

<b>BUDGET ITEM JUSTIFICATION SHEET</b>							DATE:					
<b>P-40</b>							<b>February 2004</b>					
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE					
<b>OTHER PROCUREMENT, NAVY/ BA2-COMMUNICATIONS AND ELECTRONIC EQUIPMENT</b>							<b>LANDING SYSTEMS (LS) (42X1) BLI#284600</b>					
Program Element for Code B Items:							Other Related Program Elements					
<b>Not Applicable</b>							<b>Not Applicable</b>					
	Prior Years	ID Code	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total	
QUANTITY												
COST (In Millions)	\$38.3	N/A	\$0.0	\$0.0	\$7.2	\$7.7	\$9.0	\$9.1	\$10.0	\$21.5	\$102.9	
<p>DESCRIPTION:</p> <p>The Chief of Naval Operations (CNO) tasked Naval Air Systems Command (NAVAIR) with the requirement to provide shore based Air Traffic Control (ATC) terminal facilities and equipment that is required in joint efforts to efficiently and safely monitor and direct military and commercial air traffic in national and international air space. Many of these systems are required to interface through automated means with Federal Aviation Administration (FAA). Additionally, NAVAIR has material support responsibility for Air Navigation Aid Systems, Mobile ATC Equipment, Special Instrumentation Systems, and Ancillary Equipment used for ATC&amp;LS by the Navy and Marine Corps. This Landing Systems (LS) 42X1 program, in conjunction with the other three programs (Air Station Support Equipment 42MR, Fleet Area Control and Surveillance Facility (FACSFAC) 42TT, and the National Airspace System Modernization 42CB) which make up program element 0204696N, provide the four pillars by which NAVAIR supports and meets established requirements to modernize and ensure reliable, safe and effective operations of ATC&amp;LS used at Navy and Marine Corps air stations and ATC facilities worldwide.</p> <p>This Landing Systems (LS) budget provides funding to modernize and ensure the reliability and safety of Precision Approach Radars (PAR), Tactical Air Navigation (TACAN) systems, Instrument Landing Systems (ILS), and other aircraft navigation aids used by the Navy and Marine Corps. This program also ensures that all interservice interoperability requirements identified in the National Airspace System Plan (NASP), the Federal Radio Navigation Plan (FRNP), and the Joint Chiefs of Staff (JCS) master navigation plan are fulfilled.</p> <p>The Precision Approach Radar (PAR) Upgrade consists of the Modulator Board Upgrade ECP, the Antenna Upgrade ECP, the Configuration Upgrade ECP, the Turntable Upgrade ECP, the Fiber Optic Intersite System (FOIS) ECP, and the Angle Voltage Generator (AVG) Upgrade ECP. The Tactical Air Navigation (TACAN) Sustainment consists of the Antenna Upgrade ECP, the Shelter Upgrade ECP, and the Lightning Protection ECP.</p> <p>Funding in FY05 will provide 13 PAR Modulator Board Upgrade ECPs, 6 PAR Antenna Upgrade ECPs, 4 PAR Configuration Upgrade ECPs, 4 PAR Turntable Upgrade ECPs, 2 PAR Fiber Optic Intersite System (FOIS) ECPs, 8 PAR Angle Voltage Generator (AVG) Upgrade ECPs, 6 TACAN Antenna Upgrade ECPs, and 2 TACAN Shelter Upgrade ECPs.</p>												

CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET FOR AGGREGATED ITEMS P-40a							DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY OTHER PROCUREMENT, NAVY/ BA-2 COMMUNICATIONS AND ELECTRONICS EQUI							P-1 ITEM NOMENCLATURE LANDING SYSTEMS (LS) (42X1)				
Procurement Items	ID Code	Prior Years	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
X1017 ECP/OCIR		VAR 5.607									0 5.607
X1018 PRECISION APPROACH RADAR					37 4.050					146 23.759	183 27.809
X1019 TACAN					8 0.880					63 17.286	71 18.166
X1020 ENVIRONMENTAL SHELTERS	N/A										
	QTY	42									42
	FUNDING	5.787									5.787
X1102 INSTRUMENT LANDING SYSTEM	N/A										
	QTY	14									14
	FUNDING	3.633									3.633
OTHER COSTS	N/A	23.264			2.302					16.289	41.855
TOTAL FUNDING	N/A	38.291			7.232					57.334	102.857

CLASSIFICATION:

**UNCLASSIFIED**

# UNCLASSIFIED

CLASSIFICATION:

WEAPONS SYSTEM COST ANALYSIS P-5				Weapon System				DATE: <b>February 2004</b>						
APPROPRIATION/BUDGET ACTIVITY <b>Other Procurement, Navy/ BA-2 COMMUNICATIONS AND ELECTRONICS EQUIPMENT</b>				ID Code <b>N/A</b>	P-1 ITEM NOMENCLATURE/SUBHEAD <b>LANDING SYSTEMS (LS) (42X1)</b>									
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			Prior Years	FY 2003			FY 2004			FY 2005				
			Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost		
X1017	ECP/OCIR	N/A	5,607											
X1018	PRECISION APPROACH RADAR	N/A												
X1019	TACAN	N/A									37	110	4,050	
X1020	ENVIRONMENTAL SHELTERS	N/A	5,787								8	110	880	
X1102	INSTRUMENT LANDING SYSTEM	N/A	3,633											
X1800	INTEGRATED LOGISTICS SUPPORT	N/A	2,209											538
X1830	PRODUCTION ENGINEERING	N/A	3,169											970
X1840	QUALITY ASSURANCE	N/A	320											114
X1860	ACCEPTANCE, TEST & EVALUATION	N/A												
X1900	INSTALLATION (NON-FMP)	N/A	15,244											680
	**VARIOUS	N/A	2,322											
			<b>38,291</b>				<b>0</b>						<b>0</b>	<b>7,232</b>

# UNCLASSIFIED

**UNCLASSIFIED**

CLASSIFICATION:

<b>BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)</b>					Weapon System			A. DATE <b>February 2004</b>			
<b>B. APPROPRIATION/BUDGET ACTIVITY</b> Other Procurement, Navy/ <b>BA-2 COMMUNICATIONS AND ELECTRONICS EQUIPMENT</b>					<b>C. P-1 ITEM NOMENCLATURE</b> <b>LANDING SYSTEMS (LS)</b>				<b>SUBHEAD</b> <b>42X1</b>		
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	TECH DATA AVAILABLE NOW ?	DATE REVISIONS AVAILABLE	
See Remark.											
<b>D. REMARKS</b> ECPs will be assembled using components procured via various Purchase Orders.											

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AN/FPN-63 PAR TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE: ECP/OCIR X1018 AVG UPGRADE

DESCRIPTION/JUSTIFICATION:

This ECP will replace two obsolete analog Angle Voltage Generators (AVGs) with one digital state-of-the-art AVG with optical encoder antenna input position sensors and provide digital data outputs that will be required for the PAR Display Replacement ECP. These known obsolete high failure AVG components and assemblies will be upgraded or replaced using state-of-the-art commercially available items to maintain reliability, availability and maintainability of the PAR. This ECP will improve the reliability, availability and supportability of AN/FPN-63 PAR by correcting Mean Time Between Failure (MTBF) problems being caused by high electronic failure rates of the obsolete AVG assemblies in the AN/FPN-63 PAR and therefore improve overall Operational Availability (Ao). This ECP is required to modernize the AN/FPN -63 PAR to ensure reliable, safe and effective Landing System operations at Naval Air Station (NAS) and Marine Corps Air Stations (MCAS) facilities worldwide.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

FINANCIAL PLAN (IN MILLIONS)	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		TC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<i>RDT&amp;E</i>																					
<i>PROCUREMENT</i>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP - Angle Voltage Generator Upgrade							8	1.544													
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
PRODUCTION ENGINEERING								0.092													
INTEGRATED LOGISTICS SUPPORT								0.046													
QUALITY ASSURANCE								0.012													
OTHER																					
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST																					
TOTAL PROCUREMENT								1.694													

Exhibit P-3A (Individual Modification)

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

MODELS OF SYSTEMS AFFECTED: FPN-63 PAR MODIFICATION TITLE: ECP/OCIR X1018 AVG UPGRADE

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AIT

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2003: N/A FY 2004: N/A FY 2005: N/A  
 DELIVERY DATE: FY 2003: N/A FY 2004: N/A FY 2005: N/A

(\$ in Millions)

Cost:	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS																					
FY 2003 EQUIPMENT																					
FY 2004 EQUIPMENT																					
FY 2005 EQUIPMENT									8	0.397										8	0.397
FY 2006 EQUIPMENT											9	0.457								9	0.457
FY 2007 EQUIPMENT													9	0.468						9	0.468
FY 2008 EQUIPMENT															9	0.480				9	0.480
FY 2009 EQUIPMENT																	9	0.487		9	0.487
TO COMPLETE																					

INSTALLATION SCHEDULE:

	FY 2002 & Prior	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				TC	TOTAL				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	9	0	0	0	9	0	0	0	9	0	0	0	9	0	0	0	9	0	0	44
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	0	3	3	3	0	3	3	3	0	3	3	3	0	3	3	3	9	44

CLASSIFICATION: **UNCLASSIFIED**

P3A

**INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AN/FPN-63 PAR TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE: ECP/OCIR X1018 FOIS

**DESCRIPTION/JUSTIFICATION:**

This ECP will improve the reliability, availability and supportability of the existing AN/FPN-63 Precision Approach Radar (PAR) system via an upgrade and replacement of its intersite copper-cabling with state-of-the-art AN/FAC-6(V)1 fiber optic intersite systems (FOIS). The use of AN/FAC-6(V)1 FOIS equipment with existing AN/FPN-63 PAR systems has provided substantially increased PAR operational availability (Ao) by eliminating equipment damage and failures caused by lightning and other sources of high power electro-magnetic interference (EMI) or radio frequency interference (RFI). This ECP is required to modernize the AN/FPN -63 PAR to ensure reliable, safe and effective PAR Landing System operations at all Naval Air Station (NAS) and Marine Corps Air Stations (MCAS) facilities worldwide.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		IC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<b>FINANCIAL PLAN (IN MILLIONS)</b>																					
<i>RDT&amp;E</i>																					
<b>PROCUREMENT</b>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP - Fiber Optic Intersite System							2	0.169	3	0.255	3	0.255	3	0.265	3	0.275				14	1.219
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
PRODUCTION ENGINEERING								0.031		0.032		0.033		0.034		0.034		0.053			0.217
INTEGRATED LOGISTICS SUPPORT								0.016		0.017		0.018		0.019		0.019		0.027			0.116
QUALITY ASSURANCE								0.006		0.006		0.006		0.006		0.006					0.030
OTHER																					
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST									2	0.100	3	0.153	3	0.156	3	0.159	3	0.162	14		0.730
TOTAL PROCUREMENT								0.222		0.410		0.465		0.480		0.493		0.242			2.312

Exhibit P-3A (Individual Modification) CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

MODELS OF SYSTEMS AFFECTED: FPN-63 PAR MODIFICATION TITLE: ECP/OCIR X1018 FOIS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AIT

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2003: N/A FY 2004: N/A FY 2005: N/A

DELIVERY DATE: FY 2003: N/A FY 2004: N/A FY 2005: N/A

(\$ in Millions)

Cost:	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS																					
FY 2003 EQUIPMENT																					
FY 2004 EQUIPMENT																					
FY 2005 EQUIPMENT								2	0.100										2	0.100	
FY 2006 EQUIPMENT										3	0.153								3	0.153	
FY 2007 EQUIPMENT												3	0.156						3	0.156	
FY 2008 EQUIPMENT														3	0.159				3	0.159	
FY 2009 EQUIPMENT																3	0.162		3	0.162	
TO COMPLETE																					

INSTALLATION SCHEDULE:

	FY 2002 & Prior	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				TC	TOTAL				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	3	0	0	0	3	0	0	0	3	0	0	0	3	0	0	14
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	1	1	1	0	1	1	1	0	14				

CLASSIFICATION: UNCLASSIFIED

P3A

**INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AN/FPN-63 PAR TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE: ECP/OCIR X1018 TURNTABLE UPGRADE

**DESCRIPTION/JUSTIFICATION:**

Due to exposure to the environment, corrosion and other aging problems, the AN/FPN-63 turn-tables must be replaced. These turn-tables are used to rotate the entire AN/FPN-63 PAR equipment shelter in the proper positions required for multiple runway coverage at various air stations. Current turn-table assemblies were fielded in the early 1960s with the AN/FPN-52 PAR and have been in-service for 40 years. This ECP will improve the reliability, availability and supportability of AN/FPN-63 PAR by correcting Mean Time Between Failure (MTBF) problems being caused by high electrical and mechanical failure rates of the PAR turn-tables and therefore improve the overall Operational Availability (Ao) of the AN/FPN-63 PAR. This ECP is required to modernize the AN/FPN -63 PAR to ensure reliable, safe and effective Landing System operations at Naval Air Station (NAS) and Marine Corps Air Stations (MCAS) facilities worldwide.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

	<u>Prior Years</u>		<u>FY 2003</u>		<u>FY 2004</u>		<u>FY 2005</u>		<u>FY 2006</u>		<u>FY 2007</u>		<u>FY 2008</u>		<u>FY 2009</u>		<u>TC</u>		<u>TOTAL</u>		
	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	
<b>FINANCIAL PLAN (IN MILLIONS)</b>																					
<b><u>RDT&amp;E</u></b>																					
<b><u>PROCUREMENT</u></b>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP - Turntable Upgrade							4	1.172									13	4.855	17	6.027	
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
PRODUCTION ENGINEERING								0.180										0.487		0.667	
INTEGRATED LOGISTICS SUPPORT								0.046										0.219		0.265	
QUALITY ASSURANCE								0.012										0.012		0.024	
OTHER																					
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST							4	0.229									13	0.769	17	0.998	
TOTAL PROCUREMENT								1.639										6.342		7.981	

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

MODELS OF SYSTEMS AFFECTED: FPN-63 PAR MODIFICATION TITLE: ECP/OCIR X1018 TURNTABLE UPGRADE

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AIT

ADMINISTRATIVE LEADTIME: 1 Month PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2003: N/A FY 2004: N/A FY 2005: N/A

DELIVERY DATE: FY 2003: N/A FY 2004: N/A FY 2005: N/A

(\$ in Millions)

Cost:	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS																					
FY 2003 EQUIPMENT																					
FY 2004 EQUIPMENT																					
FY 2005 EQUIPMENT							4	0.229											4	0.229	
FY 2006 EQUIPMENT									4	0.184									4	0.184	
FY 2007 EQUIPMENT											4	0.188							4	0.188	
FY 2008 EQUIPMENT													4	0.192					4	0.192	
FY 2009 EQUIPMENT															4	0.196			4	0.196	
TO COMPLETE																	13	0.769	13	0.769	

INSTALLATION SCHEDULE:

	FY 2002 & Prior	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	13	33
Out	0	0	0	0	0	0	0	0	0	0	1	1	2	0	1	1	2	0	1	1	2	0	1	1	2	0	1	1	2	13	33

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**  
 MODELS OF SYSTEM AFFECTED: AN/FPN-63 PAR TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE ECP/OCIR X1018 CONFIGURATION UPGRADE

DESCRIPTION/JUSTIFICATION:

This ECP will address several maintenance and operator problems with the current PAR configuration. Human factors problems that have been identified with the current FPN-63 PAR will be corrected. Known obsolete high failure components and assemblies will be upgraded or replaced using state-of-the-art commercially available items to maintain reliability, availability and maintainability of the PAR. This ECP will improve the reliability, availability and supportability of AN/FPN-63 PAR by correcting Mean Time Between Failure (MTBF) problems being caused by high electronic failure rates of obsolete power supplies, circuit cards and other assemblies in the AN/FPN-63 PAR and therefore improve overall Operational Availability (Ao). This ECP is required to modernize the AN/FPN -63 PAR to ensure reliable, safe and effective Landing System operations at Naval Air Station (NAS) and Marine Corps Air Stations (MCAS) facilities worldwide.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		TC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<b>FINANCIAL PLAN (IN MILLIONS)</b>																					
<i>RDT&amp;E</i>																					
<i>PROCUREMENT</i>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP - Configuration Upgrade							4	0.347	4	0.354	5	0.445	5	0.471	5	0.493	20	2.312	43	4.422	
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
PRODUCTION ENGINEERING								0.072		0.065		0.067		0.069		0.043		0.452		0.768	
INTEGRATED LOGISTICS SUPPORT								0.046		0.047		0.048		0.049		0.030		0.178		0.398	
QUALITY ASSURANCE								0.021		0.015		0.015		0.015		0.015		0.063		0.144	
OTHER																					
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST							4	0.170	4	0.152	5	0.195	5	0.200	5	0.205	20	0.861	43	1.783	
TOTAL PROCUREMENT								0.656		0.633		0.770		0.804		0.786		3.866		7.515	

Exhibit P-3A (Individual Modification) CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

MODELS OF SYSTEMS AFFECTED: FPN-63 PAR MODIFICATION TITLE: ECP/OCIR X1018 CONFIGURATION UPGRADE

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AIT

ADMINISTRATIVE LEADTIME: 1 Month PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2003: N/A FY 2004: N/A FY 2005: N/A

DELIVERY DATE: FY2003: N/A FY 2004: N/A FY 2005: N/A

(\$ in Millions)

Cost:	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS																					
FY 2003 EQUIPMENT																					
FY 2004 EQUIPMENT																					
FY 2005 EQUIPMENT							4	0.170											4	0.170	
FY 2006 EQUIPMENT									4	0.152									4	0.152	
FY 2007 EQUIPMENT											5	0.195								5	0.195
FY 2008 EQUIPMENT													5	0.200						5	0.200
FY 2009 EQUIPMENT															5	0.205				5	0.205
TO COMPLETE																	20	0.861	20	0.861	

INSTALLATION SCHEDULE:

	FY 2002 & Prior	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	5	0	0	0	5	0	0	0	5	0	0	20	43
Out	0	0	0	0	0	0	0	0	0	0	1	1	2	0	1	1	2	0	1	2	2	0	1	2	2	0	1	2	2	20	43

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AN/FPN-63 PAR TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE: ECP/OCIR X1018 ANTENNA UPGRADE

DESCRIPTION/JUSTIFICATION:  
 This ECP will improve the reliability, availability and supportability of existing Antennas via the installation of state-of-the-art bearings and precision mating brackets and surfaces to correct Mean Time Between Failure (MTBF) problems being caused by high mechanical failure rates of the antennas and therefore improve the overall Operational Availability (Ao) of the AN/FPN-63 PAR. This ECP is required modernize the AN/FPN -63 PAR to ensure reliable, safe and effective Landing System operations at Naval Air Station (NAS) and Marine Corps Air Stations (MCAS) facilities worldwide.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

FINANCIAL PLAN (IN MILLIONS)	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		IC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<b>RDT&amp;E</b>																					
<b>PROCUREMENT</b>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP - Antenna Upgrade							6	0.379	6	0.383	6	0.382	5	0.334						23	1.478
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
PRODUCTION ENGINEERING								0.200		0.050		0.202		0.056							0.508
INTEGRATED LOGISTICS SUPPORT								0.192		0.052		0.123		0.054							0.421
QUALITY ASSURANCE								0.027		0.022		0.012		0.010							0.071
OTHER																					
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST							6	0.114	6	0.120	6	0.126	5	0.110						23	0.470
TOTAL PROCUREMENT								0.912		0.627		0.845		0.564							2.948

Exhibit P-3A (Individual Modification) CLASSIFICATION:

**UNCLASSIFIED**



CLASSIFICATION: UNCLASSIFIED

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AN/FPN-63 PAR TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE: ECP/OCIR X1018 MODULATOR

This ECP will improve the reliability, availability and supportability of the existing modulator assembly via the replacement of its obsolete Silicon Contrrorred Rectifier (SCR) modulator driver circuit card with a state-of-the-art Isolated Bipolar Gated Transitor (IBGT) modulator driver circuit card. This ECP will correct Mean Time Between Failure (MTBF) problems being caused by high failure rates of the SCR modulator driver circuit cards. This ECP will therefore improve the overall Operational Availability (Ao) of the AN/FPN-63 PAR. This ECP is required to modernize the AN/FPN -63 PAR and help ensure reliable, safe and effective Landing System operations at Naval Air Station (NAS) and Marine Corps Air Stations (MCAS) facilities worldwide. This is a critically required ECP since the SCRs presently in use are out of production and stock levels will be exhausted before required funding can be obtained for this effort.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		TC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<b>FINANCIAL PLAN (IN MILLIONS)</b>																					
<i>RDT&amp;E</i>																					
<i>PROCUREMENT</i>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP - Modulator Board Upgrade							13	0.439	13	0.451									26	0.890	
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
PRODUCTION ENGINEERING								0.061		0.062											0.123
INTEGRATED LOGISTICS SUPPORT								0.050		0.051											0.101
QUALITY ASSURANCE								0.013		0.013											0.026
OTHER																					
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST							13	0.065	13	0.065									26	0.130	
TOTAL PROCUREMENT								0.628		0.642											1.270

Exhibit P-3A (Individual Modification) CLASSIFICATION:

**UNCLASSIFIED**



CLASSIFICATION: UNCLASSIFIED

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AN/FRN-42, AN/URN-25, OE-258A/URN TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE: X1019 ECP/OCIR TACAN SHELTER & BEACON UPGRADES

DESCRIPTION/JUSTIFICATION:

Shore Station TACAN system upgrade ECPs will include replacement of 15 severely deteriorated shelters, and employ COTS upgrade to Beacon.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

FINANCIAL PLAN (IN MILLIONS)	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		IC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<i>RDT&amp;E</i>																					
<i>PROCUREMENT</i>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP BEACON										16	1.600	16	1.600	30	3.000	42	4.410	104	10.610		
ECP SHELTER UPGRADE							2	0.550	2	0.560	2	0.570	2	0.580	2	0.590	5	1.520	15	4.370	
ECP 4																					
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
ILS								0.055		0.056		0.132		0.046		0.047		0.151		0.487	
PE								0.295		0.314		0.072		0.066		0.067		0.211		1.025	
QA								0.015		0.029		0.042		0.021		0.022		0.069		0.198	
ATE										0.013		0.025								0.038	
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST									2	0.116	2	0.118	18	0.376	18	0.382	79	1.682	119	2.674	
TOTAL PROCUREMENT								0.915		1.088		2.559		2.689		4.108		8.043		19.402	

Exhibit P-3A (Individual Modification) CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

MODELS OF SYSTEMS AFFECTED: AN/FRN-42, AN/URN-25, OE-258A/URN      TYPE MODIFICATION: MODERNIZATION      MODIFICATION TITLE: ECP/OCIR X1019 TACAN SHELTER & BEACON UPGRADES

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AIT

ADMINISTRATIVE LEADTIME: 6 MONTHS      PRODUCTION LEADTIME: 6 MONTHS

CONTRACT DATES:      FY 2003: N/A      FY 2004: N/A      FY 2005: N/A  
 DELIVERY DATE:      FY 2003: N/A      FY 2004: N/A      FY 2005: N/A

(\$ in Millions)

Cost:	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																				
FY 2003 EQUIPMENT																				
FY 2004 EQUIPMENT																				
FY 2005 EQUIPMENT								2	0.116										2	0.116
FY 2006 EQUIPMENT										2	0.118								2	0.118
FY 2007 EQUIPMENT												18	0.376						18	0.376
FY 2008 EQUIPMENT														18	0.382				18	0.382
FY 2009 EQUIPMENT																				
TO COMPLETE																	79	####	79	1.682

INSTALLATION SCHEDULE:

	FY 2002 & Prior	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				IC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	7	11	0	0	7	11	0	0	79	119
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	8	8	2	0	8	8	2	79	119

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AN/FRN-42, AN/URN-25, OE-258A/URN TYPE MODIFICATION: MODERNIZATION MODIFICATION TITLE: ECP/OCIR X1019 TACAN ANTENNA UPGRADE

DESCRIPTION/JUSTIFICATION:  
 Shore Station TACAN Antenna Upgrade ECP will improve antenna lightning protection.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-Developmental Item (NDI)

FINANCIAL PLAN (IN MILLIONS)	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		IC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<i>RDT&amp;E</i>																					
<i>PROCUREMENT</i>																					
INSTALLATION KITS																					
INSTALLATION KITS NRE																					
EQUIPMENT NRE																					
EQUIPMENT																					
ECP ANTENNA UPGRADE							6	0.330								24	1.476	30	1.806		
ECP 4																					
DATA																					
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
ILS								0.087									0.138			0.225	
PE								0.039									0.138			0.177	
QA								0.008									0.052			0.060	
INTERIM CONTRACTOR SUPPORT																					
INSTALL COST							6	0.102								24	0.564	30	0.666		
TOTAL PROCUREMENT								0.566									2.368			2.934	

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

MODELS OF SYSTEMS AFFECTED: AN/FRN-42, AN/URN-25, OE-258A/URN

TYPE MODIFICATION: MODERNIZATION

MODIFICATION TITLE: ECP/OCIR X1019 TACAN ANTENNA UPGRADE

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AIT

ADMINISTRATIVE LEADTIME: 2 MONTHS

PRODUCTION LEADTIME: 3 MONTHS

CONTRACT DATES: FY 2003: N/A FY 2004: N/A FY 2005: N/A  
 DELIVERY DATE: FY 2003: N/A FY 2004: N/A FY 2005: N/A

(\$ in Millions)

Cost:	Prior Years		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																				
FY 2003 EQUIPMENT																				
FY 2004 EQUIPMENT																				
FY 2005 EQUIPMENT							6	0.102											6	0.102
FY 2006 EQUIPMENT									6	0.108									6	0.108
FY 2007 EQUIPMENT											6	0.114							6	0.114
FY 2008 EQUIPMENT													6	0.120					6	0.120
FY 2009 EQUIPMENT															6	0.126			6	0.126
TO COMPLETE																	24	0.564	24	0.564

INSTALLATION SCHEDULE:

	FY 2002 & Prior	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	24	54
Out	0	0	0	0	0	0	0	0	0	0	2	2	2	0	3	3	0	0	3	3	0	0	3	3	0	0	3	3	0	24	54