5
Other Support						0.5		3.9		5.5		1.6		7.5		5.6		66.8		91.4
Interim Contractor Support																				
Installation Cost									10	12.6	16	22.4	16	23.5	20	26.7	58	91.6	120	176.8
Total Procurement		**29.9**				**0.9**		**115.1**		**121.4**		**121.2**		**145.2**		**149.5**		**395.1**		**1078.2**

Notes:

1. In FY00, total program increases $29.9M as result of a Congressional Plus-up for Simulators for a trainer upgrade.
2. Unit kit costs in FY04 and FY05 are higher as base incoming aircraft is a Block 89 and require additional procurement of Block 89-89A kits and GFE. Quantities to be procured are 14 and 16 respectively. Installation costs in FY04, 05, and 06 increase for the same reason.
3. Installation costs include Repair Incident to Modification (RIM) efforts in FY06 and out.
4. Totals may not add due to rounding.
5. Total quantity of 120 does not include 2 kits procured/installed via E&MD program

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: 15 Months

CONTRACT DATES: FY 2001: N/A FY 2002: N/A FY 2003: Feb-03

DELIVERY DATE: FY 2001: N/A FY 2002: N/A FY 2003: May-04

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & Prior ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 (10) kits									10	12.6									10	12.6
FY 2004 (16) kits											16	22.4							16	22.4
FY 2005 (16) kits													16	23.5					16	23.5
FY 2006 (20) kits															20	26.7			20	26.7
FY 2007( ) kits																				
To Complete (58) kits																	58	91.6	58	91.6
TOTAL									**10**	**12.6**	**16**	**22.4**	**16**	**23.5**	**20**	**26.7**	**58**	**91.6**	**120**	**176.8**

** Aircraft are inducted one month before kit delivery

Installation Schedule

	FY 2000 & Prior	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
In																5	5	5	5	3	3
Out																	2	5	5	6	4

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	5	4	4	3	6	4	6	4	58	120
Out	3	4	5	4	3	5	5	5	64	120

Note: Two (2) aircraft kits were developed and installed in EA-6B EMD RDT&E program. (Total Inventory of 120)

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: **MIDS (LINK 16) (OSIP 05-03)**

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

DESCRIPTION/JUSTIFICATION:

This Operational and Safety Improvement Program covers integration of Link-16 into the EA-6B Improved Capabilities III (ICAP III) aircraft. This program covers procurement and installation of the previously developed and approved for production MIDS Low Volume Terminal, procurement and installation of a Government Off the Shelf (GOTS) Inter-cockpit Communications System (ICS), CX (IFF), TACAN Modification, and modification of the of Pre-Planned Product Improvement (P3I) Ethernet processor into the already installed AN/AYK-14 XN-11. This modifications will allow the EA-6B ICAP III aircraft to participate in the Link-16 network. Training Systems, Publications, and Support Equipment will be procured.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The MIDS LVT is a common DoD system. The Navy will procure an existing ICS system based on requirements and via a competitive contract. The AYK-14 XN-11 Ethernet modification is currently in development.

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				22.1		8.0														30.1
PROCUREMENT																				
Installation Kits							14	1.1	14	1.1	16	1.2	20	1.6	22	1.8	36	3.0	122	9.8
Installation Kits N/R																				
Installation Equipment							42	6.4	42	6.5	48	7.4	60	8.3	66	8.1	108	15.2	366	52.0
installation equipment N/R																				
Engineering Change Orders																				
Data								0.1		0.1		0.5		*						0.7
Training Equipment								*		0.3		0.4		*						0.8
Support Equipment										0.1		0.1		*						0.2
ILS								*		0.2		0.3		0.1						0.6
Other Support								0.3		0.4		0.4		0.5				1.2		2.8
Interim Contractor Support																				
Installation Cost									10	**1.0**	16	**1.6**	16	**1.7**	20	**2.1**	58	6.4	120	12.8
Total Procurement								**7.9**		**9.6**		**11.9**		**12.3**		**12.0**		**25.8**		**79.6**

Notes:

1. Totals may not add due to rounding
2. Installation of 120 kits includes the Vehicle Enhancemet Program Reconstitution (VEP) aircraft.
3. * Totals less than 50K.

Exhibit P-3a

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

MODIFICATION TITLE: **MIDS (LINK 16) (OSIP 05-03)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **FIELD** **DEPOT INSTALL**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2001: N/A FY 2002: N/A FY 2003: Dec-02

DELIVERY DATE: FY 2001: N/A FY 2002: N/A FY 2003: Dec-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & Prior () KITS																				
FY 2001 () KITS																				
FY 2002 ( ) kits																				
FY 2003 (12) kits									10	1.0	2	0.2							**12**	**1.2**
FY 2004 (14) kits											14	1.4							**14**	**1.4**
FY 2005 (16) kits													16	1.7					**16**	**1.7**
FY 2006 (20) kits															20	2.1			**20**	**2.1**
FY 2007 (22) kits																	22	2.4	**22**	**2.4**
TO COMPLETE (36) KITS																	36	4.0	**36**	**4.0**
TOTAL	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**10**	**1.0**	**16**	**1.6**	**16**	**1.7**	**20**	**2.1**	**58**	**6.4**	**120**	**12.8**

** Aircraft are inducted one month before kit delivery

NOTES

1. 4 KITS ARE FOR ICAP III TRAINERS AND INSTALLATION IS NOT REQUIRED

Installation Schedule

	FY 2000 & Prior	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
In														0	0	5	5	5	5	3	3
Out														0	0	0	2	5	5	6	4

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	5	4	4	3	6	4	6	4	58	120
Out	3	4	5	4	3	5	5	5	64	120

Exhibit P-40, BUDGET ITEM JUSTIFICATION			DATE: **February 2002**	
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY		A									
COST (In Millions)	232.4	A	119.5	73.6	32.2	23.6	27.5	28.0	15.0	40.5	592.2

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 2003 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 (30 Jun 2001) consists of 4 major configurations:
- 17 two-seat TAV-8B aircraft,
- 33 DAY Attack aircraft,
- 45 NIGHT Attack Aircraft, and
- 69 Night Attack/RADAR aircraft.

In addition there are 22 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 production.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
1-91	Omnibus O&S Improvements	70.3	14.0	7.0	7.2	2.5	0.7				101.6
21-92	Auto. Target Hand-Off System	24.3	1.3	1.3							26.9
23-92	AN/ARC-210(V) EP Radio	9.0	1.3	1.8		-					12.1
34-93	Horizonal Stabilator Fatigue Impr.	18.8	0.1	0.2	0.9						20.0
3-96	KAPTON Wire Replacement	20.9	3.6	4.9	2.1						31.5
25-99	TAV-8B Performance Upgrade	71.5	17.6	12.0	2.8	1.0					104.9
18-00	SJU-4 Escape System Performance Upgrade	1.8	1.6	2.1							5.5
23-00	Litening II Pod	16.0	80.0	24.7							120.7
12-02	Open Systems Core Avionics Requirement & Precision Strike			19.5	17.8	15.3	22.9	25.9	11.1	8.9	121.2
06-03	Zero Retention Force				1.5	1.5					2.9
02-04	Engine Life Management Program					3.4	3.9	2.1	3.9	31.6	44.9
TOTAL		**232.4**	**119.5**	**73.6**	**32.2**	**23.6**	**27.5**	**28.0**	**15.0**	**40.5**	**592.2**

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 NAVFLIR units plus spares. **GEC-2**, High Performance Head Amplifier in to the NAVFLIR to prevent inadvertent shutdown due to power transients - NAVFLIRS installed Night plus spares. **L580**, improved exhaust ducting of the GTS/APU eliminates cracking problem and improved availability - TAV-8B, Day, Night & FY96 & prior Radar. **L-660**, upgrades the Protection Unit of the Gas Turbine Starter/Auxiliary Power Unit to prevent inadvertent system shutdowns during transient loads - all installed and spare GTS/APU units. **ECP-296**, replaces the radar warning receiver quadrant antennas with existing ALR-67 antennas for improved performance - Day, Night & Radar. **ECP-tbd**, replaces current arming solenoid with a Zero Retention Force solenoid to improve in-flight selectability and safe ordinance jettison - TAV-8B, Day, Night & 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 modification was completed 4th quarter FY-97.

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																				
ECP-217 (Emerg Battery) Kit	67	1.2																	67	1.2
ECP-246 (TAV Canopy Restraint) Kit	18	0.1																	18	0.1
ECP-248 (PLAU Resolver) Kit	54	2.8	48	1.0	48	1.1	2	*											152	5.0
ECP-251 (NWS) Kit	76	2.8	18	1.4															94	4.2
ECP-254 (IGVC) Kit	97	0.2		*															97	0.2
ECP-255R1 (DFC) Kit	141	0.3																	141	0.3
ECP-256 (JPT) Kit	191	0.1																	191	0.1
ECP-257 (DECU) Kit	99	*																	99	*
ECP-269R1 (Frame 12) Kit			11	0.2	49	0.5													60	0.7
ECP-271 (100%LERX) Kit	53	0.2																	53	0.2
ECP-278 (RWR Cable) Kit	136	0.8																	136	0.8
ECP-300 Landing Gear Control Handle			184	0.8															184	0.8
C1.0 DSM Modules Kit	154	1.2																	0	1.2
GEC-11 (CEDE Unit) Kit	181	0.1																	181	0.1
GEC-002 (HPHA Unit) Kit	43	2.5																	43	2.5
L580 (GTS/APU Duct) Kit		*																	0	*
L660 (GTS/APU Protect Unit) Kit	329	0.9																	329	0.9
PRIOR YEARS	528	8.3																	528	8.3
Installation Kits N/R		7.0		2.8															0	9.9
Installation Equipment																			0	*
ECP-248 (PLAU) Equip	54	0.1	48	0.1	48	0.1	2	*											152	0.3
ECP-255R1 (DFC) Equip	161	5.4																	161	5.4
ECP-254/RR-3759 (IGVC) Equip	100	13.6	24	2.7			21	3.0											145	19.3
ECP-296 (ALR-67 Antennas)	178	0.6																	178	0.6
Installation Equipment N/R																				*
Engineering Change Orders																				*
Data		1.6		0.1																1.8
Training Equipment		7.7		*																7.8
Support Equipment		2.3		*																2.3
ILS		0.1																		0.1
Other Support		5.1		0.3		0.2														5.6
Interim Contractor Support																				
Installation Cost		5.0		4.5		5.1		4.1		2.5		0.7								21.9
TOTAL PROCUREMENT		**70.3**		**14.0**		**7.0**		**7.2**		**2.5**		**0.7**								**101.6**

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 2001 Multiple FY 2002 Multiple FY 2003 Multiple

DELIVERY DATE: FY 2001 Multiple FY 2002 Multiple FY 2003 Multiple

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	1997	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (1138) kits	**722**	**5.0**	**169**	**4.5**	**181**	**4.7**	**66**	**1.5**											**1138**	**15.7**
FY 2001 (95) kits					**17**	**0.4**	**73**	**1.7**	**5**	**0.2**									**95**	**2.3**
FY 2002 (97) kits							**42**	**1.0**	**50**	**2.2**	**5**	**0.5**							**97**	**3.7**
FY 2003 (2) kits										*	**2**	**0.2**							**2**	**0.2**
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	722	5.0	169	4.5	198	5.1	181	4.1	55	2.5	7	0.7							1332	22.0

Installation Schedule

	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
In	722	34	40	45	50	50	49	50	49	50	50	50	31	15	15	15	10	4	3		
Out	722	34	40	45	50	50	49	50	49	50	50	50	31	15	15	15	10	4	3		

	FY 2006				FY2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										1332
Out										1332

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 2001		FY 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																				
ECP-180 (ATHS) Kit	90	3.8																	90	3.8
Installation Kits N/R		8.5																		8.5
Installation Equipment																				
ECP-180 (ATHS) Equip	90	3.9																	90	3.9
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	34	2.3	27	1.1	23	1.3													84	4.7
TOTAL PROCUREMENT		**24.3**		**1.3**		**1.3**														**26.9**

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 2001 _____ FY 2002 _____ FY 2003 _____

DELIVERY DATE: FY 2001 _____ FY 2002 _____ FY 2003 _____

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (84) kits	**34**	**2.3**	**27**	**1.1**	**23**	**1.3**													**84**	**4.7**
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	34	2.3	27	1.1	23	1.3													84	4.7

Note: 6 kits installed by contractor for "Sea Dragon" mission.

Installation Schedule

	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
In	34	6	7	7	7	6	6	5	6												
Out	34	6	7	7	7	6	6	5	6												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										84
Out										84

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 2001		FY 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																				
ECP-240 (ARC-210) Kit	90	0.9																	90	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		2.7																		2.7
Engineering Change Orders																				
Data		0.3																		0.3
Training Equipment		0.8																		0.8
Support Equipment		0.2																		0.2
ILS																				
Other Support																				
Interim Contractor Support																				
Installation Cost	32	1.0	27	1.3	23	1.1													82	3.3
TOTAL PROCUREMENT		**9.0**		**1.3**		**1.8**														**12.1**

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 2001 _____ FY 2002 _____ FY 2003 _____

DELIVERY DATE: FY 2001 _____ FY 2002 _____ FY 2003 _____

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (82) kits	32	1.0	27	1.3	23	1.1													82	3.3
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	32	1.0	27	1.3	23	1.1													82	3.3

Installation Schedule

	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
In	32	6	7	7	7	6	6	5	6												
Out	32	6	7	7	7	6	6	5	6												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										82
Out										82

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Horizontal 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 2001		FY 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																				
ECP-243R1 (Horiz Stab) Kit	222	12.3																	222	12.3
Installation Kits N/R																				
Installation Equipment																				
ECP-243R1 (Horiz Stab) Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		*																		0.0
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		0.2																		0.2
Interim Contractor Support																				
Installation Cost	233	6.3	1	0.1	3	0.2	12	0.9											249	7.5
TOTAL PROCUREMENT		**18.8**		**0.1**		**0.2**		**0.9**												**20.0**

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: 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 2001 _____ FY 2002 _____ FY 2003 _____

DELIVERY DATE: FY 2001 _____ FY 2002 _____ FY 2003 _____

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (249) kits	**233**	**6.3**	**1**	**0.1**	**3**	**0.2**	**12**	**0.9**											**249**	**7.5**
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	233	6.3	1	0.1	3	0.2	12.0	0.9											249	7.5

**NOTE: Installation includes 27 spare stabilators.

Installation Schedule

	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
In	233				1	1	1	1	0	3	3	3	3								
Out	233				1	1	1	1	0	3	3	3	3								

	FY 2006				FY 2007				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. Installation verficiation was completed on one aircraft Aug 2001.

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																				
ECP 277 (Kapton Wire) Kit	11	16.3	1	1.3															12	17.6
Installation Kits N/R		2.2																		2.2
Installation Equipment																				
ECP 277 (Kapton Wire) Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.7																		0.7
Training Equipment																				
Support Equipment																				
ILS		*																		
Other Support		0.7		0.2																0.9
Interim Contractor Support																				
Installation Cost	1	1.0	2	2.1	7	4.9	2	2.1											12.0	10.1
TOTAL PROCUREMENT		**20.9**		**3.6**		**4.9**		**2.1**												**31.5**

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: 12 Months

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

DELIVERY DATE: FY 2001 Mar-02 FY 2002 FY 2003

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (11) kits	**1**	**1.0**	**2**	**2.1**	**7**	**4.9**	**1**	**1.1**											**11**	**9.1**
FY 2001 (1) kits							**1**	**1.0**											**1**	**1.0**
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	1	1.0	2	2.1	7	4.9	2	2.1											12	10.1

Installation Schedule

	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
In	1		1		1	1	1	3	2	1	1										
Out	1		1		1	1	1	3	2	1	1										

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										12
Out										12

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 & below aircraft currently in the inventory. ECP-288 will field a modified Operational Flight Program to support the full -408A engine capabilities. ECP-291 installs the Night Attack Displey computer and a modified Throttle Grip. Due to the upgraded engine, Frame 12 stiffners will be installed on all TAV-8B aircraft concurrently with ECP-275.

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 2001		FY 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																				
ECP-275, -408 Engine Kit (T2-15)	10	3.3	2	0.5															12	3.8
IAFC-398, Fr.12 Kit (T2-15)			12	0.5															12	0.5
ECP-276, NVG Ltg. Kit (T2-24)	12	3.1	5	1.3															17	4.4
AFC-273, Kit (T2-24)	20	0.1																	20	0.1
Installation Kits N/R		2.1		0.4															0	2.6
Installation Equipment																				
-408 Engines, ECP-275 (T2-15)	10	34.4	2	7.4															12	41.7
-408 Engines, ECP-275 (T16-24)	6	20.4																	6	20.4
Engine Monitoring Unit, ECP-275 (T	14	0.9	6	0.7															20	1.7
Stby. Altimeter, ECP-276 (T2-24)	24	0.2	12	0.1															36	0.4
Eng. Perf. Ind. (EPI), ECP-276 (T2-	26	0.3	16	0.2															42	0.4
CDC/CDM, ECP-276 (T2-24)	35	0.7	16	0.2															51	0.8
ACNIP, ECP-276 (T2-24)	10	0.1	8	*															18	0.1
Fuel Qty Ind., ECP-276 (T2-24)	18	*	8	*															26	0.1
Airspeed Ind., ECP-276 (T2-24)	36	0.1	16	*															52	0.1
ECP-288 Mission Computer (T2-24	1	*			17	1.9													18	1.9
ECP-288 Warfare Mgmt Computer	1	0.5			17	3.8													18	4.3
ECP-291 NA Disp Computers (T 2-24)					18	2.2													18	2.2
ECP-291 Throttle Grips (T2-24)					18	0.5													18	0.5
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.3		1.0																2.3
Training Equipment		0.2		1.9																2.1
Support Equipment		0.1		0.1		0.9														1.1
ILS																				
Other Support: ECP-288		3.8		2.6		1.1		0.4												7.9
Interim Contractor Support																				
Installation Cost			4	0.6	21	1.6	27	2.4	9	1.0									61	5.6
TOTAL PROCUREMENT		**71.5**		**17.6**		**12.0**		**2.8**		**1.0**										104.9

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 2001 Various FY 2002 FY 2003

DELIVERY DATE: FY 2001 Various FY 2002 FY 2003

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (42) kits			**3**	**0.6**	**16**	**1.5**	**19**	**1.7**	**4**	**1.0**											**42**	**4.8**
FY 2001 (19) kits			**1**	*****	**5**	**0.1**	**8**	**0.7**	**5**	*****											**19**	**0.8**
FY 2002 ( ) kits																						
FY 2003 ( ) kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
FY 2006 ( ) kits																						
FY 2007 ( ) kits																						
To Complete ( ) kits																						
TOTAL			4	0.6	21	1.6	27	2.4	9	1.0											61	5.6

Installation Schedule

	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
In	0				4	4	5	12		7	7	7	6	9							
Out	0				4	4	5	12		7	7	7	6	9							

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										61
Out										61

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 technologies, including a new restraint, parachute, and improved speed sensing.

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 completed in March 01.

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 ELEMENT# 0604264N																				
PROCUREMENT																				
Installation Kits																				
ECP E4631-01-3 Helmet	800	0.5																	800	0.5
ECP 16416 Parachute	220	0.9	29	0.1															249	1.0
ECP 303 AAS			35	0.3	214	1.8													249	2.1
Installation Kits N/R		*		0.2		0.1														0.3
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.2		0.4		*														0.6
Training Equipment				0.1																0.1
Support Equipment																				
ILS		0.1		0.4		0.2														0.7
Other Support		*		0.1																0.2
Interim Contractor Support																				
Installation Cost																				
TOTAL PROCUREMENT		**1.8**		**1.6**		**2.1**													**1298**	5.5

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: 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 targeting. Congressional add of $80M to procure additional Litening II Precision Targeting Pods.

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-02.

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, ECP-tbd Pod Provisio	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	10	18.6													66	91.3
Installation Equipment N/R		1.0		5.7																6.7
Engineering Change Orders		0.1																		0.1
Data		0.3				0.1														0.4
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		6.0														14.3
Interim Contractor Support																				
Installation Cost																				
TOTAL PROCUREMENT		**16.0**		**80.0**		**24.7**														120.7

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 May 03. Initial operating capability is scheduled for Nov 03.

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 ELEMENT# 0604264N																				
PROCUREMENT																				
Installation Kits																				
MIL-STD-1760 Wiring Kits					10	1.4	15	2.8	18	3.0	18	2.9	18	2.6	19	2.9			98	15.5
Installation Kits N/R						1.6														1.6
Installation Equipment																				
OSCAR Computers					52	11.8	44	10.4	42	9.7	44	11.3	54	12.7	14	4.4	8	2.9	258	63.1
Installation Equipment N/R												5.1		7.2		0.6				12.9
Engineering Change Orders																				
Data						1.0		0.1												1.1
Training Equipment						2.5		3.2												5.6
Support Equipment						0.8		0.4												1.2
ILS																				
Other Support						0.5		0.3		0.3		0.7		0.3				0.8		2.9
Interim Contractor Support																				
Installation Cost							4	0.7	14	2.4	16	2.8	18	3.2	18	3.2	28	5.1	98	17.3
TOTAL PROCUREMENT						**19.5**		**17.8**		**15.3**		**22.9**		**25.9**		**11.1**		**8.9**		**121.2**

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: 4 Months PRODUCTION LEADTIME: 13 Months

CONTRACT DATES: FY 2001 FY 2002 Jun-02 FY 2003

DELIVERY DATE: FY 2001 FY 2002 May-03 FY 2003

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 (10) kits							**4**	**0.7**	**6**	**1.1**									**10**	**1.8**
FY 2003 (15) kits									**8**	**1.3**	**7**	**1.2**							**15**	**2.5**
FY 2004 (18) kits											**9**	**1.6**	**9**	**1.6**					**18**	**3.1**
FY 2005 (18) kits													**9**	**1.6**	**9**	**1.6**			**18**	**3.2**
FY 2006 (18) kits															**9**	**1.6**	**9**	**1.6**	**18**	**3.3**
FY 2007 (19) kits																	**19**	**3.5**	**19**	**3.5**
To Complete (0) kits																				
TOTAL							4	0.7	14	2.4	16	2.8	18	3.2	18	3.2	28	5.1	98	17.3

Installation Schedule

	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
In												2	2	3	3	4	4	3	4	5	4
Out												2	2	3	3	4	4	3	4	5	4

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	4	5	5	4	4	5	5	4	28	98
Out	4	5	5	4	4	5	5	4	28	98

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Zero Retention Force (06-03)

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

DESCRIPTION/JUSTIFICATION:

The purpose of the arming unit is to control the retention or release of an arming wire attached to the weapon. The ZRF enables reliability of flight selection of firing and weapon mode operations. The current BRU-36 arming unit (AU) has a history of problems and is not up to the standards of the AU's used on newer airframes. The Zero Retention Force Solenoid will be interchangeable with the SA-122 on all AV-8B models to provide reliable and dependable operation for in-flight selectability safe ordinance jettison.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

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 ELEMENT# 0604214N																				
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment							65	1.5	65	1.5									130	2.9
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support																				
Interim Contractor Support																				
Installation Cost																				
TOTAL PROCUREMENT								**1.5**		**1.5**							**0**	**0**		**2.9**

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

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**1,375.1**	A	**27.8**	**6.9**	**3.7**						**1,413.6**

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 2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
152-83	Structural Improvements	344.1	7.1	4.0	3.7						**358.9**
33-92	Structural/Survivability Block Upgrade	439.6	0.4								**440.0**
12-94	Digital Flight Control	100.6	0.1								**100.7**
31-94	GPS/Embedded GPS	58.5	0.1								**58.6**
42-95	Precision Strike Program	396.8	*	2.5							**399.4**
20-96	F-14 Critical Systems & Component Modernizat	35.3	20.1	0.4							**55.9**
	Total	**1,375.1**	**27.8**	**6.9**	**3.7**						**1,413.6**

Note: Totals may not add due to rounding.

Asterisk 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 an 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 (TCRs). 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 2001		FY 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																				
5K Kits, ECP 1225/1227	333	39.4																	333	39.4
F-14D 7K Kits, ECP 1243	54	15.4																	54	15.4
9K Kits, ECP 1287	42	20.3																	42	20.3
TCR Fuel Cells	50	0.2																	50	0.2
ECP-305 BUFCOM Part 1 Kits	200	0.1																	200	0.1
ECP-276 BUFCOM Part 11 Kits	145	0.1																	145	0.1
AFC-859 Bulk Material, ECP 1285	200	0.2																	200	0.2
ECP 1285 PT II WING CRACK	200	0.2																	200	0.2
Wing Crack III			10	*	190	0.1													200	0.2
ECP-304 F.S. 353 Frame Kits	194	0.7																	194	0.7
TF-30 Breather Pressure **	305	2.8																	305	2.8
Phoenix Fairing Kits, ECP Pending	50	*																	50	0.0
Door Reconfiguration	43	0.4	175	0.4															218	0.8
Rudder Servo, ECP 279	288	1.0																	288	1.0
FEMS Engine Diagnostic	20	0.4																	20	0.4
AFC-737, ECP 147 5K Partial	50	0.2																	50	0.2
Install Kits NR		41.9		1.0																42.9
Other Prior Year Kits		47.5																		47.5
Installation Equipment																				
Auxillary Hardware		1.2																		1.2
Installation Equipment N/R		17.4																		17.4
Engineering Change Orders																				
Data		1.9		0.2																2.1
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		12.8		2.0		1.4		1.7												17.9
Interim Contractor Support																				
Installation Cost	1,185	139.9	72	3.4	104	2.5	191	2.0											1,552	147.9
Total Procurement		**344.1**		**7.1**		**4.0**		**3.7**												**358.9**

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (370) kits	335	126.7	28	2.9	6	1.6	1	0.7											**370**	**131.9**
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	**335**	**126.7**	**28**	**2.9**	**6**	**1.6**	**1**	**0.7**											**370**	**131.9**

	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
In	335	6	9	8	5	1	2	1	2	1											
Out	323	5	6	6	5	7	3	2	3	2	3	2	3								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										370
Out										370

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (545) kits	545	5.8																	**545**	**5.8**
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	**545**	**5.8**																	**545**	**5.8**

Installation Schedule

	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
In	545																				
Out	525	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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (194) kits	194	6.3																	**194**	**6.3**
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	**194**	**6.3**																	**194**	**6.3**

Installation Schedule

	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
In	194																				
Out	194																				

	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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (43) kits	43	0.4																	**43**	**0.4**
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	**43**	**0.4**																	**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 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
In	43																				
Out	43																				

	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 2001: 10/00 FY 2002: 10/01 FY 2003:

DELIVERY DATE: FY 2001: 01/01 FY 2002: 01/02 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (200) kits	68	0.7	44	0.6	88	0.8													**200**	**2.1**
FY 2001 (10) kits					10	0.1													**10**	**0.1**
FY 2002 (190) kits							190	1.3											**190**	**1.3**
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**	**190**	**1.3**											**400**	**3.5**

Installation Schedule

	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
In	68	11	11	11	11	20	23	24	31	50	50	47	43								
Out	24	44	11	11	11	11	20	23	24	31	50	50	47	43							

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										400
Out										400

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 2001		FY 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																				
5K HR TCR/ECP-1225/1227	42	8.2																	42	8.2
7K HR TCR/ECP-1243	57	4.8																	57	4.8
AFC-840 UPGRADE/ECP-245	69	12.0																	69	12.0
AFC-844 TARPS/ECP-269	16	1.4																	16	1.4
BOL CHAF/ECP-236	80	0.5																	80	0.5
TCR, AUX Hardware		4.7																		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	78	17.6																	78	17.6
PTID	27	13.4																	27	13.4
PMDIG	78	12.5																	78	12.5
AWG-15	78	7.1																	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		6.9																		6.9
Support Equipment		28.4																		28.4
ILS		24.6																		24.6
Other Support		73.5																		73.5
Interim Contractor Support																				
Installation Cost	257	54.2	1	0.4															258	54.6
Total Procurement		**439.6**		**0.4**																440.0

Notes:

1. Totals may not add due to rounding

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (69) kits	68	24.0	1	0.4															**69**	**24.3**
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	**68**	**24.0**	**1**	**0.4**															**69**	**24.3**

Installation Schedule

	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
In	68				1																
Out	61	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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (99) kits	99	26.9																	**99**	**26.9**
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	**99**	**26.9**																	**99**	**26.9**

Installation Schedule

	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
In	99																				
Out	92	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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (74) kits	74	3.3																	**74**	**3.3**
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	**74**	**3.3**																	**74**	**3.3**

Installation Schedule

	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
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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (16) kits	16	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	**16**	**0.1**																	**16**	**0.1**

Installation Schedule

	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
In	16																				
Out	16																				

	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 2001		FY 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																				
F-14 Kits	75	1.3																	75	1.3
F-14B Kits	66	1.3																	66	1.3
F-14D Kits	50	1.0																	50	1.0
Installation Kits N/R		*																		0.0
Installation Equipment	192	35.6																	192	35.6
Installation Equipment N/R		11.4																		11.4
Engineering Change Orders																				
Data		2.7																		2.7
Training Equipment		4.2																		4.2
Support Equipment		2.4																		2.4
ILS		2.5																		2.5
Other Support		29.6																		29.6
Interim Contractor Support		1.6																		1.6
Installation Cost	189	7.2	2	0.1															191	7.3
Total Procurement		**100.6**		**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 2001: 11/00 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: 4/01 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (174) kits	174	6.3																	**174**	**6.3**
FY 2001 (17) kits	15	1	2	0.1															**17**	**1.0**
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**189**	**7.2**	**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 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
In	189	1		1																	
Out	185	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 2001		FY 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																				
F-14B Kits	66	4.6																	66	4.6
F-14D Kits	48	3.7																	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		13.4																		13.4
Interim Contractor Support		1.8																		1.8
Installation Cost	117	9.1	1	0.1															118	9.2
Total Procurement		**58.5**		**0.1**																**58.6**

Notes:

1. Totals may not add due to rounding

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (118) kits	117	9.1	1	0.1															**118**	**9.2**
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**	**9.1**	**1**	**0.1**															**118**	**9.2**

Installation Schedule

	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
In	117			1																	
Out	110	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. In FY 2002, a Congressional add of $2.5 million was included to fund maintenance, spare parts, training and TARPS-CD costs associated with additional battle group deployments.

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 2001		FY 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																				
F-14B MCAP	10	0.2																	10	0.2
F-14A Kits	70	3.2																	70	3.2
F-14B UPGRADE Kits	67	3.1																	67	3.1
F-14D Kits	48	2.1																	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	43	1.3																	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		15.7																		15.7
Installation Equipment																				
Lantirn Targeting System	75	174.9																	75	174.9
Night Vision Equipment	177	3.0																	177	3.0
ALR-67 BSF	60	4.0																	60	4.0
GBU 24E/B AAE	114	1.1																	114	1.1
PTIDS	28	14.0																	28	14.0
LANTIRN 4OK	74	5.5																	74	5.5
Installation Equipment N/R	19	60.8																	19	60.8
Engineering Change Orders		1.5																		1.5
Data		3.9																		3.9
Training Equipment	3	4.4																	3	4.4
Support Equipment		26.3																		26.3
ILS		10.5																		10.5
Other Support		10.5				2.5														13.0
Interim Contractor Support		7.2																		7.2
Installation Cost *	715	26.1	2	*															717	26.1
Total Procurement *		**396.8**		*		**2.5**														399.4

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: 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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (195) kits	194	13.2	1	*															**195**	**13.2**
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	**194**	**13.2**	**1**	*****															**195**	**13.2**

Installation Schedule

	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
In	194			1																	
Out	194					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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (51) kits	51	8.4																	**51**	**8.4**
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	**51**	**8.4**																	**51**	**8.4**

Installation Schedule

	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
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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (80) kits	80	1.7																	**80**	**1.7**
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 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
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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (157) kits	157	1.0																	**157**	**1.0**
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	**157**	**1.0**																	**157**	**1.0**

Installation Schedule

	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
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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (117) kits	116	1.3	1	*															**117**	**1.3**
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	**116**	**1.3**	**1**	*****															**117**	**1.3**

Asterisk indicates amount less than $50K

Installation Schedule

	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
In	116			1																	
Out	116					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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (117) kits	117	0.5																	**117**	**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	**117**	**0.5**																	**117**	**0.5**

Installation Schedule

	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
In	117																				
Out	117																				

	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 replaces high 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 2001		FY 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																				
AWG-9 Antenna**	170	0.4																	170	0.4
AWG-9 BEAM Power Supply	200	0.5																	200	0.5
AWG-9 COLL Pwr Supp	200	0.7																	200	0.7
AWG-9 DDD**	170	0.7																	170	0.7
AWG-9 Receiver**	170	2.8																	170	2.8
Flap/Slat	200	*																	200	
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**	200	0.7																	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	*																	10	*
SCADC**	150	0.1																	150	0.1
F-14D Glareshield**	50	0.3																	50	0.3
RWR ANTENNA			75	1.0															75	1.0
Installation Kits N/R		7.2																		7.2
Installation Equipment																				
Installation Equipment N/R		0.1																		0.1
Engineering Change Orders																				
Data		0.7																		0.7
Training Equipment		1.3																		1.3
Support Equipment	31	1.6	34	0.4	22	0.4													87	2.4
ILS		*																		*
Other Support		6.7		1.5																8.2
Interim Contractor Support																				
Installation Cost	687	5.6	245	5.9															932	11.6
Total Procurement		**35.3**		**20.1**		**0.4**														**55.9**

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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (200) kits	200	0.7																	**200**	**0.7**
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	**200**	**0.7**																	**200**	**0.7**

Installation Schedule

	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
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: Months

PRODUCTION LEADTIME: Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (200) kits	200	0.7																	**200**	**0.7**
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	**200**	**0.7**																	**200**	**0.7**

Installation Schedule

	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
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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (145) kits	105	0.5	40	0.2															**145**	**0.7**
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	**105**	**0.5**	**40**	**0.2**															**145**	**0.7**

Installation Schedule

	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
In	105	16	9	8	7																
Out	88	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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (64) kits	64	0.2																	**64**	**0.2**
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 2000 & Prior	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
In	64																				
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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (200) kits	118	3.6	82	3.4															**200**	**7.0**
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	**118**	**3.6**	**82**	**3.4**															**200**	**7.0**

Installation Schedule

	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
In	118	32	36	14																	
Out	113	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 2001: 10/00 FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (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 2000 & Prior	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
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: **February 2002**			
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY											
COST (In Millions)	1,055.3		271.1	223.8	421.7	426.3	500.0	461.8	500.9	1,754.0	5,626.3

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 2003 is to implement commonality/capability. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Complete	To Total
11-84	Correction of Discrep.	263.1	54.8	54.3	59.5	51.1	52.2	53.5	54.4	62.9	705.8
39-92	AN/ARC-210	10.8	2.4	1.9	1.5	1.2					17.8
19-94	Common Configuration	149.9	14.8	13.1	13.8	12.3	13.0	12.4	12.9	90.3	332.6
36-94	GPS	52.7	8.7	9.6	4.0	1.2	1.9			28.0	106.2
38-94	AN/APG-73 RUG	122.1	14.0	3.6	4.3	17.8	16.2	0.2	0.2		178.3
12-96	PIDS	48.5	2.3	0.3	1.6	1.6				191.0	245.3
3-97	ATARS	217.4	23.1								240.5
23-98	Naval Reserve Upgrade	32.0	2.9								34.9
10-99	DCS	2.7	0.6	4.0	3.8	4.3	4.8	2.9	1.2	1.1	25.4
11-99	SLMP	18.3	5.2	15.6	57.0	64.1	84.1	93.8	99.2	545.6	982.9
12-99	MIDS*	68.5	46.6	24.6	48.2	48.2	50.6	43.0	48.9	64.4	454.4
	DERF(non add)			11.5							
20-99	NACES P3I	11.0	2.2	0.4						4.8	18.4
21-00	USMC F/A-18A UPGRADE	56.6	66.8	35.1	11.7	2.8	50.6	66.7	3.0	42.4	335.7
24-00	JHMCS	1.8			6.6	24.0	27.9	37.5	39.8	79.0	216.7
12-01	ATFLIR		10.7	42.5	119.3	114.0	117.6	116.7	147.9	16.5	685.3
16-01	TAMMAC		5.3								5.3
19-01	E/F 2000 hr Correction of Discrep.		10.6	11.5	11.0	9.4	9.3	1.9	8.9	2.9	65.5
05-02	Digital Wing Tip for AIM 9X			1.0	1.5	0.6	0.3	0.2	0.2	0.1	3.9
06-02	C/D Training System			5.0	38.7	32.7	29.6	7.9	6.9		120.8
15-02	PRISM			1.0							1.0
12-03	E/F 4000 hr Correction of Discrep.				14.9	19.5	12.3	6.0	0.9	0.7	54.3
13-03	E/F 6000 hr Correction of Discrep.				6.0	8.2	8.2	4.9	1.4	1.9	30.5
14-03	E/F Correction of Operational Discrep.				16.9	11.3	19.8	6.8	10.2	16.0	81.0
15-03	MARK XIIA Mode 5 IFF				1.4	1.9	1.6	7.5	11.7	325.9	350.1
XX-07	AESA								30.9	280.5	311.4
XX-07	Advanced Crew Station								22.3		22.3
TOTAL		1,055.3	271.1	223.8	421.7	426.3	500.0	461.8	500.9	1,754.0	5,626.3

*** Note Defense Emergency Response Funding (DERF) added $11.5M to OSIP (12-99)**

RESERVE INCLUDED IN TOTAL	32.6		11.7	12.1	

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**

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.
Aileron/Trailing Edge Flap (ECP 574)	Provides a full-life improvement for aircraft degradation caused bt cracked trailing edge flap and aileron hinges.
Flight Control Computer (ECP 595)	Improves safety-of-flight for the recovery from, and resistance to, out-of-control flight (OOCF) while also eliminating anomalies cited in FCC OFP 91C*004
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)	Provide a full-life improvement for aircraft degradation caused by cracked trailing edge flap and aileron hinges.
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.
Main Landing Gear (MLG) Axle (ECP XXX)	Incorporation of Full Life redesigned Main Landing Gear Axle Polygon, extending Axle's service life from current 8300 total landings to 13000.

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 in FY02. No installs currently planned; possible in future.
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.

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 2001		FY 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																				
ECP 087S1/External Stores EMI Protection																				
ECP 121R1/Auto AC Bus Isolation	356	0.7																	356	0.7
ECP 165R1/Battery Control Relay Unit	251	0.5																	251	0.5
ECP 178/FY86 Block Upgrade	82	4.7																	82	4.7
ECP 241R1/Center Fuselage Structural Mods	1,719	0.6																	1,719	0.6
ECP 251/Dorsal Longeron	1,926	0.8																	1,926	0.8
ECP 251R1/Dorsal Longeron	443	8.6																	443	8.6
ECP 262/470.5 Bulkhead	494	0.0																	494	0.0
ECP 267R1/Righthand AMAD Bay	287	0.0																	287	0.0
ECP 276/Y508 Former	836	1.0																	836	1.0
ECP 284/AC Bus Wiring MOD																				
ECP 305/AFT Engine Mount	619	0.0																	619	0.0
ECP 306/Y657.35 Engine Bay Door Former	688	0.9																	688	0.9
ECP 311/Main Landing Gear (MLG) Planing Link	10	0.0																	10	0.0
ECP 319/MLG Trunnion Upgrade	1,405	0.0																	1,405	0.0
ECP 320/Y488 Bulkhead	473	1.2																	473	1.2
ECP 321/Deployable Flight Incident Recorder																				
ECP 353/Wing Fatigue Repair	98	0.7																	98	0.7
ECP 355/MLG Shoulder Belt	350	0.2																	350	0.2
ECP 364/ASPJ System Improvement																				
ECP 365/Y470 Bulkhead Improvement	982	1.0																	982	1.0
ECP 367/#1 Fuel Cell Floor	557	0.3																	557	0.3
ECP 375/MLG Retract Actuator	1,323	5.7																	1,323	5.7
ECP 391/Fretting on Former's & Spindles	582	0.3																	582	0.3
ECP 393/Wing Attach Longeron Improvement																				
ECP 402/Fuselage Skin, Y518 to Y533	638	0.0																	638	0.0
ECP 402R1/Fuselage Skin, Y518 to Y534	598	0.9	40	0.3			82	0.7											720	1.9
ECP 414/Encoder/Decoder Silicone Gasket																				
ECP 417/Inlet Duct Skin at Y453	575	2.0																	575	2.0
ECP 428/Y470.5 Bulkhead MLG Trunnion	2	0.1																	2	0.1
ECP 440/Speed Brake Trough	591	1.0																	591	1.0
ECP 463R1/Outboard Aileron Improvements																				
ECP 488/SUU-63 Wing Pylon Door Panel	1,351	0.8																	1,351	0.8
ECP 492/Y470.5 Bulkhead Fatigue Change	688	1.4																	688	1.4
ECP 498/Fuselage Skin at Y453	403	0.2	200	0.3	50	0.1	43	0.1											696	0.7
ECP 501/Nacelle Skin Fatigue Improvements	623	3.5	40	0.2															663	3.7
ECP 506/LAU-115 Sparrow Mod	935	0.0																	935	0.0
ECP 536/ST-16 Failures	9	0.0																	9	0.0
ECP 544/Improvement of Inner Wing SPAR	29	0.3																	29	0.3
ECP 548/Fuel Barrier Web	750	1.4																	750	1.4
ECP 550/Wing Drag Longeron	119	0.2			100	0.3	100	0.3	100	0.3	100	0.3	100	0.4	127	0.5			746	2.3
ECP 561/Y326.5 Plate Nut	532	0.2																	532	0.2
ECP 562/Lower Center Keel Fire Hazard	442	0.1	200	0.1	156	0.2													798	0.4
ECP 574/Trailing Edge Flaps	274	7.2	60	1.6	50	1.3	32	1.0											416	11.2
ECP 574/Aileron	234	5.2	200	5.7	130	3.7	80	2.6	80	2.6	81	2.8							805	22.5
ECP 595/Flight Control Computer								3.2											0	3.2
ECP XXX/Hydraulic Temp Guages					150	0.2	100	0.1	100	0.1	100	0.2	100	0.2	150	0.3	150	0.3	850	1.4
NI 742/Environment Control System Wiring																				
NI 796/Wing Fuel Dams	65	0.1	150	0.2	90	0.1	84	0.2	74	0.2	59	0.2	53	0.2					575	1.1
NI 824/MLG Trunnion Assembly	332	7.3	184	6.3															516	13.6
NI 827/Heat Exchanger	37	0.4																	37	0.4
NI 830/Night Vision Display System (NVDS)	14	0.3																	14	0.3
NI 839/Trailing Edge Flap	1,150	9.4																	1,150	9.4
NI 843/Birdstrike Res Windsheild																				
NI 844/Aileron Hinge Mod																				
ECP XXX - ANTI G VALVE	800	1.0																	800	1.0
ECP XXX - Fuel Cell Floor Crack					150	0.8	75	0.4	75	0.4	75	0.4	75	0.5					450	2.5
ECP XXX - Side Fuselage Crack					150	0.3	50	0.1	40	0.1	50	0.2	50	0.2	100	0.4	160	0.6	600	1.9
ECP XXX - Bay 3 & 4 Shelf Improvement									75	0.1	75	0.1	75	0.2	150	0.4	225	0.2	600	1.0
ECP XXX - Front SPAR Crack							100	2.0	100	2.2	50	1.2	100	2.6			150	2.7	500	10.7
ECP XXX - Forward Lower Keel Modification							40	0.7	50	1.1	75	1.7	150	3.5	85	2.0	100	2.5	500	11.4
ECP XXX - MLG Axle							35	3.2	43	4.5	57	6.3	90	10.4	95	11.4	180	21.3	500	57.0

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 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
Installation Kits N/R		3.5		3.2		5.9		0.6		0.5		0.6		0.6		0.7		0.7		16.2
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.8		0.4		0.0		0.7		0.3		0.3		0.3		0.3		0.4		3.5
Training Equipment																				
Support Equipment		1.5																		1.5
ILS		36.5		16.9		15.1		14.1		13.3		13.0		13.3		13.8		17.3		153.3
Other Support						1.2		1.3		1.3		1.3		1.3		1.3				7.9
Interim Contractor Support																				
Installation Cost	13,917	150.7	1,109	19.6	1,314	25.0	1,457	28.3	1,356	24.0	1,296	23.6	950	20.0	1,077	23.4	1,022	16.9	23,498	331.5
TOTAL PROCUREMENT		263.1		54.8		54.3		59.5		51.1		52.2		53.5		54.4		62.9		705.8

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 SINCGARS. 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 2001		FY 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																				
Lot XII through XXI Kit	79	1.3																	79	1.3
Lot X through XI Kit	36	1.0	60	1.8	45	1.2													141	4.0
Installation Kits N/R		0.8																		0.8
Installation Equipment **																				
Lot XII through XXI Kit	114	5.6																	114	5.6
Lot X through XI Kit																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.3																		0.3
Training Equipment																				
Support Equipment																				
ILS		0.1		0.1		0.2		0.1		0.1										0.6
Other Support																				
Interim Contractor Support																				
Installation Cost	79	1.8	18	452	22	0.6	60	1.4	41	1.1									220	5.4
TOTAL PROCUREMENT		10.8		2.4		1.9		1.5		1.2										17.8

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 2001: Mar-01 FY 2002: Mar-02 FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (115) kits	79	1.8	18	0.5	18	0.5													115	2.7
FY 2001 (60) kits					4	0.1	56	1.3											60	1.4
FY 2002 (45) kits							4	0.1	41	1.1									45	1.2
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	79	1.8	18	0.5	22	0.6	60	1.4	41	1.1									220	5.4

Installation Schedule

	FY 2000 & Prior	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
In	79	3	4	5	6	4	6	6	6	0	20	20	20	0	15	15	11	0	0	0	0
Out	79	3	4	5	6	4	6	6	6	0	20	20	20	0	15	15	11	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	220
Out	0	0	0	0	0	0	0	0	0	220

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), BRU-55 smart weapons and bomb rack, 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 2001		FY 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																				
NI818/CVRS	314	2.9																	314	2.9
CDII-045/VPM("O"Level")	559	57.0																	559	57.0
CDII-051/VPM("O"Level")	217	20.6																	217	20.6
INSTALLATION KITS N/R		25.1		3.5		3.0		3.0		2.1		1.8		1.9		2.0		10.6		52.9
INSTALLATION EQUIP.																				
NI818/CVRS																				
CDII-045/VPM("O"Level")																				
CDII-051/VPM("O"Level")	291	7.6																	291	7.6
INSTALLATION EQUIP. N/R																				
ENGINEERING CHANGE ORDERS																				
DATA		3.8																		3.8
TRAINING EQUIPMENT		0.3																		0.3
SUPPORT EQUIPMENT		24.4		10.7		8.5		9.0		8.7		9.5		8.6		8.9		73.0		161.2
ILS		3.0		0.1		1.4		1.8		1.5		1.7		1.9		2.0		6.8		20.2
OTHER SUPPORT																				
INTERMIN CONTRACT SUPPORT																				
Installation Cost	503	5.2	144	0.6	80	0.3													727	6.2
TOTAL PROCUREMENT		149.9		14.8		13.1		13.8		12.3		13.0		12.4		12.9		90.3		332.6

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 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 2001: N/A FY 2002: N/A FY 2003: N/A

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (314) kits	314	4.2																	314	4.2
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	314	4.2																	314	4.2

	FY 2000 & Prior	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
In	314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Out	314	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 2001: N/A FY 2002: N/A FY 2003: N/A

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (413) kits*	189	1.0	144	0.6	80	0.3													413	2.0
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	189	1.0	144	0.6	80	0.3													413	2.0

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

	FY 2000 & Prior	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
In	189	36	36	36	36	36	36	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Out	189	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	
	1	2	3	4	1	2	3	4	Complete	TOTAL
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 2001		FY 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																				
Lot VI through IX Kit	67	5.1															152	1.1	219	6.1
Lot X through XVI Kit	358	5.3	19	0.5	15	0.5	15	0.5									36	1.1	443	7.9
Installation Kits N/R		28.8		4.4		0.8														34.0
Installation Equipment																				
Lot VI through IX Kit																	152	13.3	152	13.3
Lot X through XVI Kit	174	5.6	36	0.8	72	2.5	20	0.8	16	0.6	16	0.7					109	4.1	443	15.1
Installation Equipment N/R																				
Engineering Change Orders						2.8		1.1				0.5								4.3
Data																				0.0
Training Equipment		2.0																		2.0
Support Equipment		1.8																		1.8
ILS		0.6		0.2		0.1		0.1		0.2		0.4								1.8
Other Support																				
Interim Contractor Support																				
Installation Cost	164	3.5	111	2.8	90	2.8	64	1.5	15	0.4	15	0.4					203	8.5	662	19.9
TOTAL PROCUREMENT		52.7		8.7		9.6		4.0		1.2		1.9						28.0		106.2

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 2001: Mar-01 FY 2002: Mar-02 FY 2003: Mar-03

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (425) kits	164	3.5	111	2.8	90	2.8	60	1.4											425	10.6
FY 2001 (19) kits							4	0.1	15	0.4									19	0.5
FY 2002 (15) kits											15	0.4							15	0.4
FY 2003 (15) kits																	15	0.6	15	0.6
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (188) kits																	188	7.9	188	7.9
TOTAL	164	3.5	111	2.8	90	2.8	64	1.5	15	0.4	15	0.4					203	8.5	662	19.9

Installation Schedule

	FY 1999 & Prior	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
In	164	28	28	28	27	22	22	23	23	14	15	18	17	3	4	4	4	3	4	4	4
Out	164	28	28	28	27	22	22	23	23	14	15	18	17	3	4	4	4	3	4	4	4

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	203	662
Out	0	0	0	0	0	0	0	0	203	662

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 2001		FY 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 (0204136N/E2065)		293.0																		293.0
PROCUREMENT																				
Installation Kits																				
ECP 508 / RUG - Phase I Kit	51	94.8	7	10.3					8	16.3	8	15.9							74	137.3
ECP 569 / RUG - Phase II Kit	14	6.9	7	2.7	7	3.1	6	3.0											34	15.6
Installation Kits N/R		5.5																		5.5
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																		2.2
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment		4.1																		4.1
ILS		8.2		0.9		0.0		1.1		1.5		0.2								11.9
Other Support																				
Interim Contractor Support																				
Installation Cost	22	0.4	3	0.1	24	0.5	9	0.2					8	0.2	8	0.2			74	1.6
TOTAL PROCUREMENT		122.1		14.0		3.6		4.3		17.8		16.2		0.2		0.2				178.3

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 2001: Jan-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: Jul-02 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (51) kits	22	0.4	3	0.1	24	0.5	2	0.0											51	1.1
FY 2001 (7) kits							7	0.2											7	0.2
FY 2002 (0) kits																				
FY 2003 (0) kits																				
FY 2004 (8) kits													8	0.2					8	0.2
FY 2005 (8) kits															8	0.2			8	0.2
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (0) kits																				
TOTAL	22	0.4	3	0.1	24	0.5	9	0.2					8	0.2	8	0.2			74	1.6

($ in Millions)

Installation Schedule

	FY 2000 & Prior	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
In	22	1	0	1	1	4	6	7	7	2	1	3	3	0	0	0	0	0	0	0	0
Out	22	1	0	1	1	4	6	7	7	2	1	3	3	0	0	0	0	0	0	0	0

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	8	0	0	0	8	0	0	0	0	74
Out	8	0	0	0	8	0	0	0	0	74

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 2001		FY 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																				
Lot X through XIX Kit	93	27.9															436	150.4	529	178.4
Lot XX through XXI Kit																				
Installation Kits N/R		7.0																		7.0
Installation Equipment (Note 1)																				
Lot X through XIX Kit																				
Lot XX through XXI Kit																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.2																		1.2
Training Equipment		2.7																		2.7
Support Equipment		5.4																		5.4
ILS		1.9		0.2		0.1		0.1		0.1										2.4
Other Support																				
Interim Contractor Support																				
Installation Cost	31	2.4	22	2.1	3	0.3	17	1.5	17	1.5							436	40.5	526	48.4
TOTAL PROCUREMENT		48.5		2.3		0.3		1.6		1.6								191.0		245.3

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (93) kits	31	2.4	22	2.1	3	0.3	17	1.5	17	1.5									90	7.8
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 (436) kits																	436	40.5	436	40.5
TOTAL	31	2.4	22	2.1	3	0.3	17	1.5	17	1.5							436	40.5	526	48.4

Installation Schedule

	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
In	31	0	9	9	4	3	0	0	0	4	4	4	5	4	4	4	5	0	0	0	0
Out	31	0	9	9	4	3	0	0	0	4	4	4	5	4	4	4	5	0	0	0	0

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	0	0	0	0	0	0	0	0	436	526
Out	0	0	0	0	0	0	0	0	436	526

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 2001		FY 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 0603261N/E0534		223.4																		223.4
PROCUREMENT																				
Installation Kits	30	147.4	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		8.1		0.2																8.3
ILS		11.1		2.6																13.6
Other Support (Testing)		15.8		8.3																24.1
Interim Contractor Support		1.0																		1.0
Installation Cost																				
TOTAL PROCUREMENT		217.4		23.1																240.5

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 ($20.7M), FY99 NGRE funding ($4.7M), FY00 NGRE funding ($.3M), and FY01 NGRE funding ($1.8M) 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 560 was approved in March 1998. All the equipment being incorporated in this ECP has completed development.

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	27	7.3																	27	7.3
Installation Kits N/R	1	5.3																	1	5.3
Installation Equipment		13.8																		13.8
Installation Equipment N/R																				0.0
Engineering Change Orders		0.8																		0.8
Data		0.8																		0.8
Training Equipment		0.2																		0.2
Other Support (Testing)		1.6																		1.6
Support Equipment				0.0																0.0
ILS		0.5		0.4																0.9
Interim Contractor Support																				
Installation Cost	6	1.7	7	2.5															13	4.2
TOTAL PROCUREMENT		32.0		2.9																34.9

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

Funding profile slipped to right due to: FY98 funds not rcv'd till Oct 98. 15 Installs will be completed using NGRE funds.

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & Prior (13) kits	6	1.7	7	2.5															13	4.2
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	6	1.7	7	2.5															13	4.2

Installation Schedule

	FY 2000 & Prior	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
In	6	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Out	1	5	1	2	2	2	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	13
Out	0	0	0	0	0	0	0	0	0	13

*** NOTE: VALVER installation was 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: **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. DCS radios are purchased through OSIP 04-94 (PMA-209). "B" Kits (Radios) purchased in FY02 and FY03 through this OSIP are to balance total inventory of radios to installation kits. OSIP 04-94 is purchasing 40 ACIs and installation kits in FY06.

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																				
Lot XII through XXI Kit	97	0.3	60	0.2	39	0.1	32	0.1	36	0.1	60	0.2	24	0.1			40	0.3	388	1.3
Lot X through XI Kit									72	0.5	36	0.3	20	0.1					128	0.9
Installation Kits N/R		0.4		0.2																0.6
Installation Equipment																				
Lot XII through XXI Kit ("B" Kit)					14	0.7	26	1.1											40	1.8
Lot X through XI Kit (ACI)					39	2.4	32	2.0	40	2.7	36	2.5	20	1.4					167	11.0
Installation Equipment N/R																				
Engineering Change Orders												0.7								0.7
Data				0.0																
Training Equipment		0.6																		0.6
Support Equipment		0.7								0.2		0.2								1.1
ILS		0.6		0.1		0.3		0.3		0.5		0.5		0.2						2.4
Other Support																				
Interim Contractor Support																				
Installation Cost			4	0.1	49	0.5	43	0.4	39	0.4	60	0.6	108	1.0	131	1.2	82	0.8	516	4.9
TOTAL PROCUREMENT		2.7		0.6		4.0		3.8		4.3		4.8		2.9		1.2		1.1		25.3

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 (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 2001: Mar-01 FY 2002: Mar-02 FY 2003: Mar-03

DELIVERY DATE: FY 2001: Mar-03 FY 2002: Mar-04 FY 2003: Mar-05

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (97) kits			4	0.1	49	0.5	43	0.4	1	0.0									97	1.0
FY 2001 (60) kits									38	0.4	22	0.2							60	0.6
FY 2002 (39) kits											38	0.4	1	0.0					39	0.4
FY 2003 (32) kits													32	0.3					32	0.3
FY 2004 (108) kits													75	0.7	33	0.3			108	1.0
FY 2005 (96) kits															96	0.9			96	0.9
FY 2006 (44) kits															2	0.0	42	0.4	44	0.4
FY 2007 ( ) kits																				
To Complete (40) kits																	40	0.4	40	0.4
TOTAL			4	0.1	49	0.5	43	0.4	39	0.4	60	0.6	108	1.0	131	1.2	82	0.8	516	5.0

Installation Schedule

	FY 2000 & Prior	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
In	0	0	0	2	2	12	12	12	13	11	11	11	10	9	10	10	10	15	15	15	15
Out	0	0	0	2	2	12	12	12	13	11	11	11	10	9	10	10	10	15	15	15	15

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	25	27	28	28	32	33	33	33	82	516
Out	25	27	28	28	32	33	33	33	82	516

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 C/D** TYPE MODIFICATION: **SAFETY / LIFE EXTENSION**

DESCRIPTION/JUSTIFICATION:

Incorporation of structural enhancements and changes is required to attain F/A-18 service life to maintain sufficient aircraft inventory to meet fleet operational commitments and requirements through FY2020. Structural enhancements and changes include resolution of discrepancies identified as a result of Structural Test (ST-16) and in-service experience. These enhancements and changes include: modifications to allow the entire airframe to achieve 6,000 spectrum flight hours; modifications to ensure structures currently limited to 78% of design life can achieve 100% life; modifications to ensure landing gear, catapult and arrestment components and associated structure achieve at least 2700 cats/traps; modifications to ensure landing gear and associated structure achieve a total of at least 14,500 landings; to ensure flight control surfaces and associated / attaching components achieve 6,000 spectrum flight hours; to ensure a 30-year service life for primary and secondary structural components of metallic and nonmetallic (composite, polymer, etc) construction. 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-18A/Bs as well as to F/A-18C/Ds. Currently F/A-18A/Bs are not in the plan. However, the F/A-18As 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 was completed May 2001. NADEP North Island has developed ECP904NI (CBR+) which was approved on 27 April 2000. Validation started October 2000 and was completed in August 2001. Verification started August 2001 and will be completed May 2002. ECP 536 moved from 11-99 to OSIP 11-84 in FY02.

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	5	4.5			7	9.2	33	40.4	39	46.9	30	36.9	35	43.7	46	59.2	156	214.0	351	454.8
Installation Kits N/R	*1 / **1	9.3	0	0.4	0	0.7		5.7		4.5		5.0		0.4				2.3	4	28.3
Installation Equipment										0.4				0.5						0.9
Installation Equipment N/R		0.1				0.1		0.1												0.3
Engineering Change Orders																				
Data		2.0		0.3		0.1		1.0		0.3										3.6
Training Equipment																				
Support Equipment												0.6		0.6		0.6		2.4		4.1
ILS		1.5		2.3		4.4		4.4		4.6		5.1		5.1		5.2		40.3		72.9
Other Support																				
Interim Contractor Support																				
Installation Cost	*1/**1	0.8	2	2.3	***3	1.0	***4	5.4	7	7.5	33	36.6	39	43.6	30	34.1	237	286.6	355	418.0
TOTAL PROCUREMENT		18.3		5.2		15.6		57.0		64.1		84.1		93.8		99.2		545.6		982.9

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 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 2001: N/A FY 2002: Jan-02 FY 2003: Jan-03

DELIVERY DATE: FY 2001: N/A FY 2002: Jan-04 FY 2003: Jan-05

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (8) kits			2	2.3	1	1.0	5	5.4											8	8.7
IN WARRANTY (1) kit	1	0.8																	1	0.8
FY 2001 (0) kits																				
FY 2002 (7) kits									7	7.5									7	7.5
FY 2003 (34) kits											33	36.6							33	36.6
FY 2004 (39) kits													39	43.6					39	43.6
FY 2005 (30) kits															30	34.1			30	34.1
FY 2006 (35) kits																	35	42.3	35	42.3
FY 2007 (46) kits																	46	55.7	46	55.7
To Complete (155) kits																	156	188.6	156	188.6
TOTAL	1	0.8	2	2.3	1	1.0	5	5.4	7	7.5	33	36.6	39	43.6	30	34.1	237	286.6	355	418.0

Installation Schedule

	FY 2000 & Prior	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
In	1	1	0	0	1	0	0	0	1	2	1	1	1	1	2	2	2	8	8	8	9
Out	1	0	0	0	1	0	0	1	1	1	2	1	1	1	1	2	2	2	8	8	8

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	9	10	10	10	7	7	8	8	237	355
Out	9	9	10	10	10	7	7	8	245	356

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 2001		FY 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																				
Lot XII through XXI Kit	64	10.7	60	9.8	12	1.9	48	7.8	47	7.5	60	8.1	58	7.6	71	9.2			420	62.6
Lot X through XI Kit																				
Installation Kits N/R																				
Installation Equipment (Note 1)																				
Avionics Upgrade	64	11.0	60	10.8	12	2.2	48	8.5	47	8.2	60	12.4	58	11.8	71	15.3			420	80.1
MIDS LVT	16	6.7	60	22.0	70	23.1	60	16.9	92	25.1	74	20.7	58	16.4	57	16.1	124	35.0	611	181.9
Installation Equipment N/R		37.2																		37.2
Engineering Change Orders												0.5						1.0		1.5
Data				0.5		0.8		0.8												2.1
Training Equipment																				
Support Equipment				0.9		1.1		0.8		0.7		0.9		0.3		0.4		1.9		7.0
ILS		1.6		0.2		0.9		1.7		0.5		0.6		0.1		0.3		1.0		6.7
Other Support		1.3		1.9		4.7		5.7		5.0		5.1		4.8		4.5		10.0		42.9
Interim Contractor Support																				
Installation Cost			4	0.5	34	1.4	60	6.0	12	1.2	48	2.3	47	2.0	60	3.2	155	15.5	420	32.2
TOTAL PROCUREMENT		68.5		46.6		36.1		48.2		48.2		50.6		43.0		48.9		64.4		454.4

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.
4. 12 Installations kits and Avionics Upgrades, plus 23 MIDs LVT procured through DERF($11.5M), in FY02. Installation will be accomplished through budgeted FY04 installation cost.

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 2001: Mar-01 FY 2002: Mar-02 FY 2003: Mar-03

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (64) kits			4	0.5	34	1.4	26	2.6											64	4.5
FY 2001 (60) kits							34	3.4			26	1.3							60	4.7
FY 2002 (12) kits *									12	1.2									12	1.2
FY 2003 (48) kits											22	1.1	26	1.1					48	2.2
FY 2004 (47) kits													21	0.9	26	1.4			47	2.3
FY 2005 (60) kits															34	1.8	26	2.6	60	4.4
FY 2006 (58) kits																	58	5.8	58	5.8
FY 2007 (71) kits																	71	7.1	71	7.1
To Complete (0) kits																				
TOTAL			4	0.5	34	1.4	60	6.0	12	1.2	48	2.3	47	2.0	60	3.2	155	15.5	420	32.2

*Note: DERF funded "A" kits.

Installation Schedule

	FY 2000 & Prior	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
In	0	0	0	2	2	0	0	0	34	0	0	0	60	0	0	6	6	13	13	11	11
Out	0	0	0	2	2	0	0	0	34	0	0	0	60	0	0	6	6	13	13	11	11

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	13	13	10	11	13	13	17	17	155	420
Out	13	13	10	11	13	13	17	17	155	420

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 MB6004 was approved 19 May 1999.

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	302	7.6	74	1.7													168	4.5	544	13.7
Installation Kits N/R		1.5																		1.5
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.2																		0.2
Training Equipment	12	0.3																	12	0.3
Support Equipment		0.1		0.1																0.2
ILS		1.2		0.3		0.3														1.7
Other Support																				
Interim Contractor Support																				
Installation Cost	150	0.1	74	0.1	152	0.2											168	0.4	544	0.7
TOTAL PROCUREMENT		11.0		2.2		0.4												4.8		18.4

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 2001: Apr-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: Jun-01 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & Prior (302) kits	150	0.1	74	0.1	78	0.1													302	0.2
FY 2001 (74) kits					74	0.1													74	0.1
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (168) kits																	168	0.4	168	0.4
TOTAL	150	0.1	74	0.1	152	0.2											168	0.4	544	0.7

Installation Schedule

	FY 2000 & Prior	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
In	150	6	23	30	15	38	40	38	36	0	0	0	0	0	0	0	0	0	0	0	0
Out	150	6	23	30	15	38	40	38	36	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	168	544
Out	0	0	0	0	0	0	0	0	168	544

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:

ECP 583 was approved 25 MAR 99. All the equipment being incorporated in this ECP has completed development.

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	6	1.7	6	2.1	6	2.2					10	4.7	11	5.7			3	1.4	42	17.8
Installation Kits N/R		0.3		2.6		1.4														4.3
Installation Equipment		50.0		53.8		21.9		1.7		2.3		44.2		56.7				12.1		242.6
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.1		0.3																0.5
Training		0.4		0.1		0.2		0.4												1.0
Other Support (Testing)		1.0		0.4				2.2												3.6
Support Equipment		1.0		0.0		0.3														1.4
ILS		2.0		1.5		2.5		1.0		0.5		1.7		4.3		0.4		1.5		15.5
Interim Contractor Support																				
Installation Cost	4	0.0	15	6.0	11	6.7	16	6.4	6	0.0					3	2.6	21	27.3	76	49.0
TOTAL PROCUREMENT		56.6		66.8		35.1		11.7		2.8		50.6		66.7		3.0		42.4		335.7

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. 30 "A" Kits were purchased with NGRE Funds 4 Val/Vers - FY98; 20 "A" Kits - FY99; and 10 "A" Kits - FY00
4. The increase 6 installation kits in FY02, will be installed in FY04 using Congressional plus up.

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 2001: Jul-01 FY 2002: Mar-02 FY 2003:

DELIVERY DATE: FY 2001: Jul-03 FY 2002: Mar-04 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (40) kits *	4	0.0	15	5.8	11	6.7	10	4.0											40	16.5
FY 2001 (6) kits							6	1.6											6	1.6
FY 2002 (6) kits									6	0.0									6	0.0
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 (10) kits															3	2.6	7	6.6	10	9.2
FY 2006 (11) kits																	11	13.2	11	13.2
FY 2007 ( ) kits																				
To Complete (3) kits																	3	7.5	3	7.5
TOTAL	4	0.0	15	5.8	11	6.7	16	5.6	6	0.0					3	2.6	21	27.3	76	48.0

* USMC Reserve funded "A" Kits

Installation Schedule

	FY 2000	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	2	1	2	3	4	1	2	3	4
In	4	3	4	4	4	2	3	3	3	4	4	4	4	2	2	1	1	0	0	0	0
Out	4	3	4	4	4	2	3	3	3	4	4	4	4	2	2	1	1	0	0	0	0

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	0	0	0	0	0	1	1	1	21	76
Out	0	0	0	0	0	1	1	1	21	76

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

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/E/F** 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), United States Navy (USN), and United States Marine Corp (USMC) 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:

F/A-18 E/F JHMCS completed Developmental Testing in August 01 and began Operational Test (OPEVAL) in September 01 and plans to be completed in 2nd Qtr of FY02. F/A-18 E/F FRP1 (Lot 24 - FY00 Buy) are being delivered with JHMCS installed. 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 FY04 and installed in FY05. F/A-18 E/F retrofit kits will be procured in FY03 to be installed in FY04 starting with LOT 23 airplanes.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		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	$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
C/D									69	3.2	60	3.9	74	4.6	73	4.5	151	9.6	427	25.9
E/F							26	1.2	24	1.1	12	0.6	23	2.2	24	2.3	31	2.9	140	10.2
Installation Kits N/R		1.8																		1.8
Installation Equipment																				
C/D									69	11.9	60	14.0	74	16.3	73	16.1	151	34.1	427	92.5
E/F							26	4.5	24	4.2	12	2.1	23	7.4	24	7.8	31	10.0	140	35.9
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training																				
Support Equipment							4	0.6	12	1.7	12	1.4	5	0.6	10	1.4	14	1.1		6.6
ILS							0	0.4	0	1.4	0	1.3	0	2.2	0	1.8	0	4.1		11.1
Spares																				
Other Support - Testing																				0.0
Installation Cost							0	0.0	26	0.5	93	4.7	72	4.2	97	6.0	279	17.2	567	32.6
TOTAL PROCUREMENT		1.8						6.6		24.0		27.9		37.5		39.8		79.0		216.7

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 C/D/E/F**

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 2001: FY 2002: FY 2003: Nov-03

DELIVERY DATE: FY 2001: FY 2002: FY 2003: Nov-04

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$					Qty	$	Qty	$
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 (26) kits									26	0.5									26	0.5
FY 2004 (93) kits											93	4.7							93	4.7
FY 2005 (72) kits													72	4.2					72	4.2
FY 2006 (97) kits															97	6.0			97	6.0
FY 2007 (97) kits																	97	6.2	97	6.2
To Complete (182) kits																	182	11.1	182	11.1
TOTAL									26	0.5	93	4.7	72	4.2	97	6.0	279	17.2	567	32.6

Installation Schedule

	FY 2000 & Prior	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
		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	6	6	7	7	23	23	23	24
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	7	7	23	23	23	24

	FY2006				FY2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	18	18	18	18	24	25	25	23	279	567
Out	18	18	18	18	24	25	25	23	279	567

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 FY2002 with OPEVAL following in FY2003. Functionality on the F/A-18C/D will be with OFP 17C.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		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	$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment			2	7.5	11	32.4	17	49.8	38	97.5	41	100.6	41	99.7	32	81.0			182	468.6
Installation Equipment N/R						1.0		60.0								37.0				97.9
Engineering Change Orders				0.1		1.8		2.7		2.7		2.7		2.7		2.7		13.5		28.9
Data				0.3		1.3		0.7		0.8		1.6		1.5		4.0				10.1
Training				1.0		1.4		1.3		1.4		1.1		0.3		3.2				9.7
Support Equipment				1.4		3.2		3.6		10.0		9.8		11.1		13.4				52.5
ILS				0.4		1.1		1.1		1.4		1.2		0.8		3.8		1.5		11.1
Spares																				
Other Support - Testing						0.5		0.2		0.3		0.6		0.7		2.9		1.5		6.5
Installation Cost																				
TOTAL PROCUREMENT				10.7		42.5		119.3		114.0		117.6		116.7		147.9		16.5		685.3

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. 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 approved April 01.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		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	$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment			29	0.7															29	0.7
Installation Equipment N/R																				
Engineering Change Orders				3.0																3.0
Data																				
Training																				
Support Equipment																				
ILS																				
Spares				1.6																1.6
Other Support - Testing																				
Installation Cost																				
TOTAL PROCUREMENT				5.3															29	5.3

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 (OSIP 19-01)**

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.
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.
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 (OSIP 19-01)**

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

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																				
ECP 6035 / Trailing Edge Outboard Hinge, Pt 1			12	4.2															12	4.2
ECP 6136 / Drag Angle			12	0.0															12	0.0
ECP 6032 / Nose Landing Gear Door Hinges			12	0.0															12	0.0
ECP 6057 / MLG Strut Door to Fus Interface			12	0.3															12	0.3
ECP 6137 / NLG Fwd Door Aft Hinge			12	0.2															12	0.2
ECP 6111 / Y541 Fitting Repair Crack			12	0.6	24	1.1	24	1.1	20	0.1									80	3.0
ECP 6078 / ECS Primary Heat Exchanger					62	2.5	25	1.8											87	4.3
ECP 6041 / APEX Fitting Cracking			12	0.1															12	0.1
ECP 6099 / MLG Sidebrace Pin			12	0.1															12	0.1
ECP 6086 / Door 55 Fastener Hole Wear			12	0.1															12	0.1
ECP 6035 / Wing Torque Box Buffet, Pt 2			12	0.6			26	1.1	24	1.0	36	1.5							98	4.1
ECP 6100 / Ecology Tank Flange Changes			12	0.3			20	0.5											32	0.8
ECP 6092 / Intercostal at Engine Mounting			12	0.3															12	0.3
ECP 6128 / Fuel FLR Angle			12	0.5	24	1.1	30	1.4	32	1.5									98	4.5
ECP 6094 / Inlet Duct Stiffener			12	0.4															12	0.4
ECP 6118 / Triangular Keel Web Y604			12	0.1	24	0.2	30	0.3	32	0.3	39	0.4							137	1.4
ECP 6067 / Keel Web @ Y659			12	0.1	24	0.1	12	0.1											48	0.3
ECP 6127 / Keel Web @ Y472			12	0.2	24	0.4	24	0.4	20	0.3									80	1.4
ECP 6052 / Visual Identifcation System							32	1.5											32	1.5
ECP XXX / AOA Probe Circuitry			12	0.1	24	0.3	30	0.0	32	0.0	39	0.0							137	0.4
ECP XXX / Boarding Ladder Switch			12	0.1	24	0.3	30	0.0	32	0.0	39	0.0							137	0.4
Installation Kits N/R				2.0				0.8												2.8
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS				0.2		1.2		0.6		0.6		0.9		0.9		0.9		0.7		6.1
Other Support																				
Interim Contractor Support																				
Installation Cost					180	4.3	200	1.5	221	5.5	184	6.5	117	1.0	36	7.9	35	2.1	973	28.8
TOTAL PROCUREMENT				10.6		11.5		11.0		9.4		9.3		1.9		8.9		2.9		65.5

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 C/D DIGITAL WINGTIP 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 2nd quarter of FY2002 and is scheduled to complete 2nd quarter of FY2003. 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 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	$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
F/A-18 Digital Wingtip Kits					75	0.2	150	0.3	71	0.2	45	0.1	43	0.1	16	0.0			400	0.9
AWM-100 Kits					24	0.4	18	0.3											42	0.6
Installation Kits N/R																				
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training						0.5		0.6												1.0
Support Equipment																				
ILS																				
Spares																				
Other Support - Testing																				
Installation Cost							75	0.2	144	0.5	71	0.2	45	0.1	49	0.2	16	0.1	400	1.3
TOTAL PROCUREMENT						1.0		1.5		0.6		0.3		0.2		0.2		0.1		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: **F/A-18 C/D**

MODIFICATION TITLE: **F/A-18 C/D DIGITAL WINGTIP 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 2001: FY 2002: Dec-01 FY 2003: Dec-02

DELIVERY DATE: FY 2001: FY 2002: Dec-02 FY 2003: Dec-03

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY2006		FY2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$					Qty	$	Qty	$
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 (75) kits							75	0.2											75	0.2
FY 2003 (150) kits									144	0.5	6	0.0							150	0.5
FY 2004 (71) kits											65	0.2	6	0.0					71	0.2
FY 2005 (45) kits													39	0.1	6	0.0			45	0.1
FY 2006 (43) kits															43	0.2			43	0.2
FY 2007 (16) kits																	16	0.1	16	0.1
To Complete ( ) kits																				
TOTAL							75	0.2	144	0.5	71	0.2	45	0.1	49	0.2	16	0.1	400	1.3

Installation Schedule

	FY 2000	FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	& Prior	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	23	24	28	0	48	48	48	0	24	24	23
Out	0	0	0	0	0	0	0	0	0	0	23	24	28	0	48	48	48	0	24	24	23

	FY2006				FY2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	0	16	15	14	0	16	17	16	16	400
Out	0	16	15	14	0	16	17	16	16	400

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 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	$
RDT&E																				
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training						5.0		38.7		32.7		29.6		7.9		6.9				120.8
Support Equipment																				
ILS																				
Spares																				
Other Support - Testing																				
Installation Cost																				
TOTAL PROCUREMENT						5.0		38.7		32.7		29.6		7.9		6.9				120.8

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

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **PHOTO RECONNAISSANCE INTELLIGENCE STRIKE MODULE (PRISM) (OSIP 15-02)** TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

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

DESCRIPTION/JUSTIFICATION:

PRISM provides the aircrew the capability to link video imagery and targeting coordinates from aircraft to aircraft at limited cost. This capability is currently being used by the F-14 to transmit critical targeting imagery and coordinates from aircraft to aircraft. This Congressionally added funding would be used to fully qualify the PRISM capability on the F/A-18, and to provide this critical warfighting capability to the Fleet as F-14s are being retired from carriers. The Fleet completed a successful demonstration of the PRISM capability on the F/A-18C aircraft last year, and thus, this effort is considered low risk.

Tactical imagery continues to be critical to ongoing conflicts. PRISM provides the capability to transmit this imagery from aircraft to aircraft, or to a ground receiving station. This allows quick and easy dissemination of imagery to aircraft or ground stations after it is collected. This also provides the fleet the capability to target mobile targets. Without PRISM on F/A-18 aircraft, the Battle Group Commander loses this critical capability beginning in FY03 as F-14s leave the Fleet. As such, his ability to transmit and disseminate imagery, and to target mobile targets will be severely diminished. Installs are at the "O" Level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Deliver Preproduction Units(3)	Sep 30 2002
Complete Carrier Qual Testing	Dec 30 2002

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 (0204136N/E2065)																				0.0
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment					3	0.6													3	0.6
Installation Kits N/R																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support						0.4														0.4
Interim Contractor Support																				
Installation Cost																				
TOTAL PROCUREMENT						1.0													3	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: **E/F 4000 HR CORRECTION OF DISCREPANCIES (OSIP 12-03)**

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

DESCRIPTION/JUSTIFICATION:

Corrections to discrepancies up to 4000 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 II / III and FRP I / II aircraft:

LEX Skin Stfner Clip Crack @ Y453 (ECP 6139)	Remove and Replace w/redesigned Clip to prevent improper distribution of stress into adjacent fuselage components.
LEX Redesign (ECP 6126)	Replace 50% of intermediate Spar; add bathtub fittings 4 locations; replace rib to restore aircraft to design life
Boot Strap Cracks (ECP 6029)	Replace bootstrap and Y645 Outboard Former with redesigned components to meet specification life
Dorsal Cover #40 Hole Elongation (ECP 6085)	Incorporate redesigned door to prevent potential departure of component in flight
Door 317 Hole Elongation (ECP 6120)	Incorporate redesigned door to prevent potential departure of component in flight
Y510 Side Long Web (ECP 6129)	Remove and replace Longeron Web with thicker web to restore component to its original specification.
Inbd Former @ Y618 (ECP 6135)	Replace stringer, upper / lower keel webs and stiffener to restore aircraft to original structural integrity
LEX Door Test Failure (ECP 6009)	Install door with thicker lands and thicker hat stiffeners end to correct acoustic vibration related fatigue
Lower Outboard Longeron @ Y555 (ECP 6141)	Cold work nutplate holes and add clip to correct design deficiency
Y568 Shroud Cllip (ECP 6143)	Installation of a structural clip to the shroud in order to prevent buckling
Y472.5 Blkd Fatigue Crks MLG Trunion (ECP 6157)	Blend bulkhead to prevent distribution of stress into components.
Missile Launcher Shelf LAU-116 (ECP 6142)	Install doublers to restore component to its original service life
Missile Beam Stiffener (ECP XXX1)	Brings sturcture back to original specification by adding a doubler to the structure

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 4000 HR CORRECTION OF DISCREPANCIES (OSIP 12-03)**

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

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																				
ECP 6139 / LEX Skin Stfner Clip Crack @ Y453							36	0.1	36	0.1	26	0.1							98	0.3
ECP 6126 / LEX Redesign							36	0.4	36	0.4	26	0.3							98	1.1
ECP 6029 / Boot Strap Cracks							32	5.6	30	5.3	0	0.0							62	10.9
ECP 6085 / Dorsal Cover #40 Hole Elongation							30	0.5	32	0.5	0	0.0							62	1.0
ECP 6120 / Door 317 Hole Elongation							36	0.9	40	1.0	22	0.5							98	2.4
ECP 6129 / Y510 Side Long Web							36	0.1	36	0.1	26	0.1							98	0.4
ECP 6135 / Inbd Former @ Y618							36	0.3	36	0.3	36	0.3			29	0.3			137	1.2
ECP 6009 / LEX Door Test Failure							5	0.1	5	0.1	52	0.9							62	1.0
ECP 6141 / Lower Outboard Longeron @ Y555							36	0.2	36	0.2	36	0.2			10	0.0			118	0.5
ECP 6143 / Y568 Shroud Cllip							36	0.1	46	0.1	48	0.2			7	0.0			137	0.4
ECP 6157 / Y472.5 Blkd Fatigue Crks MLG Trunion							36	0.1	36	0.0	48	0.1							120	0.2
ECP 6142 / Missile Launcher Shelf LAU-116							36	0.2	40	0.2	48	0.3			13	0.1			137	0.8
ECP XXX1 / Missile Beam Stiffener							36	1.1	36	1.1	29	0.9							101	3.1
Installation Kits N/R								2.8												2.8
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data								0.1												0.1
Training Equipment																				
Support Equipment																				
ILS								2.4		3.6		1.8		1.6		0.5		0.3		10.1
Other Support																				0.0
Interim Contractor Support																				
Installation Cost									422	6.4	442	6.7	345	4.4			59	0.5	1,268	18.0
TOTAL PROCUREMENT								14.9		19.5		12.3		6.0		0.9		0.7		54.3

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **E/F 6000 HR CORRECTION OF DISCREPANCIES (OSIP 13-03)**

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

DESCRIPTION/JUSTIFICATION:

Corrections to discrepancies up to 6000 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 II / III and FRP I / II aircraft:

L/RHS Y577 Frame Flang Crack (ECP 6154)	Add bathtub fitting to restore aircraft to original structural integrity
12K SFH Y461 Clip Crack (ECP 6144)	Replace fatigued clip with a redesigned clip to meet design life
Bay 5 Avionics Door Hinge Crack (ECP 6155)	Replaces hinges with improved hinges to meet design life.
Y591 Bulkhead Stiffner Fillet Crack (ECP 6160)	Add nested fitting to restore aircraft to original structural integrity
Y555 Former (ECP 6117)	Add structural backup to former fo meet specification life
Y591 Long Splice Fit (ECP 6119)	Remove and replace splice fitting and fasteners to restore aircraft to original structural integrity
Outboard Longeron @ Y631 (ECP 6124)	Remove and replace hi-lok fastener to restore aircraft to original structural integrity
Broken Fastener Nozzel Skin Y694 (ECP 6107)	Replace fastener with oversize fastener to correct design deficiency
Y679 Former Fasteners (ECP 6123)	Replace with new material fastener to restore aircraft to original structural integrity
Y604 UOB Long (ECP 6134)	Blend away material from downstanding leg to prevent distribution of stress
Missile Beam Web, Aft of Y541 (ECP 6132)	Add doubler to restore component to its original service life

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

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

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **E/F 6000 HR CORRECTION OF DISCREPANCIES (OSIP 13-03)**

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

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																				
ECP 6154 / L/RHS Y577 Frame Flang Crack							36	0.4	36	0.4	48	0.5			17	0.2			137	1.5
ECP 6144) / 12K SFH Y461 Clip Crack							36	0.1	36	0.1	48	0.2			17	0.0			137	0.4
ECP 6155 / Bay 5 Avionics Door Hinge Crack							36	0.2	36	0.2	36	0.2			29	0.1			137	0.6
ECP 6160 / Y591 Bulkhead Stiffner Fillet Crack							36	0.4	36	0.4	36	0.4							108	1.3
ECP 6117 / Y555 Former							36	0.3	38	0.4									74	0.7
ECP 6119 / Y591 Long Splice Fit							36	0.7	36	0.7	48	1.0			17	0.4			137	2.8
ECP 6124 / Outboard Longeron @ Y631							30	0.2	32	0.3									62	0.5
ECP 6107 / Broken Fastener Nozzel Skin Y694							30	0.1	17	0.1	15	0.1							62	0.3
ECP 6123 / Y679 Former Fasteners							36	0.1	36	0.1	31	0.1							103	0.3
ECP 6134 / Y604 UOB Long							36	0.3	36	0.3	48	0.4			17	0.2			137	1.2
ECP 6132 / Missile Beam Web, Aft of Y541							36	0.2	36	0.3	26	0.2							98	0.7
Installation Kits N/R								2.6												2.6
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data								0.0												0.0
Training Equipment																				
Support Equipment																				
ILS								0.3		0.8		0.9		0.9		0.5		0.5		3.8
Other Support																				
Interim Contractor Support																				
Installation Cost									384	4.1	375	4.2	336	4.0			97	1.4	1,192	13.7
TOTAL PROCUREMENT								6.0		8.2		8.2		4.9		1.4		1.9		30.5

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **E/F CORRECTION OF OPERATIONAL DISCREPANCIES (OSIP 14-03)**

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

DESCRIPTION/JUSTIFICATION:

Corrections to operational discrepancies identified 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 II / III and FRP I / II aircraft:

ECS Exhaust Overtemp Final Fix (ECP 6106)	Modifies current exhaust ducts in order to rteduce skin and structural temperatures caused by the ECS exhaust plume
Aft ECS Cooling Fan (ECP 6114)	Strengthens ECS cooling fan to prevent and contain fan failures
FCC Processor Upgrade (ECP 6002)	Replace exisitng FCC processor with upgraded higher order processors
Tank 4 Transfer Pump Wiring (ECP 6131)	Rerouting wiring to correct safety issue due to incorrect wire routing in the fuel tank
Tank 4 HYD Tube (ECP 6130)	Improved hydraulic tube clamping to prevent wear
Bushing Migration (ECP 6104)	Improved bushing retention for MLG Door hinge attach points
Y645 Former @ Upper OB Long (ECP 6088)	Repair former by adding a doubler to bring it back to original specifiaction
MLG Control Valve addingof Emerg Port Restricter (ECP XXX1)	Adding restricter to eliminate hydraulic system spiking
Long Stick Position Tx (ECP XXX2)	Incorporation of improved retention mechanism in position sensor
Spoiler Shim Material Selection (ECP XXX3)	Replace current material with new material in order to reduce corrosion
SUU 78 Back-up Structure (ECP XXX4)	Strengthen the Centerline Structure to meet 2000 catapult requirement
Anti-Ice Duct VBARD Clamp (ECP XXX5)	Addition of a tether to prevent inadvertent use of wrong clamp

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 CORRECTION OF OPERATIONAL DISCREPANCIES (OSIP 14-03)**

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

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																				
ECP 6106 / ECS Exhaust Overtemp Final Fix							37	3.9	34	3.6	48	5.2			48	5.3	55	6.2	222	24.1
ECP 6114 / Aft ECS Cooling Fan							36	0.4	36	0.4	26	0.3			39	0.6			137	1.7
ECP 6002 / FCC Processor Upgrade							28	1.7											28	1.7
ECP 6131 / Tank 4 Transfer Pump Wiring									32	0.1	12	0.0							44	0.1
ECP 6130 / Tank 4 HYD Tube									20	0.0	30	0.0							50	0.1
ECP 6104 / Bushing Migration							32	1.0											32	1.0
ECP 6088 / Y645 Former @ Upper OB Long							36	0.6	36	0.6	36	0.6			29	0.5			137	2.2
ECP XXX1 / MLG Ctrl Valve of Emerg Port Restr									137	0.1									137	0.1
ECP XXX2 / Long Stick Position Tx							13	0.3	32	0.7	17	0.4							62	1.3
ECP XXX3 / Spoiler Shim Material Selection							12	0.1	20	0.2	30	0.3							62	0.6
ECP-XXX4 / SUU 78 Back-up Structure							36	3.6	36	3.6	65	6.5							137	13.7
ECP-XXX5 / Anti-Ice Duct VBARD Clamp							32	0.2	32	0.2	85	0.5							149	0.8
Installation Kits N/R								3.8												3.8
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data								0.0												0.0
Training Equipment																				
Support Equipment																				
ILS								1.3		0.8		0.9		1.3		1.7		1.1		7.1
Other Support																				
Interim Contractor Support																				
Installation Cost									104	1.1	197	5.2	204	5.5	47	2.1	207	8.7	759	22.5
TOTAL PROCUREMENT								16.9		11.3		19.8		6.8		10.2		16.0		81.0

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **MARK XIIA MODE 5 IFF (OSIP 15-03)**

MODELS OF SYSTEM AFFECTED: **VARIOUS (49 Separate T/M/S)** TYPE MODIFICATION: **CAPABILITY IMPROVEMENT**

DESCRIPTION/JUSTIFICATION:

MK XII A Mode 5 provides improved secure cooperative combat identification through IFF. MODE 5 is a product improvement which is designed to be installed through engineering changes to digital MK XII interrogators and transponders including the APX-117, APX-118, UPX-37, APX-111, and RT-1832. MODE 5 is designed to be installed in all Navy T/M/S aircraft which are currently MODE 4 IFF capable (49 T/M/S aircraft). MODE 5 is developed in cooperation with NATO and is goverened by STANAG 4193. MODE 5 was designated a "JROC special interest" program in March 2001 and is interoperable across all services. ORD # 577-06-01

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

MODE 5 completed a brassboard development in December 1997. Modeling and Simulation to demonstrate interoperability was completed in February of 1998 to support NATO STANAG development. Proof of concept flight testing completed in December 1999. A Preliminary Design Review (PDR) for the proposed ECP to incorporate MODE 5 in the APX-118 was completed in July 2001. Contracts to develop a prototype Cryptographic Module and ECP kit are presently being executed.

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				1.3		3.0		6.1		11.0		10.9		5.9		14.9		13.9				67.1
PROCUREMENT																						
Installation Kits																						
Platform Installation A-Kits															5	0.029	23	0.1	468	5.3	496	5.4
Installation Kits N/R																						
Installation Equipment (Note 1)																						
MODE 5 IFF HARDWARE B-KIT									10	0.5	10	0.6	25	1.2	102	4.119	154	6.5	3,557	160.8	3,858	173.8
Installation Equipment N/R																						
Engineering Change Orders										0.7		0.7		0.0		1.1		0.1		7.0		9.6
Data										0.0		0.0		0.0		0.1		0.1		3.5		3.7
Training Equipment										0.0		0.2				0.2		0.8		1.5		2.6
Support Equipment										0.0		0.0		0.0		0.1		0.2		4.8		5.2
ILS										0.1		0.1		0.0		0.7		1.1		35.2		37.3
Other Support										0.1		0.1		0.1		0.7		1.3		39.7		42.0
Interim Contractor Support																						
Installation Cost											10	0.2	10	0.2	25	0.5	102	1.6	3.7	68.0	3,858	70.5
TOTAL PROCUREMENT										1.4		1.9		1.6		7.5		11.7		325.9		350.1

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **VARIOUS (49 Separate T/M/S)** MODIFICATION TITLE: **MARK XIIA MODE 5 IFF (OSIP 15-03)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **FIELD INSTALL KITS and VENDOR DEPOT ECP INSTALLATION**

ADMINISTRATIVE LEADTIME: **6 Months** PRODUCTION LEADTIME: **3 Months**

b

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

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

($ 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 2000 & PY ( ) Kits																						
FY 2001 ( ) Kits																						
FY 2002 ( ) Kits																						
FY 2003 (10) Kits											10	0.2									10	0.2
FY 2004 (10) Kits													10	0.2							10	0.2
FY 2005 (25) Kits															25	0.5					25	0.5
FY 2006 (102) Kits																	102	1.6			102	1.6
FY 2007 (154) Kits																			154	2.8	154	2.8
To Complete (3,557) Kits																			3557	65.1	3557	65.1
TOTAL											10	0.2	10	0.2	25	0.5	102	1.6	3711	68.0	3858	70.5

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3	2	3	3	2
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3	2	3	3	2

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	7	6	6	6	25	26	26	25	3711	3858
Out	7	6	6	6	25	26	26	25	3711	3858

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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

P-1 ITEM NOMENCLATURE: **H-46 Series Helicopter**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code		FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**422.4**	A	19.1	38.2	67.2	79.9	71.8	7.7		110.7	817.0

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 2003 is to keep the H-46 a viable platform until a replacement aircraft can be fielded by upgrading flight critical dynamic components, the engine control system, the electrical system, and the T58-16 engine; and installing on-board vibration monitoring equipment. H-46 helicopters are used by the Marine Corps for troop transport and by the Navy for vertical replenishment of ships. There are currently 306 aircraft (280 active + 26 reserve) in the inventory. USMC: (228) CH-46E + (9) HH-46D; USN: (26) CH-46D + (32) HH-46D + (11) UH-46D. (26) CH-46E's are 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
25-91	Dynamic Component Upgrade	396.1	2.2	3.1	2.8	2.2	1.8				408.2
25-97	Safety Improvement Program	13.9	0.4	0.8	1.8	3.0	2.6	2.6		3.9	28.9
28-99	Engine Control System Retrofit	10.3	11.4	9.8	5.8	3.6	0.7			4.5	46.1
29-99	Electrical System Upgrade	2.2	2.1	1.5	2.3	2.1	0.8			1.4	12.4
15-01	T-58 Engine Reliability Improvement Program		3.0	22.9	46.9	60.1	63.5	5.1		96.2	297.6
10-03	Aircraft Integrated Maintenance System				7.6	9.0	2.5			4.7	23.8
	Total	**422.4**	**19.1**	**38.2**	**67.2**	**79.9**	**71.8**	**7.7**		**110.7**	**816.9**

Note: Totals may not add due to rounding.

	H-46 Series Reserves		0.1	0.2	0.2	0.2	0.2	0.3			

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Dynamic Component Upgrade (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 gear box. 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 Opertions (CNO) letter 13100 serial 504E/OU603293 dated 30 Aug 90 and approved by ASN (RDA) by Program Management Proposal (PMP) 90-7 on 18 Jan 91. Currently, there are 306 H-46 aircraft (280 active plus 26 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The dynamic component fatigue testing commenced in Jan 91 and completed in Dec 97. DCU ECP-556 delivered in Dec 91, and the AFCS ECP 558 delivered in Aug 93. The DCU validation completed in September 1995. The DCU flight testing started in Nov 95 and completed in May 97, and production installations are ongoing. The AFCS modification program is complete.

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																				
ECP #556 Kit	312	213.6																	312	213.6
ECP #558 Kit	315	12.6																	315	12.6
XXX Kit																				
Installation Kits N/R	4	84.7																	4	84.7
Installation Equipment																				
GFE		0.5																		0.5
Installation Equipment N/R																				
Engineering Change Orders																				
Moisture Debris Covers		*																		*
Wear Plate Blade Atch Fitting		0.2																		0.2
Accessory Gear Box		1.2																		1.2
Horiz. Hinge Pin Bearing		0.2																		0.2
Pitch Link Assembly		0.7		*																0.7
Fuzz Burn-off		0.2																		0.2
Data		1.9		*																1.9
Training Equipment	2	1.8																	2	1.8
Support Equipment		8.1																		8.1
ILS																				
Other Support		21.4		1.0		0.7		0.8		0.9		0.9								25.8
Interim Contractor Support		2.7																		2.7
Installation Cost	5	46.4	36	1.1	79	2.4	72	2.0	71	1.3	49	0.9							312	54.1
Total Procurement		**396.1**		**2.2**		**3.1**		**2.8**		**2.2**		**1.8**								**408.2**

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: **Aircraft to be modified by Government Owned Contractor Operated (GOCO) Field Mod Teams**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (312) kits	5	46.4	36	1.1	79	2.4	72	2.0	71	1.3	49	0.9							**312**	**54.052**
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**	**46.4**	**36**	**1.1**	**79**	**2.4**	**72**	**2.0**	**71**	**1.3**	**49**	**0.9**							**312**	**54.052**

Installation Schedule

	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
In	5			18	18	20	20	20	19	18	18	18	18	18	18	18	17	17	16	16	
Out	5				18	18	20	20	20	19	18	18	18	18	18	18	18	17	17	16	16

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										312
Out										312

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Safety Improvement Program (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 Jan 97, and approved as an Abbreviated Acquisition Program (AAP) by the Program Executive Officer (PEO) on 24 Oct 97. Currently, there are 306 H-46 aircraft (280 active + 26 reserve). This program contains five Engineering Change Proposals (ECP):

1. HYDRAULIC SYSTEM UPGRADE: This ECP is complete.
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 217 CH-46E aircraft (191 active + 26 reserve).
3. NIGHT VISION GOGGLE (NVG) COMPATIBLE COCKPIT: This ECP is complete.
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 65 H-46D aircraft (all active, no reserves) and 226 CH-46E aircraft (200 active + 26 reserve).
5. SLIDING RESCUE HATCH (HELL HOLE DOOR): This ECP is complete.

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 2003, to be followed by an initial kit procurement 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 Nov 97, and the CH-46E model ECP was approved in Dec 97. 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 00. The revised modification installs an airframe and engine modification kit at the D-level. Production installs are ongoing. This ECP is being installed concurrent with the H-46 Engine Control System Retrofit (OSIP 28-99).
5. SLIDING RESCUE HATCH (HELL HOLE DOOR): This upgrade is complete.

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																				
Hydraulic Sys Upgrade (D-Model)	81	1.1																	81	1.1
Hydraulic Sys Upgrade (E-Model)	229	3.3																	229	3.3
Upper Dual Boost Actuat (E-Model)									19	0.6	52	1.8	59	2.0			87	2.9	217	7.3
NVG Compatible Cockpit (D-Model)	81	3.0																	81	3.0
T58-16/402 Running Engine Wash																				
PPC-165 (D Engine)	81	0.1																	81	0.1
AFC-477 (D Aircraft)			38	0.1	27	*													65	0.1
PPC-165 (E Engine)	687	0.8																	687	0.8
AFC-492 (E Aircraft)			38	0.1	59	0.1	71	0.1									58	0.1	226	0.4
Sliding Rescue Hatch (D & E)	66	0.8																	66	0.8
Installation Kits N/R		1.3						1.0		1.3										3.6
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip XXX																				
Data		0.4				*				0.3		0.1								0.8
Training Equipment	3	*			2	*					2	0.1							7	0.1
Support Equipment		*																		0.0
ILS		0.3																		0.3
Other Support		0.5		0.2		0.5		0.5		0.6		0.6		0.6				0.8		4.2
Interim Contractor Support																				
Installation Cost	406	2.2	35	0.1	69	0.2	59	0.1	72	0.2							58	0.2	699	2.9
TOTAL PROCUREMENT		**13.9**		**0.4**		**0.8**		**1.8**		**3.0**		**2.6**		**2.6**				**3.9**		**28.9**

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 Program

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **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**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2001: Dec-00 FY 2002: Dec-01 FY 2003: Dec-02

DELIVERY DATE: FY 2001: Jan-01 FY 2002: Jan-02 FY 2003: Jan-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (406) kits	406	2.2																	**406**	**2.2**
FY 2001 (76) kits			35	0.1	41	0.1													**76**	**0.2**
FY 2002 (88) kits					28	0.1	59	0.1	1	*									**88**	**0.2**
FY 2003 (71) kits									71	0.2									**71**	**0.2**
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (58) kits																	58	0.2	**58**	**0.2**
TOTAL	**406**	**2.2**	**35**	**0.1**	**69**	**0.2**	**59**	**0.1**	**72**	**0.2**							**58**	**0.2**	**699**	**2.9**

Installation Schedule

	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	3.000	4
In	406			15	20	18	17	17	17	15	15	15	14	18	18	18	18				
Out	406			5	10	20	18	17	17	17	15	15	15	14	18	18	18	18			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									58	699
Out									58	699

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 documenting 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 306 H-46 aircraft (280 active +26 reserve). This modification is being installed on 65 H-46D aircraft (all active); and on 226 CH-46E aircraft (200 active + 26 reserve).

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. Validation installation for D-model was completed 2nd quarter FY01, followed immediately by EMI testing and Verification installation in 3rd quarter FY01. Production installations in D-models are currently being performed in Norfolk, North Island, and Guam. A CH-46 Validation/Verification installation is ongoing, to be immediately followed by Electromagnetic Compatability Testing (EMC). Production E-model installations are scheduled to start in 2nd quarter FY 2002.

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																				
A-Kit D-Model Airframe Kit	30		33	0.4															63	0.4
A-Kit E-Model Airframe Kit			50	0.6	72	0.9	71	0.9									32	0.4	225	2.9
B-Kit D&E-Model Airframe Kit	30	2.9	83	4.3	72	3.9	8	0.4									32	1.8	225	13.3
B-Kit (RILOP)							63	0.1											63	0.1
Overspeed Kit (D/E-Model)	60	0.2	166	0.7	144	0.8	142	0.8									64	0.4	576	2.9
QEC-3 (D-Aircraft)	62	0.2	66	0.2															128	0.4
QEC-4 (E-Aircraft)	1	0.0	100	0.2	144	0.3	142	0.3									64	0.1	451	0.8
Fuel Line Assy Kit (D-Aircraft)	30	0.1	33	0.1															63	0.1
Engine Kit (E-Aircraft)			100	0.1	144	0.1	142	0.1									64	0.1	450	0.5
Installation Kits N/R	3	4.3																	3	4.3
Installation Equipment																				
Control Boxes		0.3																		0.3
Engine Condition Actuator																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		0.5		1.0						0.1										1.5
Training Equipment			8	0.5															8	0.5
Support Equipment		0.2		0.2																0.3
ILS		0.1		0.6		0.5		0.5		0.3										2.0
Other Support		1.4		1.3		0.7		0.5		0.9		0.7						0.8		6.2
Interim Contractor Support																				
Installation Cost			37	1.2	79	2.7	72	2.3	71	2.3							32	1.0	291	9.5
Total Procurement		**10.3**		**11.4**		**9.8**		**5.8**		**3.6**		**0.7**						**4.5**		**46.1**

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** **(OSIP 28-99)** MODIFICATION TITLE: **ENGINE CONTROL SYSTEM RETROFIT**

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 2001: Feb-01 FY 2002: Dec-01 FY 2003: Dec-02

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (33) kits			33	1.0															**33**	**1.0**
FY 2001 (83) kits			4	0.1	79	2.7													**83**	**2.8**
FY 2002 (72) kits							72	2.3											**72**	**2.3**
FY 2003 (71) kits									71	2.3									**71**	**2.3**
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (32) kits																	32	1.0	**32**	**1.0**
TOTAL			**37**	**1.2**	**79**	**2.7**	**72**	**2.3**	**71**	**2.3**							**32**	**1.0**	**291**	**9.5**

Installation Schedule

	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
In			3	17	17	19	20	20	20	18	18	18	18	18	18	18	17				
Out				3	17	17	19	20	20	20	18	18	18	18	18	18	18	17			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									32	291
Out									32	291

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 228 CH-46E aircraft (202 active + 26 reserve). This modification will be installed in 224 CH-46E aircraft (198 active + 26 reserve), the projected inventory in FY 2003.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The contract for development and qualification of a new generator control panel awarded in June 2000. Preliminary Design Reviews (PDR) have been completed as well as breadboard and bench testing. Environmental tests are ongoing, and validation/verification installations were completed in Nov 2001. The first production modification kit order was placed in Dec 2001 and deliveries are scheduled to begin in Sep 2002.

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																				
Airframe Kit			2	*	95	0.1	88	0.1									39	*	224	0.2
XXX Kit																				
XXX Kit																				
Installation Kits N/R		0.7																		0.7
Installation Equipment																				
Main Generator Control Unit (GCU)					138	0.4	104	0.3	128	0.3							78	0.2	448	1.2
Auxiliary Power GCU					69	0.2	52	0.1	64	0.2							39	0.1	224	0.6
Generator					185	0.1													185	0.1
Installation Equipment N/R	6	0.8																	6	0.8
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data				0.7						0.1										0.8
Training Equipment		0.6		*	8	*													8	0.6
Support Equipment	1	*	11	*	12	0.1	12	0.1											36	0.2
ILS						0.2		0.2		0.2		0.2								0.8
Other Support				1.3		0.5		0.9		0.7		0.6						0.8		4.8
Interim Contractor Support																				
Installation Cost					2	*	97	0.6	88	0.6							39	0.3	226	1.5
Total Procurement		**2.2**		**2.1**		**1.5**		**2.3**		**2.1**		**0.8**						**1.4**		**12.4**

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: Electrical System Upgrade (OSIP 29-99)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 9 Months

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

DELIVERY DATE: FY 2001: N/A FY 2002: Sep-02 FY 2003: Sep-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 (2) kits					2	*													**2**	**0.0**
FY 2002 (97) kits							97	0.6											**97**	**0.6**
FY 2003 (88) kits									88	0.6									**88**	**0.6**
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (39) kits																	39	0.3	**39**	**0.3**
TOTAL					**2**	*	**97**	**0.6**	**88**	**0.6**							**39**	**0.3**	**226**	**1.5**

Installation Schedule

	FY 2000 & Prior	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
In							1	1		24	24	24	25	22	22	22	22				
Out								1	1		24	24	24	25	22	22	22	22				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									39	226
Out									39	226

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: T-58 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 FY02 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 at least 2012, however 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 228 CH-46E aircraft (202 active + 26 reserve). This modification will be installed in 222 aircraft (196 active + 26 reserve).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Congress approved $3M plus-up in FY 2001 for risk mitigation, prototypes and NRE; the contract for these efforts awarded in January 2001. NRE is in-process, and the prototypes are scheduled to deliver in Apr 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 2001		FY 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																				
Gas Path Module Kit					30	15.7	77	41.0	93	50.5	100	55.5					144	84.2	444	246.9
Accessory Kit					41	0.6	101	1.5	117	1.7	44	0.7					144	2.3	447	6.6
T-5 Harness Kit					30	0.2	23	0.1	28	0.1	30	0.2					43	0.2	154	0.8
Installation Kits N/R			3	2.2		2.5				0.9									3	5.6
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders										1.5		1.5		1.5				3.0		7.5
T-58 Kit ECO																				
XXX Equip ECO XXX																				
Data						0.6		0.6		0.6		0.2		0.1						2.1
Training Equipment																				
Support Equipment						0.9		0.4		1.5		2.0								4.9
ILS																				
Other Support				0.8		1.4		1.6		3.2		3.5		3.5				6.4		20.5
Interim Contractor Support																				
Installation Cost					1	1.1		1.7											1	2.8
Total Procurement				**3.0**		**22.9**		**46.9**		**60.1**		**63.5**		**5.1**				**96.2**		**297.6**

Notes:

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-46E (T58-GE-16 Engine)

MODIFICATION TITLE: T-58 Engine Reliability Improvement Program (ERIP) (OSIP 15-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Mod Engines Concurrent with Overhaul at NADEP Cherry Point. Installation of production assets will be funded by Motor Board at no extra charge to mod program.**

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2001: Jan-01 FY 2002: Jun-02 FY 2003: Dec-02

DELIVERY DATE: FY 2001: Oct-01 FY 2002: Mar-03 FY 2003: Sep-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 (1) kits					1	1.1													**1**	**1.1**
FY 2002 ( ) kits								1.7												**1.7**
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL					**1**	**1.1**		**1.7**											**1**	**2.8**

Note: Installation funding includes modification of (4) accessory shipsets in FY02 + (12) accessory shipsets in FY03.

Installation Schedule

	FY 2000 & Prior	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
In								1													
Out									1												

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

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Aircraft Integrated Maintenance System (AIMS) (OSIP 10-03)

MODELS OF SYSTEMS AFFECTED: CH-46E | TYPE MODIFICATION: R&M (HONA Category B)

DESCRIPTION/JUSTIFICATION: AIMS is a Commercial Off The Shelf (COTS) vibration monitoring system, which will be permanently installed in the aircraft. AIMS is a comprehensive set of aircraft monitoring hardware and support software. The purpose of the system is to build support equipment functions into the aircraft as a permanent installation. Thus, AIMS will eliminate most H-46 peculiar support equipment requirements. This equipment will provide aircrews immediate feedback on aircraft condition and engine performance, which enhances the ability to predict catastrophic failures and reduces maintenance costs. In 1997, PMA226 fielded new vibration equipment to a small sample of H-46 aircraft and implemented a 100 hour vibration monitoring check. Since implementation, vibration monitoring has been instrumental in predicting (and preventing) impending component failures. For example, vibration data was received from an aircraft that had undergone three aft transmission removals for input pinion seal leakage. Analysis of the vibration monitoring data revealed a major problem with the #2 engine. Further investigation of the engine revealed impending failure of the right angle drive bearings. Failure of the engine may have resulted in damage or loss of the aircraft. Another example is an aircraft that, while performing a 100 hour vibration check, experienced aft transmission vertical vibration levels that exceeded acceptable limits. Further investigation revealed impending failure of the electrical generator. Without vibration monitoring, the problem with the generator would have gone undetected until catastrophic failure. Failure of the generator may have resulted in an electrical fire and/or collateral damage to the aircraft. Currently, there are 228 CH-46E acft (202 active + 26 reserve). This modification will be installed in 217 aircraft (191 active + 26 reseve), the projected inventory in FY 2005.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-recurring engineering is planned in FY03 to integrate the COTS into the H-46 aircraft, design an installation kit, modify CDNU (Control Data Navigation Unit) software, and prepare technical data. The installation kit and hardware will be procured in FY04, and installed in FY05.

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																				
A- Kit							2	0.1	154	3.2							61	1.3	217	4.6
XXX Kit																				
XXX Kit																				
Installation Kits N/R								4.4												4.4
Installation Equipment							2	0.1	154	4.7							61	1.9	217	6.7
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data								0.2		0.5		0.1								0.8
Training Equipment								0.1												0.1
Support Equipment							72	0.7											72	0.7
ILS																				
Other Support								2.2		0.5		0.5						0.8		3.9
Interim Contractor Support																				
Installation Cost									2	0.1	154	1.9					61	0.8	217	2.8
Total Procurement								**7.6**		**9.0**		**2.5**						**4.7**		**23.8**

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: Aircraft Integrated Maintenance System (AIMS) (OSIP 10-03)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 2001: N/A FY 2002: N/A FY 2003: Dec-02

DELIVERY DATE: FY 2001: N/A FY 2002: N/A FY 2003: Oct-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 (2) kits									2	0.1									**2**	**0.1**
FY 2004 (154) kits											154	1.9							**154**	**1.9**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (61) kits																	61	0.8	**61**	**0.8**
TOTAL									**2**	**0.1**	**154**	**1.9**					**61**	**0.8**	**217**	**2.8**

Installation Schedule

	FY 2000 & Prior	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
In														2				39	38	39	38
Out														2					39	38	39

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									61	217
Out	38								61	217

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**370.0**	A	**12.9**	**15.1**	**10.2**	**11.5**	**8.8**	**7.9**	**1.7**		**438.2**

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 FY2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
8-90	AH-1 Night Targeting System	310.1	3.9	3.3							**317.3**
3-93	AH-1 Embedded GPS/ARC-210 NAV Upgrade	55.0	4.4	1.6							**61.0**
16-98	AH-1W APR-39A(V)2	2.9	1.4								**4.3**
12-00	H-1 Mission Planning Module and OFP Software Upgrade Program	0.9	0.9	1.2	0.6	1.0	1.0				**5.6**
13-00	AH-1W Aircraft and T700 Engine Safety Corrections	1.1	2.5	9.0	6.8	3.5	1.3	1.3	1.3		**26.8**
02-03	AH-1 20MM Linkless Feed				2.8	6.9	6.5	6.6	0.4		**23.3**
	Total	**370.0**	**12.9**	**15.1**	**10.2**	**11.5**	**8.8**	**7.9**	**1.7**		**438.2**

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. NTS Reliability and Maintainability (R&M) will be investigated to improve system effectiveness by integrating and/or modifying multiple control boxes within the system. In addition, NonRecurring work will be conducted on the Weapons System Trainer (WST) to ensure the full capability of the NTS is given to fleet Marine Cobra pilots.

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																				
Acceleratаed Kits	5	2.0																	5	2.0
NTS Kit ECP # 1648	128	125.8	4	3.6															132	129.4
A/F Kit ECP # 1648	128	37.5																	128	37.5
TOW BUFFER ECP#H1-CP20-98	202	1.8																	202	1.8
Installation Kits N/R		19.5				0.9														20.5
Installation Equipment																				
GFE Retrofit		5.2				0.3														5.5
NTS GFE	79	1.5																	79	1.5
5 PT RESTRAINT GFE	41	1.8																	41	1.8
VCRs	133	3.5	4	0.1															137	3.6
Installation Equipment N/R		2.0				0.2														2.2
Engineering Change Orders		7.5																		7.5
Data		1.2		*		0.2														1.5
Training Equipment	4	4.0				0.4													4	4.5
Support Equipment		14.9				0.1														15.0
ILS		14.2				0.1														14.3
Other Support		22.5		0.1		1.0														23.6
Interim Contractor Support																				
Installation Cost	128	45.2																	128	45.2
Total Procurement		**310.1**		**3.9**		**3.3**														**317.3**

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (128) kits	128	45.2																	**128**	**45.2**
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**	**45.2**																	**128**	**45.2**

Installation Schedule

	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
In	128																				
Out	125	3																			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										128
Out										128

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 182 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 2001		FY 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 ECP # 1686	163	12.6	19	1.1															182	13.631
Installation Kits N/R		3.1																		3.110
Installation Equipment																				
GFE Retrofit		0.1		0.1		0.1														0.200
CDNU GFE	320	4.1	38	0.4															358	4.579
ARC-210 GFE	4	0.3																	4	0.289
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.5		0.2		0.3														1.984
Training Equipment	2	0.3																	2	0.345
Support Equipment		1.9		0.1																2.021
ILS		1.3																		1.272
Other Support		11.5		1.0		0.6														13.114
Interim Contractor Support																				
Installation Cost	132	18.3	32	1.5	20	0.6													184	20.430
Total Procurement		**55.023**		**4.4**		**1.6**														60.975

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 2001: Dec-00 FY 2002: FY 2003:

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

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2002		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 2000 & PY (165) kits	132	18.3	32	1.5	1	*															**165**	**19.9**
FY 2001 (19) kits					19	0.9															**19**	**0.9**
FY 2002 () kits																						
FY 2003 () kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
FY 2006 ( ) kits																						
FY 2007( ) kits																						
To Complete () kits																						
TOTAL	**132**	**18.3**	**32**	**1.5**	**20**	**0.9**															**184**	**20.7**

Installation Schedule

	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
In	132	14	6	6	6	2	6	6	6												
Out	121	11	14	6	6	7	1	6	6	6											

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										184
Out										184

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

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 2001		FY 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	77	0.5																	77	0.5
Installation Kit - Unit Price																				
Installation Kits N/R		0.1																		0.1
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.1																		0.1
Training Equipment	2	0.2																	2	0.2
Support Equipment		0.4																		0.4
ILS		0.1																		0.1
Other Support		1.1		0.1																1.2
Interim Contractor Support																				
Installation Cost	18	0.4	61	1.3															79	1.7
Total Procurement		**2.9**		**1.4**																**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: **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: FY2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (79) kits	18	0.4	61	1.3															**79**	**1.7**
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**	**0.4**	**61**	**1.3**															**79**	**1.7**

Installation Schedule

	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
In	18	15	15	15	16																
Out	18	11	11	12	12	15															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										79
Out										79

Exhibit P-3a — Individual Modification

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

MODELS OF SYSTEMS AFFECTED: H-1's — 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 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Tota	
	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		1.0		0.4		0.9		0.8								4.2
Engineering Change Orders																				
Data				0.0		0.0		0.0				0.1								0.1
Training Equipment				0.0		0.0		0.0				*								0.1
Support Equipment																				
ILS																				
Other Support		0.5		0.1		0.1		0.1		0.1		0.1								1.2
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**0.9**		**0.9**		**1.2**		**0.6**		**1.0**		**1.0**								**5.6**

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 which 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 caps to 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 193 AH-1W aircraft and nine AH-1W trainers which will carry forward to the AH-1Z.

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																				
AFC XXX DECU Install Kits *					113	0.1	62	0.1	18	*									193	0.2
DCC XXX 42 & 90 Degree Gearbox *							50	0.9	82	1.5	45	0.7							177	3.2
Installation Kits N/R	5	0.1		0.1	2	0.2													7	0.4
Installation Equipment	10	0.2			197	6.6	147	4.9	38	1.3									392	13.1
Installation Equipment N/R		0.5		0.3																0.8
Engineering Change Orders						0.1		0.1												0.2
Data				0.2		0.1		*		*		*		0.2		0.2				0.8
Training Equipment				0.3	8	0.5			1	0.1									9	0.8
Support Equipment				0.2																0.2
ILS				0.2		0.2		0.3		0.1		0.1		0.2		0.1				1.2
Other Support		0.2		1.1		0.9		0.5		0.5		0.4		1.0		0.9				5.5
Interim Contractor Support						0.3														0.3
Installation Cost																			778.0	
Total Procurement		**1.1**		**2.5**		**9.0**		**6.8**		**3.5**		**1.3**		**1.3**		**1.3**				**26.8**

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-3a — Individual Modification

MODIFICATION TITLE: AH-1 20MM Linkless Feed System(OSIP 02-03)

MODELS OF SYSTEMS AFFECTED: AH-1W/AH-1Z — TYPE MODIFICATION: Survivability

DESCRIPTION/JUSTIFICATION: The U.S. Marine Corps (USMC) has an operational requirement for conventional weapons delivery. This initiative will replace the current feeder assembly with one that utilizes linkless, bulk 20mm ammunition common to all other DoN 20MM systems (F/A-18, F-14, CIWS). This will provide a significant increase in the reliability of this critical weapons system and enhance the surviability of the flight crew. The ammo can/feeder assembly is the highest reliability degrader in the gun system. The implementation of this modification will enhance the warfightr's capability to place more rounds on target by eliminating gun jamming significantly increasing reliability. This modification will be carried forward and must be forward compatible to the AH-1Z.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: This initiative will be implemented by issuance of a new contract based on open competition between several manufacturers of linkless feed technology. Contract Award is scheduled for the 2nd quarter of FY03. Installation of prototypes will be accomplished in the 3rd quarter of FY03 to complete verification. Installations will commence 1st quarter of FY04. This modification will cover 188 AH-1W aircraft and two AH-1W trainers.

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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							3	0.5	61	4.4	62	4.9	62	5.0					188	14.7
Accelerated Kits																				
Installation Kits N/R								0.6												0.6
Installation Equipment																				
GFE Retrofit																				
Installation Equipment N/R																				
Engineering Change Orders								0.1												0.1
Data								0.1												0.1
Training Equipment							2	0.1											2	0.1
Support Equipment								0.2		1.4		1.1		1.1						3.7
ILS								0.8												0.8
Other Support								0.3		0.6		0.2		0.2		0.4				1.7
Interim Contractor Support																				
Installation Cost							5	0.2	61	0.6	62	0.4	62	0.3					190	1.4
Total Procurement								**2.8**		**6.9**		**6.5**		**6.6**		**0.4**				**23.3**

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-1 20MM LINKLESS FEED SYSTEM (OSIP 02-03)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 0 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 2001: FY 2002: FY 2003: Jan-03

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

($ 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 2000 & PY (0) kits																						
FY 2001 ( ) kits																						
FY 2002 ( ) kits																						
FY 2003 (5) kits									5	0.2											**5**	**0.2**
FY 2004 (61) kits											61	0.6									**61**	**0.6**
FY 2005 (62) kits													62	0.4							**62**	**0.4**
FY 2006 (62) kits															62	0.3					**62**	**0.3**
FY 2007 ( ) kits																						
To Complete ( ) kits																						
TOTAL									**5**	**0.2**	**61**	**0.6**	**62**	**0.4**	**62**	**0.3**					**190**	**1.4**

Installation Schedule

	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
In												3	2	13	16	16	16	14	16	16	16
Out												3	2	13	16	16	16	14	16	16	16

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	14	16	16	16						190
Out	14	16	16	16						190

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									**0**
COST (In Millions)	**356.4**	A	**24.4**	**18.8**	**22.5**	**34.7**	**30.9**	**39.3**	**39.0**	**132.0**	**698.0**

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 FY03 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
57-88	AN/AAR-47 MISSILE WARNING SET	4.7	*								**4.8**
23-91	MH53E ENGINE ENHANCEMENT	44.5	0.6	0.1	0.1						**45.3**
11-92	AN/ARC-210 ECCM RADIO	18.0	2.3	0.9	0.7	0.3	0.4				**22.6**
12-92	CH-53E HELICOPTER NIGHT VISION SYSTEM	129.0	2.5		4.8	5.4	3.0	2.5	2.0		**149.2**
20-92	MH GLOBAL POSITIONING SYSTEM (GPS)	36.6	2.5	2.2	0.7	0.1					**42.0**
24-93	H-53 GLOBAL POSITIONING SYSTEM (GPS)	26.0	*								**26.0**
20-94	INCORP OF #2 ENGINE FIRE DETECTORS	5.0	0.3								**5.3**
21-94	(ANVIS/HUD) AN/AVS-7	14.6	2.4	2.7	1.8	0.6					**22.0**
26-94	(NVG) COMPATIBLE EXTERIOR LIGHTING	6.6	*								**6.6**
35-94	TRDS SHAFT DISCONNECT COUPLING MONITOR	23.9	0.2	0.4							**24.5**
20-97	ATTENUATING TROOP SEATS	18.0	1.9	3.9	4.0	4.1	3.1	0.3			**35.3**
6-98	AN/APR-39A (V) 2 UPGRADE	1.0		2.4							**3.4**
7-98	INTEGRATED MECHANICAL DIAGNOSTIC SYSTEM	28.6	7.6	4.9	7.8	11.2	12.9	13.1	15.1	69.6	**170.8**
09-01	NACELLES		4.1	0.9	1.9	1.9	2.7	1.4			**12.9**
10-02	CH-53E AVIONICS COMM NAV SURVEILLANCE/TRAF M			0.4	0.6	11.1	8.7	7.8	7.8	62.4	**98.8**
XX-06	COMMON DEFENSE WEAPON							14.2	14.2		**28.4**
		356.4	**24.4**	**18.8**	**22.5**	**34.7**	**30.9**	**39.3**	**39.0**	**132.0**	**698.0**
TOTAL RESERVE FUNDING INCLUDED IN TOTAL		2.1	0.0	0.0	6.6	6.8	6.9	7.1	7.2		

Note: Totals may not add due to rounding.
Note: * indicates amounts less then 50K
Note: CNSATM OSIP (10-02) profile includes funding from AN/APR-39A (V) 2 Upgrade and SLEP. Per N78/DCSAPW, funding was reprogrammed into CNSATM due to a higher Marine Corp priority in meeting CNSATM requirements.

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 2001		FY 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																				
CH-53D/E	221	1.6	1	*															222	1.7
Installation Kits N/R		0.3																		0.3
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.1																		0.1
Training Equipment		*		*																*
Support Equipment																				
ILS		*																		*
Other Support		0.4																		0.4
Interim Contractor Support																				
Installation Cost	216	2.3																	216	2.3
Total Procurement		**4.7**		*****																**4.8**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Per N780F3 ltr of 28 Sept 01. 1 additional HMX-1 A/C Kit buy in FY 2001 to make the aircraft 'fleet representative' for test purposes.

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (216) kits	216	2.3																	**216**	**2.3**
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	**216**	**2.3**																	**216**	**2.3**

Note: (6) HMX A/C Kits not installed.

Installation Schedule

	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
In	216																				
Out	216																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										216
Out										216

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 2001		FY 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																				
Aircraft Kit -MH (32 Act, 12 Res)	44	7.5																	44	7.5
Aircraft Kit - CH	1	0.2																	1	0.2
Engine Oil Cooler Mod MH	90	3.5																	90	3.5
Installation Kits N/R		19.5																		19.5
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		2.4		0.1		*		*												2.6
Training Equipment	4	0.8																	4	0.8
Support Equipment		0.8																		0.8
ILS		0.8		0.1		0.1		*												1.0
Other Support		3.5		0.3		*														3.8
Interim Contractor Support																				
Installation Cost	46	5.5		0.1															46	5.6
Total Procurement		**44.5**		**0.6**		**0.1**		**0.1**												**45.3**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. 41 MH INSTALLS (3 A/C IN STORAGE)

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (46) kits	46	5.5		0.1															**46**	**5.6**
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	**46**	**5.5**		**0.1**															**46**	**5.6**

Installation Schedule

	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
In	46																				
Out	46																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										46
Out										46

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 2001		FY 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																				
CH-53E A Kit (LBAD) Note 6	158	1.7																	158	1.7
CH-53D A KIT (LBAD) Note 3	46	0.8																	46	0.8
CH-53D Rev B Kit Note 5	45	0.4																	45	0.4
MH-53E A KIT (LBAD)	16	0.3	5	0.1	10	0.2	3	0.1	8	0.1									42	0.8
CH-53D ATABS VAL/VER KIT	1	*																	1	*
CH-53D APX-72 A KIT					40	0.1													40	0.1
Installation Kits N/R		1.5																		1.5
Installation Equipment																				
GFE ITEMS - CHE Note 4	4	0.5																	4	0.5
Installation Equipment N/R		0.3																		0.3
Engineering Change Orders																				
Data		1.8		0.1		0.1														1.9
Training Equipment	7	0.6																	7	0.6
Support Equipment																				
ILS		0.3		*																0.3
Other Support		4.4		0.1		0.2														4.6
Interim Contractor Support																				
Installation Cost	207	5.4	55	2.0	45	0.4	9	0.7	3	0.2	8	0.4							327	9.1
Total Procurement		**18.0**		**2.3**		**0.9**		**0.7**		**0.3**		**0.4**								**22.6**

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 procurement
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 150 Installations

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 2001: Nov-00 FY 2002: Nov 01 FY 2003: Nov 02

DELIVERY DATE: FY 2001: Dec-01 FY 2002: Dec 02 FY 2003: Dec 03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (261) kits	207	5.4	54	2.0															261	**7.4**
FY 2001 (5) kits			1	*	4	0.3													5	**0.3**
FY 2002 (10) kits					1	0.1	9	0.7											10	**0.8**
FY 2003 (3) kits									3	0.2									3	**0.2**
FY 2004 (8) kits											8	0.4							8	**0.4**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**207**	**5.4**	**55**	**2.0**	**5**	**0.3**	**9**	**0.7**	**3**	**0.2**	**8**	**0.4**							**287**	**9.1**

Note:

1. Includes 7 Trainer Installations 2. FY2001 installations include 1 kit bought prior w/NGRE funds.

Installation Schedule

	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
In	207	13	13	13	16	2	1	1	1	2	2	2	3	1	1	1		2	2	2	2
Out	207	13	13	13	16	2	1	1	1	2	2	2	3	1	1	1		2	2	2	2

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										287
Out										287

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D APX-72 MODIFICATION TITLE: AN/ARC-210 ECCM Radio (OSIP 11-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with (NADEP) (SDLM), augmented by NADEP and interservice field modification teams (FMTs).**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2001: FY 2002: Oct 01 FY 2003:

DELIVERY DATE: FY 2001: FY 2002: Dec 01 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 (40) kits					40	*													40	*
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL					**40**	*													**40**	*

Note: (8) Hour Installation

Installation Schedule

	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
In							13	13	14												
Out							13	13	14												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										40
Out										40

Exhibit P-3a Individual Modification

MODIFICATION TITLE: CH-53E HELICOPTER NIGHT VISION SYSTEM (HNVS)(OSIP 12-92)

MODELS OF SYSTEMS AFFECTED: CH-53E (157) (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 2001		FY 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																				
A Kits	138	9.3					14	.38	5	0.1									157	9.8
Installation Kits N/R		3.1																		3.1
Installation Equipment																				
CH-53E installation equipment	159	16.8					28	3.2	10	1.2									197	21.2
CH-53E TFU/SDC AAQ-16B/29	220	70.5	3	1.8			2	1.2	5	3.1	4	2.6	3	2.1	2	1.4			239	82.6
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.7		*																0.8
Training Equipment	3	8.4		*															3	8.4
Support Equipment																				
ILS		1.0																		1.0
Other Support		10.7		0.6						0.3		0.4		0.5		0.5				13.1
Interim Contractor Support																				
Installation Cost (Note 4)	140	8.5							19	665									159	9.2
Total Procurement		**129.0**		**2.5**				**4.8**		**5.4**		**3.0**		**2.5**		**2.0**				**149.2**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Though the program was truncated (from 166 kits to 138) by N880 and HQMC in FY'97, 19 additional Kits were approved and funded per N78 and HQMC in October 2001.
4. All 19 A-Kits installed in FY04 by Field Mod Teams. B-Kits (TFUs) installed at O-Level.

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: **All 19 A-Kits installed in FY04 by Field Mod Teams. B-Kits (TFUs) installed at O-Level.**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2001: FY 2002: FY 2003: Jan-03

DELIVERY DATE: FY 2001: FY 2002: FY 2003: Oct-03

($ in Millions)

Cost:			FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (140) kits	140	8.5																	**140**	**8.5**
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 (14) kits									14	0.5									**14**	**0.5**
FY 2004 (5) kits									5	0.2									**5**	**0.2**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**140**	**8.5**							**19**	**0.7**									**159**	**9.2**

Installation Schedule

	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
In	140													5	5	4	5				
Out	140													5	5	4	5				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										159
Out										159

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. A two-phase approach removes the Omega Navigation System (ONS) and repositions the GPS-3A receiver to the right e-bay (Phase I). Phase II replaces the Phase I GFE with MAGR 2000/CDNU.

Applicable ECP: CH53-011

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. In Phase I, the GPS-3A receiver was repositioned-no test required. The MAGR 2000 system (Phase II) in the MH-53E will undergo OT-IIID in March FY02. 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 2001		FY 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																				
MH-53E NCS	4	5.2																	4	5.2
MH-53E GPS Kit (ECP CH53-011)	34	1.4	37	1.0	13	0.4													84	2.9
Installation Kits N/R		2.3																		2.3
Installation Equipment																				
GFE Reconfig																				
Installation Equipment N/R		0.4																		0.4
Engineering Change Orders		0.2																		0.2
Data		1.7		0.1		*														1.8
Training Equipment	2	10.5	2	0.1		0.1													4	10.6
Support Equipment		0.2																		0.2
ILS		1.2		*																1.2
Other Support		11.3		0.8		0.6		0.1		0.1										12.8
Interim Contractor Support																				
Installation Cost	23	2.3	19	0.6	30	1.1	13	0.6		*									85	4.6
Total Procurement		**36.6**		**2.5**		**2.2**		**0.7**		**0.1**										**42.0**

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 2001: Feb-01 FY 2002: Feb-02 FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (33) kits	23	2.3	10	0.3															**33**	**2.6**
FY 2001 (39) kits			9	0.3	30	1.1													**39**	**1.4**
FY 2002 (13) kits							13	0.6		*									**13**	**0.6**
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**23**	**2.3**	**19**	**0.6**	**30**	**1.1**	**13**	**0.6**		*****									**85**	**4.6**

Note 1: (3) NCS Installations; (40) Phase I Installations; (40) Phase II Installations; (2) Trainer Installations = (85) Total Installations

Note 2: (1) Prior Year NCS Kit No Cost Installation

Note 3: FY96 (2) Trainer Kits - Installations Not Seperately Priced

Installation Schedule

	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
In	23	5	5	5	4	7	7	7	9	3	3	3	4								
Out	23	5	5	5	4	7	7	7	9	3	3	3	4								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										85
Out										85

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.

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 2001		FY 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																				
CH-53D/RH-53D Kit ECP 1107R1	49	3.1																	49	3.1
CH-53E Kit ECP PN51	164	6.7																	164	6.7
Installation Kits N/R		1.6																		1.6
Installation Equipment																				
GPS (CH-53E) Equip																				
PPS Equip																				
TACAN RTS (CH-53E) Equip		0.1																		0.1
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.9																		0.9
Training Equipment	6	1.1		*															6	1.1
Support Equipment																				
ILS		*																		*
Other Support		6.2																		6.2
Interim Contractor Support																				
Installation Cost	193	6.3																	193	6.3
Total Procurement		**26.0**		*****																**26.0**

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (193) kits	193	6.3																	**193**	6.3
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	**193**	**6.3**																	**193**	**6.3**

Installation Schedule

	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
In	193																				
Out	193																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										193
Out										193

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 2001		FY 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																				
CH-53E Kits ECP PN56R1	166	1.6																	166	1.6
MH-53E Kits ECP PN56R1	44	0.5																	44	0.5
Installation Kits N/R		0.2																		0.2
Installation Equipment																				
Installation Equipment N/R		*																		*
Engineering Change Orders																				
Data		0.2																		0.2
Training Equipment	6	0.1																	6	0.1
Support Equipment		*																		*
ILS		*																		*
Other Support		1.0		*																1.0
Interim Contractor Support																				
Installation Cost	180	1.3	24	0.3															204	1.6
Total Procurement		**5.0**		**0.3**																**5.3**

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 2001: Feb-02 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: Mar-02 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (204) kits	180	1.3	24	0.3															**204**	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	**180**	**1.3**	**24**	**0.3**															**204**	**1.6**

Installation Schedule

	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
In	180	12	12																		
Out	180	12	12																		

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										204
Out										204

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 2001		FY 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																				
CH-53D Kit ECP PN61R1																				
CH-53E Kit ECP PN47	115	1.7	20	0.4	18	0.3	13	0.3											166	2.6
Installation Kits N/R		3.6																		3.6
Installation Equipment																				
CH-53E Install Equip (incl 4 trainers	119	3.4	20	0.9	18	1.0	13	0.8											170	6.0
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.3																		0.3
Training Equipment	4	0.5		*															4	0.5
Support Equipment		0.2																		0.2
ILS		0.4																		0.4
Other Support		3.1		0.6		0.7		0.3												4.6
Interim Contractor Support																				
Installation Cost	91	1.5	21	0.6	22	0.7	18	0.5	18	0.6									170	3.9
Total Procurement		**14.6**		**2.4**		**2.7**		**1.8**		**0.6**										**22.0**

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 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 2001: MAY 01 FY 2002: MAY 02 FY 2003: MAY 03

DELIVERY DATE: FY 2001: JAN 02 FY 2002: JAN 03 FY 2003: JAN 04

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (119) kits	91	1.5	21	0.6	7	0.2													**119**	2.2
FY 2001 (20) kits					15	0.4	5	0.1											**20**	0.6
FY 2002 (18) kits							13	0.4	5	0.2									**18**	0.6
FY 2003 (13) kits									13	0.5									**13**	0.5
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**91**	1.5	**21**	0.6	**22**	0.7	**18**	0.5	**18**	0.6									**170**	**3.9**

Installation Schedule

	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
In	91	5	5	5	6	5	5	5	7	5	5	5	3	5	5	5	3
Out	91	5	5	5	6	5	5	5	7	5	5	5	3	5	5	5	3

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														170
Out														170

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 2001		FY 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																				
CH-53D/RH-53D Kits (ECP PN59)	49	0.5																	49	0.5
CH-53E Kits (ECP PN53R1)	162	1.1																	162	1.1
MH-53E Kits (ECP PN57)	44	0.9																	44	0.9
Installation Kits N/R		0.4																		0.4
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.4																		0.4
Training Equipment	8	0.2		*															8	0.2
Support Equipment		*																		*
ILS		0.2																		0.2
Other Support		0.4																		0.4
Interim Contractor Support																				
Installation Cost	250	2.6																	250	2.6
Total Procurement		**6.6**		*****																**6.6**

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

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (250) kits	250	2.6																	**250**	**2.6**
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	**250**	**2.6**																	**250**	**2.6**

1. Installations do not include 2 RH-53D kits, 11 War Reserve Aircraft

Installation Schedule, (includes 8 trainer installs)

	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
In	250																				
Out	250																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										250
Out										250

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 2001		FY 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																				
CH-53E/MH-53E Kits ECP 2175R4/2666	214	10.0																	214	10.0
Installation Kits N/R		6.8																		6.8
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.5		*																1.5
Training Equipment	6	0.7		*															6	0.8
Support Equipment		0.2																		0.2
ILS		0.8																		0.8
Other Support		0.7		*		0.4														1.1
Interim Contractor Support																				
Installation Cost	198	3.1	3	0.1															201	3.3
Total Procurement		**23.9**		**0.2**		**0.4**														**24.5**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. CH-53E-1 crash A/C, 2 FSC not installed, 9 AMARC = 155 CH-53E installs.
4. MH-53E = 1 crash A/C, 1 A/C stricken, 2 AMARC = 43 MH-53E installs funded.
5. 3 trainers not installed.

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (201) kits	198	3.1	3	0.1															**201**	**3.3**
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	**198**	**3.1**	**3**	**0.1**															**201**	**3.3**

Installation Schedule

	FY 2000 & Prior	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
In	198	3																			
Out	198	3																			

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In										201
Out										201

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 2001		FY 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																				
CH-53D Kit	46	4.6																	46	4.6
CH-53E Kit	50	3.8			36	2.6	40	2.9	28	2.1									154	11.3
MH-53E Kit	2	0.4							12	0.9	26	1.9							40	3.2
Installation Kits N/R		1.7		0.1																1.8
Installation Equipment																				
Seat testing		0.7		*																0.8
Installation Equipment N/R																				
Engineering Change Orders		0.3																		0.3
Data		0.5		*																0.5
Training Equipment		*																		*
Support Equipment																				
ILS		0.3																		0.3
Other Support		3.8		1.6		0.9		0.7		0.6		0.6								8.2
Interim Contractor Support																				
Installation Cost	50	1.8	4	0.1	41	0.5	40	0.5	40	0.5	39	0.5	26	0.3					240	4.3
Total Procurement		**18.0**		**1.9**		**3.9**		**4.0**		**4.1**		**3.1**		**0.3**						**35.3**

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (98) kits	50	1.8	4	0.1	41	0.5	3	*											**98**	2.4
FY 2001 ( ) kits																				
FY 2002 (36) kits							36	0.4											**36**	0.4
FY 2003 (40) kits							1	*	39	0.5									**40**	0.5
FY 2004 (40) kits									1	*	39	0.5							**40**	0.5
FY 2005 (26) kits													26	0.3					**26**	0.3
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**50**	**1.8**	**4**	**0.1**	**41**	**0.5**	**40**	**0.5**	**40**	**0.5**	**39**	**0.5**	**26**	**0.3**					**240**	**4.3**

Installation Schedule

	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
In	50	1	1	1	1	10	10	10	11	10	10	10	10	10	10	10	10	10	10	10	9
Out	50	1	1	1	1	10	10	10	11	10	10	10	10	10	10	10	10	10	10	10	9

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	6	6	6	8						240
Out	6	6	6	8						240

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 2001		FY 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																				
VAL/VER	2	0.1																	2	0.1
CH-53E																				
MH-53E																				
MH-53E Reserve																				
Installation Kits N/R						0.1														0.1
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data						0.4														0.4
Training Equipment		*																		*
Support Equipment																				
ILS		0.1				0.2														0.2
Other Support		0.8				1.8														2.5
Interim Contractor Support																				
Installation Cost	2	0.1																	2	0.1
Total Procurement		**1.0**				**2.4**														**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-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: 4 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 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (2) kits	2	0.1																	**2**	0.1
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2005 ( ) kits																				
FY 2005 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**2**	**0.1**																	**2**	**0.1**

Installation Schedule

	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
In	2																				
Out	2																				

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

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 was a pilot program conducted at HMT-302 to validate a production representative system prior to Milestone III decision in FY03. An integration verification period for the remaining H-53E platforms will then be followed by production.

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																				
CH-53E A Kit	12	3.4	8	2.3	2	0.6	11	3.4	16	4.9	18	5.6	22	7.0	25	8.2	40	13.9	154	49.3
MH-53E A Kit																	32	11.5	32	11.5
MH-53E Reserve Kit																	12	4.3	12	4.3
Installation Kits N/R		3.1																		3.1
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.3		0.6		0.1														1.9
Training Equipment		*		0.2					6	0.8									6	1.1
Support Equipment								*		*		*		*		*		*		0.1
ILS		1.7		0.6		0.3		0.3		0.4		0.5		0.4		0.7		2.5		7.4
Other Support		19.0		4.0		2.7		2.7		3.3		3.2		3.0		3.1		6.7		47.6
Interim Contractor Support		0.1				0.1		0.2		0.5		0.4		0.5		0.5		17.4		19.7
Installation Cost					10	1.1	12	1.3	11	1.2	22	3.2	18	2.1	22	2.6	109	13.2	204	24.6
Total Procurement		**28.6**		**7.6**		**4.9**		**7.8**		**11.2**		**12.9**		**13.1**		**15.1**		**69.6**		**170.8**

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 2001: JAN 01 FY 2002: DEC 01 FY 2003: DEC 02

DELIVERY DATE: FY 2001: JUL 01 FY 2002: JUN 02 FY 2003: JUN 03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (12) kits					10	1.1	2	0.2											**12**	1.3
FY 2001 (8) kits							8	0.9											**8**	0.9
FY 2002 (2) kits							2	0.2											**2**	0.2
FY 2003 (11) kits									11	1.2									**11**	1.2
FY 2004 (22) kits											22	3.2							**22**	3.2
FY 2005 (18) kits													18	2.1					**18**	2.1
FY 2006 (22) kits															22	2.6			**22**	2.6
FY 2007 (25) kits																	25	3.0	**25**	3.0
To Complete (84) kits																	84	10.2	**84**	10.2
TOTAL					**10**	**1.1**	**12**	**1.3**	**11**	**1.2**	**22**	**3.2**	**18**	**2.1**	**22**	**2.6**	**109**	**13.2**	**204**	**24.6**

Installation Schedule

	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
In						2	2	2	4	3	3	3	3	3	3	3	2	5	5	5	7
Out							2	2	2	4	3	3	3	3	3	3	3	2	5	5	5

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	5	5	5	3	6	6	6	4	109	204
Out	7	5	5	5	3	6	6	6	113	204

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 2nd Qtr. FY 02. Anticipate kit delivery beginning 3 months from award. O-Level Validation/Verification is planned for May 02. All installations are O-Level.

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																				
CH-53E			52	2.6			17	0.9	21	1.1	38	2.0	25	1.4					153	8.0
CH-53E VAL/VER			1	0.1															1	0.1
MH-53E			11	0.5			6	0.3	12	0.6	10	0.5							39	2.0
MH-53E VAL/VER			1	0.1															1	0.1
Installation Kits N/R				0.8																0.8
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data						0.1		0.4												0.4
Training Equipment																				
Support Equipment						0.4														0.4
ILS																				
Other Support						0.5		0.3		0.2		0.2								1.2
Interim Contractor Support																				
Installation Cost																				
Total Procurement				**4.1**		**0.9**		**1.9**		**1.9**		**2.7**		**1.4**						**12.9**

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 (154) & Trainers (5) | 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 current stand-alone systems will be integrated using existing software modules into the new bus architecture. 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. Integration testing begins second quarter FY-03.

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																				
CH-53E Kit									1	*	2	0.1	13	0.3	20	0.5	118	4.0	154	5.0
Installation Kits N/R								0.4		5.1		2.3		0.4						8.2
Installation Equipment																				
GFE Items									1	0.3	2	0.5	13	3.7	20	5.7	118	41.0	154	51.3
Installation Equipment N/R																				
Engineering Change Orders																				
Data						0.1		*		2.0		0.5								2.6
Training Equipment											3	1.0		0.8			2	1.3	5	3.1
Support Equipment																				
ILS										1.5		1.2		0.2						2.9
Other Support						0.3		0.2		2.1		2.2		1.8		0.8		6.0		13.5
Interim Contractor Support																				
Installation Cost *Note 3											5	1.0	4	0.5	10	0.8	140	10.1	159	12.2
Total Procurement						**0.4**		**0.6**		**11.1**		**8.7**		**7.8**		**7.8**		**62.4**		**98.8**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. The 5 installs in FY 05 include 3 Trainer installs; 2 additional Trainer installs in To Complete

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: 9 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 (1) kits											1	0.2							**1**	**0.2**
FY 2005 (5) kits											4	0.8	1	0.1					**5**	**0.9**
FY 2006 (13) kits													3	0.3	10	0.8			**13**	**1.1**
FY 2007 (20) kits																	20	1.2	**20**	**1.2**
To Complete (120) kits																	120	8.9	**120**	**8.9**
TOTAL											**5**	**1.0**	**4**	**0.5**	**10**	**0.8**	**140**	**10.1**	**159**	**12.2**

Installation Schedule

	FY 2000 & Prior	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
In																					5
Out																					5

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	2	2			3	3	3	1	140	159
Out	2	2			3	3	3	1	140	159

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In	**337.1**	A	**33.3**	**9.6**	**15.4**	**28.7**	**28.2**	**5.1**	**5.8**	**66.4**	**519.6**

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, 74 SH-60F, and 30 MH-60R 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 is to continue the Integrated Mechanical Diagnostic System (IMDS), commence the Gearbox Corrison and Safety Related Systems Upgrade, Transmission Beam Fatigue and the Advance Helicopter Emergency Egress Lighting System. The specific modifications budgeted and programmed are:

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
48-92	FLIR/Hellfire (HH-60H)*										
	DERF (non add)			0.4							**0.4**
15-94	Forward Looking Infrared	121.7									**121.7**
26-95	Aircraft Survivability Equipment (ASE)	49.3	0.2								**49.5**
27-95	NVG HUD (HH-60H)/NVG Blue Glass*										
	DERF (non add)			2.2							**2.2**
08-96	T700 Engine Improvements	18.9	1.4	1.6							**22.0**
10-96	Armed Helo/GAU-16/Ammo Cans/Rubber Craft/M240/Mounts/LHEP/TCDL*	136.7	6.2								**142.9**
	DERF (non add)			7.2							**7.2**
17-00	Helicopter Integrated Mechanical Diagnostic System (IMDS)	5.6	6.6		4.2	13.7	20.4			66.4	**116.9**
25-00	Sonar Improvements	5.0	6.0	2.0							**13.0**
06-01	H-60 Ultra Low Maintenance Battery		2.6	0.1							**2.6**
07-01	H-60 Heater Test Set		0.1								**0.1**
16-02	Airborne Low Frequency Sonar (ALFS)			4.0							**4.0**
17-02	Advance Helicopter Emergency Egress Lighting System (ADHEELS)			2.0							**2.0**
08-03	Gearbox Corrison				0.2	2.7					**2.9**
09-03	H-60 Safety Related Systems Upgrade				10.8	12.2	7.3	4.6	5.2		**40.1**
16-03	Transmission Beam Fatigue				0.2	0.2	0.6	0.5	0.5		**2.0**
	Denied FY2001 OMNIBUS Reprogramming Source**		10.1								
	TOTAL	**337.1**	**33.3**	**9.6**	**15.4**	**28.7**	**28.2**	**5.1**	**5.8**	**66.4**	**519.6**

Footnote: *FY 2002 DERF funding augments OSIPs 48-92 (FLIR/Hellfire), 27-95 (NVG HUD) and 1096 (Armed Helo). Expired OSIP accounts for 48-92 and 27-96; as a result P3a are not included. **FY 2001 OMNIBUS attempted to reprogram $8.0M (SEI) and $2.1M (IMD) to RDTE,N. Sources were denied.

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

Exhibit P-3a Individual Modification

MODIFICATION TITLE: FLIR (OSIP 1594)

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 2001		FY 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																				
ECP-267	178	12.6																	178	12.6
Installation Kits N/R																				
Installation Equipment																				
FLIR Mission Kit	60	74.2																	60	74.2
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.3																		0.3
Training Equipment		24.2																		24.2
Support Equipment		4.8																		4.8
ILS		0.1																		0.1
Other Support		5.5																		5.5
Interim Contractor Support																				
Installation Cost																				
Total Procurement	**238**	**121.7**																	**238**	**121.7**

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 2001		FY 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																				
Active Duty Kits	22	2.2																	22	2.2
Reserve Kits	16	0.1																	16	0.1
Installation Kits N/R	4	2.8																	4	2.8
Installation Equipment																				
APR-39(V)2 Active Duty	24	4.8																	24	4.8
APR-39(V)2 Reserve	18	3.6																	18	3.6
AVR-2A Active Duty	24	4.0																	24	4.0
AVR-2A Reserve	18	2.0																	18	2.0
AAR-47	24	1.7																	24	1.7
ALE-47	24	1.1																	24	1.1
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.1																		1.1
Training Equipment		21.1																		21.1
Support Equipment		0.8																		0.8
ILS		0.1																		0.1
Other Support		2.2		0.2																2.4
Interim Contractor Support																				
Installation Cost	42	1.9																	42	1.9
Total Procurement	**174**	**49.3**		**0.2**															174	49.5

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

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (42) kits	42	1.9																	**42**	1.9
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**42**	**1.9**																	**42**	**1.9**

Installation Schedule

	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
In	42																	
Out	42																	

	FY 2005							FY 2007				To	
	1	2	3	4	2	3	4	1	2	3	4	Complete	TOTAL
In													42
Out													42

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 2001		FY 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																				
ECP3930	283	3.1																	283	3.1
Installation Kits N/R		1.3																		1.3
Installation Equipment																				
DECU s	594	10.4																	594	10.4
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.5																		0.5
Training Equipment	14	0.5																	14	0.5
Support Equipment		0.2																		0.2
ILS		0.5																		0.5
Other Support		1.3		0.3		0.3														2.0
Interim Contractor Support																				
Installation Cost	65	1.1	108	1.1	124	1.3													297	3.6
Total Procurement	**891**	**18.9**		**1.4**		**1.6**													891	22.0

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: **Contract Field Mod Team**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2001 Oct-00 FY 2002 Nov-01 FY 2003

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (297) kits	65	1.2	108	1.1	124	1.3													**297**	**3.6**
FY 2001 ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**65**	**1.2**	**108**	**1.1**	**124**	**1.3**													**297**	**3.6**

Installation Schedule

	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
In	65	27	27	27	27	31	31	31	31								
Out	65	27	27	27	27	31	31	31	31								

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														297
Out														297

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 2001		FY 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																				
Provisions	87	40.0																	87	40.0
Rapid Deployment	8	4.8																	8	4.8
Installation Kits N/R		21.8																		21.8
Installation Equipment																				
Rapid Deployment	8	1.2																	8	1.2
Hellfire Launcher/GAU-16A	52	12.2			301	7.2													353	19.4
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.6																		1.6
Training Equipment		30.0		4.1																34.1
Support Equipment		3.0																		3.0
ILS		1.3																		1.3
Other Support		15.8		0.8																16.6
Interim Contractor Support																				
Installation Cost	60	5.0	27	1.3															87	6.3
Total Procurement	**155**	**136.7**		**6.2**	**301**	**7.2**													**456**	**150.1**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. FY 02 effort utilizes DERF funding

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 LEAD 7 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (60) kits	60	5.0																	**60**	**5.0**
FY 2001 & PY (27) kits			27	1.3															**27**	**1.3**
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**60**	**5.0**	**27**	**1.3**															**87**	**6.3**

Installation Schedule

	FY 200	FY 2001				FY 2002				FY 2003			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4
In	60			27									
Out	60			12	15								

	FY 2004						FY 2006				FY 2007				To	
	1	2	3	4	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In																87
Out																87

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 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, and 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. Limited LRIP decision April 2001, for hardware based on DT-IIA. Software DT scheduled to be complete December 2002. 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. Plan is to introduce system into HH-60s as soon as possible and retrofit other M-60s as required."Total MH-60 aircraft will be 237.

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																				
CH-60 Install Kits																				
Legacy A/C Install Kits			5	1.2					15	4.5	15	4.5					166	49.8	201	60.0
CH-60 N/R Engineering																				
Legacy A/C NR Engineering		2.8																		2.8
Engineering Change Orders																				
Data				0.4						0.6		1.0								2.0
Training Equipment										1.4		0.9								2.2
Support Equipment				0.2				4.0		1.0		7.0								12.1
ILS		0.2		0.8						0.6		0.6								2.2
Other Support		2.5		3.5				0.3		4.1		4.9								15.3
Interim Contractor Support																				
Installation Cost			5	0.5					15	1.5	15	1.5					166	16.6	201	20.1
Total Procurement		**5.6**	**5**	**6.6**				**4.2**	**15**	**13.7**	**15**	**20.4**					**166**	**66.4**	201	**116.9**

Notes:
1. Totals may not add due to rounding PY Legacy A/C NR Engineering reflects OSD PBD Adjustment.
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 PRODUCTION LEADTI 2 Months

CONTRACT DATES: FY 2001: Feb-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: May-01 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000& PY () kits																				
FY 2001 (5) kits			5	0.5															**5**	**0.5**
FY 2002 (0) kits																				
FY 2003 (0) kits																				
FY 2004 (15) kits									15	1.5									**15**	**1.5**
FY 2005 (15) kits											15	1.5							**15**	**1.5**
FY 2006 () kits																				
FY 2007 (0) kits																				
To Complete (166) kits																	166	16.6	**166**	**16.6**
TOTAL			**5**	**0.5**					**15**	**1.5**	**15**	**1.5**					**166**	**16.6**	**201**	**20.1**

FY01 Kits to be installed in FY02 with FY01 funding due to PBCG Offset reduction.

Installation Schedule

	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
In							5									10	5
Out							3	2								10	5

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In			10	5									166	201
Out			10	5									166	201

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. FY02 procurement of New High Strength Cables will replace the existing cables on 24 SH-60F aircraft. During dipping of the transducers for an sonar reading; tearing occured in the previous cables; resulting in the loss of transducers.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

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	148	4.4			24	1.5													172	5.9
Install Kits N/R		*																		*
Installation Equipment N/R		0.3		5.4																5.7
Engineering Change Orders		*																		*
Data																				
Training Equipment																				
Support Equipment																				
Training Equipment																				
ILS		*		0.1																0.1
Other Support		0.2		0.5		0.5														1.2
Installation Cost																				
Total Procurement	**148**	**5.0**		**6.0**		**2.0**													**172**	**13.0**

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Installation will be accomplished as an "O" Level Install.

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 2001		FY 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																				
Retrofit Kits			274	1.1															274	1.1
Installation Kits N/R**			1	*															1	*
Installation Equipment																				
ULM Battery			270	0.3															270	0.3
Installation Equipment N/R																				
Engineering Change Orders																				
Data				0.2																0.2
Training Equipment				0.2																0.2
Support Equipment																				
ILS				0.3																0.3
Other Support				0.4		0.1														0.5
Interim Contractor Support																				
Installation Cost																				
Total Procurement			**275**	**2.6**		**0.1**													**275**	**2.6**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Installation will be accomplished at "O" Level.

** 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) the Main Rotor Blades (MRB). The rotor system, is the affected aircraft system that 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 2001		FY 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																				
Retrofit Kits			14	0.1															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**															**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: Airborne Low Frequency Sonar (OSIP 16-02)

MODELS OF SYSTEMS AFFECTED: MH-60R — TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: The AQS-22 system is the primary USW Sensor of the MH-60R Multi-Mission Helicopter. Peculiar capabilities of the AQS-22 Airborne Low Frequency Sonar (ALFS) are defined in ALFS Operational Requirements Document (ORD NO. 295-05-92). These missions include submarine detection, tracking, localization, and classification, as well as acoustic interception, underwater communications, and environmental data acquisition. One (1) Airborne Low Frequency Sonar will be procured to support MH-60R Production/Fleet aircraft and therefore satisfy the requirement for the existing Acoustic Suite for the MH-60R. This will be an "O" Level Install.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The Airborne Low Frequency Sonar (ALFS) system is required to support the MH-60R program to achieve Milestone III and IOC.

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																						
Retrofit (ALFS) Kits																						
Installation Kits N/R**																						
Installation Equipment																						
Installation Equipment N/R							1	3.3													1	3.3
Engineering Change Orders																						
Data (Carts)																						
Training Equipment																						
Support Equipment																						
ILS																						
Other Support								0.7														0.7
Interim Contractor Support																						
Installation Cost																						
Total Procurement								**4.0**														**4.0**

Notes:

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

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Advanced Helicopter Emergency Egress Lighting System ADHEELS (OSIP 17-02)

MODELS OF SYSTEMS AFFECT: SH-60B, SH-60F, HH-60H — TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: The ADHEELS 2000/FL is a self-contained, automatically activated, emergency exit/escape light system. Some of the more impressive characteristics of the system include both automatic and manual activation, automatically activated by water immersion, G-sensitive switch, pitch/roll>110 degrees activation, system weight is <10lb. per aircraft vs 27lb for AFC-46 HEELs, five (5) year maintenance cycle (battery package replacement). Current inventory reflects (27) SH-60B, (74) SH-60F, and (40) HH-60H.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

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							141	0.5													141	0.5
Retrofit Kits																						
Installation Kits N/R								0.2														0.2
Installation Equipment																						
ULM Battery																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data								0.2														0.2
Training Equipment								0.1														0.1
Support Equipment																						
ILS																						
Other Support								0.2														0.2
Interim Contractor Support																						
Installation Cost							141	0.8													141	0.8
Total Procurement								**2.0**														**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: **SH-60B, SH-60F, HH-60H** MODIFICATION TITLE: Advance Helicopter Emergency Egress Lighting System

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 2001: _____ FY 2002: _____ FY 2003: _____

DELIVERY DATE: FY 2001: _____ FY 2002: _____ FY 2003: _____

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		**TOTAL**	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY () kits																						
FY 2001 () kits																						
FY 2002 (141) kits					141	0.8															**141**	**0.8**
FY 2003 () kits																						
FY 2004 () kits																						
FY 2005 () kits																						
FY 2006 () kits																						
FY 2007 () kits																						
TOTAL					**141**	**0.8**															**141**	**0.8**

Installation Schedule

	FY 2000 & Prior	FY 2001				FY 2002				FY 2003				FY 2004			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								69	72								
Out								69	72								

	FY 2005				FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In														141
Out														141

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: GEARBOX CORRISON (OSIP 08-03) — TYPE MODIFICATION: Operational Enhancement

MODELS OF SYSTEMS AFFECTED: SH-60B,SH-60F, HH-60H

DESCRIPTION/JUSTIFICATION: Currently, the Main Gear Box is NRE developing sensor (a flight cirtical area) to check for corrosion once a year during a 365 day inspection. Approximately 3 out of 10 Main Gear Boxes are found to have excessive corrosion and need to be replaced. A monitoring sensor placed on the Main Gear Box forward bridge assembly would provide an early warning system when corrosion starts to become excessive. In reaction to this warning, additional preventative measures could be taken resulting in substantially less amount of money and manhours being spent repairing/replacing the Main Gear Box.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Sensor Lab Testing planned October 2002, Sensor Field Validation March 2003, Sensor Acquisition March 2004, Sensor Installation March 2004 and Squadron Training October 2004.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		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																
Installation Kits N/R				0.2		2.7										2.9
Installation Equipment																
Installation Equipment N/R																
Engineering Change Orders																
Data																
Training Equipment																
Support Equipment																
ILS																
Other Support																
Training Equipment																
Support Equipment																
ILS																
Interim Contractor Support																
Installation Cost																
Total Procurement				**0.2**		**2.7**										**2.9**

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 Safety Related Systems Upgrade (OSIP 09-03)

MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H | TYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION: All H-60 Series Legacy Systems Safety Working Group (SSWG) number 1 item of concern, procure 2 per aircraft 160 SH-60B, 74 SH-60Fs and 40 HH-60Hs Gunner's Belt used by crewmen when they are out of seats, ie., as during unprepared landing in an Landing Zone (LZ), during VERTREP operations. T700 Engine Safety Improvements; fund ECP to provide encapsulated (waterproof) engine white harness. In addition troubleshoot T700 Engine problems unique to H-60 community and find fixes. Support proposed Joint ECP to provide an Engine High Speed Shaft Flex Coupling Replacement, a proven Lead The Fleet (LTF) concept that would remove the potential for catastrophic engine failures, by increasing margin of safety and readiness while reducing inspection and maintenance tasks. Wire Strike Protection for SH-60F, HH-60H already equipped, used during Inter Deployment Training Circle (IDTC) for CSAR training . Stabilator Control System Redesign: Solve problem of uncommanded runaway without caution alerts. H-60 Lighted RAST Probe, provides light to messenger probe to enhance visibility of cable at night for shipboard personel.

Cockpit Voice Recorder and Flight Data Recorder is to provide crash data to assist accident investigation personnel in gathering data to determine the cause of the accident to the MH-60R and MH-60S aircraft. The Ground Proximity Warning System (GPWS), will be a software-based system that takes existing aircraft data and calculates a recovery profile to the, above ground altitude of the aircraft. If the recovery profile (plus a suitable buffer) intercepts this goround height, GPWS will generate a warning to the pilot. Other means of generating a warning may also be used to ensure maximum detection with minimum nuisance cues. The inventory level of system to be modified is as follows: MH60S 74; MH-60R 57.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Off the shelf items (minor mod required), off the shelf components for an 1-level fix contract lead time is 6 months and production is 3 months to deliver all parts required. Joint Engineering Change Proposal with Army testing complete May 20, 2001.

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 (SH-60B/SH-60F/HH-60H)																				
SH-60B Gunner Belt Kits							320	1.1											320	1.1
SH-60F Gunner Belt Kits							148	0.5											148	0.5
HH-60H Gunner Belt Kits							80	0.3											80	0.3
Wire Harness (ALL T/M/S)							548	0.2											548	0.2
H-60 High Speed Shaft (ALL T/M/S)							191	2.0	191	2.1	166	2.0							548	6.1
H-60 Lighted RAST Probe (SH-60B)							320	0.1											320	0.1
New Wire Harness (ALL T/M/S)							274	0.3	274	0.2									548	0.5
SH-60F Wire Strike Protection Kits							74	2.2											74	2.2
Installation Kits (MH-60S, MH-60R)																				
MH-60S CVR/FDR											37	1.3	37	1.3					74	2.6
MH-60R CVR/FDR											20	0.8	10	0.1					30	0.9
Installation Equipment MH60S/MH-60R NR										3.3										3.3
Installation Equipment (SH-60B/SH-60F/HH-60H) NR								3.6		3.7										7.2
Installation Equipment (MH-60S/MH-60R)																				
MH-60S GPWS									37	0.3	30	0.8	7	0.1					74	1.2
MH-60R GPWS									10	0.1	10	0.1	10	0.1					30	0.3
Eng Chang Order														1.2						
Data												0.4		0.3						0.7
Training Equipment								0.1		0.1		0.3		0.3						0.8
Support Equipment																				
ILS										0.2		0.4		0.4						0.9
Other Support										0.1		0.4		0.4		5.2				6.1
Interim Contractor Support																				
Installation Cost							38	0.5	83	2.1	40	1.0	17	0.4					178	4.0
Total Procurement							**1,955**	**10.8**	**512**	**12.2**	**263**	**7.3**	**64**	**4.6**		**5.2**			2,794	**40.1**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Gunner Belts, Wire Harness, New Wire Harness, High Speed Shaft and Lighted RAST Probe are "O" Level Installs.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-60F (WIRESTRIKE PROTECTION KIT)** MODIFICATION TITLE: H-60 Safety Related Systems Upgrade (OSIP 09-03)

INSTALLATION INFORMATION:

METHOD OF INPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 1 Month PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2001: _____ FY 2002: _____ FY 2003: Oct-02

DELIVERY DATE FY 2001: _____ FY 2002: _____ FY 2003: Jul-03

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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY () kits																				
FY 2001 kits																				
FY 2002 kits																				
FY 2003 (74) kits							38	0.5	36	0.5									**74**	**1.0**
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
TOTAL							**38**	**0.5**	**36**	**0.5**									**74**	**1.0**

Installation Schedule

	FY 2000 & Prior	FY 2001				FY 2002				FY 2003				FY 2004			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													38				36
Out													38				36

	FY 2005				FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In														74
Out														74

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **MH-60S CVR/FDR** MODIFICATION TITLE: H-60 Safety Related Systems Upgrade (OSIP 09-03)

INSTALLATION INFORMATION:

METHOD OF INPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2001: _____ FY 2002: _____ FY 2003: Apr-03

DELIVERY DATE FY 2001: _____ FY 2002: _____ FY 2003: Jan-04

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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY () kits																				
FY 2001 kits																				
FY 2002 kits																				
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 (37) kits									37	1.2									**37**	**1.2**
FY 2006 (37)kits											30	1.3	7	0.2					**37**	**1.5**
FY 2007 kits																				
TOTAL									**37**	**1.2**	**30**	**1.3**	**7**	**0.2**					**74**	**2.7**

Installation Schedule

	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
In															12	12	13
Out															12	12	13

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In		10	10	10		5	2							74
Out		10	10	10		5	2							74

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **MH-60R CVR/FDR** MODIFICATION TITLE: H-60 Safety Related Systems Upgrade (OSIP 09-03)

INSTALLATION INFORMATION:

METHOD OF INPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2001: _____ FY 2002: _____ FY 2003: Apr-03

DELIVERY DATE FY 2001: _____ FY 2002: _____ FY 2003: Jan-04

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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY () kits																				
FY 2001 kits																				
FY 2002 kits																				
FY 2003 () kits																				
FY 2004 (10) kits									10	0.4									**10**	**0.4**
FY 2005 (10) kits											10	0.4							**10**	**0.4**
FY 2006 (10) kits													10	0.2					**10**	**0.2**
FY 2007 kits																				
TOTAL									**10**	**0.4**	**10**	**0.4**	**10**	**0.2**					**30**	**1.0**

Installation Schedule

	FY 2000 & Prior	FY 2001				FY 2002				FY 2003				FY 2004			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In															5	5	
Out															5	5	

	FY 2005				FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In		5	5			5	5							30
Out		5	5			5	5							30

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Transmission Beam Fatique (OSIP 16-03)

MODELS OF SYSTEMS AFFECTED: SH-60B, SH-60F, HH-60H — TYPE MODIFICATION: Operational Enhancement/Safety

DESCRIPTION/JUSTIFICATION: Navy Helicopters are experiencing serious cracking and fracture problems with the SH-60 transmission beam. As a result an aggressive inspection program is ongoing to detect cracks in the transmission beam. The use of sensors significantly reduces the costs of monitoring for cracking and determining the point of beam replacement. Transmission Beam Sensors will be applied to 160 SH-60B, 63 SH-60F and 37 HH-60H. An additional 16 sensors will be utilized on 1 (one) Training Simulator for crew training. The Prototype Sensors will be utilitzed on Test aircraft at Rotary Wing.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The current inspection procedure involves a teardown and visual inspection that removes the aircraft from service for a period of 2-4 weeks.

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 (**Prototype** Sensors)									96	*											96	*
Retrofit Kits (Sensors)											896	0.1	2,992	0.3	272	0.1					4,160	0.4
Installation Kits N/R																		*				*
Installation Equipment																						
ULM Battery																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data																*		*				*
Training Equipment													16	0.1		*		*			16	0.1
Support Equipment														0.2		0.1		0.4				0.6
ILS																						
Other Support										0.2		0.1		*		*		*				0.3
Interim Contractor Support																						
Installation Cost													896	0.1	3,008	0.3	272	0.1			4,176	0.5
Total Procurement										**0.2**		**0.2**		**0.6**		**0.5**		**0.5**				**2.0**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. No Installation Cost for Prototype Sensors.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-60B, SH-60F, HH-60H** MODIFICATION TITLE: **Transmission Beam Fatigue (OSIP 16-03)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY () kits																				
FY 2001 () kits																				
FY 2002 () kits																				
FY 2003 () kits																				*
FY 2004 (896) kits											896	0.1							**896**	*
FY 2005 (3,008) kits													3,008	0.3		*			**3,008**	**0.3**
FY 2006 (272) kits															272	*			**272**	*
FY 2007 () kits																				
TOTAL											**896**	**0.1**	**3,008**	**0.3**	**272**	**0.1**			**4,176**	**0.5**

Note: 16 Sensors per aircraft. Includes 1 (one) Trainer.

Installation Schedule

FY 2000 & Prior	FY 2001				FY 2002				FY 2003				FY 2004			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																
Out																

	FY 2005				FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In		16	20	20	35	40	55	58	10	4	3			261
Out		16	20	20	35	40	55	58	10	4	3			261

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**88.1**	A	**9.4**	**1.6**	**1.8**	**1.7**	**1.7**	**1.7**	**1.7**		**107.6**

There are 95 H-1N's in the UH configuration (75 active/20 reserve) and 28 H-1Ns in the HH configuration (4 Marine/24 Navy) for a total of 123. 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 FY2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
31-92	UH-1 NTIS	70.1	6.9	1.5	1.6	1.5	1.5	1.5	1.5		**86.0**
18-98	H-1N Safety Upgrades	18.0	2.5	0.1	0.2	0.2	0.2	0.2	0.2		**21.7**
	Total	**88.1**	**9.4**	**1.6**	**1.8**	**1.7**	**1.7**	**1.7**	**1.7**		**107.6**
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: 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 Laser 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 occurred in 3rd and 4th quarter of FY01 and will continue into FY02.

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																				
AFC 278 ECP EJH HO 30006	105	2.6																	105	2.6
AFC-334 TIR ECP#H-1-CP9-97R-1	105	0.1																	105	0.1
Installation Kits N/R		3.3		0.1		0.2														3.5
Installation Equipment																				
NTIS System (GFE)	84	29.7																	84	29.7
TIR (GFE)	107	1.0																	107	1.0
NTIS Upgrade	65	22.4	13	4.5	2	0.7	3	1.0	3	1.0	3	1.0	3	1.0	3	1.0			95	32.7
Flat Panel Display	90	0.8																	90	0.8
Prototype Upgrade	1	0.8	2	1.3															3	2.0
Installation Equipment N/R		0.6																		0.6
Engineering Change Orders																				
Data		0.4		0.1																0.5
Training Equipment	2	0.6																	2	0.6
Support Equipment		1.1																		1.1
ILS		0.2		*		0.1		0.1		*		*		*		*				0.6
Other Support		3.5		1.0		0.5		0.5		0.4		0.4		0.4		0.4				7.1
Interim Contractor Support																				
Installation Cost	107	3.1																	**107**	
Total Procurement		**70.1**		**6.9**		**1.5**		**1.6**		**1.5**		**1.5**		**1.5**		**1.5**				**86.0**

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: H-1N SAFETY UPGRADES (18-98)

MODELS OF SYSTEMS AFFECTED: HH-1N/UH-1N — TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: Operational Requirements Document (ORD) AAS-51 requires that the following safety shortfalls be corrected. The HH/UH-1N helicopter fleet was 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 COTS/NDI Improved Torque Indicator System will be added to provide a digital torque display to the aircrew to improve low power margin situational awareness. Tailboom strake technology will be investigated to improve performance and reduce tailboom fatigue. Additionally, the overspeed Aural Alert Unit (AAU) will be modified. A modification to the CH-8500 Vibration Analysis Support Equipment (VASE) will also be needed. A COTS replacement Rotor Brake Quill (RBQ) assembly, component failures due to an obsolete design pose a significant risk to all aircrew, and Low Maintenance Battery (LMB) will be incorporated into all HH/UH-1N aircraft. Included in this OSIP is the requirement to correct the safety deficiencies of the Defensive Armament System (DAS); M240, GAU-16 and GAU-17 machine guns.

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 2001		FY 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																				
ECP # BHTI-1710 (TDS)	131	6.3																	131	6.3
ECP# HI-CP-24-99 Rotor Brake Quill	52	0.6	78	0.9															130	1.6
ECP# HI-CP-19-98 Aural Alert Unit	103	Note #3																	103	Note #3
Smart Torque Indicator	275	1.0																	275	1.0
ECP# NAWCWD 97GG023R2 M240	210	0.1																	210	0.1
ECP# 98-002 GAU-17 Gun Ctrl Unit	79	0.3																	79	0.3
ECP#98-0014 IDAS Mounts	110	0.7																	110	0.7
Installation Kits N/R		1.3		*																1.3
Aural Alert Unit Install. Equipment	103	0.6																	103	0.6
Engineering Change Orders		0.0																		*
Data		0.6		0.1																0.7
Training Equipment	2	1.1	2	0.2															4	1.3
Support Equipment	100	0.4																	100	0.4
ILS		0.8		0.2																1.0
Other Support		3.9		0.6		0.1		0.2		0.2		0.2		0.2		0.2				5.6
Interim Contractor Support																				
Installation Cost	90	0.3	123	0.4	16	0.1													229	0.8
Total Procurement		**18.0**		**2.5**		**0.1**		**0.2**		**0.2**		**0.2**		**0.2**		**0.2**				**21.7**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Aural Alert Unit Installation Kit Cost included in Aural Alert Unit Installation Equipment cost.

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (229) kits	90	0.3	123	0.4	16	0.1													**229**	**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	**90**	**0.3**	**123**	**0.4**	**16**	**0.1**													**229**	**0.8**

Installation Schedule reflects 103 AAUs and 126 TDS.

	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
In	90	40	40	21	22	16															
Out	83	45	40	25	20	16															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										229
Out										229

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**7.7**	**A**	**0.6**	**4.1**						**19.1**	**31.5**

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 rescue 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Complete	To Total
36-95	EXECUTIVE TRANSPORT CONVERSION	7.7								6.4	**14.1**
03-99	COMM/NAV UPGRADE	0.1	0.6	4.1						12.7	**17.5**
	Total	**7.7**	**0.6**	**4.1**						**19.1**	**31.5**
Funding for Reserve Forces		**1.8**	*****								1.8

Note: Totals may not add due to rounding.

* Indicates funding less than 0.051 Millions

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: UH-3H EXECUTIVE TRANSPORT CONVERSION (OSIP 36-95)

Aircraft Procurement, Navy/APN-5 Aircraft Modifications

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 2001		FY 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																				
AFC Kit																				
Installation Kits N/R ***	2	6.7															2	5.8	4	12.5
Installation Equipment																				
Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS		0.1																0.1		0.2
Other Support		0.9																0.5		1.4
Interim Contractor Support																				
Installation Cost																				
Total Procurement	**2**	**7.7**															**2**	**6.4**	**4**	**14.1**

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

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: COMMUNICATION/NAVIGATION UPGRADE (OSIP 03-99)

Aircraft Procurement, Navy/APN-5 Aircraft Modifications

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-178 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 2001		FY 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					8	0.1											36	0.4	44	0.5
AFC Kit																				
Installation Kits N/R ***		0.1		0.1		0.4														0.5
Installation Equipment																				
COMM/NAV Equip					8	2.2											36	10.7	44	12.8
Installation Equipment N/R						0.3														0.3
Engineering Change Orders																				
Data						0.2												0.1		0.3
Training Equipment																				
Support Equipment																				
ILS						0.1												0.3		0.5
Other Support				0.5		0.8												0.4		1.7
Interim Contractor Support																				
Installation Cost					8	0.2											36	0.8	44	0.9
Total Procurement		**0.1**		**0.6**		**4.1**											**108**	**12.7**	**132**	**17.5**

Notes:

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

***3. FY99, FY00 and FY01 are for AHRS only.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-3H

MODIFICATION TITLE: COMM.NAV UPGRADE (OSIP 03-99)

INSTALLATION INFORMATION: **DEPOT LEVEL**

METHOD OF IMPLEMENTATION: **CONTRACT FIELD MODIFICATION TEAM**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 6 Months

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

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

($ 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 2000 & PY ( ) kits																						
FY 2001 ( ) kits																						
FY 2002 (8) kits							8	0.2													**8**	**0.2**
FY 2003 ( ) kits																						
FY 2004 ( ) kits																						
FY 2005 ( ) kits																						
FY 2006 ( ) kits																						
FY 2007 ( ) kits																						
To Complete (36) kits																			36	0.8	**36**	**0.8**
TOTAL							**8**	**0.2**											**36**	**0.8**	**44**	**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												4	4												
Out												4	4												

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									36	44
Out									36	44

BUDGET ITEM JUSTIFICATION SHEET P-40											DATE: February 2002
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY											
COST (In Millions)	176.0		65.9	123.1	26.1	32.8	17.6	35.2	30.9	476.8	984.4

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 FY2003 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 12 with a BAA inventory of 4 for a total of 16 aircraft at the end of OSIP 29-00. Funds budgeted in FY2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
14-95	EP-3 Sensor Improvement	142.3	0.5								142.8
26-00	Quick Reaction Capability	21.9									21.9
29-00	P-3C to EP-3E Conversion Program	11.8	60.9	86.8							159.4
	DERF (non-add)			60.0							
11-01	JASA Modification (JMOD)		4.6	36.4	26.1	32.8	17.6	35.2	30.9	476.8	660.3
	DERF (non-add)				22.5	31.5	24.7	24.2	33.4		
TOTAL		176.0	65.9	123.1	26.1	32.8	17.6	35.2	30.9	476.8	984.4

FY-02 Defense Emergency Response Funds (DERF) in the amount of $60.0 augments OSIP 29-00.
FY-03 - FY-07 Defense Emergency Response Funds (DERF) in the amount of $136.3 augments OSIP 11-01.

Note: Totals may not add due to rounding.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)

MODELS OF SYSTEM AFFECTED: EP-3E TYPE MODIFICATION Operational Improvement / Modernization

DESCRIPTION/JUSTIFICATION:

This Sensor System Improvement Program (SSIP) 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 provides the hardware and software essential for timely situational analysis and reporting to the fleet tactical commands. The Congressional plus-up for LESPA included 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. Another Congressional plus-up for 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.

In accordance with the approved Acquisition Strategy Review (ASR) dated 3 May 2001, program changes necessitated the replacement of JMOD MOD1 with Baseline Update. Baseline Update incorporates Joint Airborne Signals Intelligence (SIGINT) Architecture (JASA) compliant infrastructure with SSIP and Quick Response Capability (QRC) functional improvements into the Trial Kit Installation (TKI) aircraft.

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. The JMOD Baseline Update is required in order to ensure the JMOD TKI aircraft has the same baseline configuration and capabilities as SSIP and QRC fleet assets. Fleet introduction occurred 4th quarter FY00. An LPI/SEI contract is negotiated and planned for award 2nd quarter FY02.

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 2001		FY 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																				
SSIP	12	5.4																	12	5.4
LESPA	12	1.1																	12	1.1
OE-320	12	.3																	12	.3
TADIL-J (Link-16)	12	1.2																	12	1.2
LPI/SEI	12	1.0																	12	1.0
Baseline Update	1	3.1																	1	3.1
Installation Kits N/R		10.3																		10.3
Installation Equipment																				
Storyteller	10	11.1																	10	11.1
Story Book	10	14.3																	10	14.3
Story Classic	10	11.7																	10	11.7
IP-1159 Replacement	10	5.0																	10	5.0
LESPA	12	1.0																	12	1.0
OE-320 Upgrade	12	1.8																	12	1.8
TADIL-J (Link-16)	12	4.0																	12	4.0
HBP Equipment		1.2																		1.2
LPI/SEI	12	8.7																	12	8.7
Baseline Update	1	6.7																	1	6.7
Installation Equipment N/R																				
Engineering Change Orders																				
Data		8.3																		8.3
Training Equipment		2.5																		2.5
Support Equipment		1.5																		1.5
ILS		7.8																		7.8
Testing		1.0																		1.0
Other Support		19.3		*																19.3
Interim Contractor Support																				
Installation Cost	31	13.9	12	.5															43	14.4
TOTAL PROCUREMENT	150	142.3		.5															150	142.8

Notes:
1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E

MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)

INSTALLATION INFORMATION: LESPA/OE-320/TADIL-J(Link-16)/Baseline Update

METHOD OF IMPLEMENTATION: Commercial Contractor Depot Installation

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2001: _____ FY 2002: _____ FY 2003: _____

DELIVERY DATE: FY 2001: _____ FY 2002: _____ FY 2003: _____

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (37) kits	* 25	1.6	** 12	.5															37	2.1
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	* 25	1.6	** 12	.5															37	2.1

* Includes 12 LESPA; 6 OE-320 "O" Level installs; 1 Baseline Update and 6 OE-320s.

** TADIL-J (Link-16) installation.

Installation Schedule

	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
In	25	2	3	4	3																
Out	24	2	3	4	3				1												

	FY 2004				FY 2005				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										37
Out										37

* JMOD Baseline Update Installation

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: EP-3 Sensor System Improvement (OSIP 14-95)
LPI/SEI (SP-160) (Congressional Add Project)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 2001: ____ FY 2002: ____ FY 2003: ____

DELIVERY DATE: FY 2001: ____ FY 2002: ____ FY 2003: ____

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (12) kits	**	1.2			12	**													12	1.2
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	**													12	1.2

Installation Schedule

	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
In									12												
Out														12							

	FY 2004				FY 2005				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										12
Out										12

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (12) kits	12	11.0																	12	11.0
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	12	11.0																	12	11.0

Installation Schedule

	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
In	5	1		1		1	1	1	1												
Out	4		1	1		1		1	1	1	1										

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										11
Out										11

NOTE: Eleven (11) installations reflect reduction due to Crete mishap.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: EP-3 Quick Response Capability (OSIP 26-00)

MODELS OF SYSTEM AFFECTED: EP-3E TYPE MODIFICATION: 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.

Operational Requirements Document (ORD) 057-095-87 and CAF-002-88 apply.

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 2001		FY 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	*14	3.0																	*14	3.0
Installation Kits N/R		2.2																		2.2
Installation Equipment	*14	12.5																	*14	12.5
Installation Equipment N/R																				
Engineering Change Orders																				
Data		.9																		.9
Training Equipment		.2																		.2
Support Equipment																				
ILS		.4																		.4
Other Support		1.7																		1.7
Interim Contractor Support																				
Installation Cost	14	1.1																	14	1.1
TOTAL PROCUREMENT	14	21.9																	28	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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (14) kits *	**	1.1	14	**															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	**	1.1	14	**															14	1.1

* Two (2) kits are for SIL.

** FY00 Kosovo Supplemental funds fourteen (14) installs.

Installation Schedule

	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
In					14																
Out					7	7															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										14
Out										14

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 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 (PAA) of 12 aircraft are required to perform operational missions. Backup Aircraft Authorization (BAA) of four aircraft (i.e., pipeline) 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 second, third, fourth and fifth conversions are pipeline aircraft.

This program was developed to maximize procurement efficiency by grouping the aircraft versus individual buys. Funding in FY00 covered NRE for the initial three aircraft. Funding in FY01 procures two aircraft while FY02 funding procures three aircraft and ARIES II/SSIP Obsolescence Risk Mitigation NRE. Four aircraft will be procured under the same contract in a configuration sufficient for induction into the JMOD program (OSIP 11-01), and the fifth aircraft will be configured as a JMOD aircraft. FY01 Intelligence Program Decision Memorandum (IPDM) moved funding for the second pipeline aircraft from FY03 to FY02.

This OSIP includes $60.0M in Defense Emergency Response Funding (DERF) for aircraft #16.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This program is a post-Milestone III, based on SSIP Milestone III dated 29 March 1996. The NRE contract was awarded in Feb 2001. The production contract for the replacement and first pipeline aircraft was awarded in September 01. The FY02 option for the second through fourth pipeline aircraft will be exercised in the 2nd quarter FY02.

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: P-3C to EP-3E Conversion Program (OSIP 29-00)

MODELS OF SYSTEMS AFFECTED: EP-3E MODIFICATION TITLE: P-3C to EP-3E Conversion Program

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																				
REPLACEMENT AIRCRAFT			1	11.0															1	11.0
PIPELINE AIRCRAFT			1	12.0	2	23.7													3	35.7
DERF AIRCRAFT					1	16.4													1	16.4
Installation Kits N/R		11.8				5.1														16.9
Installation Equipment																				
REPLACEMENT AIRCRAFT				**																**
PIPELINE AIRCRAFT			1	10.0	2	21.7													3	31.7
DERF AIRCRAFT					1	20.5													1	20.5
Installation Equipment N/R						6.9														6.9
Engineering Change Orders																				
Data						1.1														1.1
Training Equipment																				
Support Equipment						.5														.5
Testing						2.6														2.6
ILS						2.0														2.0
Other Support						3.4														3.4
Interim Contractor Support																				
Installation Cost			2	27.9	3	43.2													5	71.1
TOTAL PROCUREMENT		11.8	3	60.9	6	146.8													9	219.4

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. The DERF aircraft will be procured in the JMOD configuration.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EP-3E

MODIFICATION TITLE: P-3C to EP-3E Conversion Program
Replacement/Pipeline/DERF Aircraft

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Contractor Installation

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME 35 Months

CONTRACT DATES: FY 2001: 2/01 (NRE) 9/01 (A/C) FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2001: 4/02 (NRE) 8/04 (A/C) FY 2002: 12/04 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY () kits																				
FY 2001 (2) kits			2	27.9															2	27.9
FY 2002 (3) kits					3	43.2													3	43.2
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL			2	27.9	3	43.2													5	71.1

Installation Schedule

	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
In					1		1	1	2												
Out																	1	1		1	2

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										5
Out										5

* Replacement aircraft (1)

** Pipeline #1 aircraft (1)

*** Pipeline #2 aircraft (1)

**** Pipeline #3/DERF aircraft (2)

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITL 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 Document (ORD) #0571-78-01 and the CAPSTONE ORD (CAF-002-88). JMOD is an evolutionary acquisition program consisting of three block mods. MOD 1 of this program updates the EP-3E infrastructure, improves auto-ESM with the Story Finder system, incorporates Joint Signal Processor (JSP), incorporates SSIP corrections, and incorporates Quick Response Capabilities (QRC) into JMOD. MOD 2 will incorporate a low band capability 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, air, and ship-based operators. MOD 3 incorporates precision targeting. This OSIP addresses 15 aircraft. Nine of the fifteen EP-3E aircraft will be managed through Special Structural Inspections (SSIs) beyond JMOD Full Operational Capability (FOC).

The Baseline Update to MOD 1 is required in order to ensure the JMOD TKI aircraft has the same baseline configuration and capabilities as SSIP and QRC fleet assets.

This OSIP includes FY02 Congressional Plus-ups for Hyperwide/Deltawing and VME Tuners.

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 installed into an SSIP configured EP-3E aircraft in the beginning of 1st quarter FY-01. The JMOD MOD 1 LRIP decision will be based on the JMOD CDR (2nd quarter FY00) and the Baseline Update CDR scheduled for 2nd quarter FY02. MOD 1 DT/OT will commence 3rd quarter FY02. MOD 1 MSIII full rate production (FRP) approval is planned for 2nd quarter FY03. MOD 2 and MOD 3 production decisions are scheduled for 2nd quarter FY06 and 2nd quarter FY08 respectively. Production procurements complete in FY15.

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

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 (H2694)		6.0		12.3		8.2		2.6		13.7		21.6		19.0		19.4				102.7
PROCUREMENT																				
Installation Kits																				
BLOCK MOD 1							3	4.1	3	4.2	1	1.4							7	9.8
BLOCK MOD 2													1	2.4	1	2.5	3	7.7	5	12.6
BLOCK MOD 1 to 2																	9	15.4	9	15.4
BLOCK MOD 1 to 3																	1	3.1	1	3.1
BLOCK MOD 2 to 3																	14	22.6	14	22.6
VME Tuners					1	.3													1	.3
Installation Kits N/R				.2		3.3		1.3		.8		.1		1.0						6.6
Installation Equipment																				
BLOCK MOD 1							3	11.5	3	11.7	1	4.0							7	27.1
BLOCK MOD 2													1	15.3	1	15.7	3	48.7	5	79.7
BLOCK MOD 1 to 2																	9	119.1	9	119.1
BLOCK MOD 1 to 3																	1	17.5	1	17.5
BLOCK MOD 2 to 3																	14	94.3	14	94.3
VME Tuners					1	.5													1	.5
COMINT/ELINT Upgrades								22.5		31.5		24.7		24.2		33.4				136.3
Installation Equipment N/R				2.3		14.8		.5		.6		.1		1.6						19.9
Engineering Change Orders																				
Data						5.9		1.2		3.4		2.6		2.4		2.4		16.6		34.6
Training Equipment				.1		2.1		1.1		.3		.3		3.9		1.5		6.8		16.2
Support Equipment				.8		1.3		.8		.3		.2		.2		.6		1.1		5.1
Testing				.4		2.2		2.2		2.2		1.5		2.3		2.6		23.2		36.5
ILS				.5		2.2		.7		1.3		.3		1.0		1.1		5.6		12.6
Other Support				.4		3.6		2.6		2.6		1.2		3.2		2.2		47.3		63.2
Interim Contractor Support																				
Installation Cost					1	.1			3	5.3	3	5.9	1	1.8	1	2.4	28	47.7	37	63.3
TOTAL PROCUREMENT				4.6	2	36.4	6	48.6	6	64.3	2	42.3	2	59.4	2	64.3	54	476.8	74	796.6

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K
3. FY03-FY07 for COMINT, ELINT and special signals collection capabilities in support of Operation Enduring Freedom is Defense Emergency Response Fund (DERF) funding.

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

CONTRACT DATES: FY 2001: ____ FY 2002: 4/02 FY 2003: 3/03

DELIVERY DATE: FY 2001: ____ FY 2002: 4/03 FY 2003: 3/04

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY () kits																				
FY 2001 () kits																				
FY 2002 (1) kits					1	.1													1	.1
FY 2003 (3) kits									3	5.3									3	5.3
FY 2004 (3) kits											3	5.9							3	5.9
FY 2005 (1) kits													1	1.8					1	1.8
FY 2006 (1) kits															1	2.4			1	2.4
FY 2007 (1) kits																	1	2.5	1	2.5
To Complete (27) kits																	27	45.3	27	45.3
TOTAL					1	.1			3	5.3	3	5.9	1	1.8	1	2.4	28	47.7	37	63.3

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													1						1	1	1		1	1	1
Out													1								1	1	1		1

	FY 2006				FY 2007				To	TOTAL
	1	2	3	4	1	2	3	4	Complete	
In		1				1			28	37
Out	1	1		1				1	28	37

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40							DATE: February 2002				
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY											
COST (In Millions)	2,284.8		99.9	191.9	102.7	31.0	20.6	19.3	20.5	1,868.5	4,639.1

This line item funds modifications to P-3 aircraft. The P-3 Orion is a 4 engine, long-range maritime surveillance aircraft which performs Anti-Submarine (ASW) and Anti-Surface Warfare (ASUW) in support of battle group and littoral operations. The overall goal of the modifications budgeted in FY2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
80-84	Update III Block Upgrade	979.6	18.2	43.0	3.1	1.5				326.5	1371.9
53-85	Critical Systems Improvements	17.8	0.8	5.0	0.8	0.4	0.6	0.4	0.9		26.7
60-86	UHF/VHF Comm. Update	105.3	5.3	4.9	6.6	6.5	5.4	6.5	6.8	7.5	154.8
28-92	GPS	38.7	1.1	0.4							40.1
10-94	Sustained Readiness	314.7	4.9								319.7
29-94	ASUW Improv. Prog.	718.9	62.5	129.9	84.0	12.6				1285.4	2293.4
33-99	Counter Drug	20.7	1.6								22.2
34-99	Additional Aircraft #1	41.0									41.0
22-00	Additional Aircraft #2	48.1									48.1
13-01	CNS/ATM		5.5	8.7	8.2	10.0	14.6	12.4	12.8	249.1	321.2
TOTAL		2284.8	99.9	191.9	102.7	31.0	20.6	19.3	20.5	1868.5	4639.1

* Indicates value less than $51,000.
Totals may vary due to rounding

CLASSIFICATION:

DD Form 2454, JUN 86

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITL Update III Block Upgrade (OSIP 80-84)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATIO 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 is 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 Chief 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.

FY-02 SEI Congressional Plus-Up provides associated NRE, 8 units, and installs as initial integration of new capability.

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 TITL Update III Block Upgrade (OSIP 80-84)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATI(Operational Improvement

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																				
Prior Year Kits	434	72.5																	434	72.5
MK-50 Kits	147	4.0																	147	4.0
USQ-78A Kits	35	5.9	2	.3	16	2.8											99	20.0	152	29.0
Block Mod Upgrade Kits	8	9.9																	8	9.9
Installation Kits N/R		62.8		1.2		2.7														66.7
Installation Equipment																				
Prior Year Equipment	1,181	349.8																	1,181	349.8
CP-2044/ASQ CPU Equip	121	64.1																	121	64.1
USQ-78A/CHRDS Equip	35	68.9	2	2.8	16	12.1											99	259.4	152	343.2
CHRDS Equip	4	.1																	4	.1
Block 1C Harpoon Equip	148	5.1																	148	5.1
AN/ASH-33/RDSS	221	24.3																	221	24.3
Common CONFIG Equip	22	64.0																	22	64.0
PEP Equip	25	6.4																	25	6.4
DASD/DASD Docks Equip	82	.7	4	*	32	.3											198	12.1	316	13.1
ADR		7.6				2.0														9.6
SEI Cards				2.1		2.0														4.1
DRR				2.0																2.0
LESPA Equip		17.6		1.5																19.1

Notes:

1. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITL Update III Block Upgrade (OSIP 80-84)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATI Operational Improvement

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																				
Installation Equipment N/R		51.6				5.0												12.2		68.8
Engineering Change Orders																				
Data		16.8		.2														2.1		19.0
Training Equipment		15.4		.1		1.8														17.2
Support Equipment		1.6																		1.6
ILS		2.5		1.0		.2														3.7
Other Support		105.7		5.1		4.2		1.1		.2								10.5		126.8
Interim Contractor Support																				
Installation Cost	503	22.2	9	2.0	14	9.9	5	1.9	16	1.3							99	10.2	646	47.5
TOTAL PROCUREMENT	2,463	979.7	8	18.2	64	43.0		3.1		1.5							396	326.5	2,931	1371.9

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: 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 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2001: 11/02 FY 2002: 11/03 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (35) kits	17	.9	8	.6	8	.5	2	.2											35	2.1
FY 2001 (2) kits							2	.2											2	.2
FY 2002 (16) kits									16	1.3									16	1.3
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete (99) kits																	99	10.2	99	10.2
TOTAL	17	.9	8	.6	8	.5	4	.3	16	1.3							99	10.2	152	13.8

Installation Schedule

	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
In	17	2	2	2	2	2	2	2	2	1	1	1	1	4	4	4	4				
Out	17	2	2	2	2	2	2	2	2	1	1	1	1	4	4	4	4				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									99	152
Out									99	152

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (8) kits			1	1.4	6	8.9	1	1.6											8	11.9
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			1	1.4	6	8.9	1	1.6											8	11.9

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 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
In				1		1	1	2	2	1											
Out							1		1	1	2	2	1								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										8
Out										8

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Critical Systems Improvements (OSIP 53-85)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATIO 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 97 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 18 P-3C aircraft.

DIGITAL AUTOPILOT: An FY02 Congressional Plus-Up provides funding to perform NRE, procure, install and test a Digital Autopilot in the P-3C as a replacement for the ASW-31 system, which is highly unreliable and costly to maintain.

AIRCRAFT HEALTH MONITORING SYSTEM (AHMS) ECP N/A: An FY02 Congressional Plus-Up provides NRE funding to develop an AHMS for the P-3C which can monitor critical aircraft systems (engines, structures, electrical, avionics) to identify items that require maintenance or repair.

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 MODIFICATIO Readiness

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																				
APS-115 Feedball Mod	90	1.6																	90	1.6
EJ Receiver Mod	145	**																	145	**
Single Arm Cont Panel (SACP)	228	.7																	228	.7
Kapton Wire Replace (Wings)	97	1.0																	97	1.0
Kapton Wire Replace (Wheel Well)															18	.3			18	.3
Standby (Peanut) Gyro Mod	55	.3	25	.2	40	.3	40	.3	26	.2	17	.1							203	1.3
Digital Autopilot					6	1.5														1.5
MA-16 Inertial Reel Mod kits	50	.1																	50	.1
Prior Years Kits	171	7.6																	171	7.6
Installation Kits N/R		1.0				1.6														2.6
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		2.1		.1		.4		.2		.1		.3		.2		.2				3.6
Training Equipment		.1		.1		.1		.1												.5
Support Equipment		.1		.1																.2
ILS		*																		*
Other Support		1.5		.2		.9		.2		.1		.2		.2		.2				3.6
Interim Contractor Support																				
Installation Cost		1.7		.1		.2										.2				2.1
TOTAL PROCUREMENT	836	17.8	25	.8	46	5.0	40	.8	26	.4	17	.6		.4	18	.9				26.7

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 AFFEC P-3C MODIFICATION TITLE: Critical Systems Improvement (OSIP 53-85) Kapton Wiring (Wings)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATIO Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTI 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 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complet		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (97) kits	93	.8	2	.1	2	.1													97	.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	93	.8	2	.1	2	.1													97	.9

Installation Schedule

	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
In	93	1	1				1	1													
Out	93	1	1				1	1													

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										97
Out										97

Exhibit P-3a

MODELS OF SYSTEMS AFFEC P-3C MODIFICATION TITLE: Critical Systems Improvement (OSIP 53-85) Kapton Wiring (Wheel Well)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATIO Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIM 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 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complet		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY () kits																				
FY 2001 () kits																				
FY 2002 () kits																				
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 (18) kits															18	.2			18	.2
To Complete () kits																				
TOTAL															18	.2			18	.2

Installation Schedule

	FY 1999	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
In																					
Out																					

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In							9	9		18
Out							9	9		18

Exhibit P-3a

MODELS OF SYSTEMS AFFEC P-3C MODIFICATION TITLE: Critical Systems Improvement (OSIP 53-85) Digital Autopilot

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATIO Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: 5 Months PRODUCTION LEADTIM 8 Months

CONTRACT DATES: FY 2001: FY 2002: 5/02 FY 2003:

DELIVERY DATE: FY 2001: FY 2002: 1/03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complet		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY () kits																				
FY 2001 () kits																				
FY 2002 (6) kits					*	.2	6	*											6	.2
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL					*	.2	6	*											6	.2

* FY02 Congressional Add funds (6) installs.

Installation Schedule

	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
In											2	2	2								
Out											2	2	2								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										6
Out										6

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 2001		FY 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																				
AFC(P-3C)ARC-182	151	3.0	10	.3	5	.1	9	.2					12	.4	14	.4	7	.2	208	4.7
AFC(P-3C)ARC-187	177	2.5	5	.1	5	.1	6	.1	5	.1			6	.2					204	3.2
AFC(P-3A/B)ARC-182	11	.3																	11	.3
AFC(P-3C)UHF/VHF UPGRADE	26	.3																	26	.3
AFC(P-3C)KG-84	143	2.6																	143	2.6
AFC(P-3C)SATCOM COMPATIBILIT	141	1.6																	141	1.6
AFC(P-3C)VINSON BASEBAND	378	2.2																	378	2.2
AFC(P-3C)CIP(ANDVT/DAMA)	89	2.4					9	.3	26	.9	19	.7	21	.8	24	.9	15	.6	203	6.4
Installation Kits N/R		27.3																		27.3
Installation Equipment																				
ARC-187 (2 per A/C)	354	17.5	10	.6	10	.6	12	.8	10	.7			12	.9					408	21.1
ARC-210	10	.4																	10	.4
ARC-182**	162	4.2	10	*	5	*	9	*					12	*	14	*	7	*	219	4.2
ARC-187 Control (2 per A/C)	194	2.8					14	.2	52	.9	38	.7	42	.8	48	1.0	30	.6	418	7.1
CRYPTO Fill Port (2 per A/C)	208	.3							52	.1	38	.1	42	.1	48	.1	30	*	418	.5
Interface Adapter Assembly (IAA)	91	.4					10	.1	26	.1	19	.1	21	.1	24	.2	15	.1	206	1.0
Diplexer	91	.4					10	.1	26	.2	19	.1	21	.1	24	.2	15	.1	206	1.3
Modem (1 per A/C)	106	4.0							21	.8	19	.7	21	.7	24	1.0	15	.6	206	8.2
ANDVT	91	***		***		***	10	***	26	***	19	***	21	***	24	***	15	***	206	***
SEI Cards								1.3												1.3
Installation Equipment N/R		2.7																		2.7
Engineering Change Orders																				
Data		6.1																		6.1
Training Equipment	66	3.6			2	.1													68	3.7
Support Equipment		2.3																		2.3
ILS		1.3		.3		.2		.2		.2		.1		.1		.1		.1		2.5
Other Support		10.8		1.2		2.0		1.1		.9		.8		.8		.8		.9		19.4
Interim Contractor Support																				
Installation Cost	1,018	6.3	59	2.9	36	1.7	37	2.3	31	1.6	31	2.1	19	1.4	39	2.1	60	4.2	1,330	24.5
TOTAL PROCUREMENT	2,489	105.3	35	5.3	27	4.9	89	6.6	244	6.5	171	5.4	231	6.5	244	6.8	149	7.5	3,679	154.8

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 2001: 3/01 FY 2002: 3/02 FY 2003: 3/03

DELIVERY DATE: FY 2001: 3/02 FY 2002: 3/03 FY 2003: 3/04

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (1132) kits	1,018	6.3	59	2.9	21	1.3	27	2.0	7	.4									1,132	12.8
FY 2001 (15) kits					15	.4													15	.4
FY 2002 (10) kits							10	.3											10	.3
FY 2003 (24) kits									24	1.2									24	1.2
FY 2004 (31) kits											31	2.1							31	2.1
FY 2005 (19) kits													19	1.4					19	1.4
FY 2006 (39) kits															39	2.1			39	2.1
FY 2007 (38) kits																	38	2.6	38	2.6
To Complete (22) kits																	22	1.6	22	1.6
TOTAL	1,018	6.3	59	2.9	36	1.7	37	2.3	31	1.6	31	2.1	19	1.4	39	2.1	60	4.2	1,330	24.5

Installation Schedule

	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
In	1018		20	20	19		12	12	12		12	12	13		10	10	11		10	10	11
Out	1018		20	20	19		12	12	12		12	12	13		10	10	11		10	10	11

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In		6	6	7		13	13	13	60	1330
Out		6	6	7		13	13	13	60	1330

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITL Global Positioning System (GPS) (OSIP 28-92)

MODELS OF SYSTEM AFFECTED P-3C, SPECIAL PROJECTS TYPE MODIFICATIO 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 2001		FY 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																				
GPS Airframe Kit	228	7.1																	228	7.1
EFDS Airframe Kit	57	3.3																	57	3.3
Installation Kits N/R		.8																		.8
Installation Equipment																				
LTN-72	2	1.9																	2	1.9
EFDS EHSIEFDI	327	5.4																	327	5.4
EFDS Controls	196	.4																	196	.4
ASM	218	1.8																	218	1.8
Installation Equipment N/R																				
Engineering Change Orders																				
Data		.2																		.2
Training Equipment		3.3																		3.3
Support Equipment																				
ILS		.5																		.5
Other Support		4.7																		4.7
Interim Contractor Support																				
Installation Cost	227	9.1	1	1.1		.4													228	10.6
TOTAL PROCUREMENT	####	38.7		1.1		.4													1,028	40.1

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 AFFECTE 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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (228) kits	227	6.2	1	*															228	6.7
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	227	6.2	1	*															228	6.7

Installation Schedule

	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
In	227			1																	
Out	227			1																	

	FY 2004				FY 2005				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										228
Out										228

Exhibit P-3a

MODELS OF SYSTEMS AFFECTE 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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (57) kits	36	2.4	16	1.0	5	.4													57	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	36	2.4	16	1.0	5	.4													57	3.8

Installation Schedule

	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
In	36	6	5	3	2	2	2	1													
Out	36	6	5	3	2	2	2	1													

	FY 2004				FY 2005				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										57
Out										57

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITL Sustained Readiness Program (SRP) (OSIP 10-94)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATIO 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 are receiving Selected SRP Mod Kits installed via a awarded contract dated 13 June 2000.

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																				
AFC Kit-SRP	41	52.6																	41	52.6
AFC Kit-SRP Option	9	13.3																	9	13.3
Cond Kits		35.8																		35.8
Sel. SRP Mod Kit Material		1.6																		1.6
Installation Kits N/R		31.4																		31.4
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		4.6																		4.6
Training Equipment		.2																		.2
Support Equipment		1.6																		1.6
ILS		2.6																		2.6
Other Support		34.9		4.9																39.8
Interim Contractor Support																				
Installation Cost	32	136.2																	32	136.2
TOTAL PROCUREMENT	50	314.7		4.9															50	319.7

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: 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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (32) kits	32	136.2																	32	136.2
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	32	136.2																	32	136.2

Installation Schedule

	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
In	32																				
Out	10	4	3	3	2	3	3	3	1												

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										32
Out										32

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITL Anti-Surface Warfare (ASUW) Improvement Program (OSIP 29-94)

MODELS OF SYSTEM AFFECTED: P-3C TYPE MODIFICATIO 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 Maritime 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-137C (V) 5 imaging radar, the Advanced Imaging Multi-Spectral Sensor (AIMS) electro optical system, and ESM upgrades that include Specific Emitter Identification (SEI), ALR-95, 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 2001		FY 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 (H-2417)		9.4																		9.4
PROCUREMENT																				
Installation Kits																				
AFC A Kit	55	61.5	1	2.0	6	6.3	4	4.6									78	151.7	144	226.1
AFC B Kit		199.3		8.5		27.3		21.3										365.1		621.5
Pre-AIP Armament Kit	17	12.9																	17	12.9
Installation Kits N/R		30.3																		30.3
Installation Equipment																				
GFE Sensors and Avionics		193.3		6.1		34.4		26.3										380.3		640.5
Advanced IRDS		4.0																		4.0
Installation Equipment N/R		18.3		6.0		16.7														41.0
Engineering Change Orders		9.2		5.0		4.3														18.5
Data		13.2		.9		.6		1.0										26.0		41.8
Training Equipment		41.0		.5		9.4		8.4										11.6		70.9
Support Equipment		10.3		.8				.4										12.5		23.9
ILS		9.0		2.1		1.7		1.7										17.7		32.3
Other Support		77.6		6.1		13.4		8.6		.2								116.7		222.7
Interim Contractor Support																				
Installation Cost	35	38.8	16	24.5	7	15.8	4	11.6	4	12.5							78	203.8	144	307.0
TOTAL PROCUREMENT	72	718.9	1	62.5	6	129.9	4	84.0		12.6							78	1285.4	161	2293.4

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 2001: FY 2002: 10/01 FY 2003: 10/02

DELIVERY DATE: FY 2001: FY 2002: 2/03 FY 2003: 2/04

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (55) kits	35**	38.8	16	23.0	4	11.4													55	73.2
FY 2001 (1) kits			***	1.5	1	***													1	1.5
FY 2002 (6) kits					****	4.4	4	11.6	2	****									6	16.1
FY 2003 (4) kits									4	12.5									4	12.5
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete (78) kits																	78	203.8	78	203.8
TOTAL	35**	38.8	16	24.5	5	15.9	4	11.6	6	12.5							78	203.8	144	307.0

** FY00 Congressional Add funds five (5) installs.
*** FY01 Congressional Add funds one (1) install.
**** FY02 Congressional Add funds two (2) installs.

Installation Schedule

	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
In	35	4	4	4	4	2	2	1		1	1	1	1		2	2	2				
Out	27	4	4	4	4	3	2	2	2	2	2	1	1	1	1	2	2	2			

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									78	144
Out									78	144

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TIT ADDITIONAL AIRCRAFT #1 (OSIP 34-99)

MODELS OF SYSTEM AFFECTED: P-3 Special Projects TYPE MODIFICAT 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 Low-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 2001		FY 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	1	3.5																	1	3.5
Installation Kits N/R		3.1																		3.1
Installation Equipment	1	21.6																	1	21.6
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		1.3																		1.3
Interim Contractor Support																				
Installation Cost	1	11.5																	1	11.5
TOTAL PROCUREMENT	2	41.0																	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 Month PRODUCTION LEADTIM 6 Months

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

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

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complet		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (1) kits	1	11.5																	1	11.5
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	1	11.5																	1	11.5

Installation Schedule

	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
In			1																		
Out											1										

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

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TIT ADDITIONAL AIRCRAFT #2 (OSIP 22-00)

MODELS OF SYSTEM AFFECTEI P-3 Special Projects TYPE MODIFICAT 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 2001		FY 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	1	4.0																	1	4.0
Installation Kits N/R																				
Installation Equipment	1	32.1																	1	32.1
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		1.8																		1.8
Interim Contractor Suppor																				
Installation Cost	1	10.2																	1	10.2
TOTAL PROCUREMENT	2	48.1																	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 Month PRODUCTION LEADTIM 9 Months

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

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

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complet		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (1) kits	1	10.2																	1	10.2
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	10.2																	1	10.2

Installation Schedule

	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
In				1																	
Out													1								

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

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: Communications Navigation Surveillance/Air Traffic Management (OSIP 13-01)

MODELS OF SYSTEM AFFECTED: P-3C/EP-3/Derivatives TYPE MODIFICATION: Operational Improvement/Safety

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 Integrated Processing Capability (IPC) which provides for growth and interface flexibility. This OSIP provides non-recurring engineering for the development of the CNS/ATM architecture for the P-3 aircraft which includes an intregrated central processor (IPC), air data computer (ADC) and an Electronic Flight Display Sytems (EFDS). This modification program provides CNS/ATM upgrades for 203 P-3C aircraft, 15 EP-3 aircraft, and 18 Derivative aircraft.

P-3C CNS/ATM Engineering Change Proposal (ECP) TBD: There is presently no specific ECP associated with the CNS/ATM architecture design and developmer

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 2001		FY 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																				
FMS/IPC					1	.4			2	.1	13	.8	9	.6	12	.8	199	14.1	236	16.8
8.33kHz VHF Radio							10	*	18	*							208	4.6	236	4.6
Digital ADC					1	*			2	*	13	.3	9	.2	12	.3	199	4.7	236	5.5
MMR (P-ILS)			14	.1	25	.1	10	.1	18	.1							169	1.0	236	1.3
CXP (IFF/MODE S) (Note 2)					1	*			2	*							233	6.2	236	6.3
EFDS (Note 1)			59	*	6	.4	10	.7	17	1.2	13	1.0	9	.7	12	.9	110	10.5	236	15.4
Installation Kits N/R				3.0		2.9		3.8												9.7
Installation Equipment																				
FMS/IPC/DLC					2	.3			4	.8	28	5.5	22	4.5	24	5.0	398	85.8	478	101.9
8.33kHz VHF Radio							10	.4	18	.8							211	14.9	239	16.1
Digital ADC					1	*			2	.1	14	.6	11	.5	12	.6	199	9.6	239	11.4
MMR (P-ILS)			28	1.2	50	2.0	20	.9	36	1.6							344	18.1	478	23.8
CXP (IFF/MODE S) (Note 2)					1	*			2	.1							236	10.9	239	11.1
RINU-G (RNP 4/5) (Note 2)									4	.1							474	9.3	478	9.4
EFDS (Note 1)			59	*	6	.6	10	1.3	17	2.3	14	1.9	11	1.7	12	1.8	110	16.7	239	26.3
Installation Equipment N/R																				
Engineering Change Orders																				
Data										.9		.5								1.4
Training Equipment											2	1.2	6	1.1	4	.6	3	.5	15	3.5
Support Equipment																				
ILS						.2		.2		.2		.2		.1		.1		.6		1.6
Other Support				1.2		1.0		.9		.9		1.0		.9		.8		3.3		10.1
Interim Contractor Support																				
Installation Cost				*	1	.6				.7	2	1.5	13	2.1	9	1.8	211	38.2	236	45.0
TOTAL PROCUREMENT			160	5.5	94	8.7	70	8.2	142	10.0	97	14.6	77	12.4	88	12.8	3,093	249.1	3,821	321.2

Notes:

1. Totals do not add due to rounding

2. Asterisk indicates amount less than 51K

Note 1: 59 EFDS funded under GPS OSIP 28-92

Note 2: CXP and RINU-G funding in FY04 is for prototypes.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED P-3C/EP-3/Derivatives MODIFICATION TITLE: CNS/ATM (OSIP 13-01) Block Upgrade

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Team

ADMINISTRATIVE LEADTIME: 6 Month: PRODUCTION LEADTIM 10 Months

CONTRACT DATES: FY 2001: FY 2002: 6/02 FY 2003:

DELIVERY DATE: FY 2001: FY 2002: 7/03 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY () kits																				
FY 2001 () kits																				
FY 2002 (1) kits					1	.2													1	.2
FY 2003 () kits																				
FY 2004 (2) kits											2	.4							2	.4
FY 2005 (13) kits													13	2.1					13	2.1
FY 2006 (9) kits															9	1.8			9	1.8
FY 2007 (12) kits																	12	2.2	12	2.2
To Complete (199) kits																	199	25.8	199	25.8
TOTAL					1	.2					2	.4	13	2.1	9	1.8	211	27.9	236	32.4

Prototype NRE, prototype kit and prototype installation funded in FY02 with Congressional Plus-Up.
Block Upgrade CNS/ATM installs begin in FY05 and consist of FMS/IPC, Digital Air Data Computer (ADC) and EFDS and other CNS/ATM equipment (MMR, CXP, 8.33kHz VHF radio, RINU-G

Installation Schedule

	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
In												1								1	1
Out													1							1	1

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	3	3	3	4	2	2	2	3	211	236
Out	3	3	3	4	2	2	2	3	211	236

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED P-3C/EP-3/Derivatives MODIFICATION TITLE: CNS/ATM (OSIP 13-01) Multimode Receivers (MMRs)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Team

ADMINISTRATIVE LEADTIME: 6 Month PRODUCTION LEADTIM 8 Months

CONTRACT DATES: FY 2001: 01/01 FY 2002: 05/02 FY 2003: 01/03

DELIVERY DATE: FY 2001: 04/01 FY 2002: 01/03 FY 2003: 09/03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (0) kits																				
FY 2001 (14) kits			14	**															14	**
FY 2002 (25) kits					***	.1	25	***											***	.1
FY 2003 (10) kits									10	*									10	*
FY 2004 (16) kits											16	*							16	*
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete (169) kits																	169	.4	169	.4
TOTAL			14	**	***	.1	25	***	10	*	16	*					169	.4	209	.5

NOTE: Will conduct stand-alone MMR installations in FY01-05 to meet immediate requirements. Two (2) MMRs will be included in CNS/ATM Block Upgrade installation in FY-05.

* Asterisk indicates amount less than 51K

** O-Level - Roll-On/Roll-Off, No Install Cost

*** FY02 Congressional Plus-up funds (25) installs

Installation Schedule

	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
In				14							12	13		5	5			4	4	4	4
Out				14							12	13		5	5			4	4	4	4

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									169	234
Out									169	234

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED P-3C/EP-3/Derivatives MODIFICATION TITLE: CNS/ATM (OSIP 13-01) Electronic Flight Display Systems (EFDS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Team

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIM 10 Months

CONTRACT DATES: FY 2001: FY 2002: 05/02 FY 2003: 01/03

DELIVERY DATE: FY 2001: FY 2002: 03/03 FY 2003: 11/03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (59) kits	59	*																	59	*
FY 2001 (0) kits																				
FY 2002 (6) kits					**	.4	6	**											6	.4
FY 2003 (10) kits									10	.7									10	.7
FY 2004 (15) kits											15	1.1							15	1.1
FY 2005 (0) kits																				
FY 2006 (0) kits																				
FY 2007 (0) kits																				
To Complete (110) kits																	110	9.9	110	9.9
TOTAL	59	*				.4	6	**	10	.7	15	1.1					110	9.9	200	12.1

Note: Will conduct stand-alone EFDS installations in FY01-05 to meet immediate requirements. EFDS will be included in 36 CNS/ATM Block Upgrade A/C in FY05-07.

* Prior year EFDS funded under GPS OSIP 29-92

** FY02 Congressional Add funds CNS/ATM including (6) EFDS kits/installations

Installation Schedule

	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
In	59										2	2	2	1	3	3	3	3	4	4	4
Out	59										2	2	2	1	3	3	3	3	4	4	4

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									110	200
Out									110	200

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40						DATE: February 2002					
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY											
COST (In Millions)	265.5		68.2	42.7	45.1	8.6	7.1	6.2	4.4	10.1	457.9

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 FY2003 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 111. 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
39-94	UHF/VHF Comm. Impr. Prog.	50.3	15.0	17.8	33.8	8.0	7.1	6.2	4.4	10.1	152.7
12-95	Critical Structures	37.7	6.9	4.3	2.5	0.5					52.0
20-95	Critical Avionics Upgrade	145.2	36.2	15.1	6.3						202.9
4-96	Co-Processor Memory Unit	32.2	10.1	5.4	2.5	0.1					50.4
TOTAL		265.5	68.2	42.7	45.1	8.6	7.1	6.2	4.4	10.1	457.9

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 Communications (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 111 S-3B aircraft. This modification is validated in ORD 393-88-95, approved 23 Mar 95. S-3B ECP#423 constitutes the CIP integration, and Communication Control Group (CCG) modification. Beginning in FY02, a modem control indicator will be added to the CIP kit to provide all required DAMA SATCOM modes. This modification will be retrofitted and forward fitted in the S-3 CIP aircraft.

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 2001		FY 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																				
PROTOTYPE/TKI	2	1.8																	2	1.8
CIP A Kit	24	8.2	13	3.3	14	3.5	34	9.0	2	0.5	7	2.0	5	1.4	3	1.1	7	2.5	109	31.5
MD-1324 Modem Control Mod Kit					2	*	85	0.9	2	*	7	0.1	5	.1	3	*	7	.1	111	1.1
Installation Kits N/R		11.4				.9														12.3
Installation Equipment																				
ARC-182 - R/T & Mount	27	*	13	*	15	*	34	*	2	*	7	*	5	*	3	*	7	*	113	.1
MD-1324 Modem	27	.9	13	.5	15	.6	34	1.3	2	.1	7	.3	5	.2	3	.1	7	.3	113	4.2
MD-1324 Modem Control					2	*	87	1.3	2	*	7	.1	5	.1	3	*	7	.1	113	1.6
Crypto Fill Panels	56	*	26	.1	28	.1	68	.1	4	*	14	*	10	*	6	*	14	*	226	.4
CCG Modification	29	7.5	15	4.0	18	4.4	34	8.5	2	.5	7	2.0	5	1.4	3	.9	7	2.2	120	31.4
AS-3557 Antenna	27	.1	13	*	15	*	34	*	2	*	7	*	5	*	3	*	7	*	113	.3
Diplexer Preamp	27	.2	13	*	15	*	34	*	2	*	7	*	5	*	3	*	7	*	113	.5
ARC-187 - B Kit (2 per A/C)	54	4.4	26	2.4	30	2.6	68	5.9	4	.3	14	1.3	10	1.0	6	.6	14	1.4	226	19.8
Installation Equipment N/R																				
Engineering Change Orders																				
Data		1.2		.4		.8		.1												2.5
Training Equipment	3	3.4	2	1.3	4	.8		*											9	5.5
Support Equipment		.5		.6		.1														1.2
ILS		1.7		.2		.2		.2		.2		.2		.2		.1		.2		2.9
Other Support		7.3		1.2		1.0		1.0		.8		.8		.4		.6		1.2		14.4
Interim Contractor Support																				
Installation Cost	7	1.8	9	1.1	19	2.7	27	5.1	34	5.6	2	0.4	7	1.4	5	1.0	10	2.0	120	20.9
TOTAL PROCUREMENT	276	50.3	134	15.0	158	17.8	512	33.8	24	8.0	84	7.1	60	6.2	36	4.4	84	10.1	1,368	152.7

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 2001: 3/01 FY 2002: 11/01 FY 2003: 11/02

DELIVERY DATE: FY 2001: 3/02 FY 2002: 11/02 FY 2003: 11/03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (29) kits	7	1.8	9	1.1	13	2.0													29	4.8
FY 2001 (15) kits					6	.7	9	1.4											15	2.2
FY 2002 (18) kits							18	2.4											18	2.4
FY 2003 (34) kits									34	4.7									34	4.7
FY 2004 (2) kits											2	.3							2	.3
FY 2005 (7) kits													7	1.2					7	1.2
FY 2006 (5) kits															5	.8			5	.8
FY 2007 (3) kits																	3	.5	3	.5
To Complete (7) kits																	7	1.3	7	1.3
TOTAL **	7	1.8	9	1.1	19	2.7	27	3.8	34	4.7	2	.3	7	1.2	5	.8	10	1.8	120	18.2

** Includes trainer install(s).

Installation Schedule

	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
In	7		3	3	3	4	5	5	5	6	7	7	7	8	8	9	9	1	1		
Out	7		3	3	3	4	5	5	5	6	7	7	7	8	8	9	9	1	1		

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	1	2	2	2	2	1	1	1	10	120
Out	1	2	2	2	2	1	1	1	10	120

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B MODIFICATION TITLE: UHF/VHF Communications Improvement Program (OSIP 39-94)
Modem Control Mod Kits

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Team

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2001: FY 2002: 1/02 FY 2003: 1/03

DELIVERY DATE: FY 2001: FY 2002: 10/02 FY 2003: 10/03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY () kits																				
FY 2001 () kits																				
FY 2002 (2) kits							2	.1											2	.1
FY 2003 (85) kits							51	1.3	34	.9									85	2.1
FY 2004 (2) kits											2	.1							2	.1
FY 2005 (7) kits													7	0.2					7	.2
FY 2006 (5) kits															5	.1			5	.1
FY 2007 (3) kits																	3	.1	3	.1
To Complete (7) kits																	7	.2	7	.2
TOTAL **							53	1.3	34	.9	2	.1	7	.2	5	.1	10	.3	111	2.8

** Includes trainer install(s)

Installation Schedule

	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
In										1	1	25	26	8	8	9	9	1	1		
Out										1	1	25	26	8	8	9	9	1	1		

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	1	2	2	2	2	1	1	1	10	111
Out	1	2	2	2	2	1	1	1	10	111

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 111 S-3B aircraft. Starting in FY01 the Wingfold Rib program has been terminated and funds were reprioritized to UHF/VHF Comm Improvement Program (OSIP 39-94).

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 2001		FY 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 - H2452		40.4		.0																45.5
PROCUREMENT																				
Installation Kits																				
Critical Structures Airframe	91	3.1	20	.8															111	3.9
Flight Controls Elements	89	2.8	22	.7															111	3.5
Inner Wing BL144	48	.5	49	.6	14	.2													111	1.4
Inner Wing BL71	112	.2																	112	.2
Inner Wing BL58/70						**		**		**										**
Installation Kits N/R		18.6		.2																18.8
Installation Equipment																				
Inner Wing BL58/70						**		**		**										**
Installation Equipment N/R																				
Engineering Change Orders																				
Data		.2																		.2
Training Equipment		.2																		.2
Support Equipment																				
ILS		.1																		.1
Other Support		3.3		.4		.7		.6												4.9
Interim Contractor Support																				
Installation Cost	61	8.6	30	4.1	20	3.4		1.9		.5									111	18.6
TOTAL PROCUREMENT	340	37.7	91	6.9	14	4.3		2.5		.5									445	52.0

Notes:

1. Totals do not add due to rounding

** No A kits required. B kits provided by supply system.

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 2001: 1/01 FY 2002: 1/02 FY 2003: 1/03

DELIVERY DATE: FY 2001: 10/01 FY 2002: 10/02 FY 2003: 10/03

($ in Millions)

Cost:	Prior Years		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	$
FY 2000 & PY (48) kits	10	.3	38	1.1															48	1.4
FY 2001 (49) kits					49	1.6													49	1.6
FY 2002 (14) kits							14	.6											14	.6
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL	10	.3	38	1.1	49	1.6	14	.6											111	3.6

Installation Schedule

	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
In	10	10	10	9	9	13	12	12	12	4	4	4	2								
Out	8	2	10	10	9	9	13	12	12	12	4	4	4	2							

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										111
Out										111

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 2001: FY 2002: FY 2003:

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

($ in Millions)

Cost:	Prior Years		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	$
FY 2000 & PY (112) kits	112	.5																	112	.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	112	.5																	112	.5

Installation Schedule

	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
In	112																				
Out	112																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										112
Out										112

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 2001: 1/01 FY 2002: 1/02 FY 2003: 1/03

DELIVERY DATE: FY 2001: 10/01 FY 2002: 10/02 FY 2003: 10/03

($ in Millions)

Cost:	Prior Years		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	$
FY 2000 & PY (89) kits	39	3.6	48	1.8	2	.1													89	5.5
FY 2001 (22) kits					22	.9													22	.9
FY 2002 () kits																				
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL	39	3.6	48	1.8	24	1.0													111	6.3

Installation Schedule

	FY 200	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
In	39	12	12	12	12	7	7	6	4												
Out	37	2	12	12	12	12	7	7	6	4											

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										111
Out										111

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 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2001: 10/01 FY 2002: 10/02 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (91) kits	61	4.2	30	1.2															91	5.4
FY 2001 (20) kits					20	.9													20	.9
FY 2002 () kits																				
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL	61	4.2	30	1.2	20	.9													111	6.3

Installation Schedule

	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
In	61	8	8	7	7	6	5	5	4												
Out	56	5	8	8	7	7	6	5	5	4											

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										111
Out										111

Exhibit P-3a

MODELS OF SYSTEMS AFFECTE S-3B MODIFICATION TITLE: Critical Structures (OSIP 12-95)
Inner Wing - BL 58/70

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

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

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

($ in Millions)

Cost:	Prior Years		FY 2(		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007 To Complet				TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY () kits																				
FY 2001 () kits																				
FY 2002 () kit *					49	**													49	**
FY 2003 () kits *							49	1.4											49	1.4
FY 2004 () kits *									13	.5									13	.5
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL					49	**	49	1.4	13	.5									111	1.9

* No A kits required. B kits provided by supply system.

** Installs concurrent with BL144 through FY03. Thirty-five (35) of the forty-nine (49) installs in FY03 to be installed via MIP contract.

Installation Schedule

	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
In						13	12	12	12	13	12	12	12	7	6						
Out							13	12	12	12	13	12	12	12	7	6					

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										111
Out										111

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 111 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 for 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 111 S-3B aircraft.

STORES MANAGEMENT SYSTEM (SMS)(ECP NORIS 008-00) : 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 111 S-3B aircraft, with B kits procured for 85 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 2001		FY 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 ***																				
SMS (ARMCOS)	20	.4	25	.5	65	1.4													111	2.4
CAINS/EFI/NIU	82 ***	13.9	29	3.9															111	17.8
Installation Kits N/R		14.0		1.8																15.7
Installation Equipment																				
DFDC	82 ***	7.5	10	.9															92	8.4
CAINS	82 ***	31.0	29	12.4															111	43.4
SMS (ARMCOS)/MAVERICK	20	2.6	25	2.7	34	4.4	5	.7											85	10.4
Installation Equipment N/R		29.6		1.8																31.4
Engineering Change Orders																				
Data		.8		.6																1.4
Training Equipment		5.3		2.2		.8		.4												8.7
Support Equipment																				
ILS		1.4		.5		.3														2.1
Other Support		37.0		5.1		1.9		.1												44.2
Interim Contractor Support																				
Installation Cost		1.7		3.8		6.3		5.1												16.8
TOTAL PROCUREMENT	288	145.2	118	36.2	99	15.1	5	6.3											510	202.9

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. Remaining nineteen (19) DFDC procured by ES-3A program.

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 2001: 1/01 FY 2002: 1/02 FY 2003:

DELIVERY DATE: FY 2001: 1/02 FY 2002: 1/03 FY 2003:

($ in Millions)

Cost:	Prior Years		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	$
FY 2000 & PY (21) kits ***			1	***	20	1.1													21	1.1
FY 2001 (25) kits					25	1.4													25	1.4
FY 2002 (65) kits							65	3.9											65	3.9
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL			1	***	45	2.4	65	3.9											111	6.4

*** Includes one (1) Prototype

Installation Schedule

	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
In			1			10	11	12	12	17	17	16	15								
Out			1			10	11	12	12	17	17	16	15								

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										111
Out										111

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 2001: 1/01 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: 1/02 FY 2002: FY 2003:

($ in Millions)

Cost:	Prior Years		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete			
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (82) kits ***	19	1.7	44	3.7	19	1.9													82	7.2
FY 2001 (29) kits					16	1.5	13	1.2											29	2.7
FY 2002 () kits																				
FY 2003 () kits																				
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL	19	1.7	44	3.7	35	3.4	13	1.2											111	10.1

*** Includes one (1) Prototype and one (1) TKI.

Installation Schedule

	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
In	19	9	10	13	12	11	7	9	8	8	5										
Out	11	8	9	10	13	12	11	7	9	8	8	5									

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										111
Out										111

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 and stated the requirement for software and computer capability to support a targeting capability and direct exchange of data between CV, CVW and surface assets. Moreover, 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 development agreement between the U.S. Navy and Canadian Government contained the requirement for an open architecture design which replaced obsolete equipment. 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 maintenance trainer A and B kits. The ECP for this effort is Loral AYK-23-002 (with revisions) which modifies 65 aircraft and provides growth interfaces to host additional mission equipment. Procurement includes mission enhancements to provide for compatibility with S-3B Surveillance System Upgrade (which encompasses an APS-137 radar and EO/IR sensor) and is in conformance with the ORD cited above.

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 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	$
RDT&E (H0489)		37.2		0.4		0.4		0.4												38.5
PROCUREMENT																				
Installation Kits																				
AYK-23 (SSU) **			2	.1															2	.1
AYK-23	44	.9	11	.3	8	.2	2	.1											65	1.4
Installation Kits N/R		.1		.2																.3
Installation Equipment																				
AYK-23 (SSU) **			2	1.9															2	1.9
AYK-23	44	21.3	11	5.5	8	4.0	2	1.2											65	32.0
Installation Equipment N/R		2.4		.4																2.8
Engineering Change Orders																				
Data		.3																		.3
Training Equipment	1	.8		.1															1	.9
Support Equipment		.1																		.1
ILS		.7		.3		.1		.2												1.2
Other Support		5.4		.7		.5		.9												7.5
Interim Contractor Support																				
Installation Cost	15	.3	23	.7	18	.6	8	.3	2	.1									66	2.0
TOTAL PROCUREMENT	104	32.2	49	10.1	34	5.4	12	2.5	2	.1									201	50.4

Notes:

1. Totals do not add due to rounding ** AYK-23 (SSU) A&B kits installed at "O" level
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 2001: 8/01 FY 2002: 8/02 FY 2003: 8/03

DELIVERY DATE: FY 2001: 12/01 FY 2002: 12/02 FY 2003: 12/03

($ in Millions)

Cost:	Prior Years		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	$
FY 2000 & PY (45) kits	15	.3	23	.7	7	.2													45	1.3
FY 2001 (11) kits					11	.4													11	.4
FY 2002 (8) kits							8	.3											8	.3
FY 2003 (2) kits									2	.1									2	.1
FY 2004 () kits																				
FY 2005 () kits																				
FY 2006 () kits																				
FY 2007 () kits																				
To Complete () kits																				
TOTAL **	15	.3	23	.7	18	.6	8	.3	2	.1									66	2.0

* Indicates amount less than 51K.

** Includes fleet end items for training.

Installation Schedule

	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
In	15	7	6	3	7	3	3	6	6	2	2	2	2	2							
Out	15	7	6	3	7	3	3	6	6	2	2	2	2	2							

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										66
Out										66

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

Date: **FEBRUARY 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY											
COST (In Millions)	**857.4**		**49.8**	**48.5**	**17.2**	**90.9**	**9.6**	**8.7**	**8.6**	**1,331.9**	**2,422.6**

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). 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:

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Complete	Total
121-87	Structural Enhancements	276.8	0.9	4.1	4.8	0.7				7.1	294.3
74-88	Block Upgrade II	380.6	12.0	5.7	2.1	1.5	0.8	0.8	0.7	111.4	515.6
87-88	Outer Wing Panels	112.6	3.4	3.8						244.5	364.3
19-99	Block Upgrade III	87.4	26.0	27.5	2.7	80.1				877.5	1,101.2
5-01	Technology Insertion		7.5	7.5	7.7	8.6	8.8	8.0	7.9	91.3	147.3
TOTAL		**857.4**	**49.8**	**48.5**	**17.2**	**90.9**	**9.6**	**8.7**	**8.6**	**1,331.9**	**2,422.6**

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) projected 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) E-2 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 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$		
RDT&E																				
PROCUREMENT																				
Installation Kits																				
ECP 367R1-WCS Enhance.	28	138.6															6	1.6	34	140.2
Installation Kits N/R		14.3																		14.3
Installation Equipment																				
ECP XXX-Propellers	25	0.4	25	0.4	25	0.4													75	1.2
Vibration Suppression																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.8																		0.8
Training Equipment		*					1	2.5											1	2.6
Support Equipment		1.4																		1.4
ILS																				
ECP XXX-Propellers		1.2		0.5		0.4		0.7		0.4								0.2		3.3
Other Support		26.2																		26.2
Automatice Wiring Analysis								0.8												0.8
ECP XXX-Propellers		1.5				3.0		0.4												4.9
Interim Contractor Support																				
Installation Cost																				
ECP 367R1-WCS Enhance.	28	92.5															6	5.4	34	97.9
ECP XXX-Propellers					25	0.3	25	0.3	25	0.3									75	0.9
TOTAL PROCUREMENT		**276.8**		**0.9**		**4.1**		**4.8**		**0.7**								**7.1**		294.3

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: FY 2001: 1/01 FY 2002: 1/02 FY 2003: N/A

DELIVERY DATE: FY 2000: FY 2001: 1/03 FY 2002: 1/04 FY 2003: N/A

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (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 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
In							10	10	5		10	10	5		10	10	5
Out								10	10	5		10	10	5		10	10

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In														75
Out	5													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).

7. Group II Mission Computer Replacement Program (GrIIm RePR). This effort is a COTS technology transition MOD program and does not expand the functional envelope of the current Weapon System.

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 934-01 -"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.

ECP 2133 - "Engine Turbine Blade" - 'T56-A-427 Engine Turbine Blade Safety Modification' - Existing fuel nozzles coke (6 nozzles per engine) which reduces fuel flow thus creating hot sections within the engine causing damage to the engine turbine. This ECP will fund the procurement/modification/installation polished swirl plate fuel nozzles (IPPC116).

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.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Kits are being procured and installed on all applicable aircraft.

Block Upgrade II (OSIP 74-88)

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		0.1																		0.1
PROCUREMENT																				
Installation Kits																				
ECP 400-Grp I to Grp II:	13	93.7															3	26.8	16	120.5
ECP 403-NAV Upgrade:	10	9.1															27	24.1	37	33.2
ECP 402R1-Eng. Oil Warning	13	1.1																	13	1.1
ECP 246R1-Eng. Fire Wall	78	0.1																	78	0.1
ECP 410-SATCOM	4	0.3																	4	0.3
Installation Kits N/R		47.6																		47.6
ECP 2133 Fuel Nozzles				1.9																1.9
Engine Turbine Blade (CREI)								1.3		1.1		0.8		0.8		0.7				4.7
ECP XXX GrIIM RePr				6.3		3.4														9.7
Installation Equipment																				
ECP 400-Grp I to Grp II:	13	29.5															3	3.5	16	33.0
ECP 403-NAV Upgrade	10	5.5															27	10.4	37	15.8
ECP 934-01- Dual Fire Warning Sys.					**49	2.3	**17	0.8	**9	0.4									75	3.5
Installation Equipment N/R		1.0																		1.0
Engineering Change Orders																				
Data		15.2																16.3		31.5
Training Equipment	2	59.4															5	8.8	7	68.2
Support Equipment		40.9																		40.9
ILS		12.9		2.3														0.1		15.3
Other Support		20.3		1.6								*						0.7		22.6
Interim Contractor Support																				
Installation Cost																				
ECP 400-Grp I to Grp II	13	37.8															3	5.5	16	43.3
ECP 403-NAV Upgrade	10	6.5															*28	15.1	*38	21.5
TOTAL PROCUREMENT		**380.6**		**12.0**		**5.7**		**2.1**		**1.5**		**0.8**		**0.8**		**0.7**		**111.4**		**515.6**

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: FY 2001: N/A FY 2002: N/A FY 2003: N/A

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

($ 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 2000 & PY (13) kits	13	37.8																			**13**	**37.8**
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	13	37.8																	3	5.5	**16**	**43.3**

Installation Schedule

	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
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													3	16
Out													3	16

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C **MODIFICATION TITLE:** Block Upgrade II (OSIP 74-88)

INSTALLATION INFORMATION: This installation information is for the 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: FY 2001: N/A FY 2002: N/A FY 2003: N/A

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

($ 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 2000 & PY (10) kits	10	6.5																			10	6.5
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																			*28	15.1	*28	15.1
TOTAL	10	6.5																	***28**	**15.1**	***38**	**21.5**

* Includes ISMT Trainer installation.

Installation Schedule

	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
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													*28	*38
Out													*28	*38

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-five (45) 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 2001		FY 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																				
ECP 362R2C2-OWP	82	77.7																	82	77.7
ECP 378-Redesigned OWP	9	19.7	1	2.3	2	3.8											33	73.7	45	99.5
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
ECP 434R1-NavUpgrade OWP ECP				0.8																0.8
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				0.3																0.3
Other Support		0.1																		0.1
Interim Contractor Support																				
Installation Cost																				
ECP 362R2C2-OWP	82	0.7																	82	0.7
ECP 378-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		**112.6**		**3.4**		**3.8**												**244.5**		**364.3**

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: 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. 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-Five (55) 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 2001		FY 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																				
ECP 418-Hawkeye 2000/CEC MCU	1	9.3	1	8.8	1	18.0			2	10.1							51	287.6	56	333.7
E-2C SATCOM MINI DAMA					17	6.0													17	6.0
Installation Kits N/R																				
Installation Equipment																				
ECP 418-Hawkeye 2000	1	12.2	1	12.2						14.2							51	384.2	53	422.9
Install Equipment N/R	4	21.9							*7	38.5									11	60.4
Engineering Change Orders																				
Data		0.7																7.3		8.0
Training Equipment	2	31.4	1	2.3			1	2.7									2	21.8	6	58.2
ISMT Trainer																	1	11.5	1	11.5
Support Equipment		0.9																9.9		10.9
ILS		0.1																5.1		5.2
Other Support		7.8								6.0								13.5		27.3
Interim Contractor Support						3.5														3.5
Installation Cost																				
ECP 418-Hawkeye 2000	1	3.0	1	2.7					*7	11.3							52	136.6	61	153.6
TOTAL PROCUREMENT		**87.4**		**26.0**		**27.5**		**2.7**		**80.1**								**877.5**		**1,101.2**

Notes: 1) Installation costs and quantities in To Complete include one (1) ISMT Trainer.

2) Totals do not add due to rounding.

3) In Fy04, 2 kits will be procured and will not be installed for ECP 418

4) Funding to procure/install 7 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 LEADTIME:** 24 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (1) kits	**1**	**3.0**																	**1**	**3.0**
FY 2001 (1) kits			1	2.7															**1**	**2.7**
FY 2002 (0) kits																				
FY 2003 (0) kits																				
FY 2004 (7) kits									7	11.3									**7**	**11.3**
FY 2005 (0) kits																				
FY 2006 (0) kits																				
FY 2007 (0) kits																				
To Complete (52) kits *																	*52	136.6	*52	136.6
TOTAL	**1**	**3.0**	**1**	**2.7**					**7**	**11.3**							***52**	**136.6**	**61**	**153.6**

* Note: To Complete Includes one (1) ISMT trainer installation.

Installation Schedule

	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
In	1				1									5		2	
Out	1				1										5		2

	FY 2005				FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In													*52	61
Out													*52	61

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 2001		FY 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																				
Installation Kits N/R																				
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS				0.9		0.4		0.5		0.6		0.4		0.4		0.3		5.5		9.0
Other Support																				
ACIS & MC CM Upgrade Support				0.4		0.4		0.4		0.4		0.4		0.4		0.4		4.4		7.2
CEC CM & Upgrade Support				0.4		0.4		0.4		0.4		0.4		0.4		0.4		4.4		7.2
Software Tools				0.8		0.6		1.2		1.3		1.0		1.0		1.0		11.8		18.6
Software Integration & CM				3.0		3.7		3.2		3.9		4.5		3.8		3.7		44.9		70.8
Software Upgrades				2.0		2.0		2.0		2.0		2.0		2.0		2.0		20.4		34.4
Interim Contractor Support																				
Installation Cost																				
TOTAL PROCUREMENT				**7.5**		**7.5**		**7.7**		**8.6**		**8.8**		**8.0**		**7.9**		**91.3**		**147.3**

Exhibit P-3a

Note: Totals do not add due to rounding.

Exhibit P-40, BUDGET ITEM JUSTIFICATION		DATE: **February 2002**
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**19.2**	A	**16.1**	**5.1**	**2.8**	**1.3**					**44.5**

This line item funds modifications to a group of trainer aircraft which includes T-34C, 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 T-39 is a dual engine multi-purpose used to train undergraduate flight officers; 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
05-96	T-44 GPS	6.1	2.4								**8.5**
13-97	T-34 GPS	7.0	4.3	0.7							**11.9**
02-00	TPS TH-6 COMMERCIALIZATION	0.2	0.1								**0.3**
03-00	TH-57 AUTOFAULT CHIP DETECTOR	1.0	0.9								**1.9**
04-00	T-44 FIRE WARNING SYSTEM	0.1	0.1								**0.2**
05-00	UMFOTS UPGRADE	3.9	5.1	1.3	0.3	0.6					**11.2**
28-00	T-39 WING REPLACEMENT	0.9	3.2	3.1	2.6	0.7					**10.5**
	Total	**19.2**	**16.1**	**5.1**	**2.8**	**1.3**					**44.5**

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 2001		FY 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																				
A Kit	37	2.4	18	1.2															55	3.6
B Kit	37	1.6	18	0.9															55	2.5
Installation Kits N/R		0.2																		0.2
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		0.2																		0.2
Training Equipment		1.0																		1.0
Support Equipment																				
ILS																				
Other Support		0.2																		0.2
Interim Contractor Support		0.1																		0.1
Installation Cost	74.0	0.4	36.0	0.2															110	0.6
Total Procurement		**6.1**		**2.4**																**8.5**

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 2001: Dec-99 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: Mar-00 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (74) kits	74	0.4																	**74**	**0.4**
FY 2001 (36) kits			36	0.2															**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	**74**	**0.4**	**36**	**0.2**															**110**	**0.6**

Installation Schedule

	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
In	74		16	10	10																
Out	74			16	10	10															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										110
Out										110

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. During the GPS MOD, it was noted that Naval Anti-Collision Warning System (NACWS) was incurring interface problems, requiring a software update to allow proper data transfer.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 2001		FY 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																				
A Kit	209	4.6	107	2.5															316	7.1
Installation Kits N/R		0.4																		0.4
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		0.1																		0.1
Training Equipment	16	1.0	6	0.9		0.2													22	2.0
Support Equipment																				
ILS						0.2														0.2
Other Support		0.2		0.2		0.3														0.7
Interim Contractor Support		0.2		0.1																0.4
Installation Cost	156	0.5	160	0.6															316	1.1
Total Procurement		**7.0**		**4.3**		**0.7**														**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: **T-34C** MODIFICATION TITLE: SAFETY

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Forced Retrofit**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2001: Nov-00 FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (209) kits	156	0.5	53	0.2															**209**	**0.7**
FY 2001 (107) kits			107	0.4															**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	**156**	**0.5**	**160**	**0.6**															**316**	**1.1**

Installation Schedule

	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
In	156		54	53	53																
Out	129	27		54	53	53															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										316
Out										316

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: The United States Test Pilot School TH-6B aircraft require configuration to commercial FAA standards for continued airworthiness. Three engines and two 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, three require engine mods and two require rotor hub mods.

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 2001		FY 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																				
Engine Kit	1	0.1	2	0.1															3	0.2
Hub Kit	2	0.1																	2	0.1
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		0.1																		0.1
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**0.2**		**0.1**																**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 2001		FY 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																				
A Kit	56	0.5	70	0.6															126	1.0
B Kit																				
Total Kit																				
Installation Kits N/R		0.2																		0.2
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		*																		0.0
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		0.1		0.1																0.1
Interim Contractor Support		0.1		0.1																0.1
Installation Cost	56	0.1	70	0.2															126	0.3
Total Procurement		**1.0**		**0.9**																**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: **TH-57** MODIFICATION TITLE: Auto-Fault System (OSIP 03-00)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Forced Retrofit**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2001: Nov-00 FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (56) kits	56	0.1																	**56**	**0.1**
FY 2001 (70) kits			70	0.2															**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**															**126**	**0.3**

Installation Schedule

	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
In	56		23	23	24																
Out	37	19		23	23	24															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										126
Out										126

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 2001		FY 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																				
A Kit			55	0.1															55	0.1
Installation Kits N/R		*		*																0.1
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		*																		0.0
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		*		*																0.0
Interim Contractor Support																				
Installation Cost			55	*															55	0.0
Total Procurement		**0.1**		**0.1**																**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: **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 2001: Dec-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: Jan-01 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 (55) kits			55	*															**55**	*
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL			**55**	*															**55**	*

Installation Schedule

	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
In		13	13	14	15																
Out		11	11	11	11	11															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										55
Out										55

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 improvements: radar array upgrade, incorporation of GPS into T-39N aircraft, 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. The GPS kit consists of a computer, antenna, wiring, and mounting hardware. GPS prototype was accomplished under separate modification with funds from PMA187. There are 17 T-39N aircraft and 8 T-39G aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The components of this block upgrade will be COTS as turnkey items.

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																				
A Kit	5	0.6	8	0.9	1	0.1	2	0.2											16	1.8
B Kit	4	1.8	10	4.2	2	1.2			1	0.6									17	7.7
C Kit	4	0.1	4	0.1															8	0.2
Installation Kits N/R		1.4																		1.4
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	13		16		9		2		1										41	
Total Procurement		**3.9**		**5.1**		**1.3**		**0.3**		**0.6**										**11.2**

Notes:

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-39N, T-39G and Ground Based Training System**

MODIFICATION TITLE: UMFOTS Upgrade (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 2001: Nov-00 FY 2002: Nov-01 FY 2003: Nov-01

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (13) kits	13																		**13**	
FY 2001 (22) kits			16		6														**22**	
FY 2002 (3) kits					3														**3**	
FY 2003 (2) kits							2												**2**	
FY 2004 (1) kits									1										**1**	
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**13**		**16**		**9**		**2**		**1**										**41**	

Installation Schedule

	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
In	13	4	4	4	4	3	2	2	2	1	1			1							
Out		6	7	4	4	4	4	3	2	2	2	1	1			1					

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										41
Out										41

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: T-39 Wing Replacement (OSIP 28-00)

MODELS OF SYSTEMS AFFECTED: T-39N | 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 2001		FY 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																				
A Kit	2	0.7	5	1.9	5	2.0	4	1.7	1	0.4									17	6.8
B Kit																				
Total 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	4	0.9	1	0.2									17	3.7
Total Procurement		**0.9**		**3.2**		**3.1**		**2.6**		**0.7**										10.5

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 a Drop-in Modification at CLS Contractor Depot Facility**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (2) kits	1	0.2	1	0.2															**2**	**0.4**
FY 2001 (5) kits			5	1.0															**5**	**1.0**
FY 2002 (5) kits					5	1.1													**5**	**1.1**
FY 2003 (4) kits							4	0.9											**4**	**0.9**
FY 2004 (1) kits									1	0.2									**1**	**0.2**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**1**	**0.2**	**6**	**1.2**	**5**	**1.1**	**4**	**0.9**	**1**	**0.2**									**17**	**3.7**

Installation Schedule

	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
In	1		2	2	2		2	2	1		2	1	1		1						
Out		1		2	2	2		2	2	1		2	1	1		1					

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										17
Out										17

Exhibit P-40, BUDGET ITEM JUSTIFICATION					DATE: **February 2002**							
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total	
QTY												
COST (In Millions)	**144.9**	A	**3.0**	**22.1**	**29.8**	**26.1**	**27.1**	**25.1**	**19.3**	**87.7**	**385.0**	

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 and FY 2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Complete	To Total
24-94	C-2A SLEP	144.9	3.0	22.1	29.8	26.1	27.1	25.1	19.3	**87.7**	**385.0**
	Total	**144.9**	**3.0**	**22.1**	**29.8**	**26.1**	**27.1**	**25.1**	**19.3**	**87.7**	**385.0**

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 2005. 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 2001		FY 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																				
L-Probe Kit	36	0.3																	36	0.3
CAINS II A Kit	36	2.3																	36	2.3
ARC-210 Kit	2	0.2	6	0.5	10	0.8	9	0.7	9	0.8									36	3.0
Rewire Kit					4	3.0	4	3.1	4	3.1	4	3.2	4	3.2	4	3.3	12	10.3	36	29.2
Structure Kit					4	1.7	4	1.7	4	1.7	4	1.8	4	1.8	4	1.8	12	5.8	36	16.3
O2 Mask Kit																	36	0.9	36	0.9
Interim AFC			5	0.3															5	0.3
Enhanced OWP Kit	4	10.8																	4	10.8
OWP Enhancement Kit	12	2.6			10	2.3	10	2.4	7	1.9	10	2.4	6	1.5	4	1.0	30	8.0	89	22.2
OWP Conversion Kit	14	2.1			3	0.4	2	0.3											19	2.8
NP-2000							1	0.6	5	3.3	8	5.4	9	6.1	2	1.4	11	7.9	36	24.7
Installation Kits N/R		17.8				2.8		3.5												24.1
Installation Equipment CAINS II	50	6.1																	50	6.1
Installation Equipment N/R		4.2																		4.2
Engineering Change Orders																				
Data		9.1				0.3		0.5												9.9
Training Equipment		4.4						0.4		1.6										6.4
Support Equipment		0.8				0.4		0.4												1.6
ILS		4.0				0.2		0.4		0.4										5.0
Other Support		76.0				2.2		7.6		0.5		0.3								86.5
Interim Contractor Support																				
Installation Cost	40	4.1	45	2.3	26	8.0	25	8.3	29	12.8	35	14.0	23	12.4	14	11.7	109	54.8	346	128.4
Total Procurement		**144.9**		**3.0**		**22.1**		**29.8**		**26.1**		**27.1**		**25.1**		**19.3**		**87.7**		385.0

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 2001: N/A FY 2002: N/A FY 2003: N/A

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (72) kits	26	1.4	40	1.4	6	0.2													72	3.0
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	**26**	**1.4**	**40**	**1.4**	**6**	**0.2**													72	3.0

Installation Schedule

	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
In	26	10	10	10	10	6															
Out	26		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 2001: Jan-01 FY 2002: Jan-02 FY 2003: Jan-03

DELIVERY DATE: FY 2001: Oct-01 FY 2002: Oct-02 FY 2003: Oct-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (2) kits	2	0.1																	2	**0.1**
FY 2001 (6) kits					6	0.4													6	**0.4**
FY 2002 (10) kits							10	0.8											10	**0.8**
FY 2003 (9) kits									9	0.7									9	**0.7**
FY 2004 (9) kits											9	0.7							9	**0.7**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**2**	**0.1**			**6**	**0.4**	**10**	**0.8**	**9**	**0.7**	**9**	**0.7**							36	**$2.7**

Installation Schedule

	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
In	1	1				6				10				5	4			5	4		
Out	1		1				6				10				5	4			5	4	

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										36
Out										36

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-2A(R)** MODIFICATION TITLE: Block Upgrade/SLEP (OSIP V24-94) - Structures/Rewire

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Current w/SDLM**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 14 Months

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

DELIVERY DATE: FY 2001: N/A FY 2002: *Mar-02 FY 2003: Jan-04

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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 (8) kits					*4	4.9	4	5.0											4	**9.8**
FY 2003 (8) kits									8	10.2									8	**10.2**
FY 2004 (8) kits											8	10.4							8	**10.4**
FY 2005 (8) kits													8	10.7					8	**10.7**
FY 2006 (8) kits															8	10.8			8	**10.8**
FY 2007 (8) kits																	8	10.7	8	**10.7**
To Complete (24) kits																	24	33.5	24	**33.5**
TOTAL					**4**	**4.9**	**4**	**5.0**	**8**	**10.2**	**8**	**10.4**	**8**	**10.7**	**8**	**10.8**	**32**	**44.2**	72	**96.1**

* 2 Structures and 2 Rewire kits will deliver 5 months after award of the FY 2002 contract award.

Installation Schedule

	FY1999	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
In							2	2			2	2			4	4			4	4	
Out								2	2			2	2			4	4			4	4

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In		4	4			4	4		32	72
Out			4	4			4	4	32	72

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 2001: Oct-00 FY 2002: N/A FY 2003: N/A

DELIVERY DATE: FY 2001: Feb-01 FY 2002: N/A FY 2003: N/A

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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY ( ) kits																				
FY 2001 (5) kits			5	0.3															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			**5**	**0.3**															5	0.3

Installation Schedule

	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
In			2	2	1																
Out			2	2	1																

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
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 2001: N/A FY 2002: Oct-01 FY 2003: Oct-02

DELIVERY DATE: FY 2001: N/A FY 2002: Feb-02 FY 2003: Feb-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY (12) kits	12	2.8																	12	**2.8**
FY 2001 ( ) kits																				
FY 2002 (10) kits					10	2.5													10	**2.5**
FY 2003 (10) kits							10	2.5											10	**2.5**
FY 2004 (7) kits									7	1.8									7	**1.8**
FY 2005 (10) kits											10	2.6							10	**2.6**
FY 2006 (6) kits													6	1.4					6	**1.4**
FY 2007 (4) kits															4	0.9			4	**0.9**
To Complete (30) kits																	30	8.5	30	**8.5**
TOTAL	**12**	**2.8**			**10**	**2.5**	**10**	**2.5**	**7**	**1.8**	**10**	**2.6**	**6**	**1.4**	**4**	**0.9**	**30**	**8.5**	89	23.0

Installation Schedule

	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
In			4	4	4		2	4	4		2	4	4		2	2	3		2	4	4
Out				4	4	4		2	4	4		2	4	4		2	2	3		2	4

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In		2	2	2		2	2		30	89
Out	4		2	2	2		2	2	30	89

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 2001: N/A FY 2002: Oct-01 FY 2003: Oct-02

DELIVERY DATE: FY 2001: N/A FY 2002: Feb-02 FY 2003: Feb-03

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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY ( ) kits																				
FY 2000 ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 (1) kits							1	*											1	0.0
FY 2004 (5) kits									5	0.2									5	0.2
FY 2005 (8) kits											8	0.3							8	0.3
FY 2006 (9) kits													9	0.3					9	0.3
FY 2007 (2) kits															2	0.1			2	0.1
To Complete (11) kits																	11	3.9	11	3.9
TOTAL							**1**	*	**5**	**0.2**	**8**	**0.3**	**9**	**0.3**	**2**	**0.1**	**11**	**3.9**	36	4.8

Installation Schedule

	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
In											1				2	3			4	4	
Out												1				2	3			4	4

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In		5	4			2			11	36
Out			5	4			2		11	36

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**33.0**	A	**7.7**	**5.3**	**6.3**	**4.7**	**5.0**	**2.0**	**1.8**	**3.1**	**69.0**

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. There are currently 98 aircraft in the Navy and Marine Corps inventory (50 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

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
002-92	ARC-210 RADIO SYSTEM	6.6	1.6		2.4	1.8	2.5	2.0	1.8	**2.5**	**21.1**
009-94	NIGHT VISION LIGHTING (NVL)	5.8	1.2			2.9	2.5			**0.6**	**13.0**
019-98	SAFETY IMPROVEMENT PROGRAM	20.7	4.9	5.3							**30.9**
011-03	ONS REPLACEMENT				3.9						**3.9**
	Total	**33.0**	**7.7**	**5.3**	**6.3**	**4.7**	**5.0**	**2.0**	**1.8**	**3.1**	**69.0**
	RESERVE FUNDING INCLUDED IN TOTAL		1.9	2.0	0.3	0.3	0.3	0.3	0.4		

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. Validation/Verification efforts continue in FY02 and have been delayed due to technical problems. These delays have subsequently delayed the delivery of FY00 recurring kits, the procurement of FY01 recurring kits, and FY01 recurring installs. Expect recurring installs by 1st Quarter FY02.

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																				
A-kit	34	2.3	7	0.7			7	0.8	7	0.8	12	1.4	10	1.2	10	1.0	7	1.1	94	9.2
B-Kit (for PMA209)							5	0.9			1	0.2							6	1.1
Installation Kits N/R		1.3		0.3																1.6
Installation Equipment		0.4																		0.4
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.2								0.2		0.1				0.1				0.5
Training Equipment	1	*							1	0.1	3	0.3							5	0.4
Support Equipment		*																		*
ILS		0.2								0.1										0.3
Other Support		0.6		0.1				0.1		0.1		0.1		0.1		0.1		0.1		1.3
Interim Contractor Support																				
Installation Cost	21	1.6	10	0.5			10	0.6	8	0.5	10	0.5	12	0.7	10	0.6	24	1.4	105	6.3
Total Procurement		**6.6**		**1.6**				**2.4**		**1.8**		**2.5**		**2.0**		**1.8**		**2.5**		**21.1**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. Numbers of installs exceed numbers of kits procured. The total number of kits (100) includes six B-kits purchased for PMA209 and one A-kit purchased in prior years that will not be installed due to the change in radio configuration. This brings the total number of kits purchased on this OSIP to be installed to 93. PMA209 is purchasing seven A-kits on their OSIP in FY07 that we will have to install on this OSIP. This brings the total number of aircraft installs to 100 plus the five trainer installs that makes the grand total 105.

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: 4 Months

CONTRACT DATES: FY 2001: Dec-00 FY 2002: Dec-01 FY 2003: Dec-02

DELIVERY DATE: FY 2001: Aug-01 FY 2002: Aug-02 FY 2003: Aug-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (34) kits	21	1.6	10	0.5			3	0.2											**34**	**2.3**
FY 2001 (7) kits							7	0.4											**7**	**0.4**
FY 2002 ( ) kits																				
FY 2003 (7) kits									7	0.5									**7**	**0.5**
FY 2004 (8) kits									1	*	7	0.5							**8**	**0.5**
FY 2005 (15) kits											3	*	12	0.7					**15**	**0.7**
FY 2006 (10) kits															10	0.6			**10**	**0.6**
FY 2007 (10) kits																	10	0.6	**10**	**0.6**
To Complete (14) kits																	14	0.8	**14**	**0.8**
TOTAL	**21**	**1.6**	**10**	**0.5**			**10**	**0.6**	**8**	**0.5**	**10**	**0.5**	**12**	**0.7**	**10**	**0.6**	**24**	**1.4**	**105**	**6.3**

NOTE: One of the 34 kits purchased in prior years will not be installed dur to the change in radio configuration. The kit will be used for the Software Integration Laboratory.

Installation Schedule

Number of installs exceeds numbers of kits procured because PMA209 bought 7 A-kits as well as the B-kits in FY07. Number of kits includes 5 B-kits for PMA209 in FY03 and 1 in FY05.

	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
In	21				10					3	3	3	1	2	2	2	2	3	3	3	1
Out	21					10					3	3	3	1	2	2	2	2	3	3	3

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	3	3	3	3	3	3	3	1	24	105
Out	1	3	3	3	3	3	3	3	25	105

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: 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. First four recurring kits were purchased in FY00 and one val/ver install was completed. Technical difficulties during the install delayed DT and the remaining FY00 installs. Budget cuts in FY02 and FY03 will cause a gap in the program.

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																				
Kit	6	1.8	4	0.8					6	1.7	7	2.0					1	0.3	24	6.6
Installation Kits N/R		1.4		0.2																1.6
Installation Equipment		0.3																		0.3
Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.4								0.1										0.5
Training Equipment		0.1								*										0.1
Support Equipment		*																		*
ILS		0.2								0.2								0.2		0.6
Other Support		0.5		0.1						0.2		*								0.8
Interim Contractor Support																				
Installation Cost	3	1.1	2	0.2					11	0.7	7	0.5					1	0.1	24	2.5
Total Procurement		**5.8**		**1.2**						**2.9**		**2.5**						**0.6**		**13.0**

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: 6 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (6) kits	3	1.1	2	0.2					1	0.1									**6**	**1.3**
FY 2001 (4) kits									4	0.3									**4**	**0.3**
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 (6) kits									6	0.4									**6**	**0.4**
FY 2005 (7) kits											7	0.5							**7**	**0.5**
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (1) kits																	1	0.1	**1**	**0.1**
TOTAL	**3**	**1.1**	**2**	**0.2**					**11**	**0.7**	**7**	**0.5**					**1**	**0.1**	**24**	**2.5**

Installation Schedule

	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
In	3			1	1									3	3	3	2		3	2	2
Out	3				1	1									3	3	3	2		3	2

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									1	24
Out	2								1	24

Exhibit P-3a | Individual Modification

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. Program Completed in FY01.
2. Propeller Valve Housing. Solution identified and first procurement contract for valves was placed during FY99. Recurring installations began in the 4th quarter of FY99. Program completed FY01.
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 complete 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 .

	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																				
Bleed Air Duct Kit	58	6.6	3	0.2															61	6.7
ODS Kit	78	4.5	21	0.9															99	5.4
Prop Valve Kit	46	1.6	53	1.8															99	3.5
Towed Parachute Retrieval Kit	36	0.1																	36	0.1
APR-39A(V)2 Kit	22	*																	22	*
LOX Heat Exchanger Kit					49	0.6													49	0.6
IFR Pump Kit			5	0.2	73	3.7													78	3.9
Installation Kits N/R		1.8		0.3		0.3														2.3
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.1		0.1		0.1														0.3
Training Equipment	3	*																	3	*
Support Equipment																				
ILS		*		*		0.2														0.3
Other Support		0.4		0.2		0.3														0.9
Interim Contractor Support																				
Installation Cost	164	5.6	24	1.2	49	0.2													237	7.0
Total Procurement		**20.7**		**4.9**		**5.3**														**30.9**

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, 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 2001: Nov-00 FY 2002: FY 2003: Nov-01

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (136) kits	136	5.2																	**136**	**5.2**
FY 2001 (24) kits			24	1.2															**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	**136**	**5.2**	**24**	**1.2**															**160**	**6.4**

Installation Schedule

	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
In	136		8	8	8																
Out	110	26		8	8	8															

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										160
Out										160

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 2001: Nov-00 FY 2002: Nov-01 FY 2003:

DELIVERY DATE: FY 2001: Jan-01 FY 2002: Jan-02 FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (28) kits	28	0.4																	**28**	**0.4**
FY 2001 ( ) kits																				
FY 2002 (49) kits					49	0.2													**49**	**0.2**
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**28**	**0.4**			**49**	**0.2**													**77**	**0.6**

NOTE: 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, and APR-39A(V)2 installs are O-level (no cost).

Installation Schedule

	FY 2000 & Prior	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
In	28						17	16	16												
Out	25	3						17	16	16											

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										77
Out										77

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: KC-130 Onboard Navigation System (ONS) Replacement. (OSIP 11-03)

MODELS OF SYSTEMS AFFECTED: KC-130F and KC-130R

TYPE MODIFICATION: Performance Enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION: This modification affects 24 KC-130 F and 14 KC-130R aircraft that have one LTN-72 and one LTN-211 installed. The KC-130F/R aircraft require two independent means of navigation for transoceanic missions. The LTN-211 OMEGA system was eliminated in 1997. LTN-211 are being replaced with LN-100 Replacement Inertial Navigation Units (RINU).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The LN100 is a replacement for the LTN211 and the install is accomplished at O-level. The items will be procured and provided to the affected squadrons for installation in FY03.

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																				
Kit							38	3.8											38	3.8
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																				
Total Procurement								**3.9**												**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: **KC-130F AND KC-130R** MODIFICATION TITLE: ONS REPLACEMENT (OSIP 11-03)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **I-LEVEL INSTALL AT AFFECTED SQUADRONS**

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2001: FY 2002: FY 2003: Dec-02

DELIVERY DATE: FY 2001: FY 2002: FY 2003: Feb-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) 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 2000 & Prior	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
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: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**56.6**	A	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	**4.1**	**65.1**

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 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	**56.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	**4.1**	**65.1**
Total		**56.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	**4.1**	**65.1**

Note: Totals may not add due to rounding.

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: FEWSG (OSIP 119-83), AN/AST-6(V), AN/DLQ-3, 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 2001		FY 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		15.9																		15.9
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment	1,004	49.9	2	0.5	2	0.6	2	0.5	2	0.5	2	0.6	2	0.6	2	0.6	21	3.8	1,039	57.6
Installation Equipment N/R		0.2		*		*		*		*		*		*		*		0.1		0.4
Engineering Change Orders																				
Data		0.1		*		*		*		*		*		*		*		0.1		0.3
Training Equipment		0.2																		0.2
Support Equipment		5.2																		5.2
ILS		0.8		*		*		*		*		*		*		*		0.2		1.2
Other Support		0.2																		0.2
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**56.6**		**0.6**		**0.6**		**0.6**		**0.6**		**0.6**		**0.6**		**0.7**		**4.1**		65.1

Notes:

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

Exhibit P-40, BUDGET ITEM JUSTIFICATION						DATE: **February 2002**					
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**						P-1 ITEM NOMENCLATURE **Cargo/ TransportAircraft Series Modifications**					
Program Element for Code B Items:						Other Related Program Elements **N/A**					
	Prior Years	ID Code	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**25.6**	A	**8.2**	**7.1**	**3.8**	**8.7**	**8.3**	**4.9**	**5.0**	**6.4**	**78.0**

This line item funds modifications to the following cargo and transport aircraft: C-9B/DC-9, 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. 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, and UC-12B/F/M are twin turbo-prop commercial transport aircraft (King Air) capable of a variety of gerneral 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 accomodate 121 passangers, or 8 pallets of cargo, or a combination configuration consistion of 3 pallets and 70 passangers. The C-40A has a range of 3,400 nautical miles with 5,000 lbs of cargo. The UC-35C/D will provide transport for high priority passanger/ cargo missions with time, place or mission sensitive requirements. The UC-35C/D will carry 6 passangers or 1,200 lbs of cargo and has a range of 1,400 nautical miles. The C-26D and EC/RC-26D are twin turbo-prop aircraft (Fairchild Metro) capable of passanger/ cargo transport andrange control missions. TheC-26D can carry 19 passangers up to 1,300 nautical miles at 234 knots. The overall goal of the modifications budgeted in FY 2003 and out is to continue the FAA Configuration Updates to these cargo aircraft and Flight Safety Upgrades to the C-12 and C-20 aircraft. The specific modifications budgeted and programmed are as follows:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
71-86	FAA Configuration Updates	16.7	0.7	3.7	0.4	0.6	0.6				**22.8**
14-98	C-12 Flight Safety Upgrade	8.9	7.4	3.4	1.0	5.5	6.1	4.9	5.0		**42.3**
01-03	C-20 Flight Management Systems				2.4	2.5	1.6			6.4	**12.9**
	Total	**25.6**	**8.2**	**7.1**	**3.8**	**8.7**	**8.3**	**4.9**	**5.0**	**6.4**	**78.0**
	Reserve Funding Included in Total		1.1	1.3	0.4	0.4	0.4	0.5	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 results of these investigations with recommended corrective action are reviewed/approved by the FAA and Navy and provided to all operators as service bulletins. Each service bulletin is a complete technical directive that provides corrective change information or detailed modification instructions. To ensure safe, reliable, FAA/Navy certified aircraft and to provide a program that will assure continued life extension at minimum cost, the Navy must maintain configuration and integrity compatible with FAA certified commercial models by incorporation of applicable service bulletins. The incorporation of certain service bulletins also serves to preclude extensive repairs/repetitive inspections. Crew equipment requirements in accordance with FAA directives and Navy requirements will be incorporated to ensure maximum safety in case of emergency. Specific modifications budgeted in this OSIP include the incorporation of C-9B/DC-9, C-20, and C-12 FAA Bulletins and Directives.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Service Bulletins are reviewed for possible incorporation on an as required basis. Prototype verification has been previously accomplished and approved by the FAA.

FINANCIAL PLAN: (TOA, $ in Millions)

	Prior Years		FY 2001		FY 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																				
C-12 Propellers	63	0.8	12	0.1															75	0.9
C-9 Engine	13	0.2							9	0.2	9	0.3							31	0.7
C-20	158	0.3	29	0.2	51	0.2	35	0.1											273	0.7
C-9	278	4.7	1	0.3	2	0.1	1	0.1	2	0.2	2	0.2							286	5.6
C-26	4	0.2	3	0.1															7	0.3
CT-39	111	1.1																	111	1.1
C-9 HUSH Kit					1	1.2														1.2
Installation Kits N/R		2.5				*		0.1		*		*								2.7
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		0.1				0.2		*		*		*								0.3
Training Equipment		0.2																		0.2
Support Equipment																				
ILS		*																		*
Other Support		0.5				0.2														0.7
Interim Contractor Support						0.2														0.2
Installation Cost	627	6.1	45	*	54	1.6	36	0.1	11	0.1	11	0.1							784	8.1
Total Procurement		**16.7**		**0.7**		**3.7**		**0.4**		**0.6**		**0.6**								**22.8**

Notes:

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-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

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 2001: Various FY 2002: Various FY 2003: Various

DELIVERY DATE: FY 2001: Various FY 2002: Various FY 2003: Various

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (627) kits	627	6.1																	**627**	**6.1**
FY 2001 (45) kits			45	*															**45**	0.0
FY 2002 (54) kits					54	1.6													**54**	1.6
FY 2003 (36) kits							36	0.1											**36**	0.1
FY 2004 (11) kits									11	0.1									**11**	0.1
FY 2005 (11) kits											11	0.1							**11**	0.1
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**627**	**6.1**	**45**	*	**54**	**1.6**	**36**	**0.1**	**11**	**0.1**	**11**	**0.1**							**784**	**8.1**

Installation Schedule

	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
In	627	15	15	15		17	17	20		12	12	12		3	3	3	2	3	3	3	2
Out	627		15	15	15		17	17	20		12	12	12	3	3	3	2	3	3	3	2

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										784
Out										784

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 2001		FY 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																				
Flight Safety Kits	10	3.2	18	5.8	5	1.3	1	0.4	13	4.3	13	4.3	11	3.6	10	3.3			81	26.2
Installation Kits N/R		4.3		0.7																4.9
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders										0.4		0.3		0.1						0.8
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data		0.2								0.1		0.1		0.1						0.5
Training Equipment		0.5		0.2		0.2		*		0.2		0.2		*		0.1				1.5
Support Equipment																				
ILS		0.1		0.2		0.2		0.1		0.1		0.1								0.7
Other Support		0.6		0.1		0.1		0.1		0.4		0.2		0.2		0.1				2.0
Interim Contractor Support																				
Installation Cost	3		7	0.5	18	1.6	5	0.4	1	0.1	13	0.9	13	0.9	21	1.5			81	5.8
Total Procurement		**8.9**		**7.4**		**3.4**		**1.0**		**5.5**		**6.1**		**4.9**		**5.0**				42.3

Notes:

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 2001: Nov-00 FY 2002: Nov-01 FY 2003: Nov-01

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (10) kits	3		7	0.5															10	0.5
FY 2001 (18) kits					18	1.6													18	1.6
FY 2002 (5) kits							5	0.4											5	0.4
FY 2003 (1) kits									1	0.1									1	0.1
FY 2004 (13) kits											13	0.9							13	0.9
FY 2005 (13) kits													13	0.9					13	0.9
FY 2006 (11) kits															11	0.8			11	0.8
FY 2007 (10) kits															10	0.7			10	0.7
To Complete ( ) kits																				
TOTAL	**3**		**7**	**0.5**	**18**	**1.6**	**5**	**0.4**	**1**	**0.1**	**13**	**0.9**	**13**	**0.9**	**21**	**1.5**			**81**	**5.8**

Installation Schedule

	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
In	3	1	2	2	2	4	4	5	5	4	1			1				3	3	3	4
Out	3	1	2	2	2	4	4	5	5	4	1			1				3	3	3	4

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	3	3	3	4	6	6	6	3		81
Out	3	3	3	4	6	6	6	3		81

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Flight Management Systems (FMS) (OSIP 01-03)

MODELS OF SYSTEMS AFFECTED: C-20 D/G | TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: This modification provides the C-20D/G aircraft, with an upgrade to the flight control display system and an incorporation of a High Frequency (HF) Data Link system. The flight control display system will integrate all current and future airspace navigation requirements (CNS/ATM) into a single integrated system with expandable architecture. The HF Data Link is a CNS/ATM requirement component system that integrates into the upgraded flight control display system. The system configured consists of a necessary redundancy of kits, such that 2 kits per aircraft is required. There are currently 5 C-20G and 2 C-20D aircraft in inventory.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: FAA approved Supplement Type Certifications (STC) have been approved and commercial off the shelf (COTS) equipment will be purchased with subsequent installation to be performed by CLS contractor at depot level on 5 C-20G and 2 C-20D aircraft.

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																				
C-20D/G DHF Kit							2	0.2	5	0.5									7	0.7
C-20D FMS UPGRADE KIT							1	1.2	1	1.2									2	2.4
C-20G FMS UPGRADE KIT											1	1.5					4	6.0	5	7.5
Installation Kits N/R								0.4		0.2										0.6
Installation Equipment																				
XXX Equip																				
Installation Equipment N/R																				
Engineering Change Orders																				
XXX Kit ECO XXX																				
XXX Equip ECO XXX																				
Data								0.1		0.1										0.2
Training Equipment								0.1												0.1
Support Equipment																				
ILS								0.2		0.2										0.4
Other Support								0.1		0.2										0.3
Interim Contractor Support																				
Installation Cost							3	0.1	6	0.2	1	0.1					4	0.4	14	0.7
Total Procurement								**2.4**		**2.5**		**1.6**						**6.4**		12.9

Notes:

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-20 D/G**

MODIFICATION TITLE: Flight Management Systems (FMS) (OSIP 01-03)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Kits to be installed by maintenance contractor at depot**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 2001: FY 2002: FY 2003: Dec-02

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 (3) kits							3	0.1											3	0.1
FY 2004 (6) kits									6	0.2									6	0.2
FY 2005 (1) kits											1	0.1							1	0.1
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																	4	0.4	4	0.4
TOTAL							**3**	**0.1**	**6**	**0.2**	**1**	**0.1**					**4**	**0.4**	**14**	**0.7**

Installation Schedule

	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
In											3				3	3			1		
Out												3			3	3				1	

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									4	14
Out									4	14

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **February 2002**

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

P-1 ITEM NOMENCLATURE
E-6 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									0
COST (In Millions)	645.1	A	60.0	73.9	57.1	30.3	20.8	39.4	51.4	211.1	1,189.1

This line item funds modifications to E-6 "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 (OSIP 32-93) budgeted in Fiscal Year (FY) 2002 and FY2003 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 in 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 02 the Modified Miniature Receiver Terminal (MMRT), OSIP 10-01, will be installed to enhance command and control of the strategic forces. OSIP 07-02 will correct safety and Follow On Test & Evaluation (FOT&E) (Sep 98) deficiencies by funding redesign and integration of an upgraded Vapor Cooling System (VCS) for mission avionics, replacing the current aircraft battery with an ultra low maintenance battery (ULMB), replace the Milstar Tactical Terminal Access Controls (TAC) battery, upgrade the Aircraft Frequency Auto Parallel Unit (FRAPU) to allow proper power transfer from/to ground power and aircraft power, 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 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 that will allow low cost modifications for emerging requirements. It also replaces the Mission Computer System, the UHF C3 system and STU III. It corrects deficiencies in the HPTS system, adds the capability to transmit and receive in the low frequency range, adds automatic retransmit of voice messages and adds flat panel displays in the battle staff area.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
32-93	E-6B Mod	611.3	38.0	36.5	11.1						696.9
27-99	Multifunction Display System	33.8	19.0	29.0	37.6	11.0				6.9	137.2
10-01	E-6B Modified Mini Rcv Terminal		3.0	6.0						5.0	14.0
07-02	E-6 Mission Support			1.5	5.9	12.1	7.2	12.8	13.0	6.5	58.9
08-02	Safety Deficiencies			0.9	2.4	7.1	7.4				17.9
XX-05	Mission Deficiencies						6.3	26.7	38.5	192.7	264.1
	Total	645.1	60.0	73.9	57.1	30.3	20.8	39.4	51.4	211.1	1,189.1

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/E-6B — 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 at least $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) to 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 389-88-98, 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. The ADP, UHF DAMA and Weight Savings requirements are combined into the ADWS program and will apply 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 Reserves.

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. Twelve 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. A contract was awarded for the ADWS program September 00 and Full Operational Capability (FOC) is plan for December 03.

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	1	107.3																	1	107.3
PROCUREMENT																				
Installation Kits																				
HPTS Kit	16	19.7																	16	19.7
ABNCP Kit	13	47.5	1	4.5	1	4.6													15	56.6
VOSAT Kit	14	0.3	1	*	1	*													16	0.3
CRYPTO Kit	14	0.9	2	0.2	1	0.2													17	1.2
SIL Kit	1	0.4																	1	0.4
LAB Kit	1	0.1																	1	0.1
ADWS Kit	2	1.4	8	5.1	6	4.0													16	10.5
Installation Kits N/R		48.5		0.9																49.5
Installation Equipment																				
HPTS/CFA Equip	18	139.3																	18	139.3
ABNCP Equip	13	28.9	1	0.7	1	1.0													15	30.6
VOSAT Equip	14	1.8	1	0.2	1	0.2													16	2.2
CRYPTO Equip	14	0.3	2	0.1	1	*													17	0.4
Lab Equipment	1	*																	1	0.0
ADWS Equipment	2	1.4	8	5.1	6	4.0													16	10.5
SIL Equipment	1	0.4																	1	0.4
MILSTAR Equip	7	38.1																	7	38.1
HPTS TIMING DIV Equip	19	5.8																	19	5.8
SDRS Equip	1	0.6																	1	0.6
Installation Equipment N/R		30.0		0.5																30.5
Engineering Change Orders																				
Data		23.2																		23.2
Training Equipment	11	39.8	1	1.8		0.3													12	41.8
Support Equipment		6.2																		6.2
ILS		17.9		1.2		0.8														19.8
Other Support		96.9		9.4		3.0		0.5												109.8
Interim Contractor Support		1.1																		1.1
Installation Cost	47	60.8	6	8.4	15	18.5	12	10.6											80	98.4
Total Procurement		**611.3**		**38.0**		**36.5**		**11.1**												**696.9**

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.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B

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 2001: Varies FY 2002: Varies FY 2003: Varies

DELIVERY DATE: FY 2001: Varies FY 2002: Varies FY 2003: Varies

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (59) kits	47	48.8	6	7.1	5	11.6	1	3.9											**59**	**71.4**
FY 2001 (12) kits					10	6.3	2	0.6											**12**	**7.0**
FY 2002 (9) kits							9	6.1											**9**	**6.1**
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**47**	**48.8**	**6**	**7.1**	**15**	**18.0**	**12**	**10.6**											**80**	**84.4**

Note: Schedule only reflects HPTS, ABNCP, VOSAT, CRYPTO, and ADWS installation kits not trainers.

HPTS Installation Schedule

	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
In	12			1			1		1			1									
Out	11			1			1		1			1		1							

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

ABNCP Installation Schedule

	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
In	12			1			1		1			1									
Out	11			1			1		1			1		1							

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

VOSAT Schedule

	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
In	12			1			1		1			1									
Out	11			1			1		1			1		1							

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

CRYPTO Installation Schedule

	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
In	10		2	1			1		1			1									
Out	10		2	1			1		1			1									

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

ADWS Installation Schedule

	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
In	1						2	3	2	2	2	2	2								
Out						1	1	1	3	1	2	3	2	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: Multifunction Display System (OSIP 27-99)

MODELS OF SYSTEMS AFFECTED: E-6A/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 due 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 changes. 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 equipment, 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 5 May 1998. Contract award September 9, 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. Increased cost and schedule requirements for modification of the Operational Flight Trainer (OFT) have required a Milestone Decision Authority (MDA) approved change #2 to the Acquisition Program Baseline (APB). This modification, approved 14 May 2001, provided additional funding for OFT #1 (by delaying aircraft modifications) and cut funding for OFT #2 in FY04 (funding is used to complete remainder of aircraft modifications). This change results in a "To-Complete" requirement for OFT #2 of $6.871M which will be requested in POM04.

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																				
MDS Kit	1	1.3	2	1.4	2	1.4	9	6.8	2	1.6									16	12.5
Installation Kits N/R		20.7		0.2																20.9
Installation Equipment																				
MDS Equip	1	9.1	2	11.3	2	16.1	9	21.7	2	2.9									16	61.1
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.5																		0.5
Training Equipment				1.0	1	7.7	1	2.6									1	3.2	3	14.6
Support Equipment																				
ILS		0.6		0.5		0.2		0.1		0.1										1.5
Other Support		1.6		1.3		1.2		1.2		0.4								0.7		6.2
Interim Contractor Support																				
Installation Cost			1	3.3	1	2.3	5	5.3	11	6.1							1	3.0	19	20.0
Total Procurement		33.8		19.0		29.0		37.6		11.0								6.9		137.2

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-6A/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 2001: Nov-00 FY 2002: Nov-01 FY 2003: Nov-02

DELIVERY DATE: FY 2001: Aug-01 FY 2002: Aug-02 FY 2003: Aug-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (1) kits			1	3.29															**1**	**3.3**
FY 2001 (2) kits							2	2.5											**2**	**2.5**
FY 2002 (3) kits					1	2.3	2	2.5											**3**	**4.8**
FY 2003 (10) kits							1	0.3	9	5.0									**10**	**5.3**
FY 2004 (2) kits									2	1.1									**2**	**1.1**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete (1) kits																	1	3.0	**1**	**3.0**
TOTAL			**1**	**3.3**	**1**	**2.3**	**5**	**5.3**	**11**	**6.1**							**1**	**3.0**	**19**	**20.0**

Note: Total qantities and dollars include three trainers

Installation Schedule

	FY 2000 & Prior	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
In			1							1	1	1	1	1	3	3	4				
Out						1					1	1		2	2	3	3	3			

	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: Modified Miniature Receive Terminal (OSIP 10-01)

MODELS OF SYSTEMS AFFECTED: E-6A/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 (NCCS) 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 the Secretary of 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) architecture.

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 August 2001.

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																				
MMRT Install Kit			9	1.5													6	1.0	15	2.5
Installation Kits N/R																				
Installation Equipment																				
DKU Equip			9	0.2													6	0.1	15	0.3
Installation Equipment N/R																				
Engineering Change Orders																				
Data				*		0.7														0.7
Training Equipment			1	0.8		0.2											1	0.3	2	1.3
Support Equipment																				
ILS				0.2		0.1												0.1		0.5
Other Support				0.2		0.5												0.5		1.2
Interim Contractor Support				0.1		0.1												0.1		0.3
Installation Cost					10	4.4											7	2.8	17	7.2
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-6A/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: 6 Months

CONTRACT DATES: FY 2001: Aug-01 FY 2002: Dec-02 FY 2003:

DELIVERY DATE: FY 2001: Feb-02 FY 2002: Jun-03 FY 2003:

($ in Millions)

Cost:	FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																		
FY 2001 (9) kits			9	4.2													**9**	**4.2**
FY 2002 ( ) kits																		
FY 2003 ( ) kits																		
FY 2004 ( ) kits																		
FY 2005 ( ) kits																		
FY 2006 ( ) kits																		
FY 2007 ( ) kits																		
To Complete (6) kits															6	2.3	**6**	**2.3**
TOTAL			**9**	**4.2**											**6**	**2.3**	**15**	**6.5**

Note: Install schedule does not include two trainers

MMRT Installation Schedule

	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
In								5	4												
Out								3	4	1	1										

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									6	15
Out									6	15

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-6A/E-6B | TYPE MODIFICATION: Capability

DESCRIPTION/JUSTIFICATION: The program will correct Follow-On Test & Evaluation (FOT&E) (Sep 98) deficiencies by funding redesign and integration of an upgraded Vapor Cycle (Cooling) System (VCS) for mission avionics, design update and fabrication of new rewind machines, purchase of "off-the shelf" power carts to provide adequate aircraft power for full mission ground checkout, upgrade of the Frequency Referencing Auto Parallel Unit (FRAPU) to provide uninterrupted transfer of power from A/C to ground systems, replacement of aged Milstar Tactical Batteries to ensure mission capability and installation of Ultra-low Maintenance Aircraft Batteries for improved cold weather operations.
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. Power drop-out on transfer from aircraft to ground systems can cause data corruption and equipment damage to mission avionics systems. Loss of Milstar battery power results in loss of Milstar capability.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Contract award 1 March 2002 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 FY03 -- 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. FRAPU NRE and fabrication in FY04-FY05. Prototype installation aboard the E-6 A/C and validation/verification in FY05 -- Upgrade complete FY08. Milstar Battery NRE and fabrication for proof of concept in FY04-FY05. Installation aboard the E-6 A/C in FY06-FY07. ULMB purchase and installation in FY06-FY07.

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																				
ULMB													6	1.5	10	2.5			16	3.9
VCS					1	0.1					7	0.4	8	0.4					16	0.9
FRAPU									1	*			5	0.2	5	0.2	5	0.2	16	0.7
Installation Kits N/R						0.1		0.1		0.2		0.4								0.9
Installation Equipment																				
ULMB													6	1.3	10	1.8			16	3.1
VCS					1	0.2					7	1.1	8	1.3					16	2.6
BATTERY TAC													8	0.1	8	0.1			16	0.2
FRAPU									1	0.1			5	0.3	5	0.3	5	0.3	16	1.0
Installation Equipment N/R						0.3		0.3		1.1		1.1								2.8
Engineering Change Orders																				
Data						0.1		0.1		0.2		0.2		0.4		0.4		0.2		1.6
Training Equipment					1	0.4		0.3		0.1	1	0.1		0.1		0.0		0.1	2	1.2
Support Equipment							1	3.8	14	7.9	4	0.7	4	0.4	4	0.4	2	0.3	29	13.5
ILS						0.1		0.2		0.3		0.3		0.6		0.6		0.2		2.3
Other Support						0.3		1.1		2.1		2.2		2.1		2.1		1.8		11.8
Interim Contractor Support																				
Installation Cost									2	0.2	1	0.6	18	4.1	23	4.4	5	3.3	49	12.6
Total Procurement						**1.5**		**5.9**		**12.1**		**7.2**		**12.8**		**13.0**		**6.5**		**58.9**

Notes:

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B

MODIFICATION TITLE: E-6 MISSION SUPPORT (OSIP 07-02)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Field Modification**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 2001: FY 2002: Varies FY 2003: Varies

DELIVERY DATE: FY 2001: FY 2002: Varies FY 2003: Varies

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 (2) kits									2	0.2									**2**	**0.2**
FY 2003 ( ) kits																				
FY 2004 (1) kits											1	0.6							**1**	**0.6**
FY 2005 (7) kits													7	0.6					**7**	**0.6**
FY 2006 (19) kits													11	3.5	8	0.7			**19**	**4.2**
FY 2007 (15) kits															15	3.7			**15**	**3.7**
To Complete (5) kits																	5	3.3	**5**	**3.3**
TOTAL									**2**	**0.2**	**1**	**0.6**	**18**	**4.1**	**23**	**4.4**	**5**	**3.3**	**49**	**12.6**

Note: Install dollars and quantities include 1 trainer

Installation Schedule: VCS

	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
In														1							
Out																1					

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

Installation Schedule: ULMB

	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
In																					
Out																					

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

Installation Schedule: FRAPU

	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
In																				1	
Out																					1

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	1	1	1	2	1	1	1	2	5	16
Out	1	1	1	2	1	1	1	2	5	16

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Correction Of Safety Deficiencies (OSIP 08-02)

MODELS OF SYSTEMS AFFECTED: E-6A/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 Intercom Communication System (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 FY02.

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																				
SDRS							1	0.1	7	0.4	8	0.4							16	0.8
SMOKE DETECTOR							1	*	1	*	14	*							16	*
KAPTON WIRE FUEL PUMP									1	*	15	*							16	*
PVC									8	*	8	*							16	*
ELCU							8	0.1	8	0.1									16	0.2
KAPTON A/C/ WIRE							8	0.5	8	0.5									16	1.0
REEL OPS									8	0.1	8	0.1							16	0.2
INERTIA REELS									8	0.2	8	0.2							16	0.5
Installation Kits N/R						0.1		0.1		0.3										0.4
Installation Equipment																				
SDRS							1	*	7	0.2	8	0.3							16	0.5
SMOKE DETECTOR							1	*	1	*	14	0.2							16	0.3
HPTS					2	0.1	14	0.4											16	0.5
INERTIA REELS									8	0.1	8	0.2							16	0.3
Installation Equipment N/R						0.6		0.1		0.1										0.8
Engineering Change Orders																				
Data								*		*		*								0.1
Training Equipment							1	*		*									1	0.1
Support Equipment										*										*
ILS								0.2		0.2		0.1								0.6
Other Support						0.2		0.5		3.6		3.9								8.2
Interim Contractor Support																				
Installation Cost					2	0.1	13	0.5	45	1.3	69	1.8							129	3.7
Total Procurement						**0.9**		**2.4**		**7.1**		**7.4**								**17.9**

Notes:

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-6A/E-6B

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 2001: FY 2002: Mar-02 FY 2003: Nov-02

DELIVERY DATE: FY 2001: FY 2002: Jul-02 FY 2003: Mar-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 (2) kits					2	0.1													**2**	**0.1**
FY 2003 (33) kits							13	0.5	20	1.0									**33**	**1.4**
FY 2004 (41) kits									25	0.3	16	1.0							**41**	**1.3**
FY 2005 (53) kits											53	0.9							**53**	**0.9**
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL					**2**	**0.1**	**13**	**0.5**	**45**	**1.3**	**69**	**1.8**							**129**	**3.7**

Note: Quantities and cost include one panel trainer

SDRS

	FY2000 & Prior	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
In											1				3	4			4	4	
Out											1				3	4			4	4	

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

Wire Replacement

	FY2000 & Prior	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
In											1			7				8			
Out											1			7				8			

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

Smoke Detectors

	FY2000 & Prior	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
In												1				1			4	5	5
Out												1				1			4	5	5

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

PVC Replacement

	FY2000 & Prior	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
In															4	4			4	4	
Out															4	4			4	4	

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

ELCU Upgrade

	FY2000 & Prior	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
In																	8				8
Out																	8				8

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

Reel Ops ICS

	FY2000 & Prior	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
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

	FY2000 & Prior	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
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

	FY2000 & Prior	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
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

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40									DATE: February 2002		
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY											
COST (In Millions)	93.2		1.9	3.0							98.1

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 and there are currently 4 aircraft in the Special Mission inventory. They have an average service life of 29.5 years and the first aircraft reached end of service in 2001, the second in 2002. Two replacement aircraft delivered in FY 2001 and prior with the remaining two replacement aircraft scheduled for delivery Aug and Dec 02. The specific modifications budgeted and programmed are:

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
18-97	P-3 Special Project Aircraft	69.6	1.7	3.0							74.4
19-97	P-3 Intelligence Sensors/Systems	23.6	0.2								23.8
	DERF (non-add)				4.0	26.0	17.5	22.5	20.0		
TOTAL		93.2	1.9	3.0							98.1

Note: Totals may not add due to rounding. The FY03-07 DERF funding augments OSIP 19-97, APEX GOLD.

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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 2001		FY 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																				
P-3 System A (Mission Unique)	4	.5																	4	.5
P-3 System B (Mission Unique)																				
LESPA	4	.9																	4	.9
Replacement Aircraft	4	12.9																	4	12.9
Installation Kits N/R		7.2																		7.2
Installation Equipment		7.2		.1		1.0														8.2
Installation Equipment N/R		5.2																		5.2
Engineering Change Orders																				
Data		.1				.3														.4
Training Equipment		.2																		.2
Support Equipment																				
ILS		.9																		.9
Other Support		10.3		1.7		1.8														13.8
Interim Contractor Support																				
Installation Cost	4	24.2																	4	24.2
TOTAL PROCUREMENT	12	69.6		1.7		3.0													12	74.4

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 2001: FY 2002: FY 2003:

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

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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (4) kits	4	24.2																	4	24.2
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	24.2																	4	24.2

Installation Schedule

	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
In	4																				
Out	1				1				1	1											

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

Exhibit P-3a INDIVIDUAL MODIFICATION

MODIFICATION TITLE: P-3 Intelligence Sensors and Systems (OSIP 19-97)

MODELS OF SYSTEM AFFECTED: P-3B/C TYPE MODIFICATION: Operational Improvement

DESCRIPTION/JUSTIFICATION:

This modification replaces obsolete intelligence collection equipment in four P-3 Special Project aircraft by:

1. Installation and support of special mission equipment 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 2001		FY 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	4	.7																	4	.7
Installation Kits N/R																				
Installation Equipment																				
Mission Unique Equipment		20.7																		20.7
APEX GOLD								4.0		26.0		17.5		22.5		20.0				90.0
Installation Equipment N/R		.2																		.2
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		1.6		.2																1.8
Interim Contractor Support																				
Installation Cost		.4																		.4
TOTAL PROCUREMENT	4	23.6		.2				4.0		26.0		17.5		22.5		20.0			4	113.8

Notes:

1. Totals do not add due to rounding
2. Asterisk indicates amount less than 51K
3. This OSIP also includes FY03-FY07 Defense Emergency Response Fund (DERF) funding for APEX GOLD in support of Operation Enduring Freedom.

* Installation of FY98 Mission Unique Installation Kits to be accomplished under OSIP 18-97.

* Installation of FY97-99 Mission Unique Installation Equipment to be accomplished at field (O) level.

Exhibit P-3a

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**58.7**	A	**9.0**	**5.5**	**28.2**	**40.5**	**40.8**	**19.9**	**11.6**	**127.1**	**341.3**

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 2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Complete	To Total
08-95	T45TS Correction to Deficiencies	49.4	6.3	5.3	9.0	4.0	4.2	9.2	10.1	**22.4**	**119.9**
16-96	T45TS Digital Cockpit	3.8			7.3	22.5	22.5			**100.9**	**157.0**
04-99	T45TS NACES P3I	5.5	2.7	*							**8.2**
11-02	Improvement Directional Control			0.2	7.4	7.4	7.4	7.3			**29.5**
03-03	Engine Surge				4.6	5.5	5.5	1.9			**17.5**
-04	T-45TS GPS					1.1	1.2	1.5	1.4	**3.8**	**9.1**
	Total	**58.7**	**9.0**	**5.5**	**28.2**	**40.5**	**40.8**	**19.9**	**11.6**	**127.1**	**341.3**

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 portion of this OSIP effects several structural components including, but not limited to: 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.

Airframe ECP's
Modifications to the airframe other than structural defficiencies are also required to ensure safety of flight, aero-performance and maintainability to enable satisfactory PTR levels. This Airframe OSIP affects several airframe components and their sub-assemblies including, but not limited to: front, center and aft fuselage components, landing gear, tail cone, wing, horizontal and vertical control surfaces, flaps, canpoy/windscreen, hydraulic system, oxygen system, electrical system, fuel system, instrumentation systems, environmental controls, communications, navigation and emergency systems.

Avionics
Modifications to the Avionics will be required to update the Display unit, heads Up Display, and Global Positioning System and Inertial Navigation Assembly to enhance effectiveness of pilot training and avoid obsolescence. 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: Air Data Recorder Upgrade (current and future), Gina Updates, Mission Display processor upgrades, Almanac Loading System upgrades, 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 2001		FY 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																				
Ejection Seat Handle MB-9155	112	0.3																	112	0.3
Uncommanded Gear Extension	35	0.7																	35	0.7
Ground Training Systems TBD's	32	2.1	8	0.8	9	0.7	9	0.7									16	1.3	74	5.6
Structural ECP's	716	18.1	41	1.3	41	0.4	143	3.6	26	*	12	-*	24	2.7	36	3.1	300	7.4	1,339	36.7
Avionics	177	0.8	95	1.3	25	0.4	25	0.5	5	0.3	19	0.3	25	0.9	25	0.9	22	1.0	418	6.3
Engines	487	6.0		*	90	*	10	0.3	16	0.1	17	0.2	24	1.4	24	1.9	144	4.5	812	14.3
Installation Kits N/R		1.2						0.2		0.2		0.2		0.2						1.8
Installation Equipment																				
Ejection Seat Handle MB-9155		0.2																		0.2
Uncommanded Gear Extension		0.1		*																0.1
Ground Training Systems TBD's		*		*		*		*												*
Structural ECP's		0.3		*		0.1		0.1				*								0.5
Airframe ECP's								0.4		0.3		0.3		1.0		1.0		2.0		5.0
Avionics		0.6		*		*		*		*		*								0.7
Engines		0.2						*		*										0.3
Installation Equipment N/R		0.2						0.1		0.1		0.1								0.5
Engineering Change Orders																				
Data		0.7		0.1		0.2		0.1		0.1		0.1								1.1
Training Equipment		2.9		0.1		0.2		0.1		0.1		0.1								3.4
Support Equipment		0.7		0.1		0.6		0.1		0.1		0.1								1.5
ILS																				
Other Support		0.9		*		*		*		*		*								1.1
Installation Cost	1,503	13.4	150	2.6	215	2.7	127	2.8	107	2.9	48	3.0	73	3.1	85	3.2	482	6.2	2,790	39.9
TOTAL PROCUREMENT	**1,559**	**49.4**	**144**	**6.3**	**165**	**5.3**	**187**	**9.0**	**47**	**4.0**	**48**	**4.2**	**73**	**9.2**	**85**	**10.1**	**482**	**22.4**	**2,790**	**119.9**

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 2001: N/A FY 2002: N/A FY 2003: N/A

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (1559) kits	1,503	13.4	56																**1,559**	**13.4**
FY 2001 (144) kits			94	2.6	50														**144**	**2.6**
FY 2002 (165) kits					165	2.7													**165**	**2.7**
FY 2003 (187) kits							127	2.8	60										**187**	**2.8**
FY 2004 (47) kits									47	2.9									**47**	**2.9**
FY 2005 (48) kits											48	3.0							**48**	**3.0**
FY 2006 (73) kits													73	3.1					**73**	**3.1**
FY 2007 (85) kits															85	3.2			**85**	**3.2**
To Complete (482) kits																	482	6.2	**482**	**6.2**
TOTAL	**1,503**	**13.4**	**150**	**2.6**	**215**	**2.7**	**127**	**2.8**	**107**	**2.9**	**48**	**3.0**	**73**	**3.1**	**85**	**3.2**	**482**	**6.2**	**2,790**	**39.9**

Installation Schedule

	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
In	1503	37	37	37	39	53	54	54	54	31	32	32	32	26	27	27	27	12	12	12	12
Out	1503	37	37	37	39	53	54	54	54	31	32	32	32	26	27	27	27	12	12	12	12

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	18	18	18	19	21	21	21	22	482	2790
Out	18	18	18	19	21	21	21	22	482	2790

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: T45TS Digital Cockpit (OSIP 16-96)

MODELS OF SYSTEMS AFFECTED: T-45 TRAINING SYSTEM (T45TS) | TYPE MODIFICATION: PS SAFETY

DESCRIPTION/JUSTIFICATION: The T45TS Digital Cockpit will add two multi-function displays (MFDs) per cockpit, associated cockpit controls, and a 1553 digital bus, integrating them with the existing head-Up display (HUD), the airborne data recorder (ADR), and a separately procured Global Positioning System/Inertial Navigation System (GINA). A retrofit program will incorporate the digital cockpit in the existing analog aircraft and simulators.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Approval for 3 simulators and 24 aircraft digital cockpits received in 1st quarter FY2002.

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																			0	0.0
PROCUREMENT																			0	0.0
Installation Kits	2	1.0							12	3.2	12	3.3					49	14.7	75	22.2
Installation Kits NR										0.6		0.3						2.2	0	3.1
Installation Equipment	2	1.6							12	8.9	12	9.6					49	40.7	75	60.8
Installation Equipment NR								0.2		0.3									0	0.5
Engineering Change Orders								0.1		0.2									0	0.4
Data		0.8						0.3		0.2									0	1.3
Training Equipment							1	6.4	1	6.4	1	5.0					5	26.9	8	44.7
Support Equipment								0.3		0.2		0.9						2.2	0	3.6
ILS												0.5						2.1	0	2.6
Other Support		0.2								0.2		0.5						1.0	0	1.8
Interim Contractor Support																			0	0.0
Installation Cost	2	0.2							13	2.3	14	2.5					54	11.2	83	16.1
Total Procurement		**3.8**	**0**	*	**0**	*		**7.3**		**22.5**		**22.5**	**0**	*	**0**	*		**100.9**		157.0

Notes:

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

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T45TS

MODIFICATION TITLE: T45TS Digital Cockpit (OSIP 16-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor field mod team**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 24 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (2) kits	2	0.2																	**2**	**0.2**
FY 2001 ( ) kits																			**0**	**0.0**
FY 2002 ( ) kits																			**0**	**0.0**
FY 2003 (1) kits									1	0.2									**1**	**0.2**
FY 2004 (13) kits									12	2.1	1	0.2							**13**	**2.3**
FY 2005 (13) kits											13	2.3							**13**	**2.3**
FY 2006 ( ) kits																			**0**	**0.0**
FY 2007 ( ) kits																			**0**	**0.0**
To Complete (54) kits																	54	11.2	**54**	**11.2**
TOTAL	**2**	**0.2**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**13**	**2.3**	**14**	**2.5**	**0**	**0.0**	**0**	**0.0**	**54**	**11.2**	**83**	**16.2**

Notes:

1. Quantity totals include trainers

Installation Schedule

	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
In	2													1	4	4	4	1	4	4	5
Out	2																				

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In									54	83
Out	1	4	4	4	1	4	4	5	54	83

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 2001		FY 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	164	4.3	74	2.1															238	6.4
Installation Kits N/R		0.5		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	105	0.5	129	0.4	10	*													244	0.9
TOTAL PROCUREMENT	**169**	**5.5**	**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 2001: Nov-00 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: Apr-01 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (169) kits	**169**	**0.5**																	**169**	**0.5**
FY 2001 (75) kits			**65**	**0.4**	**10.0**	*													**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	**169**	**0.5**	**65**	**0.4**	**10**	*													**244**	**0.9**

Installation Schedule

	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
In	169	16	16	16	17	10															
Out	169	16	16	16	17	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:

Loss of Directional Control during the high speed ground rollout has resulted in six Class A T-45 mishaps. The proposed modification will significantly improve the Ground Handling characteristics by improvements such as: Providing yaw rate feedback to the nosewheel steering system and the (SASS) Stability Augmented Steering System. This improvement will make exteranl froces less influential on yaw rates, and provide for lower susceptibility to pilot induced oscillations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Non-Recurring Engineering Efforts associated with this modification will be conducted and completed during FY02. Kit deliveries will commence in FY03 with installations beginning in FY04.

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																				
PROCUREMENT																				
Installation Kits							40	7.1	40	6.9	40	6.9	39	6.4					159	27.2
Installation Kits N/R						0.2														0.2
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data								0.1		0.1		0.1		0.1						0.4
Training Equipment																				
Support Equipment								0.1		0.1		0.1		0.1						0.4
ILS								0.1		0.1		0.1		0.1						0.4
Other Support																				
Interim Contractor Support																				
Installation Cost									40	0.2	40	0.2	79	0.5					159	0.9
Total Procurement						**0.2**	**40**	**7.4**	**40**	**7.4**	**40**	**7.4**	**39**	**7.3**					159	29.5

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

DELIVERY DATE: FY 2001: N/A FY 2002: May-02 FY 2003: May-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 (40) kits									40	0.2									**40**	**0.2**
FY 2004 (40) kits											40	0.2							**40**	**0.2**
FY 2005 (40) kits													40	0.2					**40**	**0.2**
FY 2006 (39) kits													39	0.3					**39**	**0.3**
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL									**40**	**0.2**	**40**	**0.2**	**79**	**0.5**					**159**	**0.9**

Installation Schedule

	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
In														10	10	10	10	10	10	10	10
Out														10	10	10	10	10	10	10	10

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	20	20	20	19						159
Out	20	20	20	19						159

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: T45TS ENGINE SURGE MITIGATION (OSIP 03-03)

MODELS OF SYSTEMS AFFECTED: T-45 TRAINING SYSTEM (T45TS) TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

Engine Surge: T-45 engine surge is a critical safety concern for a single engine aircraft with over 195 surge events documented. Kits include modifications to engine inlet and fuel control system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

In May 00, POM-02 provided Non-Recurring Engineering funding to correct T-45 F405 engine surge. Funding was split between 8.4M in APN -3 in FY02 and the remainder in APN-5 from FY03 - FY06. Kit deliveries and installations will commence in FY03.

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							38	4.4	47	5.3	47	5.3	15	1.7					147	16.7
Installation Kits N/R																				
Installation Equipment																			0	0.0
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support																				
Interim Contractor Support																				
Installation Cost							12	0.2	47	0.2	47	0.2	41	0.2					147	0.8
Total Procurement							**38**	**4.6**	**47**	**5.5**	**47**	**5.5**	**15**	**1.9**					147	17.5

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 ENGINE SURGE MITIGATION (OSIP 03-03)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **TBD**

ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2001: FY 2002: FY 2003: Jan-03

DELIVERY DATE: FY 2001: FY 2002: FY 2003: Jul-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																			**0**	**0.0**
FY 2001 ( ) kits																			**0**	**0.0**
FY 2002 ( ) kits																			**0**	**0.0**
FY 2003 (38) kits							12	0.2	26										**38**	**0.2**
FY 2004 (47) kits									21	0.2	26								**47**	**0.2**
FY 2005 (47) kits											21	0.2	26						**47**	**0.2**
FY 2006 (15) kits													15	0.2					**15**	**0.2**
FY 2007 ( ) kits																			**0**	**0.0**
To Complete ( ) kits																			**0**	**0.0**
TOTAL	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**12**	**0.2**	**47**	**0.2**	**47**	**0.2**	**41**	**0.2**	**0**	**0.0**	**0**	**0.0**	**147**	**0.8**

Installation Schedule

	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
In													12	8	9	9	21	8	9	9	21
Out													12	8	9	9	21	8	9	9	21

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	8	9	9	15						147
Out	8	9	9	15						147

Exhibit P-40, BUDGET ITEM JUSTIFICATION								DATE: **February 2002**			
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**259.1**	A	19.0	12.9	13.7	17.3	16.6	17.6	18.3	16.0	390.5

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-2003 is to continue modification efforts previously initiated on the engines for the F-14, AV-8B, H-53, S-3, H-60, E/A6-B, A-6, A-4, H-2, AH-1, T-38, F-5, F/A-18E/F and T-45 aircraft.

Platforms funding in other fiscal years include the H-46, H-3, C-2, E-2, C-130, F/A-18C/D, T-2, and P-3.

The following depicts the current funding levels budgeted and programed for power plant changes:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
N/A	Power Plant Changes	259.1	19.0	12.9	13.7	17.3	16.6	17.6	18.3	16.0	**390.5**
	Total	**259.1**	**19.0**	**12.9**	**13.7**	**17.3**	**16.6**	**17.6**	**18.3**	**16.0**	**390.5**

Note: Totals may not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Power Plant Changes (OSIP: N/A)

MODELS OF SYSTEM AFFECTED: All Active In-Service Navy and Marine Corps Aircraft TYPE MODIFICATION: Approx. 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 avoidance in excess of $50M annually.

F110 Engine Program F-14 B/D

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

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

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 diaphragm.
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 build.

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 total 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 coating. 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.

F405 Engine T-45
ECP TBD Compressor Improved Coating
ECP TBD LP Stator Coating
ECP TBD Fuel Control Unit Life Enhancement

F414 Engine F/A18-E/F
ECP TBD Combustor Flameout
ECP TBD HPC Durability and Performance
ECP TBD VEN Start Line Cracking

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

All engineering effort will be accomplished prior to procurement of kits.

Exhibit P-3a

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION:

	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		76.986		36.963		30.431		30.094		37.588		28.065		31.571		32.098				303.796
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 Rede	291	2.724	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 &	311	0.283	26	0.030															337	0.313
ECP T119 - Exhaust Nozzle Hinge Joint Corris	260	0.885	20	0.145															280	1.030
ECP T146 - Combuster Joint Wear	251	0.058																	251	0.058
ECP T121 - Nr.2 Bearing Seal Drain Tube Red	337	0.177																	337	0.177
ECP T086 - Vented IDG Ejector Valve	228	0.309	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	315	0.026																	315	0.026
ECP T142 - MEC RMA Throttle Improvement	337	0.091																	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	120	0.166	60	0.090	60	0.090	30	0.048											270	0.394
T 2.5 SENSOR BRAZEJOINT IMPROVEME	180	0.036	120	0.024	120	0.024	60	0.012											480	0.096
CMC FLAMEHOLDER	80	0.329	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 3654 Low Pressure Nozzle Guide Vanes			32	0.031															32	0.031
ECP 3646 Intro of Revised FMU HP Pump PRV			51	0.148															51	0.148
ECP 3811 Intro of Revised Adjusting Screw			51	0.003															51	0.003
ECP 3647 Imp. Alignment 8th Stage Bulkhead Bolts			51	0.003															51	0.003
ECP 3641 - Improved Bearing Bolting	304	0.071																	304	0.071
ECP 3509 - Improved P3 Limiter Capsule	257	0.774																	257	0.774
ECP 3525 - AGB Drive Shaft	214	1.717																	214	1.717
ECP 3586 - Incipient Blockage Indicator on FM	164	0.581	40	0.131															204	0.712
ECP 3606 - INCO 718 BOLT			20	0.006	31	0.011	40	0.015											91	0.032
ECP 3725 - Improved DECU Mounting Rails	333	0.861																	333	0.861
ECP 3709C2 - IGVC Redesigned Bushings	60	0.187			73	0.190	54	0.014	25	0.078									212	0.469
ECP 3699 Plau Rear Bearing	96	0.365																	96	0.365
ECP 3763 FMU Mod	48	0.438			10	0.231	17	0.273	28	0.626	31	0.704							134	2.272

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION:

	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	$
ECP 3769 - DECU SOFTWARE		0.074																	0	0.074
ECP 3757 - IGVC VACTRIC TRANSMITTER	40	0.050																	40	0.050
ECP F402-002 ENGINE WIRING HARNESS	212	0.407																	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 Encapsulated Wiring harness	127	0.531	130	0.922	20	0.133	18	0.155	18	0.205									313	1.946
ECP 3782 ARMCO Liner/LPC Rear Lip			25	0.003	39	0.004	50	0.015	50	0.005									164	0.027
ECP 3683 FCS & EMS P3 Pipe					39	0.025	50	0.017	50	0.040									139	0.082
ECP 3722 Bleed Pipe Extension					39	0.016	50	0.025	50	0.025									139	0.066
ECP 3729 Revised Attachment JPT					39	0.033	50	0.050	50	0.050									139	0.133
ECP 3733 Curvic Coupling Corrosion			2	0.007	39	0.129	50	0.150	50	0.200					50	0.200			191	0.686
ECP 3739 NGV Locating Ring			4	0.013	39	0.129	50	0.155	50	0.200					50	0.200			193	0.697
ECP 3744 #2 BRG Seal Housing			8	0.009	39	0.033	50	0.050	50	0.050									147	0.142
ECP 3748 #1 BRG Nut Changes			8	0.009	39	0.033	50	0.050	50	0.050									147	0.142
ECP 3771 HP Rotor Nut Revison					39	0.016	50	0.020	50	0.025									139	0.061
ECP 3755 - REVISED LPC STG 2 VANE STC	216	0.201																	216	0.201
ECP 3787 DECU Hybrid Circuits					39	0.162	50	0.225	50	0.250					550	0.250			689	0.887
ECP 3794 FMU Shielded Bearings					39	0.097	50	0.134	50	0.150									139	0.381
ECP 3797 FMU Bonded Shells					39	0.033	50	0.075	50	0.050									139	0.158
ECP 3798 PLAU Bonded Shells	48	0.140			27	0.033	38	0.045	38	0.050									151	0.268
ECP 3800 Transducer					39	0.162	50	0.230	50	0.250									139	0.642
ECP 3806 Hot Nozzle Cracking					42	0.180	72	0.511	110	0.906	160	1.356	160	1.507	160	1.471			704	5.931
ECP 3703 METCO 12 FNS coating on spool v	29	0.108																	29	0.108
F404 Engine (F/A-18 C/D)																				
ECP C63 - Steel Compressor Case Modificatio	1,155	16.906																	1,155	16.906
ECP E32 - Main Fuel Control Block Change	1,758	9.007																	1,758	9.007
ECP A23 - VEN Acuator Seal	4,885	1.574																	4,885	1.574
ECP E41 - ECU Tan-Tan Capacitor	1,052	7.938																	1,052	7.938
ECP F12 - Improved Life Stage 1 Fan Disk	1,403	0.376																	1,403	0.376
ECP E65 - Alternator Connector Redesign	1,350	2.956																	1,350	2.956
ECP E78 - Main Fuel Control Selector Valve	1,937	0.557	528	0.328					142	0.093									2,607	0.978
ECP E79 - Power Lever Control Improvement	876	0.042	400	0.026															1,276	0.068
ECP L15 - Nr. 4 Bearing Rotating Air Seal Dar	400	0.080																	400	0.080
ECP A27 - VEN Position Transmitter Improver	1,200	0.932	300	0.215					32	0.025	32	0.025							1,564	1.197
ECP C67 - MFC Manifold Redesign	624	0.939	540	0.748					36	0.056	36	0.056							1,236	1.799
ECP E70 - T1 Caution Capacitor Improvemen	1,315	2.024	340	0.524					30	0.530	3	0.053							1,688	3.131
ECP E63 - Bay Fire Ignition Source Eliminatio	2,079	4.268																	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 G404-A-38 - Slotted Flameholder			200	0.500															200	0.500

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION:

	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	$
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	114	0.249			38	0.101	38	0.106	38	0.110	38	0.124	38	0.124	38	0.124			342	0.938
ECP CP93XA069 Thermal Barrier Coated 1st Stage Turbine Stator Vanes					37	1.252	37	1.550	37	1.550	37	1.550							148	5.902
ECP 95XA275C1 J52 Engine Retrofit			14	1.507									74	3.099	74	3.099	100	4.189	262	11.894
ECP 94XA154 No. 6 Bearing			12	0.421															12	0.421
T58 Engine (H-3, H-46)																				
ECP 58T-18 Procurement of OF 225 Kits/bas	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	868	4.185																	868	4.185
ECP 58T-16C2 - NR. 3 SUMP IMPROVEME	689	0.636																	689	0.636
ECP 58F-27 - IMPROVED FUEL MANIFOLD	736	0.429																	736	0.429
ECP 58N-18R1 - IMPROV RELIABILITY T5 I	846	2.251	178	0.811															1,024	3.062
TF34 Engine (S-3)																				
ECP TF34 - JAX 001 - ENGINE COMPRESS	194	0.127			64	0.136	64	0.136	24	0.051									346	0.450
T64 Engine (H-53)																				
ECP 64E-55 - Impr. Single Ring Carbon Seals	360	0.701	60	0.120	60	0.130	60	0.141	44	0.106									584	1.198
ECP 64T-20 MID SUMP DRAIN	1,028	2.256																	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
ECP 64T-21-C1 Lube Filter Check Valve			1054	0.358															1,054	0.358
T700 Engine (H-2, H-60, AH-1)																				
ECP 700117C1 Interstage Seal Improvemen	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					200	1.620	138	1.152	200	1.700	200	1.740	200	1.780	148	1.317			1,086	9.309
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
ECP 123 - Stage 1 Blade Tip Corrosion Resist	40	0.600	50	0.755	136	2.077	169	2.603	166	2.566	190	2.945							751	11.546
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) Impr	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	3.138	519	3.688	474	3.358	600	4.211	2,093	14.795
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	783	0.220																	783	0.220
ECP 95XA039 - LDCV Assembly	684	0.132	99	0.024															783	0.156
ECP 87XA046C1 - MGB Deaeration Carbon	783	0.144																	783	0.144
ECP 91XA093A - Nr.4 Bearing Seal Torque Pins	783	0.255																	783	0.255

FINANCIAL PLAN (TOA, $ in Millions): CLASSIFICATION:

	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	$
T56 Engine (P-3, C-2, E-2, C-130)																				
ECP 2112R1 - 15 Micron Oil Filter	2,638	2.303	683	0.511	683	0.515													4,004	3.329
ECP 2115	105	0.167																	105	0.167
F414 Engine (F/A-18E/F)																				
ECP TBD Combustor Flameout							150	0.015	150	0.015									300	0.030
ECP TBD HPC Durability and Performance							85	0.045	60	0.032									145	0.077
ECP TBD VEN Start Line Cracking							55	0.011	55	0.011									110	0.022
F405 Engine (T-45)																				
ECP T45-AO1230 Low Pressure Nozzle Guide			3	0.081															3	0.081
ECP T45-AO1548 Thermal Barrier Coating			3	0.090															3	0.090
ECP TS-234 Rising Idle Modification			166	0.082															166	0.082
ECP TS-0235 Module 3 Bolt Redesign			166	0.050															166	0.050
ECP MGSE 1389 Tranportation Stand			19	0.147															19	0.147
ECP A01530 Redesign LPNGVS			3	0.080															3	0.080
ECP TS-00169 Redesign FCL			14	0.416															14	0.416
ECP TS-00211Upgrade Test Cell			1	0.187															1	0.187
ECP TBD Compressor Improved Coating							55	0.165	60	0.180									115	0.345
ECP TBD LP Stator Coating							45	0.250	35	0.194									80	0.444
ECP TBD Fuel Control Unit Life Enhancement							60	0.120											60	0.120
COMPLETED ECPS FROM PRIOR YRS		109.451																		109.451
Installation Kits N/R																				
Installation Equipment																				
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.074		0.097		0.050		0.050		0.050		0.050		0.050		0.050				0.471
Non Recurring Equipment				0.164																0.164
Support Equipment				0.106																0.106
ILS		2.598		0.475		0.500		0.495		0.505		0.505		0.505		0.505				6.088
Other Support		27.768		2.549		0.259		0.398		0.398		0.472		0.452		0.451				32.747
Interim Contractor Support																				
Installation Cost		27.340		1.155		1.169		1.166		1.431		0.500		1.401		1.501				35.663
TOTAL PROCUREMENT	**39,850**	**259.120**	**8,412**	**19.002**	**3,308**	**12.913**	**2,961**	**13.673**	**3,309**	**17.265**	**2,305**	**16.644**	**2,080**	**17.555**	**2,540**	**18.281**	**2,010**	**15.980**	**66,775**	**390.433**

Notes:

1. Totals may not add due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **All Active In-Service Navy and Marine Corps Aircraft** MODIFICATION TITLE: Power Plant Changes (OSIP: N/A)

INSTALLATION INFORMATION: The tables below list the quantities, installation schedules, and costs for those ECPs for which there is an installation cost. Of those ECPs with installation costs, 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 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 Year		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 Kits and Prior (4,470)	3,490	6,020	821	1,040	159	169													4,470	**7,229**
FY 2001 (1,072) kits			249	103	823	963													1,072	**1,066**
FY 2002 (244) kits					185	27	59	64											244	**91**
FY 2003 (528) kits							469	471	59	64									528	**535**
FY 2004 (1.649) kits									516	58	523	504	610	600					1,649	**1,162**
FY 2005 (716) kits											400	410	316	321					716	**731**
FY 2006 (910) kits													910	925					910	**925**
FY 2007 (720) kits															720	501			720	**501**
To Complete ( ) kits																			-	
TOTAL	3,490	6,020	1,070	1,143	1,167	1,159	528	535	575	122	923	914	1,836	1,846	720	501	0	0	10,309	12,240

Installation Schedule

	FY 2000 & Prior	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
In	3490	266	269	269	266	290	292	292	293	130	133	133	132	142	145	144	144	230	231	231	231
Out	3490	266	269	269	266	290	292	292	293	130	133	133	132	142	145	144	144	230	231	231	231

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	460	460	455	461	180	180	180	180	0	10,309
Out	460	460	455	461	180	180	180	180	0	10,309

Exhibit P-40, BUDGET ITEM JUSTIFICATION | DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**606.1**	A	**41.7**	**35.4**	**28.0**	**59.7**	**69.0**	**91.6**	**71.4**	**853.2**	**1,856.0**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
114-85	AN/ALR 67(V)2 - PHASE 1	218.0	4.0	6.9							**228.9**
72-88	AN/AAR-47 MAWS Hardware	158.9	8.7	14.6	7.8	9.0	7.1	8.7	0.7	21.1	**236.5**
14-90	AN/APR-39 (V)2 RWR & AN/AVR 2 Hardware	154.2	2.6	1.0						33.9	**191.8**
30-92	LAU 138A/A BOL System	36.4	1.9	0.6	0.8						**39.6**
26-99	AN/ALR 67(V)3 & 4	33.5	11.2	4.0	4.4	5.1	5.1	4.2	3.4	220.4	**291.4**
06-00	ALE-39 to 47 Retrofit	5.1	7.6	8.4	7.3	12.4	11.4	11.4	9.1	13.9	**86.6**
018-01	ALQ-144A		5.6								**5.6**
007-03	IDECM				7.7	20.7	37.6	50.8	41.4	558.1	**716.4**
001-04	AN/ALR 67(V)2 - PHASE 2					12.4	7.8	16.4	16.8	5.8	**59.2**
	Total	**606.1**	**41.7**	**35.4**	**28.0**	**59.7**	**69.0**	**91.6**	**71.4**	**853.2**	**1,856.0**

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 a legacy 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. Periodic hardware and software upgrades are necessary in order to keep the system supportable and to provide acceptable performance against changing threat environment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The program is currently correcting systems sensitivity (Phase 1) deficiencies noted during past operational testing. Congressional add in FY 99 funded initial Phase1 correction of deficiencies effort for AV-8 and F-14 aircraft . A contract was awarded first quarter FY 2001 for Phase I for 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.

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																				
AN/ALR-67(V)2 kit	133	23.3																	133	23.3
Installation Kits N/R																				
Installation Equipment																				
V2 Upgrade Equip	194	45.7																	194	45.7
Installation Equipment N/R						0.7														0.7
Installation Equiupment Correction	374	2.8	264	2.1	367	2.9													1,005	7.8
Engineering Change Orders		72.9																		72.9
Data		3.0																		3.0
Training Equipment		0.8																		0.8
Support Equipment		13.0		*		0.2														13.2
ILS		4.0		0.3		0.4														4.8
Other Support		52.6		1.5		2.7														56.8
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**218.0**		**4.0**		**6.9**														**228.9**

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 2001		FY 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		24.0																		24.0
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment																				
AAR-47 Equip	1,250	90.2																	1,250	90.2
Installation Equipment N/R																				
CP Upgrade N/R		4.7																		4.7
Sensor Upgrade N/R		14.9		1.0																15.9
Engineering Change Orders																				
CP Upgrade Equip ECO	1,250	7.0																	1,250	7.0
Sensor Upgrade Equip ECO			80	4.0	263	11.1	143	7.0	141	7.8	82	5.7	110	7.9			271	20.3	1,090	63.8
Data		0.3		*																0.3
Training Equipment	4	0.6																	4	0.6
Support Equipment		4.3		0.5		0.9														5.7
ILS		4.6		0.2		0.2		0.2		0.3		0.3		0.2		0.2		0.3		6.4
Other Support		32.2		3.2		2.4		0.6		0.9		1.0		0.5		0.5		0.6		41.9
Interim Contractor Support																				
Installation Cost		0.0																		0.0
Total Procurement		**158.9**		**8.7**		**14.6**		**7.8**		**9.0**		**7.1**		**8.7**		**0.7**		**21.1**		**236.5**

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/V4-2/2(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 2001		FY 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		6.8																		6.8
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment																				
AN/AVR-2/AN/APR-39A Equip.	590	85.2															179	33.1	769	118.3
Installation Equipment N/R		16.7																		16.7
Engineering Change Orders																				
Equip ECO		17.1		0.4		0.5														17.9
Data		0.9		*		*												0.1		1.0
Training Equipment		0.9		0.1																1.0
Support Equipment		2.1		*																2.1
ILS		6.0		0.3																6.3
Other Support		25.3		1.9		0.6												0.8		28.6
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**154.2**		**2.6**		**1.0**												**33.9**		191.8

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 | 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. 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 procured in FY00 and installation in FY 01 on a rotable pool of launchers. 240 additional kits were procured in FY 01 and the remaining 100 Kits will be procured in FY02. Installation in conjuction with a PMA 201 sponsored ECP corrosion effort continues at the rate of 20 launchers modified per month. Installations scheduled for completion 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 2001		FY 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		5.8																		5.8
PROCUREMENT																				
Installation Kits D46-ALE-39	114	0.6	240	0.7	100	0.2													454	1.6
Installation Kits N/R		0.2		0.7		0.2														1.1
Installation Equipment																				
Equip	1,630	24.8																	1,630	24.8
Installation Equipment N/R		0.1																		0.1
Engineering Change Orders																				
Equip ECO TBD		1.8																		1.8
Data		0.6																		0.6
Training Equipment		0.2																		0.2
Support Equipment		2.9		*																2.9
ILS		3.1		0.2				0.2												3.5
Other Support		2.1		0.3		0.2		0.4												2.9
Interim Contractor Support								0.2												0.2
Installation Cost																				
Total Procurement		**36.4**		**1.9**		**0.6**		**0.8**												**39.6**

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 2001		FY 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		190.4																		190.4
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment																				
AN/ALR-67(V)3 Equip	14	19.6	3	4.2													150	197.7	167	221.4
Install Equip Processor Replacem							39	2.3	39	2.4	39	2.4	39	2.5					156	9.6
Install Equip N/R (Engineering)		0.7																		0.7
Engineering Change Orders		0.4														0.8		4.3		5.5
Equip ECO																				
Data																				
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		12.8		7.0		4.0		2.1		2.7		2.7		1.7		2.7		18.4		54.2
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**33.5**		**11.2**		**4.0**		**4.4**		**5.1**		**5.1**		**4.2**		**3.4**		**220.4**		**291.4**

Notes:

1. Totals may not add due to rounding

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: AN/ALE-47 Dispenser System Retrofit (OSIP 06-00)

MODELS OF SYSTEMS AFFECTED: EA-6B(130), F-14B/D(119), F/A-18C/D(338), AV-8B(151), KC-130F(8), KC-130R(8), KC-130T(8), CH-46E(137), CH-53E(159), MH53E(45)

TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The replacement of the AN/ALE-39 Dispenser System with the AN/ALE-47 Dispenser System will correct some serious safety problems while at the same time greatly improve aircraft survivability. The AN/ALE-39 system has serious problems with Things Falling Off Aircraft (TFOA) as well as numerous occurrences of uncommanded firing of chaff and flare stores. The reliability of the ALE-39 is another major factor with continuous reports of hung or unfired stores, a serious ground safety concern as well as a serious aircraft survivability concern. The AN/ALE-47 System has been developed to correct the safety issues of the ALE-39. It is a Threat Adaptive Countermeasures System designed to counteract the threats of today's hostile environments. USD(Acq) memo of Nov 86 directed U.S. Navy and U.S. Army to participate in EMD phase. Air Force Statement of Operational Requirements Document (SORD) number 341.88-11-D of 8 July 92.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The AN/ALE-47 System is in production and being installed in multiple U.S. Navy and Marine aircraft. MS III decision awarded Mar 93. FY 00 systems to be procured under Air Force contract F33657-96-D-0001. FY 01-05 systems to be procured under follow on ID/IQ contract.

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																				
TACAIR/Helos Kit	122	0.2	84	0.3	84	0.4	71	0.7	156	1.5	115	1.4	88	1.2	87	1.3	121	3.1	928	10.1
AV-8B Kit					4	*	24	0.1	35	0.1	38	0.1	45	0.2	5	*			151	0.6
KC-130 Kit											1	*	11	0.2	12	0.2			24	0.3
Installation Kits N/R		0.4		0.6		2.5		0.3		0.4		0.4		0.2		0.2		0.8		5.8
Installation Equipment																				
TACAIR/Helos	122	2.9	84	3.9	84	2.7	71	2.4	156	5.2	115	3.9	88	3.0	87	3.0	121	5.1	928	32.0
AV-8B Kit					4	0.2	24	1.3	35	1.9	38	2.1	45	2.5	5	0.3			151	8.3
KC-130											1	0.1	11	1.6	12	1.8			24	3.6
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment		0.3		0.5		0.4		0.3		0.2		0.3		0.2						2.3
Support Equipment		0.3		0.4		0.3		0.3		0.6		0.5		0.4		0.3		0.4		3.5
ILS		0.1		0.2		0.1		0.1		0.1		0.2		0.2		0.2		0.3		1.4
Other Support		0.9		1.5		1.5		1.6		2.0		1.8		1.4		1.4		3.6		15.6
Interim Contractor Support																				
Installation Cost																				
TACAIR/Helos			122	0.3	84	0.3	84	0.4	71	0.2	156	0.6	115	0.4	88	0.2	208	0.3	928	2.8
AV-8B (O-Level install, no cost to OSIP)							4		24		35		38		45		5		151	
KC-130													1	*	11	0.2	12	0.2	24	0.4
Total Procurement		**5.1**		**7.6**		**8.4**		**7.3**		**12.4**		**11.4**		**11.4**		**9.1**		**13.9**		**86.6**

Notes:

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

Exhibit P-3a **TACAIR/Helo Exhibit**

MODELS OF SYSTEMS AFFECTED: EA-6B(130), F-14B/D(116), F/A-18C/D(338), CH-46E(137), CH-53E(159), MH53E(45)

MODIFICATION TITLE: AN/ALE-47 Dispenser System Retrofit (OSIP 06-00)

INSTALLATION INFORMATION: ALE-47 Retrofit requires different types of Installation Equipment Kits based on the quantity of dispensers in each aircraft. TACAIR (F-14B/D, EA-6B, F/A-18C/D) and Helos (CH-46E, CH-53E, MH-53E) require two (2) dispensers per aircraft. Installation Equipment, Install Kits and Installation costs are therefore different as indicated in the above financial plan.

METHOD OF IMPLEMENTATION: ALE-47 Installation via aircraft mod team as established with each platform program office.

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 2001: Dec-00 FY 2002: Dec-01 FY 2003: Dec-02

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 (122) kits			122	0.3															**122**	**0.3**
FY 2001 (84) kits					84	0.3													**84**	**0.3**
FY 2002 (84) kits							84	0.4											**84**	**0.4**
FY 2003 (71) kits									71	0.2									**71**	**0.2**
FY 2004 (156) kits											156	0.6							**156**	**0.6**
FY 2005 (115) kits													115	0.4					**115**	**0.4**
FY 2006 (88) kits															88	0.2			**88**	**0.2**
FY 2007 (87) kits																	87	0.1	**87**	**0.1**
To Complete (121) kits																	121	0.2	**121**	**0.2**
TOTAL			**122**	**0.3**	**84**	**0.3**	**84**	**0.4**	**71**	**0.2**	**156**	**0.6**	**115**	**0.4**	**88**	**0.2**	**208**	**0.3**	**928**	**2.8**

Installation Schedule

	FY 2000 & Prior	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
In		5	25	25	25	30	32	32	32	20	21	21	22	17	18	18	18	39	39	39	39
Out		5	25	25	25	30	32	32	32	20	21	21	22	17	18	18	18	39	39	39	39

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	28	29	29	29	22	22	22	22	208	928
Out	28	29	29	29	22	22	22	22	208	928

Exhibit P-3a **AV-8B Exhibit**

MODELS OF SYSTEMS AFFECTED: AV-8B (151 aircraft) MODIFICATION TITLE: AN/ALE-47 Dispenser System Retrofit (OSIP 06-00)

INSTALLATION INFORMATION: ALE-47 Retrofit requires different types of installation equipment kits based on the quantity of dispensers in each aircraft. TACAIR (F-14B/D,EA-6B,F/A-18C/D) AV-8B requires six (6) dispensers per aircraft. Installation Equipment, Install kits and Installation costs are therfore different as indicated in the above financial plan.

METHOD OF IMPLEMENTATION: ALE-47 Installation via aircraft mod team as established with each platform program office.

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

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

DELIVERY DATE: FY 2001: N/A FY 2002: Sep-02 FY 2003: Sep-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 (4) kits							4												**4**	
FY 2003 (24) kits									24										**24**	
FY 2004 (35) kits											35								**35**	
FY 2005 (38) kits													38						**38**	
FY 2006 (45) kits															45				**45**	
FY 2007 (5) kits																	5		**5**	
To Complete ( ) kits																				
TOTAL							**4**		**24**		**35**		**38**		**45**		**5**		**151**	

Installation Schedule

	FY 2000 & Prior	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
In										2	1	1		6	6	6	6	8	9	9	9
Out										2	1	1		6	6	6	6	8	9	9	9

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	9	9	10	10	11	11	11	12	5	151
Out	9	9	10	10	11	11	11	12	5	151

Exhibit P-3a **KC-130 Exhibit**

MODELS OF SYSTEMS AFFECTED: KC-130F(8), KC-130R (8), KC-130T(8) MODIFICATION TITLE: AN/ALE-47 Dispenser System Retrofit (OSIP 06-00)

INSTALLATION INFORMATION: ALE-47 Retrofit requires different types of installation equipment kits based on the quantity of dispensers in each aircraft.
KC-130 requires fourteen dispensers per aircraft. Installation Equipmrnt, Install Kits and Installation costs are therefore different as indicated in the above financial plan.

METHOD OF IMPLEMENTATION: ALE-47 Installation via aircraft mod team as established with each platform program office.

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 9 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 ( ) kits																				
FY 2005 ( ) kits																				
FY 2006 (1) kits													1	*					**1**	*****
FY 2007 (11) kits															11	0.2			**11**	**0.2**
To Complete (12) kits																	12	0.2	**12**	**0.2**
TOTAL													**1**		**11**	**0.2**	**12**	**0.2**	**24**	**0.4**

Installation Schedule

	FY 2000 & Prior	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
In																					
Out																					

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In		1			3	4	4		12	24
Out			1		2	4	4	1	12	24

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 MODIFICATION: 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 2001		FY 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																				
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

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: Integrated Defensive Electronic Countermeasures (IDECM), Radio Frequency Countermeasures (RFCM) OSIP 007-03

MODELS OF SYSTEMS AFFECTED: F/A-18 TYPE MODIFICATION: Mission Capability

DESCRIPTION/JUSTIFICATION: The RFCM subsystem consists of a technique generator and fiber optic towed decoy, which integrates with a Radar Warning Receiver (RWR), countermeasures dispensing set (CMDS), and associated cockpit controls and displays to provide the lead aircraft (F/A-18E/F) with increased survivability against Radio Requency (RF) threats. The Operational Requirements Document number is 494-88-98. The number of systems is 548 plus spares for the F/A-18E/F. This Operational Safety Improvement Program (OSIP) procures RFCM for retrofit into F/A-18E/F aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The IDECM RFCM program is currently in E&MD. MS 0,I, II approval was granted 26 October 1995. The IDECM RFCM subsystem completed an OA in the second quarter of FY00 leading to an NPR and LRIP decision during the first quarter FY01. The IDECM RFCM MS III granting full rate production approval is scheduled for the first quarter FY 03.

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		322.0		39.6		27.9		5.8		5.9										401.2
PROCUREMENT																				
Installation Kits																				
Installation Kits N/R																				
Installation Equipment							1	2.7	6	16.7	12	34.7	16	48.1	12	37.5	147	507.0	194	646.7
Installation Equipment N/R								4.3		3.2		1.7		1.3		2.6		24.0		37.0
Engineering Change Orders																				
Kit ECO																				
Equip ECO																				
Data								0.1		0.4		0.6		0.8		0.6		7.3		9.7
Training Equipment																				
Support Equipment																				
ILS								*		*		*		0.1		0.1		0.5		0.8
Other Support								0.6		0.5		0.5		0.6		0.6		19.3		22.2
Interim Contractor Support																				
Installation Cost																				
Total Procurement								**7.7**		**20.7**		**37.6**		**50.8**		**41.4**		**558.1**		**716.4**

Notes: 1. Totals may not add due to rounding

2. Asterisk indicates amount less than $50K

Exhibit P-40, BUDGET ITEM JUSTIFICATION		DATE: **February 2002**
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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QTY		A									
COST (In Millions)	**670.099**	A	**68.405**	**68.250**	**63.228**	**167.464**	**145.932**	**147.815**	**126.692**	**429.692**	**1,887.577**

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 aircraft line.

The specific modifications budgeted and programmed are: (1) The NAVSTAR GPS (Global Positioning System) is designed to provide a highly accurate passive position (16 meters) velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. The GPS will interface with communication, navigation, and weapon systems equipment (standard attitude heading reference systems, inertial navigation systems, on-board computers, etc.) in selected applications. GPS is a DoD mandated requirement for all aircraft operating in the National Air Space System after the year 2000. (2) The 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. (12) Aircraft Wireless Intercom System (AWIS) will provide a wireless, spread spectrum intercom system to allow for unimped movement throughout the aircraft and prevent aircrew/passenger entanglement with intercom system cords in the event of mishap. The overall goal of the modifications budgeted in FY 2003 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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
71-88	NAVSTAR GPS (Hardware)	262.3	12.9	7.0	4.5	24.3	18.2	18.7	23.0	240.1	**611.0**
04-94	AN/ARC-210 (Hardware)	196.0	17.0	9.0	7.1	20.9	13.0	15.9	15.0	14.0	**308.1**
43-94	Flight Incident Recorders	62.4	6.9	6.7	6.6	4.4	2.9	1.0			**90.9**
38-95	EGI (Hardware)	63.5	4.2	1.4						2.3	**71.5**
40-95	AN/ARC-182 Reuse Program	1.9	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	**3.4**
14-97	KC-130T GPWS	24.2	8.6	5.9	13.1	18.8	10.8	12.3	8.4	8.6	**110.8**
17-98	Helo GPWS	32.6	9.4	11.6	10.5	9.9	3.9	2.0	0.3		**80.3**
25-98	Collision Avoidance System	27.2	8.3	7.1	5.3	6.2	3.4	5.4	4.5	7.9	**75.4**
02-02	Tactical Air Moving Map Capability			1.0	3.4	17.8	15.6	16.6	18.6	22.2	**95.4**
21-01	CNS/ATM		0.8		0.6	6.5	13.9	9.2	23.8	104.4	**159.3**
01-02	AMC&D/MPCD			18.3	11.8	53.7	54.5	57.8	23.9	27.9	**247.8**
xx-04	HH-60 A/A24G-39 AHRS Reliability & Improv (CREI)					1.0	0.7			0.3	**2.0**
xx-04	Aircrew Wireless Intercom System (AWIS)					4.0	8.8	8.8	8.7	1.6	**31.8**
	Total	**670.1**	**68.4**	**68.3**	**63.2**	**167.5**	**145.9**	**147.8**	**126.7**	**429.7**	**1,887.6**

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 (receivers, antennas, amplifiers, 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. ne IIIB 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 2001		FY 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																				
NAVWAR			45	1.7	50	1.9	20	0.8	154	6.1	92	3.7	98	4.0	123	5.2	1,220	54.3	1,802	77.8
Installation Kits N/R																			0	0.0
Installation Equipment																				
GPS	2,028	172.3	19	1.5					12	1.2	13	1.3	13	1.3	13	1.3	25	2.5	2,123	181.3
NAVWAR			45	2.4	50	2.7	20	1.2	154	13.5	92	7.6	98	9.2	123	12.4	1,220	112.8	1,802	161.8
Installation Equipment N/R		17.8																	0	17.8
Engineering Change Orders																			0	0.0
Data		6.6		1.0															0	7.6
Training Equipment																			0	0.0
GPS	114	7.8							1	*	1	*	1	*	1	*	4	0.1	122	8.0
NAVWAR			1	0.1													2	0.1	3	0.1
Support Equipment		0.3																	0	0.3
ILS																			0	0.0
Other Support		57.4		6.3		2.1		2.0		2.1		2.5		2.2		2.1		40.0	0	116.5
Interim Contractor Support																			0	0.0
Installation Cost																				
NAVWAR					14	0.3	31	0.6	70	1.4	154	3.1	92	1.9	98	2.1	1,343	30.3	1,802	39.6
Total Procurement		**262.3**		**12.9**		**7.0**		**4.5**		**24.3**		**18.2**		**18.7**		**23.0**		**240.1**		**611.0**

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: six to eighteen Months

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

DELIVERY DATE: FY 2001: Apr-02 FY 2002: Apr-03 FY 2003: Oct-03

($ in Millions)

Cost:	Prior Years		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**	**$**
FY 2000 & PY ( ) kits																			**0**	**0.0**
FY 2001 (45) kits					14	0.3	31	0.6											**45**	**0.9**
FY 2002 (50) kits									50	1.0									**50**	**1.0**
FY 2003 (20) kits									20	0.4									**20**	**0.4**
FY 2004 (154) kits											154	3.1							**154**	**3.1**
FY 2005 (92) kits													92	1.9					**92**	**1.9**
FY 2006 (98) kits															98	2.1			**98**	**2.1**
FY 2007 (123) kits																	123	2.8	**123**	**2.8**
To Complete (1220) kits																	1,220	27.5	**1,220**	**27.5**
TOTAL	**0**	**0.0**	**0**	**0.0**	**14**	**0.3**	**31**	**0.6**	**70**	**1.4**	**154**	**3.1**	**92**	**1.9**	**98**	**2.1**	**1,343**	**30.3**	**1,802**	**39.6**

Installation Schedule (NAVWAR)

	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
In								7	7	7	8	8	8	17	18	17	18	38	39	38	39
Out								7	7	7	8	8	8	17	18	17	18	38	39	38	39

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	23	23	23	23	24	25	24	25	1,343	1,802
Out	23	23	23	23	24	25	24	25	1,343	1,802

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. FY04 ECP for Warrior provides processing capability to incorporate DAMA and VMF specification changes. 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. The FY04 Warrior APN-5 effort will be to transition hardware modifications for memory and processing capacity to the production line. Incorporation of these hardware mods will be accomplished via an ECP to the production receiver/transmitters configuration. Corresponding platform OSIP numbers; C-2A OSIP 24-94; AH-1W OSIP 3-93; AV-8B OSIP 23-93; CH-46E OSIP 9-92; EA-6B OSIP 42-93; F/A-18C/D OSIP 39-92 and 10-99; 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 2001		FY 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																			-	-
AN/ARC-210 Kit											10	0.2	70	0.9	37	1.6	71	0.9	188	3.5
Installation Kits N/R										5.8		1.5							-	7.3
Installation Equipment																			-	-
AN/ARC-210 Equip	2,430	142.5	162	10.7	61	5.3	34	3.5	180	11.2	126	7.4	176	10.8	104	8.9	79	5.0	3,352	205.2
Installation Equipment N/R		3.6		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		3.1		0.6		0.1		0.1		0.1		0.2		0.2		0.2		0.2	-	4.7
Training Equipment	36	2.7		0.1		0.1		0.1	2	0.2	2	0.2		*		*		*	40	3.4
Support Equipment		9.1		0.2		0.1		0.1		0.1		0.1		0.1		0.1		0.1	-	10.1
ILS		7.7		1.0		0.6		0.6		0.6		0.6		0.7		0.7		0.7	-	13.2
Other Support		19.3		3.4		2.7		2.6		2.2		2.8		2.7		2.3		2.5	-	40.4
Interim Contractor Support																			-	-
Installation Cost													10	0.4	30	1.2	108	4.5	148	6.1
Total Procurement		**196.0**		**17.0**		**9.0**		**7.1**		**20.9**		**13.0**		**15.9**		**15.0**		**14.0**		**308.1**

Notes:

1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. A-Kits and ACI Kits for F/A-18C/D being procured in FY 06. Installs are reflected in F/A-18 OSIP #10-99.
4. A kits in FY05-07 are for KC-130, F/A-18C/D

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) 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 (30) kits															30	1.2			**30**	**1.2**
FY 2007 (37) kits																	37	1.5	**37**	**1.5**
To Complete (71) kits																	71	3.0	**71**	**3.0**
TOTAL													**10**	**0.4**	**30**	**1.2**	**108**	**4.5**	**148**	**6.1**

Installation Schedule

	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
In																					
Out																					

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	2	2	3	3	7	7	8	8	108	148
Out	2	2	3	3	7	7	8	8	108	148

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 2001		FY 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																				
CSFIR Kit	222	11.4	60	0.2	60	0.2	60	0.2	44	0.5									446	12.5
Installation Kits N/R	12	20.6					1	1.3		*									13	22.0
Installation Equipment																				
CSFIR Equip	239	5.9	60	1.2	60	1.2	61	1.3	44	1.0									464	10.6
Installation Equipment N/R		3.0						0.3												3.3
Engineering Change Orders																				
Data		1.2						0.1		0.3										1.5
Training Equipment	2	0.4		*						*		*							2	0.4
Support Equipment		2.7		0.3		0.2		0.1		0.1										3.3
ILS		1.7		0.5		0.4		0.3		0.2		0.3								3.4
Other Support		8.7		3.8		3.8		2.0		1.5		1.6		1.0						22.4
Interim Contractor Support																				
Installation Cost	155	6.8	61	0.9	54	0.8	66	1.0	53	0.8	60	1.0							449	11.3
Total Procurement		**62.4**		**6.9**		**6.7**		**6.6**		**4.4**		**2.9**		**1.0**						**90.9**

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, 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 2001: Jan-01 FY 2002: Dec-01 FY 2003: Jan-03

DELIVERY DATE: FY 2001: Feb-02 FY 2002: Dec-02 FY 2003: Feb-04

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (224) kits	155	6.8	61	0.9	8	0.1													**224**	**7.8**
FY 2001 (60) kits					46	0.7	14	0.2											**60**	**0.9**
FY 2002 (60) kits							52	0.8	8	0.1									**60**	**0.9**
FY 2003 (61) kits									45	0.7	16	0.3							**61**	**1.0**
FY 2004 (44) kits											44	0.7							**44**	**0.7**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**155**	**6.8**	**61**	**0.9**	**54**	**0.8**	**66**	**1.0**	**53**	**0.8**	**60**	**1.0**							**449**	**11.3**

Installation Schedule

	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
In	155		3	33	25	8		10	36	12	18	18	18	8		12	33	15	16	29	
Out	155		3	33	25	8		10	36	12	18	18	18	8		12	33	15	16	29	

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										449
Out										449

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 2001		FY 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																				
EGI Kit																				
Installation Kits N/R																				
Installation Equipment	627	42.5	40	1.6													52		719	44.1
EGI Equip																				
Installation Equipment N/R		1.2		0.3																1.5
Engineering Change Orders		3.6		0.5																4.1
Data		1.1		0.1		0.1														1.3
Training Equipment	4	0.2																	4	0.2
Support Equipment																				
ILS		3.2		0.5		0.2														3.9
Other Support		11.6		1.3		1.1												2.3		16.4
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**63.5**		**4.2**		**1.4**												**2.3**		**71.5**

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 2001		FY 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																				
AN/ARC-182 Kit																				
Installation Kits N/R																				
Installation Equipment																				
AN/ARC-182 Equip	109	0.4	23	0.1	22	0.1	43	0.1	2	*	7	*	17	0.1	17	0.1	14	*	254	0.9
Installation Equipment N/R																				
Engineering Change Orders																				
Data		0.1		*		*		*		*		*		*		*		*		0.3
Training Equipment																				
Support Equipment																				
ILS																				
Other Support		1.3		0.1		0.1		*		0.1		0.1		0.1		0.1		0.1		2.2
Interim Contractor Support																				
Installation Cost																				
Total Procurement		**1.9**		**0.2**		**0.2**		**0.2**		**0.1**		**0.2**		**0.2**		**0.2**		**0.2**		**3.4**

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 2001		FY 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																				
GPWS CAT I Kit	104	1.4	29	0.3	22	0.3	30	0.3	76	0.6	36	0.3	120	0.9	56	0.4	81	0.6	554	5.2
Installation Kits N/R	1	5.9		1.5		0.5		2.6		2.2		0.7		0.2					1	13.6
Installation Equipment																				
GPWS CAT I Equip	104	5.4	29	1.6	22	1.4	30	1.8	76	4.4	36	1.9	120	5.7	56	2.9	81	2.8	554	27.9
Installation Equipment N/R								1.9		1.9		0.6		0.2						4.5
Engineering Change Orders																				
Data		0.6		0.1		0.1		0.1		0.5										1.3
Training Equipment	3	1.1		0.1		0.1		0.1		0.8		0.9		0.5					3	3.6
Support Equipment																				
ILS		0.8		0.3		0.3		0.8		1.2		1.2		0.9		0.8		0.8		7.3
Other Support		7.6		3.5		2.4		4.9		6.3		3.2		3.0		1.9		2.3		35.1
Interim Contractor Support																				
Installation Cost	77	1.4	29	1.0	29	0.8	24	0.7	30	0.8	76	2.1	36	0.9	120	2.4	135	2.1	556	12.2
Total Procurement		**24.2**		**8.6**		**5.9**		**13.1**		**18.8**		**10.8**		**12.3**		**8.4**		**8.6**		**110.8**

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: 5 Months

PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 2001: Feb-01 FY 2002: Feb-02 FY 2003: Feb-03

DELIVERY DATE: FY 2001: Dec-01 FY 2002: Dec-02 FY 2003: Dec-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (106) kits	77	1.4	29	1.0															**106**	**2.5**
FY 2001 (29) kits					29	0.8													**29**	**0.8**
FY 2002 (22) kits							22	0.6											**22**	**0.6**
FY 2003 (30) kits							2	0.1	28	0.8									**30**	**0.9**
FY 2004 (76) kits									2	0.1	74	2.0							**76**	**2.1**
FY 2005 (36) kits											2	0.1	34	0.8					**36**	**0.9**
FY 2006 (120) kits													2	0.1	118	2.4			**120**	**2.4**
FY 2007 (56) kits															2	*	54	1.2	**56**	**1.2**
To Complete (81) kits																	81	0.9	**81**	**0.9**
TOTAL	**77**	**1.4**	**29**	**1.0**	**29**	**0.8**	**24**	**0.7**	**30**	**0.8**	**76**	**2.1**	**36**	**0.9**	**120**	**2.4**	**135**	**2.1**	**556**	**12.2**

Installation Schedule

	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
In	77	7	8	8	6	8	7	7	7	6	6	6	6	8	8	7	7	19	19	19	19
Out	77	7	8	8	6	8	7	7	7	6	6	6	6	8	8	7	7	19	19	19	19

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	9	9	9	9	30	30	30	30	135	556
Out	9	9	9	9	30	30	30	30	135	556

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 2001		FY 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																				
GPWS CAT III Kit	195	2.0	87	1.0	80	1.0	53	0.6	57	0.7									472	5.3
Installation Kits N/R		1.3						0.8		0.4										2.5
Installation Equipment																				
GPWS CAT III Equip	**196	9.3	87	3.7	80	3.5	53	2.3	57	2.6									473	21.5
Installation Equipment N/R		5.6		2.0		2.5		0.4												10.5
Engineering Change Orders																				
Data		1.0						0.3												1.3
Training Equipment		1.1		0.1		0.1				0.2										1.6
Support Equipment																				
ILS		0.8		0.2		0.2		0.3		0.5		0.3								2.3
Other Support		10.0		0.8		3.1		4.3		4.6		2.6		2.0		0.3				27.5
Interim Contractor Support																				
Installation Cost	108	1.6	93	1.5	81	1.3	80	1.4	53	1.0	57	1.1							472	7.9
Total Procurement		**32.6**		**9.4**		**11.6**		**10.5**		**9.9**		**3.9**		**2.0**		**0.3**				**80.3**

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: 5 Months

PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 2001: Feb-01 FY 2002: Feb-02 FY 2003: Feb-03

DELIVERY DATE: FY 2001: Dec-01 FY 2002: Dec-02 FY 2003: Dec-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY (195) kits	108	1.6	87	1.1															**195**	**2.7**
FY 2001 (87) kits			6	0.4	81	1.3													**87**	**1.8**
FY 2002 (80) kits							80	1.4											**80**	**1.4**
FY 2003 (53) kits									53	1.0									**53**	**1.0**
FY 2004 (57) kits											57	1.1							**57**	**1.1**
FY 2005 ( ) kits																				
FY 2006 ( ) kits																				
FY 2007 ( ) kits																				
To Complete ( ) kits																				
TOTAL	**108**	**1.6**	**93**	**1.5**	**81**	**1.3**	**80**	**1.4**	**53**	**1.0**	**57**	**1.1**							**472**	**7.9**

Installation Schedule

	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
In	108	23	23	23	24	21	20	20	20	20	20	20	20	14	13	13	13	15	14	14	14
Out	108	23	23	23	24	21	20	20	20	20	20	20	20	14	13	13	13	15	14	14	14

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In										472
Out										472

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 2001		FY 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																				
TCAS Kit	67	3.7	1	0.1	12	1.3	9	1.2	17	1.7	7	0.4	18	1.1	6	0.4	3	0.2	140	10.1
Installation Kits N/R	1	4.5		2.2		0.6								0.4		0.6		0.9	1	9.3
Installation Equipment																				
TCAS Equip	68	7.4	1	0.1	12	1.5	9	1.3	17	2.4	7	0.9	18	2.5	6	0.9	3	0.5	141	17.4
Installation Equipment N/R		2.2		0.4		0.1										0.4		0.4		3.5
Engineering Change Orders		1.0		0.7		0.2		0.2												2.0
Data		1.3		0.4		0.2		0.2								0.1		0.6		2.7
Training Equipment	3	0.8	5	0.7		0.1		0.3		*		*		*				0.2	8	2.2
Support Equipment																		0.2		0.2
ILS		0.8		0.7		0.3		0.2		0.2		0.1		0.1		0.2		0.7		3.2
Other Support		5.2		2.2		1.6		1.5		1.5		1.3		1.0		1.0		3.9		19.2
Interim Contractor Support																				
Installation Cost	4	0.3	18	0.8	46	1.3	12	0.5	9	0.4	17	0.7	7	0.2	18	0.9	9	0.5	140	5.6
Total Procurement		**27.2**		**8.3**		**7.1**		**5.3**		**6.2**		**3.4**		**5.4**		**4.5**		**7.9**		**75.4**

Notes:

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

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 2001: Sep-01 FY 2002: Dec-01 FY 2003: Dec-02

DELIVERY DATE: FY 2001: Apr-01 FY 2002: Dec-02 FY 2003: Dec-03

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 2000 & PY (67) kits	4	0.3	18	0.8	45	1.2													**67**	**2.3**
FY 2001 (1) kits					1	*													**1**	**0.0**
FY 2002 (12) kits							12	0.5											**12**	**0.5**
FY 2003 (9) kits									9	0.4									**9**	**0.4**
FY 2004 (17) kits											17	0.7							**17**	**0.7**
FY 2005 (7) kits													7	0.2					**7**	**0.2**
FY 2006 (18) kits															18	0.9			**18**	**0.9**
FY 2007 (6) kits																	6	0.3	**6**	**0.3**
To Complete (3) kits																	3	0.2	**3**	**0.2**
TOTAL	**4**	**0.3**	**18**	**0.8**	**46**	**1.3**	**12**	**0.5**	**9**	**0.4**	**17**	**0.7**	**7**	**0.2**	**18**	**0.9**	**9**	**0.5**	**140**	**5.6**

Installation Schedule

	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
In	4	5	5	4	4	11	11	12	12	3	3	3	3	3	2	2	2	4	4	4	5
Out	4	5	5	4	4	11	11	12	12	3	3	3	3	3	2	2	2	4	4	4	5

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	2	2	2	1	5	4	5	4	9	140
Out	2	2	2	1	5	4	5	4	9	140

Exhibit P-3a | Individual Modification

MODIFICATION TITLE: TACTICAL AIRCRAFT MOVING MAP CAPABILITY (TAMMAC) (02-02)

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 approved April 01.

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																				
TAMMAC Kit									114	0.2	112	0.3	118	0.3	118	0.3	97	0.3	559	1.4
Installation Kits N/R																				
Installation Equipment									191	10.8	156	9.9	124	9.3	121	9.3	97	7.8	689	47.2
TAMMAC Equip																				
Installation Equipment N/R																				
Engineering Change Orders						0.2				1.6		0.9		0.1		1.0		0.1		3.8
Data								0.7		0.7		0.1		0.2		0.2		*		1.8
Training Equipment										0.1		0.1		*		0.2		*		0.5
Support Equipment								1.6	90	1.9	72	0.7	81	0.6	81	0.5	63	0.4	387	5.7
ILS								*		0.1		0.3		*		0.3		*		0.8
Other Support						0.8		1.1		2.2		2.2		2.1		2.2		4.1		14.7
Interim Contractor Support																				
Installation Cost											114	1.2	112	4.1	118	4.8	215	9.5	559	19.5
Total Procurement						**1.0**		**3.4**		**17.8**		**15.6**		**16.6**		**18.6**		**22.2**		**95.4**

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. F/A-18 OSIP # reflects 29 AMU only procurements in FY01.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18C/D/E/F, AV-8B

MODIFICATION TITLE: TACTICAL AIRCRAFT MOVING MAP CAPABILITY (TAMMAC) (02-02)

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 2001: May-01 FY 2002: FY 2003:

DELIVERY DATE: FY 2001: Apr-02 FY 2002: FY 2003:

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 (114) kits											114	1.2							**114**	**1.2**
FY 2005 (112) kits													112	4.1					**112**	**4.1**
FY 2006 (118) kits															118	4.8			**118**	**4.8**
FY 2007 (118) kits																	118	4.8	**118**	**4.8**
To Complete (97) kits																	97	4.7	**97**	**4.7**
TOTAL											**114**	**1.2**	**112**	**4.1**	**118**	**4.8**	**215**	**9.5**	**559**	**19.5**

Installation Schedule

	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
In																		28	28	29	29
Out																		28	28	29	29

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	28	28	28	28	29	29	30	30	215	559
Out	28	28	28	28	29	29	30	30	215	559

Exhibit P-3a — Individual Modification

MODIFICATION TITLE: Communication - Navigation - Surveillance / Air Traffic Management (CNS/ATM) Systems (21-01)

MODELS OF SYSTEMS AFFECTED: EA-6B, P-3C/EP-3E, SH-60R, CH-60S — TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:
CNS/ATM provides new and enhanced Common Avionics equipment to comply with increasing ICAO (International Civil Aviation Organization) Standards and mandates. Areas impacted are world-wide, including trans-oceanic routes, as well as European and US National Air Space . Aircraft which are non-compliant with these standards and country mandates will be operationally delayed, circuitously rerouted, or denied access to controlled airspace. Some requirements are already in-place (i.e. 8.33KHz VHF radio channels in Europe, Oct 99), while others are scheduled for implementation throughout the next several years (i.e.: RNP-4, 2003 to 2005). Prioritization of platform type and quantity is based on mission and anticipated operation in affected airspace. Enhanced equipment includes Mode S, 8.33KHz VHF channel spacing, and RNP-4 integrity capability. FY01 Initiated an interim subprogram to provide near term capability to meet European mandates of 1 January 2001 for protected instrument landing systems via new start notification letter to Congress.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Begin Mode S integration into P-3C in 04. Achieve IOC by 07
Begin RNP-4 integration into EA-6B by 05 . Achieve IOC by 07
Begin Integration of 8.33 KHz VHF Radio into P-3C by 05 . Achieve IOC by 2007

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																				
CNS/ATM Kit									2	*	14	0.3	38	0.9	54	1.3	475	11.5	583	14.1
Installation Kits N/R										3.3		4.9				8.8		2.9		19.8
Installation Equipment																				
CNS/ATM Equip			121	0.6					2	0.1	18	0.6	76	2.7	112	3.9	1,086	38.3	1,415	46.2
Installation Equipment N/R												1.9				3.4				5.3
Engineering Change Orders																				
Data										0.1		0.1		0.1		0.2		1.0		1.4
Training Equipment												0.1		0.1		0.3		0.4		0.8
Support Equipment										*		*		0.1		0.4		1.7		2.3
ILS										0.2		0.3		0.3		0.7		4.0		5.4
Other Support				0.2				0.6		2.9		5.8		4.9		4.2		36.9		55.3
Interim Contractor Support																				
Installation Cost											2	*	14	0.2	38	0.5	529	7.8	583	8.5
Total Procurement				**0.8**				**0.6**		**6.5**		**13.9**		**9.2**		**23.8**		**104.4**		**159.3**

Notes:
1. Totals may not add due to rounding
2. Asterisk indicates amount less than $50K
3. RNP requires B kit only. Results in unmatched A and B kits.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: EA-6B, P-3C/EP-3E, SH-60R, CH-60S MODIFICATION TITLE: CNS/ATM

INSTALLATION INFORMATION:

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

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 12 Months

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

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 (2) kits											2	*							**2**	**0.0**
FY 2005 (14) kits													14	0.2					**14**	**0.2**
FY 2006 (38) kits															38	0.5			**38**	**0.5**
FY 2007 (54) kits																	54	0.8	**54**	**0.8**
To Complete (475) kits																	475	7.0	**475**	**7.0**
TOTAL											**2**	*	**14**	**0.2**	**38**	**0.5**	**529**	**7.8**	**583**	**8.5**

Installation Schedule

	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
In																			1		1
Out																			1		1

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	4	4	3	3	10	10	9	9	529	583
Out	4	4	3	3	10	10	9	9	529	583

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 and interface replacement (no install funding required). MPCD Production buys begin in FY02 and AMC&D production buys begin in FY05.
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 FY01. Qualification testing is ongoing.
F/A-18E/F: TECHEVAL - 3rd Qtr FY03, OPEVAL - 4th Qtr FY03, Milestone III - 3rd Qtr FY04.
AV-8B DT-IIB-2 - 4th Qtr FY01, OPEVAL - 4th Qtr FY02, Milestone III - 2nd Qtr FY03.

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																				
AMC&D / MPCD Kit									31	2.1	31	2.1	31	2.1	5	0.3			98	6.6
Installation Kits N/R								10.1												10.1
Installation Equipment																				
AMC&D / MPCD Equip					64	13.3	3	0.6	129	39.7	102	37.3	148	39.6	83	11.3	137	20.7	666	162.6
Installation Equipment N/R																				
Engineering Change Orders										0.6		0.6		0.6		0.1				1.8
Data										0.4		0.4		0.3		*				1.2
Training Equipment										2.7		2.1		3.3		3.0				11.0
Support Equipment																				
ILS						1.4		0.3		4.7		4.9		5.3		2.9		3.1		22.7
Other Support						3.5		0.7		3.6		3.5		3.0		2.6		3.6		20.4
Interim Contractor Support																				
Installation Cost											31	3.5	31	3.6	31	3.6	5	0.6	98	11.3
Total Procurement						**18.3**		**11.8**		**53.7**		**54.5**		**57.8**		**23.9**		**27.9**		**247.8**

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 requried.

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 2001: FY 2002: FY 2003:

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

($ 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	$	Qty	$	Qty	$	Qty	$	Qty	$	**Qty**	**$**
FY 2000 & PY ( ) kits																				
FY 2001 ( ) kits																				
FY 2002 ( ) kits																				
FY 2003 ( ) kits																				
FY 2004 (31) kits											31	3.5							**31**	**3.5**
FY 2005 (31) kits													31	3.6					**31**	**3.6**
FY 2006 (31) kits															31	3.6			**31**	**3.6**
FY 2007 (5) kits																	5	0.6	**5**	**0.6**
To Complete ( ) kits																				
TOTAL											**31**	**3.5**	**31**	**3.6**	**31**	**3.6**	**5**	**0.6**	**98**	**11.3**

Note: Asterick represents a value under $50K.

Installation Schedule

	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
In																		7	8	8	8
Out																		7	8	8	8

	FY 2006				FY 2007				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	7	8	8	8	7	8	8	8	5	98
Out	7	8	8	8	7	8	8	8	5	98

Exhibit P-40, BUDGET ITEM JUSTIFICATION

DATE: **February 2002**

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 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
QUANTITY		B									
COST (In Millions)	0.0	B	35.0	17.3	5.0	4.9	36.5	19.7	24.5	235.5	378.3

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 2003 budget request
reflects the funding level necessary to correct currently known deficiencies and allow the program to move forward. The FY 2003 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 458 with funding programmed for 410. 360 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. FY-01 and FY-02 is the retrofit procurement associated with the current available (8) aircraft. FY-05 begins the procurement of retrofit kits for additional outyear delivered aircraft.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total
22-01	V-22 Correction of Deficiencies	0.0	35.0	17.3	5.0	4.9	36.5	19.7	24.5	235.5	378.3
TOTAL		**0.0**	**35.0**	**17.3**	**5.0**	**4.9**	**36.5**	**19.7**	**24.5**	**235.5**	**378.3**

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.
PRODUCTION ROTOR LIGHTNING PROTECTION: Improves rotor system lightning protection by adding improved bonding harness and grounding strap bracket.
CLAMPING CONFIGURATION: Move clamp to new location and adjust hardware to alleviate chaffing condition.
MEDEVAC STANCHION/STRUCTURAL FASTENER INTERFERENCE: Interference with structural fasteners at Station 336 and corrective action to reverse fastener installation to eliminate interference.
REMOTE HOVER CONTROL STATION: Screws were found to be 1 thread short of clearing the back of nutplate on the aircraft assembly.
GROUND WIRE: Replace 2 ground wires from the secondary power supply.
ROTARY TRANSDUCER LINK ASSEMBLY: Correct ramp angle indicator which did not exhibit correct display of lights during ramp functional test.
SOFTWARE UPGRADE: Upgrade of JASS 2.6 VMS version and Full Authority Digital Engine Controller (FADEC) G11 software enhancements.
BRACKET HYDRAULIC LINE CLAMPING: Relocate clamping provisions from the removable conversion actuator fairing to the frame and improve the tube installation.
SWASHPLATE DRAG TUBE: Redesign Swashplate Drag Tube to increase part life.
IR TIP LIGHTS: Rotor Tip lights redesign.
WASHER: Washer to now be included with attach hardware to ensure adequate tying of the assembly.
BRAKE SYSTEM: Prevents inadvertent disengagement of the back up brake system, provides intended pump protection and restores the automatic brake accumulator recharge functionally without jeopardizing aircraft safety.
COMPRESSED AIR DUCT: Replaces the current ducting with ducting containing an improved end fitting.
STANDBY FLIGHT DISPLAY: Procures new standby flight display units due to parts obsolescence which will add two radius blocks on the mount to accomodate higher crash loads.
HANDLE REDESIGN: Redesign of lower cabin door handle.

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																				
ECP V-22-0344																				
CCP10641R2/Display System Upgrade/Flat Panels			8	2.8															8	2.8
CCP 10670R1/Implementation of Cockpit Intercom Mod			8	0.2															8	0.2
CCP10703r1/Advanced Mission Computer Post Part Number			8	3.0															8	3.0
CCP10716/Swashplate Actuator			8	8.4															8	8.4
CCP 10718/Eng Gimbaling Ring Spherical Bearing Instl			4	0.2															4	0.2
CCP 40008/Night Vision Goggles Compatibility Rqmt Cockpit			8	*															8	*
CCP V-22-0161/Shaft Driven Compressor Reliability Improver			8	0.4															8	0.4
CCP V-22-0177R1/Instl Pwdr Panels, Fwd Sponsor Fuel Blad			8	1.9															8	1.9
CCP V-22-0188/Data Transfer Module Proposal			8	0.5															8	0.5
CCP V-22-0192R1/Regulated Converter			8	2.4															8	2.4
CCP V-22-0206/Inertial Reels			8	0.1															8	0.1
CCP V-22-0216/Control Display Unit/Engine Instrument Crew			8	1.0															8	1.0
CCP V-22-0217/Shaft Driven Compressor			8	*															8	*
CCP V-22-0224/Avionics Left Hand Mounting Tray			8	*															8	*
CCP V-22-0249/Environmental Control Unit Ram Air Barrier F			8	2.6															8	2.6
CCP V-22-0279/Update Ramp Actuator - 113			8	0.2															8	0.2
CCP V-22-0290/Pilot/Copilot Restraint Sys																			0	*
CCP V-22-0296/Cargo Restraint System																			0	*
CCP V-22-0301/Control Display Unit Keyboard Redesign			8	0.7															8	0.7
CCP V-22-0319/Refuel/Defuel Valve			8	0.4															8	0.4
CCP V-22-0107/Thrust Control Lever Soft Stop			2	*															2	*
CCP V-22-0138/Aft Upper Door Strut			8	*															8	*
CCP V-22-0147/Rain Removal			6	0.1															6	0.1
CCP V-22-0151/Add Manual Drive Decal			4	*															4	*
CCP V-22-0160/Fold Blades in High Winds																			0	*
CCP V-22-0162/Bull Gear Shroud			8	0.5															8	0.5
CCP V-22-0163/Swashplate Gimbal Ring			8	0.7															8	0.7
CCP V-22-0208/Fuel Isolation Tubes			8	0.1															8	0.1
CCP 10692/Trunnion			8	0.4															8	0.4
ECP TBD																				
CCP-TBD Reliability and Maintainability Changes											13	23.5	10	19.7	12	20.5	59	195.0	94	258.7
CCP-V22-0337 Standby Flight Display					8	0.1													8	0.1
CCP-V22-0102 Prod Rotor Lighting L Bracket					8	0.4													8	0.4
CCP-V22-0357 Compressed Air Duct					8	0.7													8	0.7
CCP-V22-0306 Improved Blade Fairing					8	0.3													8	0.3
CCP-V22-0355 Handle Redeisgn LW Cab Door					8	0.2													8	0.2
CCP-V22-0304R2 IDIQ & FADEC G11					8	0.2													8	0.2
CCP-V22-0259 Kinking of Fuel Feed Hose Assy					8	0.1													8	0.1
CCP-V22-0182 Bracket Haydraulic Line Clamping					8	0.1													8	0.1
PCM-901-Y203 Ground Wire to FLIR					8	0.4													8	0.4
PCM-901-T382 Rotary Transducer Link Assembly Re-design					8	0.1													8	0.1
PCM-901-T190 Remote Hover Cntrl Station Screws					8	0.1													8	0.1
PCM-901-T225 MEDIVAC Stanchion Structure					8	0.2													8	0.2
CCP-V22-0159 Swashplate Drag Tube					8	0.2													8	0.2
CCP-V22-0128R1 IR Tip Lights					8	0.1													8	0.1
PCM-901-T381 Clamping Configuration					8	0.1													8	0.1
PCM-901-T389 Washer - MLG Drag Strut					8	0.3													8	0.3
PCM-901-T179 B/U Brake Sys Low Pressure Disable					8	0.1													8	0.1
CCP TBD NACELLE Safety Improvements											9	13.0							9	13.0
ECP V-22-0348/Interface Units			8	0.3															8	0.3
Installation Kits N/R				5.2		2.4													0	7.6
Installation Equipment N/R				0.9		1.0													0	1.9
Engineering Change Orders																			0	*
Data				0.2		2.0													0	2.2
Training Equipment				0.3		0.5													0	0.8
Support Equipment				*		0.4													0	0.4
ILS				1.6		0.5													0	2.1
Other Support																			0	*
Interim Contractor Support																			0	*
Installation Cost					**200**	**7.0**	**70**	**5.0**	**66**	**4.9**					**22**	**4.0**	**81**	**40.5**	**439**	**61.4**
TOTAL PROCUREMENT	**0**	**0**	**200**	**35.0**	**136**	**17.3**	**0**	**5.0**	**0**	**4.9**	**22**	**36.5**	**10**	**19.7**	**12**	**24.5**	**59**	**235.5**	**439**	**378.3**

Notes:

1. Asterick indicates amount less than 50K

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: Various

PRODUCTION LEADTIME: Various

CONTRACT DATES: FY2001 OCT 2001 FY2002 MAR 2002 FY2003 Various FY2004 N/A

DELIVERY DATE: FY2002 Various FY2002 Various FY2003 Various FY2004 N/A

($ 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 (200) kits					**200**	**7.0**													**200**	**7.0**
FY 2002(136) kits							**70**	**5.0**	**66**	**4.9**									**136**	**9.9**
FY 2003(0) kits																				
FY 2004(0) kits																				
FY 2005 (22) kits															**22**	**4.0**			**22**	**4.0**
FY 2006 (10) kits																	**10**	**5.0**	**10**	**5.0**
FY 2007 (12) kits																	**12**	**6.0**	**12**	**6.0**
To Complete (59) kits																	**59**	**29.5**	**59**	**29.5**
TOTAL					**200**	**7.0**	**70**	**5.0**	**66**	**4.9**					**22**	**4.0**	**81**	**40.5**	**439**	**61.4**

Installation Schedule

	FY 2000 & Prior	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
In	0						200			70				66							
Out	0												200								70

	FY 2006				FY 2007				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In						7	7	8	81	439
Out				66					103	439