

**UNCLASSIFIED**

<b>Exhibit P-40, Budget Item Justification</b>	Date: February 2011
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature <b>SPACE MODS SPACE</b>

Program Element for Code B Items			Other Related Program Elements										
	ID Code	Prior Years	FY 2010	FY 2011	FY 2012	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	To Comp	Total
Proc Qty							0						0
Total Proc Cost(\$ M)		N/A	30.371	18.384	28.075	0.000	28.075	37.603	138.007	102.348	50.872	TBD	TBD

**Description**

The program funding includes reductions for Overhead efficiencies that are not intended to impact program content. The efficiencies reductions total \$0.268M in FY12.

Space Mods Space enables the development of advanced Command and Control (C2) Battle Management, Intelligence Surveillance and Reconnaissance (ISR), and Command, Control, Communications, Computers, and Intelligence (C4I) systems to conduct effective predictive battle space awareness, facilitate precision attack, and compress the sensor-to-shooter kill chain. Permanent modifications are configuration changes to in-service systems and equipment that correct materiel or other deficiencies, or that add or delete capability. Safety modifications correct deficiencies that produce hazards to personnel, systems, or equipment. This budget line covers both new and on-going modification efforts for space equipment and systems. Modification installation funding is budgeted in the year the installation occurs.

1. NAVSTAR GLOBAL POSITIONING SYSTEM (GPS): The NAVSTAR GPS provides highly accurate time and three-dimensional position and velocity information to an unlimited number of users anywhere on or above the surface of the earth, in any weather. This system supplies highly accurate position, velocity, timing, and Nuclear Detonation (NUDET) Detection System (NDS) information to properly equipped air, land, sea, and space-based users worldwide. The GPS system consists of three segments: Space Segment, Control Segment, and the User Segment. The Operational Control System (OCS) is part of the control segment and requires modifications to replace high failure rate parts and preclude system operational degradation. Without these mods, aging and obsolete equipment will excessively degrade, ultimately resulting in system failure. System failure or even partial system failure will cause a loss of operational availability and the transmission of inaccurate navigation data to worldwide users, resulting in potential loss of life and/or operational equipment, including multi-million dollar satellites. Development funding is in Program Element (PE) 0305165F, NAVSTAR GPS (Space).

2. 474N SEA-LAUNCHED BALLISTIC MISSILE (SLBM) DETECTION AND WARNING SYSTEM: The primary mission of the 474N SLBM Detection and Warning System is to provide United States Strategic Command (USSTRATCOM) with credible integrated tactical warning/attack assessment (ITW/AA) data on all SLBMs penetrating the coverage area. This data includes an estimation of launch and predicted impact (L&PI) locations and times. The secondary mission is to provide the Cheyenne Mountain Air Force Station, CO (CMAFS) and other users with ITW/AA data on Inter-Continental Ballistic Missiles (ICBMs) penetrating the coverage area. Additionally, PARCS and PAVE PAWS support the Space Situational Awareness (SSA) mission by providing near earth satellite surveillance, tracking and identification as required by the Space Control Center, Alternate Space Control Center, and the Joint Intelligence Center. The sensors have an operational availability requirement of 98 percent. The 474N SLBM Detection and Warning System currently consists of: a) the AN/FPQ-16 Perimeter Acquisition Radar Attack Characterization System (PARCS) and, b) the AN/FPS-123 PAVE PAWS System (Phased Array Radars for SLBM Detection and Warning System). Procurement funding for both the PAVE Phased Array Warning Systems (PAVE PAWS) and the Perimeter Acquisition Radar Attack Characterization System (PARCS) is in PE 0305912F.

At Beale AFB, CA, the radar has completed Upgraded Early Warning Radar (UEWR) modifications, changing the AN/FPS-123 PAVE PAWS radar to a AN/FPS-132

<b>Exhibit P-40, Budget Item Justification</b>	Date: February 2011
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature <b>SPACE MODS SPACE</b>
<p><b>Description Continued</b></p> <p>configuration and adding a new co-primary mission of Missile Defense (MD) to support Ground-Base Midcourse Defense (GMD). The MD mission is to detect, track and count the individual objects in a ballistic missile attack early in their trajectory. This data is used by the GMD Fire Control Communications (GFC/C) Component for interceptor commitment and for directing ground-based radar operational responses. The GFC Component uses the information to support intercepts from initial commit through final data uplinks to the defensive action vehicles. UEUR went operational in September 2007, began transition of hardware responsibility to the Air Force in FY09, and will be completed in FY12.</p> <p>a. PERIMETER ACQUISITION RADAR ATTACK CHARACTERIZATION SYSTEM (PARCS): PARCS is a ground-based radar system located at Cavalier Air Force Station (AFS), ND. It is a single faced, long-range, phased array radar whose primary mission is to provide USSTRATCOM with credible ITW/AA data on all SLBM and ICBMs penetrating the coverage area. The secondary mission is to support the SSA mission by providing the SSN with metric observations and Space Object Identification (SOI) data on tasked satellites and objects. This one-of-a-kind system was developed in the early 1970's, and has operated continuously since 1977.</p> <p>PARCS EVOLUTIONARY MODERNIZATION: PARCS Evolutionary Modernization program procures modifications to replace unsupportable and unreliable system components. PARCS equipment is composed of unique, custom-built components that became obsolete in the early 1980s. Most spare parts for this equipment are no longer available. Without these modifications there is a high risk that equipment failures will cause unacceptable mission downtime in order to troubleshoot and repair. FY12 will fund: (1) Digital Data Group 2 Phase III and (2) Interim Supply Support. The DDG 2 project consists of eight major electrical and mechanical interfaces to the PARCS RADAR system that must be emulated under the PARCS Evolutionary Modernization efforts. One interface was done in DDG 2 Phase I and the remaining seven will be done in Phase II and Phase III.</p> <p>b. PAVE PHASED ARRAY WARNING SYSTEM (PAVE PAWS): PAVE PAWS radar is a ground based system with missions to support the Missile Correlation, Space Surveillance and Missile Defense Centers. The primary mission is to provide USSTRATCOM with credible ITW/AA data on all SLBMs penetrating the coverage area and L&amp;PI data for attack assessment and response determination. The secondary mission is to provide credible data on all ICBMs penetrating the coverage area. The tertiary mission is to support the SSA network providing near-earth satellite surveillance and tracking, reporting observational (metric), SOI on man-made satellites and maintenance of the space catalog to prevent the significantly increasing potential for collisions with national assets, including manned space platforms.</p> <p>PAVE PAWS EVOLUTIONARY MODERNIZATION: The PAVE PAWS Evolutionary Modernization program consists of modifications that replace obsolete or unsupportable system components and subsystems. The PAVE PAWS mission equipment and associated sustainment suites consist of a mix of unique, custom-built components that are increasingly more difficult to maintain due to availability of replacement parts and obsolete COTS based subsystems that are no longer supported by the original equipment manufacturers. In addition, Sub-Array Power Supplies are 30+ years old, highly inefficient, and require replacement. Without these modifications there is a high risk that equipment failures will cause unacceptable mission downtime in order to troubleshoot and repair. FY12 will fund replacement of unsupportable UEUR equipment to include, but not limited to, the Silicon Graphics Inc.(SGI) Origin 3800 signal/data processors for Beale AFB, CA in preparation for follow on site deployment.</p> <p>c. CAPE COD UPGRADED EARLY WARNING RADAR (UEWR): The Cape Cod EWR located at Cape Cod Air Station, MA, is an Ultra High Frequency (UHF) radar that is being upgraded to include missile defense functionality. This missile defense functionality was previously funded with 0400 (RDT&amp;E) from the Missile Defense Agency (MDA). The addition of the Cape Cod UEUR into the BMDS sensor architecture will improve BMDS sensor coverage and provide new engagement options against long range</p>	
P-1 Shopping List Item No. 47	<b>Budget Item Justification Exhibit P-40, page 2 of 18</b>

<b>Exhibit P-40, Budget Item Justification</b>	Date: February 2011
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature <b>SPACE MODS SPACE</b>
<p><b>Description Continued</b></p> <p>missile threats. The upgrade of the Cape Cod radar will also eliminate obsolescence issues currently facing AFSPC concerning the sustainment of the radar. The mod roll-up is shown on the P-5.</p> <p>3. AIR FORCE SPACE SURVEILLANCE SYSTEM (AFSSS): In FY11, this MIP accountable program was moved to the INTELLIGENCT COMMUNICATIONS EQUIPMENT budget line and is now located in PE 35942. In FY10 and prior, it was located in PE 35940. The AFSSS is a dedicated USSTRATCOM Space Situational Awareness SSA)sensor owned and operated by the USAF providing uncued detection of space objects for cataloging and maintenance of satellite payloads and debris, new foreign launch orbit determination, and collision avoidance within the Space Surveillance Network (SSN). AFSSS includes both the Air Force space surveillance system distributed radar and the Distributed Space Command and Control Dahlgren (DSC2-D) which serves as a back-up to the Joint Space Operations Center in support of the space surveillance mission. The radar generates a radio frequency 'fence' which can detect earth orbiting objects passing through it, out to 24,000+ kilometers. The FY12 AFSSS modernization effort consists of modifications that replace unsupported and unreliable system components to meet the anticipated system end-of-life (EOL) including, but not limited, to Transmitter/Receiver subsystem refresh and technical refresh of the Mission Processing System.</p> <p>4. EGLIN SERVICE LIFE EXTENSION PROGRAM (SLEP): The EGLIN SLEP extends the lifetime of the one-of-a-kind AN/FPS-85 phased array radar at Eglin Air Force Base, Florida, dedicated to finding and tracking near Earth and deep space objects to 2018. Operational since 1968, this radar is a dedicated SSA sensor and is the SSN's largest tracker of objects in the manned flight region. It tracks over half the objects in the Air Force space object catalog. The SLEP effort replaces aging, increasingly unsupported radar components. Funding is required for procurement of common spares for the Eglin SLEP. Once the SLEP is completed support will be maintained under the ongoing sustainment vehicle. No FY12 funding anticipated. Funding for this effort is in program element 0305940F.</p> <p>5. GROUND-BASED ELECTRO OPTICAL DEEP SPACE SURVEILLANCE (GEODSS) SERVICE LIFE EXTENSION PROGRAM (SLEP): The GEODSS SLEP will replace aging unsupported mission critical sub-systems with modern sustainable components, allowing continued mission operations through 2025. GEODSS is a three-site optical telescope system dedicated to the Space Surveillance Network (SSN). The GEODSS sites, located in Socorro, New Mexico; Maui, Hawaii; and Diego Garcia (British Indian Ocean Territories), provide time-critical deep-space tracking information for the JSpOC. The GEODSS SLEP will modernize the Sensor Controller, Communications, and Data processing Subsystems. The program will replace the obsolete, diminishing supportable components of the GEODSS Sensor Controller Group (SCG) with sustainable hardware/software technology. No FY12 procurement funding required. Funding for this effort is in PE 0305940F.</p> <p>6. CAVENET: Replaces critical Joint Space Operations Center (JSpOC) servers that process and catalog the resident space object inventory for more accurate assessments of potential conjunctions of space objects. The project is also pivotal to enabling the commercial and foreign entities (CFE) mission the necessary tools to continue assessment of potential collision of Space assets. No FY12 funding required. Funding for this effort is in PE 0305940F.</p> <p>7. JOINT SPACE OPERATIONS CENTER (JSpOC) MISSION SYSTEM (JMS): The Joint Space Operations Center (JSpOC) Mission System (JMS) provides integrated space situation awareness information and C2 of space forces for the Joint Functional Component Command for Space (JFCC-SPACE). It will allow CDRJFCC-SPACE to plan, direct, coordinate, and control operations of assigned forces. The JMS program will provide a net-centric, services oriented architecture (SOA) along with space mission applications to meet the needs above. It will implement a Space User Defined Operational Picture (UDOP) to provide the capability to create, visualize, and share decision-relevant views of space operational environment at all echelons. FY12 funding will procure COTS hardware, software, and warranties to tech refresh the operational and development enclaves (2</p>	
P-1 Shopping List Item No. 47	<b>Budget Item Justification Exhibit P-40, page 3 of 18</b>

<p><b>Exhibit P-40, Budget Item Justification</b></p>	<p align="right">Date: February 2011</p>
<p>Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number  <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b></p>	<p>P-1 Line Item Nomenclature  <b>SPACE MODS SPACE</b></p>
<p><b><u>Description Continued</u></b>          secret, 2 TS/SCI) in support of installation and unit mission requirements. There are no FY12 OCO dollars. Funding for this effort is in PE 0305614F.</p> <p>8. NET-CENTRIC SENSORS AND DATA SOURCES (N-CSDS): The N-CSDS program, through net-centric exposure, provides data from traditional Space Surveillance Network (SSN) sensors and non-traditional space situational awareness sensors, and data sources. It enables legacy sensors and data sources to distribute information net-centrally while also providing additional data.</p> <p><b>FY 2012 Program Justification</b>          FY12 GPS OCS COTS UPGRADE: FY12 funding procures GPS OCS commercial equipment that has become obsolete/unsupportable or requires upgrades. Funding will procure equipment for the OCS ground sites including the Master Control Station (MCS), Alternate Master Control System (AMCS), four ground antennas, six monitor stations, contractor lab facility and Telecommunications Simulator Test Set. Modifications include required procurement, nonrecurring engineering, installation, testing, configuration, management, security, quality assurance and technical documentation. If not funded, down time and maintenance cost associated with repair of failed equipment will increase, lowering system operational availability</p> <p>There are no FY12 OCO dollars for GPS.</p> <p>FY12 SLBM procurement will fund: replacement of unsupportable UEWR equipment to include, but not limited to, the Silicon Graphics Inc.(SGI) Origin 3800 signal/data processors, program office support and spares for Beale AFB, CA in preparation for follow on site deployment, 01 "item" for Cape Cod UEWR, and 01 "item" for PARCS DDG 2 work.</p> <p>FY12 Cape Cod UEWR funding will be used to accomplish requirements such as the Cape Cod Environmental Assessment, procure long-lead items, and program office support.</p> <p>There are no FY12 OCO dollars for SLBM.</p> <p>FY12 JMS other procurement dollars in the amount of \$0.929M procures four enclaves (2 secret and 2 TS/SCI) in support of installation and unit mission requirements. There are no FY12 OCO dollars. Funding will procure COTS hardware, software, and warranties to tech refresh the operational and development enclaves.</p> <p>Items requested in BY are identified on the following (P-5) and are representative of items to be procured. Items procured during execution may change based on critical equipment needed to support current Air Force mission requirements.</p>	
<p align="center">P-1 Shopping List Item No. 47</p>	<p align="right"><b>Budget Item Justification Exhibit P-40, page 4 of 18</b></p>

**Exhibit P-10 p.1. Advance Procurement Requirements Analysis  
(Page 1 – Funding)**

Date: February 2011

Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number

**Other Procurement, Air Force, Budget Activity 03, Electronics and  
Telecommunications Equip, Item No. 47**

P-1 Line Item Nomenclature

**SPACE MODS SPACE**

Weapon System	First System Award Date	First System Completion Date	Interval Between Systems
SPACE MODS SPACE	Jan-12	Sep-16	

(\$ in Millions)

Description	PLT	When Rqd	Prior Years	FY 2010	FY 2011	FY 2012	FY 2012 OCO	FY 2013	FY 2014	FY 2015	FY 2016	To Comp	Total
End Item Qty													0
CFE		Jan-12				4.584		7.413					11.997
Engines													0.000
GFE		Jan-12				2.538		2.712					5.250
EOQ													0.000
Design													0.000
Term Liability													0.000
<b>TOTAL AP</b>			0.000	0.000	0.000	7.122	0.000	10.125	0.000	0.000	0.000	0.000	17.247

P-1 Shopping List Item No. 47

**Advance Procurement Requirements Analysis  
(Page 1 - Funding)**

**Exhibit P-10, p. 1, page 5 of 18**

**Exhibit P-10 p.2. Advance Procurement Requirements Analysis  
(Page 2 – Budget Justification)**

Date: February 2011

Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number

**Other Procurement, Air Force, Budget Activity 03, Electronics and  
Telecommunications Equip, Item No. 47**

P-1 Line Item Nomenclature

**SPACE MODS SPACE**

Weapon System

SPACE MODS SPACE

(TOA, \$ in Millions)

Description	PLT	QPA	Unit Cost	2010 QTY	2010 Contract Forecast Date	2010 Total Cost Request	2011 QTY	2011 Contract Forecast Date	2011 Total Cost Request	2012 QTY	2012 Contract Forecast Date	2012 Total Cost Request	2012 OCO QTY	2012 OCO Contract Forecast Date	2012 OCO Total Cost Request
End Item												0.000			
CFE							0		0.000	1	Jan-12	4.584			
GFE							0		0.000	1	Jan-12	2.538			
EOQ															
Design															
Term Liability															
TOTAL AP						0.000			0.000			7.122			0.000

**Description**

CAPE COD UPGRADED EARLY WARNING RADAR (UEWR): The Cape Cod EWR located at Cape Cod Air Station, MA, is an Ultra High Frequency (UHF) radar that is being upgraded to include missile defense functionality. This missile defense functionality was previously funded with 0400 (RDT&E) from the Missile Defense Agency (MDA). The addition of the Cape Cod UEWR into the BMDS sensor architecture will improve BMDS sensor coverage and provide new engagement options against long range missile threats. The upgrade of the Cape Cod radar will also eliminate obsolescence issues currently facing AFSPC concerning the sustainment of the radar.

GFE is for Program Office Support.

P-1 Shopping List Item No. 47

**Advance Procurement Requirements Analysis  
(Page 2 - Budget Justification)  
Exhibit P-10, p. 2, page 6 of 18**

**Exhibit P-10 p.2. Advance Procurement Requirements Analysis  
(Page 2 – Budget Justification)**

Date: February 2011

Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number

**Other Procurement, Air Force, Budget Activity 03, Electronics and  
Telecommunications Equip, Item No. 47**

P-1 Line Item Nomenclature

**SPACE MODS SPACE**

P-1 Shopping List Item No. 47

**Advance Procurement Requirements Analysis  
(Page 2 - Budget Justification)  
Exhibit P-10, p. 2, page 7 of 18**

**UNCLASSIFIED**

<b>Exhibit P-5, Weapon System Cost Analysis</b>	Date: February 2011
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature <b>SPACE MODS SPACE</b>

Weapon System Cost Elements	Ident Code	Total Cost in Millions of Dollars											
		Prior Years			FY 2010			FY 2011			FY 2012		
		Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
a. OCS COTS UPGRADE	A				14		6.536	14		7.261	14		7.202
1. NAVSTAR GPS {PE 0305165F}		[0]		[0.000]	[14]		[6.536]	[14]		[7.261]	[14]		[7.202]
MISSION SOFTWARE EMULATOR (REPLACE), MOD #10MS-03-003	A												
DIGITAL DATA GROUP 2 Phase I (Radar Return Group Signal Router)	A				1		1.945						
DIGITAL DATA GROUP 2 PHASE I (Exercise Control Unit)	A							1	3.065	3.065			
DIGITAL DATA GROUP 2 PHASE II	A										1	4.931	4.931
DIGITAL DATA GROUP 2 PHASE III	A												
FREQUENCY TEST SETS, MOD MED Frequency Tech Data Pkg	A				1		1.238						
FREQUENCY TEST SETS, Mod - Complete 2nd Test Set	A							1	0.854	0.854			
INTERIM SUPPLY ACTIVITY	A				1		0.298	1		0.403	1		0.431
TRANSMITTER UPGRADE PHASE I	A												
TRANSMITTER UPGRADE PHASE II	A												
TRANSMITTER UPGRADE PHASE III	A												
SOFTWARE MIGRATION PHASE I	A												
SOFTWARE MIGRATION PHASE II	A												
SOFTWARE MIGRATION PHASE III	A												
PARCS EVOLUTIONARY MODERNIZATION (PE0305912F)		[0]		[0.000]	[3]		[3.481]	[3]		[4.322]	[2]		[5.362]
UEWR SGI REPLACEMENT	A				1	8.352	8.352	1	4.553	4.553	1	4.878	4.878
SYSTEM MODERNIZATION	A	0											
PAVE PAWS EVOLUTIONARY MODERNIZATION (0305912F)		[0]		[0.000]	[1]		[8.352]	[1]		[4.553]	[1]		[4.878]
Program Office Support and Environmental Assessment	A										1	1.714	1.714
Long Lead Items	A										1	3.760	3.760

P-1 Shopping List Item No. 47

**Weapon System Cost Analysis  
Exhibit P-5, page 8 of 18**



**UNCLASSIFIED**

<b>Exhibit P-5, Weapon System Cost Analysis</b>	Date: February 2011
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature <b>SPACE MODS SPACE</b>

Weapon System Cost Elements	Ident Code	Total Cost in Millions of Dollars											
		Prior Years			FY 2010			FY 2011			FY 2012		
		Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
CAPE COD UPGRADED EARLY WARNING RADAR (UEWR) {PE 0305912F}		[0]		[0.000]	[0]		[0.000]	[0]		[0.000]	[1]		[5.474]
2. 474N SEA LAUNCHED BALLISTIC MISSILE (SLBM), DETECTION AND WARNING SYSTEM {PE 0305912F}		[3]		[0.000]	[4]		[11.833]	[4]		[8.875]	[5]		[15.714]
MISSION PROCESSING SYSTEM	A				1		4.181						
3. AFSSS EVOLUTIONARY MODERNIZATION		[0]		[0.000]	[1]		[4.181]	[0]		[0.000]	[0]		[0.000]
EGLIN SLEP	A				1	0.200	0.200						
4. EGLIN SERVICE LIFE EXTENSION PROGRAM {PE 0305940F}		[0]		[0.000]	[1]		[0.200]	[0]		[0.000]	[0]		[0.000]
GEODSS SLEP	A							1	2.248	2.248			
5. GEODSS SERVICE LIFE EXTENSION PROGRAM (PE0305490F)		[0]		[0.000]	[0]		[0.000]	[1]		[2.248]	[0]		[0.000]
CAVENET	A				2	3.811	7.621						
6. CAVENET {PE 0305940F}		[0]		[0.000]	[2]		[7.621]	[0]		[0.000]	[0]		[0.000]
JOINT SPACE OPERATIONS CENTER (JSPOC) MISSION SYSTEM {PE 0305614F}		0		0.000	0		0.000	0		0.000	4		0.929
7. JOINT SPACE OPERATIONS CENTER (JSPOC) MISSION SYSTEM {PE 0305614F}		[0]		[0.000]	[0]		[0.000]	[0]		[0.000]	[4]		[0.929]
8. Net-Centric Sensors and Data Sources (N-CSDS) {PE 0604425F}	A										6		4.230
<b>TOTAL PROGRAM:</b>				0.000			30.371			18.384			28.075

**Remarks**  
 (1) Quantity/unit cost data represents the average unit cost per installation site. Due to requirement variances between sites, there may be large unit cost data fluctuations between fiscal years.

**UNCLASSIFIED**

<b>Exhibit P-5, Weapon System Cost Analysis</b>	Date: February 2011
---	---------------------

Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature <b>SPACE MODS SPACE</b>
---	---

Weapon System Cost Elements	Ident Code	Total Cost in Millions of Dollars					
		FY 2012 OCO			Cost to Complete		
		Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
a. OCS COTS UPGRADE	A						0.000
1. NAVSTAR GPS {PE 0305165F}		[0]		[0.000]	[0]		[0.000]
MISSION SOFTWARE EMULATOR (REPLACE), MOD #10MS-03-003	A						
DIGITAL DATA GROUP 2 Phase I (Radar Return Group Signal Router)	A						
DIGITAL DATA GROUP 2 PHASE I (Exercise Control Unit)	A						
DIGITAL DATA GROUP 2 PHASE II	A						
DIGITAL DATA GROUP 2 PHASE III	A						
FREQUENCY TEST SETS, MOD MED Frequency Tech Data Pkg	A						
FREQUENCY TEST SETS, Mod - Complete 2nd Test Set	A						
INTERIM SUPPLY ACTIVITY	A	0		0.000			
TRANSMITTER UPGRADE PHASE I	A						
TRANSMITTER UPGRADE PHASE II	A						
TRANSMITTER UPGRADE PHASE III	A						
SOFTWARE MIGRATION PHASE I	A						
SOFTWARE MIGRATION PHASE II	A						
SOFTWARE MIGRATION PHASE III	A						
PARCS EVOLUTIONARY MODERNIZATION (PE0305912F)		[0]		[0.000]	[0]		[0.000]
UEWR SGI REPLACEMENT	A						
SYSTEM MODERNIZATION	A						
PAVE PAWS EVOLUTIONARY MODERNIZATION (0305912F)		[0]		[0.000]	[0]		[0.000]
Program Office Support and Environmental Assessment	A						
Long Lead Items	A						

P-1 Shopping List Item No. 47

**Weapon System Cost Analysis  
Exhibit P-5, page 10 of 18**

**UNCLASSIFIED**

<b>Exhibit P-5, Weapon System Cost Analysis</b>	Date: February 2011
---	---------------------

Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature <b>SPACE MODS SPACE</b>
---	---

Weapon System Cost Elements	Ident Code	Total Cost in Millions of Dollars					
		FY 2012 OCO			Cost to Complete		
		Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
CAPE COD UPGRADED EARLY WARNING RADAR (UEWR) {PE 0305912F}		[0]		[0.000]	[0]		[0.000]
2. 474N SEA LAUNCHED BALLISTIC MISSILE (SLBM), DETECTION AND WARNING SYSTEM {PE 0305912F}		[0]		[0.000]	[0]		[0.000]
MISSION PROCESSING SYSTEM	A						
3. AFSSS EVOLUTIONARY MODERNIZATION		[0]		[0.000]	[0]		[0.000]
EGLIN SLEP	A						
4. EGLIN SERVICE LIFE EXTENSION PROGRAM {PE 0305940F}		[0]		[0.000]	[0]		[0.000]
GEODSS SLEP	A						
5. GEODSS SERVICE LIFE EXTENSION PROGRAM (PE0305490F)		[0]		[0.000]	[0]		[0.000]
CAVENET	A						
6. CAVENET {PE 0305940F}		[0]		[0.000]	[0]		[0.000]
JOINT SPACE OPERATIONS CENTER (JSpOC) MISSION SYSTEM {PE 0305614F}							
7. JOINT SPACE OPERATIONS CENTER (JSpOC) MISSION SYSTEM {PE 0305614F}		[0]		[0.000]	[0]		[0.000]
8. Net-Centric Sensors and Data Sources (N-CSDS) {PE 0604425F}	A						
<b>TOTAL PROGRAM:</b>				0.000			0.000

P-1 Shopping List Item No. 47

**UNCLASSIFIED**

Exhibit P-5A, Procurement History and Planning									Date: February 2011		
Appropriation (Treasury) Code/CC/BA/Bs/Item Control Number: <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>									P-1 Line Item Nomenclature: <b>SPACE MODS SPACE</b>		
<u>Weapon System</u>						Subline Item					
SPACE MODS SPACE											
WBS Cost Elements	Qty.	Unit Cost	Location of PCO	RFP Issue Date	Contract Method	Contract Type	Contractor and Location	Award Date	Date of First Delivery.	Specs Available Now?	Date Revision Available?
UEWR SGI Replacement ()							/				
(2010)	1	8.352	11WING		ALLOT		ITT / Colorado Springs, CO	Jul-10		Y	
(2011)	1	4.553	11WING		ALLOT		ITT / Colorado Springs, Co	Mar-11		Y	
(2012)	1	4.878	11WING		ALLOT		TBD / TBD	Jan-12		Y	
(2012 OCO)							/				
Program Office Support and Environmental Assessment ()							/				
(2010)							/				
(2011)							/				
(2012)	1	1.714	Hanscom AFB		ALLOT		VARIOUS / HANSCOM AFB, MA	Oct-11		Y	
(2012 OCO)							/				
Long Lead Items ()							/				
(2010)							/				

<b>Exhibit P-5A, Procurement History and Planning</b>	Date: February 2011
Appropriation (Treasury) Code/CC/BA/Bs/Item Control Number: <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature: <b>SPACE MODS SPACE</b>

<u>Weapon System</u>	Subline Item
SPACE MODS SPACE	

WBS Cost Elements	Qty.	Unit Cost	Location of PCO	RFP Issue Date	Contract Method	Contract Type	Contractor and Location	Award Date	Date of First Delivery.	Specs Available Now?	Date Revision Available?
(2011)							/				
(2012)	1	3.760	Huntsville AL		ALLOT		TBD / TBD	Jan-12	Sep-16	Y	
(2012 OCO)							/				
CAPE COD UPGRADED EARLY WARNING RADAR (UEWR) {PE 0305912F} ()							/				
(2010)							/				
(2011)							/				
(2012)							/				
(2012 OCO)							/				
(2010)							/				
(2011)							/				
(2012 OCO)							/				
SYSTEM MODERNIZATION ()							/				

<b>Exhibit P-5A, Procurement History and Planning</b>	Date: February 2011
---	---------------------

Appropriation (Treasury) Code/CC/BA/Bs/Item Control Number: <b>Other Procurement, Air Force, Budget Activity 03, Electronics and Telecommunications Equip, Item No. 47</b>	P-1 Line Item Nomenclature: <b>SPACE MODS SPACE</b>
---	--

<u>Weapon System</u> SPACE MODS SPACE	Subline Item
--	--------------

WBS Cost Elements	Qty.	Unit Cost	Location of PCO	RFP Issue Date	Contract Method	Contract Type	Contractor and Location	Award Date	Date of First Delivery.	Specs Available Now?	Date Revision Available?
(2010)							/				
(2011)							/				
(2012)							/				
(2012 OCO)							/				
TRANSMITTER/RECEIVER SUBSYSTEM REFRESH ()							/				
(2010)							/				
(2011)							/				
(2012)							/				
(2012 OCO)							/				

**Remarks**

---



---



---



---

UNCLASSIFIED  
Individual Modification

02/04/2011  
FY 2012 PB

Exhibit P3A Congressional  
Appropriation: Other Procurement, Air Force

Modification Title and No. P3A CAPE COD MN- P3A CAPE COD

CLC: SPACE MODS SPACE Class:

Models of Systems Affected: Center:

PE Team

**Description/Justification**

The Cape Cod Early Warning Radar (EWR) located at Cape Cod Air Station, MA, is an Ultra High Frequency (UHF) radar that is being upgraded to include missile defense functionality. This missile defense functionality was previously funded with 0400 (RDT&E) from the Missile Defense Agency (MDA). The addition of the Cape Cod UEWB into the Ballistic Missile Defense System (BMDS) sensor architecture will improve BMDS sensor coverage and provide new engagement options against long range missile threats. The upgrade of the Cape Cod radar will also eliminate obsolescence issues currently facing AFSPC concerning the sustainment of the radar. Contractor services include A&AS and FFRDC. FY12 best estimate of total Full-Time Contractor Employees (FTEs) is 9.

Other Breakdown: ACTIVE 1, RESERVE 0, ANG 0, TOTAL 1

**Development Status**

The upgrade to the Cape Cod EWR is to enhance its capabilities and integration within the BMDS architecture. The Cape Cod radar is the last EWR to be included in the upgrade to UEWB. This work will bring the radar to the operating standards needed for Missile Defense and Space surveillance.

**Projected Financial Plan**

	<u>PRIOR</u>		<u>FY-10</u>		<u>FY-11</u>		<u>FY-12</u>		<u>FY-12 OCO</u>		<u>FY-13</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
RDT & E (3600) (Active)												
RDT & E (3600) (Guard)												
RDT & E (3600) (Reserve)												
Total : RDT & E (3600)												
PROCUREMENT (3080)												
INSTALL KITS Group A (Active)												
INSTALL KITS Group A (Guard)												
INSTALL KITS Group A (Reserve)												
TOTAL: INSTALL KITS												
KITS NONRECUR Group A (Active)												
KITS NONRECUR Group A (Guard)												
KITS NONRECUR Group A (Reserve)												
TOTAL: KITS NONRECUR												
EQUIPMENT Group B (Active)												
EQUIPMENT Group B (Guard)												
EQUIPMENT Group B (Reserve)												
TOTAL: EQUIPMENT												
EQUIP NONREC Group B (Active)												
EQUIP NONREC Group B (Guard)												
EQUIP NONREC Group B (Reserve)												
TOTAL: EQUIP NONREC												
CHANGE ORDERS												

**Projected Financial Plan Continued**

	<u>PRIOR</u>		<u>FY-10</u>		<u>FY-11</u>		<u>FY-12</u>		<u>FY-12 OCO</u>		<u>FY-13</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
DATA												
SIM/TRAINER												
SUPPORT- EQUIP												
LONG LEAD ITEMS							[1]	4.584				7.413
OTHER												
PROGRAM MNGMT							[1]	2.538				2.712
SE/PM												
Prime Mission Product												
INSTALLATION OF HARDWARE												
TOTAL INSTALL												
TOTAL COST (BP-1100)								7.122				10.125
(Totals may not add due to rounding)												
INSTALLATION QTY							1					



Continued

	<u>FY-14</u>		<u>FY-15</u>		<u>FY-16</u>		<u>TO COMP</u>		<u>TOTAL</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
RDT & E (3600) (Active)										
RDT & E (3600) (Guard)										
RDT & E (3600) (Reserve)										
Total : RDT & E (3600)										
PROCUREMENT (3080)										
INSTALL KITS Group A (Active)										
INSTALL KITS Group A (Guard)										
INSTALL KITS Group A (Reserve)										
TOTAL: INSTALL KITS										
KITS NONRECUR Group A (Active)										
KITS NONRECUR Group A (Guard)										
KITS NONRECUR Group A (Reserve)										
TOTAL: KITS NONRECUR										
EQUIPMENT Group B (Active)										
EQUIPMENT Group B (Guard)										
EQUIPMENT Group B (Reserve)										
TOTAL: EQUIPMENT										
EQUIP NONREC Group B (Active)										
EQUIP NONREC Group B (Guard)										
EQUIP NONREC Group B (Reserve)										
TOTAL: EQUIP NONREC										
CHANGE ORDERS										
DATA										
SIM/TRAINER										
SUPPORT- EQUIP										
LONG LEAD ITEMS								[1]	11.997	
OTHER	[1]	15.224		16.830		3.453		[1]	35.507	
PROGRAM MNGMT		17.585		6.543		2.633		[1]	32.011	
SE/PM	[1]	35.619		10.000				[1]	45.619	
Prime Mission Product		43.227		20.000					63.227	
INSTALLATION OF HARDWARE										
TOTAL INSTALL										
TOTAL COST (BP-1100)		111.655		53.373		6.086			188.361	

**Continued**

	<u>FY-14</u>		<u>FY-15</u>		<u>FY-16</u>		<u>TO COMP</u>		<u>TOTAL</u>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
(Totals may not add due to rounding)										
INSTALLATION QTY									1	

Method of Implementation: Combination

Initial Lead Time: 57 Months Months

Follow-On Lead Time: 0 Months Months

**Milestones**

	<u>FY-11</u>	<u>FY-12</u>	<u>FY-13</u>	<u>FY-14</u>	<u>FY-15</u>	<u>FY-16</u>
Contract Date (Month/CY)		01/12				
Delivery Date (Month/CY)					09/16	

**Installation Schedule**

	<u>FY-11</u>				<u>FY-12</u>				<u>FY-12 OCO</u>				<u>FY-13</u>				<u>FY-14</u>				<u>FY-15</u>				<u>FY-16</u>			
	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
Input					1																							
Output																												