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**Department of Defense
Fiscal Year (FY) 2017 President's Budget Submission**

February 2016



Air Force

Justification Book Volume 1 of 1

Space Procurement, Air Force

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Air Force • President's Budget Submission FY 2017 • Procurement

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Appropriation Language
Fiscal Year (FY) 2017 President's Budget
Space Procurement, Air Force

For construction, procurement, and modification of spacecraft, launch services, and related equipment (including ground control and communication equipment) and training devices; expansion of public and private plants, Government-owned equipment and installation thereof in such plants, erection of structures, and acquisition of land, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes including rents and transportation of things; \$3,055,743,000 to remain available for obligations until September 30, 2021.

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Department of the Air Force
FY 2017 President's Budget
Exhibit P-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

27 Jan 2016

Appropriation: Space Procurement, Air Force

Budget Activity -----	FY 2015 (Base & OCO) -----	FY 2016 Base Enacted -----	FY 2016 OCO Enacted -----	FY 2016 Total Enacted -----
01. Space Procurement, Air Force		2,811,456		2,811,456
02. Spares				
Total Space Procurement, Air Force		2,811,456		2,811,456

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P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 27, 2016 at 10:18:54

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Department of the Air Force
FY 2017 President's Budget
Exhibit P-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

27 Jan 2016

Appropriation: Space Procurement, Air Force

Budget Activity -----	FY 2017 Base -----	FY 2017 OCO -----	FY 2017 Total -----
01. Space Procurement, Air Force	3,033,137		3,033,137
02. Spares	22,606		22,606
Total Space Procurement, Air Force	3,055,743		3,055,743

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Department of the Air Force
 FY 2017 President's Budget
 Exhibit P-1 FY 2017 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

27 Jan 2016

Appropriation: 3021F Space Procurement, Air Force

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO)		FY 2016 Base Enacted		FY 2016 OCO Enacted		FY 2016 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Space Procurement, Air Force											
Space Programs											
1	Advanced EHF	A				327,366				327,366	U
2	AF Satellite Comm System	A				74,673				74,673	U
3	Counterspace Systems	A				43,065				43,065	U
4	Family of Beyond Line-of-Sight Terminals	A			12	52,192			12	52,192	U
5	Wideband Gapfiller Satellites(Space)	A				74,476				74,476	U
6	GPS III Space Segment	A			1	(286,218)			1	(286,218)	U
	Less: Advance Procurement (PY)					(-87,000)				(-87,000)	U
						199,218				199,218	
7	Global Postioning (Space)	A				2,029				2,029	U
8	Spaceborne Equip (Comsec)	A				13,362				13,362	U
9	Global Positioning (Space)	A				64,135				64,135	U
10	MILSATCOM	A				35,495				35,495	U
11	Evolved Expendable Launch Capability	A				571,076				571,076	U
12	Evolved Expendable Launch Veh(Space)	A			4	679,851			4	679,851	U
13	SBIR High (Space)	A				542,713				542,713	U
14	NUDET Detection System	A				5,095				5,095	U
15	Space Mods	A				23,435				23,435	U

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16 Spacelift Range System Space	A	-----	103,275	-----	103,275 U
Total Space Procurement, Air Force			2,811,456		2,811,456

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 27, 2016 at 10:18:54

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Department of the Air Force
 FY 2017 President's Budget
 Exhibit P-1 FY 2017 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

27 Jan 2016

Appropriation: 3021F Space Procurement, Air Force

Line No	Item Nomenclature	Ident Code	FY 2017 Base		FY 2017 OCO		FY 2017 Total		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Space Procurement, Air Force									

Space Programs									
1	Advanced EHF	A		645,569			645,569		U
2	AF Satellite Comm System	A		42,375			42,375		U
3	Counterspace Systems	A		26,984			26,984		U
4	Family of Beyond Line-of-Sight Terminals	A	16	88,963			16	88,963	U
5	Wideband Gapfiller Satellites(Space)	A		86,272			86,272		U
6	GPS III Space Segment	A		(34,059)			(34,059)		U
	Less: Advance Procurement (PY)								U
				-----			-----		
				34,059			34,059		
7	Global Postioning (Space)	A		2,169			2,169		U
8	Spaceborne Equip (Comsec)	A		46,708			46,708		U
9	Global Positioning (Space)	A		13,171			13,171		U
10	MILSATCOM	A		41,799			41,799		U
11	Evolved Expendable Launch Capability	A		768,586			768,586		U
12	Evolved Expendable Launch Veh(Space)	A	5	737,853			5	737,853	U
13	SBIR High (Space)	A		362,504			362,504		U
14	NUDET Detection System	A		4,395			4,395		U
15	Space Mods	A		8,642			8,642		U

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16 Spacelift Range System Space	A	123,088	-----	123,088	U
Total Space Procurement, Air Force		3,033,137		3,033,137	

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Department of the Air Force
 FY 2017 President's Budget
 Exhibit P-1 FY 2017 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

27 Jan 2016

Appropriation: 3021F Space Procurement, Air Force

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO)		FY 2016 Base Enacted		FY 2016 OCO Enacted		FY 2016 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 02: Spares											

	SSpares										
17	Initial Spares/Repair Parts	A									U
	Total Spares										
	Total Space Procurement, Air Force					2,811,456				2,811,456	

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Department of the Air Force
 FY 2017 President's Budget
 Exhibit P-1 FY 2017 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

27 Jan 2016

Appropriation: 3021F Space Procurement, Air Force

Line No	Item Nomenclature	Ident Code	FY 2017 Base		FY 2017 OCO		FY 2017 Total		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 02: Spares									

	SSpares								
17	Initial Spares/Repair Parts	A		22,606			22,606		U
				-----		-----	-----		
	Total Spares			22,606			22,606		
				-----		-----	-----		
	Total Space Procurement, Air Force			3,055,743			3,055,743		

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Appropriation 3021F: Space Procurement, Air Force

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1	01	01	ADV555	Advanced EHF.....	Volume 1 - 1
2	01	01	AFSCOM	AF Satellite Comm System.....	Volume 1 - 13
3	01	01	CTRSPC	Counterspace Systems.....	Volume 1 - 25
4	01	01	FBLOST	Family of Beyond Line-of-Sight Terminals.....	Volume 1 - 29
5	01	01	GAP000	Wideband Gapfiller Satellites(Space).....	Volume 1 - 37
6	01	01	GPSIII	GPS III Space Segment.....	Volume 1 - 45
06	01	01	GPSIII	GPS III Space Segment, Advance Procurement.....	Volume 1 - 61
7	01	01	GPSSPC	Global Postioning (Space).....	Volume 1 - 65
8	01	01	MC0MSE	Spaceborne Equip (Comsec).....	Volume 1 - 69
9	01	01	MGPS00	Global Positioning (Space).....	Volume 1 - 73
10	01	01	MILSAT	MILSATCOM.....	Volume 1 - 79
11	01	01	MSEELC	EVOLVED EXPENDABLE LAUNCH CAPABILITY.....	Volume 1 - 87
12	01	01	MSEELV	Evolved Expendable Launch Veh(Space).....	Volume 1 - 93
13	01	01	MSSBIR	SBIR High (Space).....	Volume 1 - 103
14	01	01	NUDETS	NUDET Detection System.....	Volume 1 - 123
15	01	01	SPCMOD	Space Mods.....	Volume 1 - 127

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Appropriation 3021F: Space Procurement, Air Force

Line #	BA	BSA	Line Item Number	Line Item Title	Page
16	01	01	SPRNGE	Spacelift Range System Space.....	Volume 1 - 137

Appropriation 3021F: Space Procurement, Air Force

Line #	BA	BSA	Line Item Number	Line Item Title	Page
17	02	02	SSPARE	Initial Spares/Repair Parts.....	Volume 1 - 157

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Advanced EHF	ADV555	1	01	01.....	Volume 1 - 1
Counterspace Systems	CTRSPC	3	01	01.....	Volume 1 - 25
EVOLVED EXPENDABLE LAUNCH CAPABILITY	MSEELC	11	01	01.....	Volume 1 - 87
Evolved Expendable Launch Veh(Space)	MSEELV	12	01	01.....	Volume 1 - 93
Family of Beyond Line-of-Sight Terminals	FBLOST	4	01	01.....	Volume 1 - 29
GPS III Space Segment	GPSIII	6	01	01.....	Volume 1 - 45
GPS III Space Segment, Advance Procurement	GPSIII	06	01	01.....	Volume 1 - 61
Global Positioning (Space)	MGPS00	9	01	01.....	Volume 1 - 73
Global Postioning (Space)	GPSSPC	7	01	01.....	Volume 1 - 65
Initial Spares/Repair Parts	SSPARE	17	02	02.....	Volume 1 - 157
MILSATCOM	MILSAT	10	01	01.....	Volume 1 - 79
NUDET Detection System	NUDETS	14	01	01.....	Volume 1 - 123
SBIR High (Space)	MSSBIR	13	01	01.....	Volume 1 - 103
Space Mods	SPCMOD	15	01	01.....	Volume 1 - 127
Spaceborne Equip (Comsec)	MCOMSE	8	01	01.....	Volume 1 - 69
Spacelift Range System Space	SPRNGE	16	01	01.....	Volume 1 - 137

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Line Item Title	Line Item Number	Line #	BA	BSA	Page
Wideband Gapfiller Satellites(Space)	GAP000	5	01	01.....	Volume 1 - 37

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Exhibit P-1M, Procurement Programs - Modification Summary
(Listing by Model)

Lookup Matrix by Model

Model:	Air Force Satellite Control Network	
Modification P-40a Aggregated Items Title:	AIR FORCE SATELLITE CONTROL NETWORK SPACE MODS	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
02-AFSCN	Air Force Satellite Control Network Recapitalization Projects	No
03 - ESD	03-ESD - Electronic Scheduling Dissemination	No
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	Remote Tracking Station Block Change (RBC)	No

Model:	SBIRS	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	SBIRS Mobile System & Fixed Comm Electronics Upgrades	No

Model:	GPS-OCS	
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	NAVSTAR GPS-OCS COTS UPGRADE	No

Model:	NA	
Modification P-40a Aggregated Items Title:	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		

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Air Force • President's Budget Submission FY 2017 • Procurement
Exhibit P-1M, Procurement Programs - Modification Summary
(Listing by Model)

Model:	NA	
Modification P-40a Aggregated Items Title:	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System	
Item Number	Item Title	Applies to Multiple Models
P-3A PAVE PAWS Modifications	P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)	No

Model:	Spacelift Range System Space	
Modification P-40a Aggregated Items Title:	Spacelift Range System Space	
Item Number	Item Title	Applies to Multiple Models
Uncategorized		
04-SLRS	Spacelift Range System Recapitalization Projects	No
P-3a Individual Modifications		
Modification Number	Modification Title	Applies to Multiple Models
1	Modernization of Eastern Range Network (MEN)	No
2	Western Range Modernization of Network (WMN)	No
3	Range Command Destruct Modernization (RCDM)	No
4	Range Communications Facility (RCF)	No

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Air Force • President's Budget Submission FY 2017 • Procurement
Exhibit P-1M, Procurement Programs - Modification Summary
(Funding for Modifications)

Funding (\$ M)

Modification P-40a Item Title P-3a Modification Title	PYS	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021
Exhibit P-40a										
Air Force Satellite Control Network Recapitalization Projects	0.000	-	5.217	-	-	-	10.051	20.336	24.512	24.329
03-ESD - Electronic Scheduling Dissemination	-	-	-	1.968	-	1.968	-	-	-	-
P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)	-	-	9.379	-	-	-	-	-	-	-
Spacelift Range System Recapitalization Projects	-	-	5.258	4.924	-	4.924	36.619	58.745	31.740	30.496
Exhibit P-3a										
Remote Tracking Station Block Change (RBC)	0.000	0.000	42.442	18.003	0.000	18.003	21.971	0.000	0.000	0.000
SBIRS Mobile System & Fixed Comm Electronics Upgrades	-	0.000	8.988	7.541	0.000	7.541	7.676	7.812	7.951	8.093
NAVSTAR GPS-OCS COTS UPGRADE	-	0.000	11.882	7.667	0.000	7.667	8.621	9.716	1.985	2.020
Modernization of Eastern Range Network (MEN)	0.000	0.000	1.000	7.500	0.000	7.500	1.000	1.000	-	-
Western Range Modernization of Network (WMN)	0.000	0.000	37.000	36.500	0.000	36.500	22.500	2.000	2.000	1.500
Range Command Destruct Modernization (RCDM)	0.000	0.000	13.584	25.114	0.000	25.114	2.200	1.000	1.000	-
Range Communications Facility (RCF)	-	0.000	0.000	8.000	0.000	8.000	19.100	27.200	43.800	32.600
Totals (Total Obligation Authority)										
Total Obligation Authority	0.000	0.000	134.750	117.217	0.000	117.217	129.738	127.809	112.988	99.038

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ACRONYMS

GENERAL ACRONYMS

A&AS	- Advisory & Assistance Services
ABIDES	- Automated Budget Interactive Data Environment System
ACAT	- Acquisition Category
ACTD	- Advanced Concept Technology Demonstration
AGM	- Air-to-Ground Missile
AIM	- Air Intercept Missile
AIS	- Avionics Intermediate Shop
ACMI	- Aircraft Combat Maneuvering Instrumentation
AMRAAM	- Advanced Medium-Range Air-to-Air Missile
APPN	- Appropriation
ATD	- Advanced Technology Development
BA	- Budget Activity
BLSS	- Base Level Self-Sufficiency Spares
BY	- Budget Year
C3	- Command, Control, and Communication System
CFE	- Contractor Furnished Equipment
CONOPS	- Concept of Operation
CONUS	- Continental United States
CPMS	- Comprehensive Power Management System
CPT	- Cockpit Procedures Trainer
CRA	- Continuing Resolution Authority
CTS	- Countermeasures Test Set
CY	- Current Year
ECCM	- Electronic Counter Counter-Measures
ECM	- Electronic Counter Measures
ECO	- Engineering Change Orders
EOQ	- Economic Order Quantity
ECP	- Engineering Change Proposal
EPA	- Economic Price Adjustment
EW	- Electronic Warfare
EWAIISP	- Electronic Warfare Avionics Integration Support Facility
FLIR	- Forward Looking Infra Red

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FOT&E	- Follow-on Test and Evaluation
FOC	- Fully Operational Capability
FLTS	- Flight Line Test Set
FPIF	- Fixed Price Incentive Firm
FPIS	- Fixed Price Incentive Fee, Successive Targets
FY	- Fiscal Year
GANS	- Global Access Navigation & Safety
GATM	- Global Air Traffic Management
GFE	- Government Furnished Equipment
GFP	- Government Furnished Property
GPS	- Global Positioning System
GSE	- Ground Support Equipment
ICS	- Interim Contractor Support
IOC	- Initial Operating Capability
IPE	- Increased Performance Engine
JPALS	- Joint Precision Approach and Landing System
LANTIRN	- Low Altitude Navigation and Targeting Infra Red System for Night
MAIS	- Major Automated Information System Program
MDAP	- Major Defense Acquisition Program
METS	- Mobile Electronic Test Stations
MYP	- Multiyear Procurement
MSIP	- Multi-Stage Improvement Program
NAVWAR	- Navigation Warfare
NMC Rate	- Not Mission Capable Rate
OFFP	- Operational Flight Program
OT&E	- Operational Test and Evaluation
OWRM	- Other War Reserve Material
PAGEL	- Priced Aerospace Ground Equipment List
PB	- President's Budget
PGSE	- Peculiar Ground Support Equipment
PMA	- Program Management Administration
PMC	- Procurement Method Code
PNO	- Acquisition Program Number (MDAP Codes)
PR	- Purchase Request
PRCP	- Program Resource Collection Process
PTT	- Part Task Trainer

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PY	- Prior Year
R&M	- Reliability and Maintainability
RAA	- Required Asset Availability
RDT&E	- Research, Development, Test and Evaluation
RWR	- Radar Warning Receiver
ROM	- Rough Order of Magnitude
SAM	- Surface-to-Air Missile
SS	- Sole Source
SOF	- Special Operation Force
TAF	- Tactical Air Force
TCAS	- Traffic Collision Alert and Avoidance System
TEWS	- Tactical Electronic Warfare System
TISS	- TEWS Intermediate Support System
TOA	- Total Obligation Authority
WCF	- Working Capital Fund
WRM	- War Reserve Material
WST	- Weapon System Trainer
UAV	- Unmanned Aerial Vehicle
UHF	- Ultra High Frequency
USA	- United States of America
XML	- Extensible Markup Language

BASE / ORGANIZATIONAL ACRONYMS

11 WING	- 11th Support Wing
ACC	- Air Combat Command
AETC	- Air Education & Training Command
AFCAO	- Air Force Computer Acquisition Office
AFCESA	- Air Force Civil Engineering Support Agency
AFCIC	- AF Communications & Information Center
AFCSC	- Air Force Cryptologic Service Center
AFESC	- Air Force Engineering Services Center
AFGWC	- Air Force Global Weather Central
AFIT	- Air Force Institute of Technology
AFLCMC	- Air Force Life Cycle Management Center
AFMC	- Air Force Materiel Command

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AFMETCAL	- Air Force Metrology and Calibration Office
AFMLO	- Air Force Medical Logistics Office
AFNEWS	- Air Force Information & News Service Center
AFOSI	- Air Force Office of Special Investigation
AFOTEC	- Air Force Operational Test & Evaluation Center
AFPC	- Air Force Personnel Center
AFPSL	- AF Primary Standards Lab
AFR	- Air Force Reserve
AFSOC	- AF Special Operations Command
AFSPC	- Air Force Space Command
AIA	- Air Intelligence Agency
ALC	- Air Logistics Center
AMC	- Air Mobility Command
ANG	- Air National Guard
ASC	- Aeronautical Systems Center
AETC	- Air Education Training Command
AU	- Air University
AWS	- Air Weather Service
CIA	- Central Intelligence Agency
DGSC	- Defense General Support Center
DLA	- Defense Logistics Center
DOE	- Department of Energy
DPSC	- Defense Personnel Support Center
DSCC	- Defense Supply Center, Columbus
DTIC	- Defense Technical Information Center
ER	- Eastern Range
ESC	- Electronic Systems Center
FAA	- Federal Aviation Agency
FBI	- Federal Bureau of Investigation
GSA	- General Services Administration
JCS	- Joint Chiefs of Staff
NATO	- North Atlantic Treaty Organization
OSD	- Office of the Secretary of Defense
PACAF	- Pacific Air Forces
USAF	- United States Air Force
USAFA	- United States Air Force Academy

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USAFE	- United States Air Force Europe
USCENTCOM	- United States Central Command
USEUCOM	- United States European Command
USMC	- United States Marine Corps
USSTRATCOM	- United States Strategic Command
WP AFB	- Wright-Patterson AFB, OH

CONTRACT METHOD / TYPE ACRONYMS

C	- Competitive
BA	- Basic Agreement
BOA	- Basic Ordering Agreement
BPA	- Blanket Purchasing Agreement
CS	- Cost Sharing
IDDQ	- Indefinite Delivery, Definite Quantity
IDIQ	- Indefinite Delivery, Indefinite Quantity
IDRT	- Indefinite Delivery, Requirements
Letter	- Letter
LH	- Labor-hour
MIPR	- Military Interdepartmental Purchase Request
MIPR-C	- Military Interdepartmental Purchase Request - Competitive
MIPR-OPT	- Military Interdepartmental Purchase Request - Option
MIPR-OTH	- Military Interdepartmental Purchase Request - Other
MIPR-SS	- Military Interdepartmental Purchase Request - Sole Source
OPT	- Option
OTH	- Other
PO	- Project Order
REQN	- Requisition
SS	- Sole Source
T&M	- Time and Materials
UCA	- Undefinitized Contract Action
WP	- Work Project

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CONTRACTED BY ACRONYMS

11 WING	- 11th Support Wing, Washington, DC
ACC	- Air Combat Command, Langley AFB, VA
AEDC	- Arnold Engineering Development Center, Arnold AFB, TN
AAC	- Air Armament Center, Eglin AFB, FL
AEDC	- Arnold Engineering Development Center, Arnold AFB, TN
AETC	- Air Education and Training Command, Randolph AFB, TX
AFCIC	- Air Force Communications and Information Center, Washington, DC
AFCESA	- Air Force Civil Engineering Support Agency, Tyndall AFB, FL
AFFTC	- Air Force Flight Test Center, Edwards AFB, CA
AFLCMC	- Air Force Life Cycle Management Center, Wright-Patterson AFB, OH
AFMC	- Air Force Materiel Command, Wright-Patterson AFB, OH
AFMETCAL	- Air Force Metrology and Calibration Office, Heath, Ohio
AFMLO	- Air Force Medical Logistics Office, Ft Detrick, MD
AIA	- Air Intelligence Agency, Kelly AFB, TX
AMC	- Air Mobility Command, Scott AFB, IL
ASC	- Aeronautical Systems Center, Wright-Patterson AFB, OH & Eglin AFB, FL
AFWA	- Air Force Weather Agency, Offutt AFB, NE
DGSC	- Defense General Support Center, Richmond, VA
DPSC	- Defense Personnel Support Center, Philadelphia, PA
ER	- Eastern Range, Patrick AFB, FL
ESC	- Electronic Systems Center, Hanscom AFB, MA
HSC	- Human Services Center, Brook AFB, TX
OC-ALC	- Oklahoma City Air Logistics Center, Tinker AFB, OK
OO-ALC	- Ogden Air Logistics Center, Hill AFB, UT
SMC	- Space & Missile Systems Center, Los Angeles AFB, CA
US STRATCOM	- US Strategic Command, Offutt AFB, NE
WACC	- Washington Area Contracting Center, Washington DC
WR	- Western Range, Vandenberg AFB, CA
WR-ALC	- Warner-Robins Air Logistics Center, Robins AFB, GA
AFSPC	- Air Force Space Command, Peterson AFB, CO
HQ ANG	- Headquarters, Air National Guard, Washington, DC
USAFE	- United States Air Force Europe, Ramstein AB, GE
USAFA	- United States Air Force Academy, Colorado Springs, CO
SSG	- Standard Systems Group, Maxwell AFB-Gunter Annex, AL

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IDENTIFICATION CODES

- Code "A" - Line items of material which have been approved for Air Force service use.
- Code "B" - Line items of material that have not been approved for Service use
- OBAN - Operating Budget Account Number, 2-digit code for unit allocated funds

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
 1: Space Programs

P-1 Line Item Number / Title:
 ADV555 / Advanced EHF

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605431F

Line Item MDAP/MAIS Code: 261 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	327.366	645.569	-	645.569	56.854	29.299	31.180	31.742	-	1,122.010
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	327.366	645.569	-	645.569	56.854	29.299	31.180	31.742	-	1,122.010
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	327.366	645.569	-	645.569	56.854	29.299	31.180	31.742	-	1,122.010

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

As of the FY16 PB submission, space programs' satellite procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in FY16 and beyond. This exhibit will display values in FY16 and beyond. FY15 and prior FYs will be displayed in the corresponding MPAF/3020 exhibits. Total 3020/3021 procurement funding is \$5,709.345M.

Develop and acquire Advanced Extremely High Frequency (AEHF) Military Satellite Communications (MILSATCOM) satellites, mission control segment and cryptography for survivable, anti-jam, worldwide, secure communications for the strategic and tactical warfighter. AEHF satellites will replenish the existing EHF system (Milstar) providing much higher capacity and data rate (5x increase over Milstar II) capabilities. AEHF is a cooperative program that includes International Partners (Canada, the United Kingdom, and the Kingdom of the Netherlands). The AEHF procurement program element funds the Command and Control System - Consolidated (CCS-C) mission unique software and databases for AEHF 4-6 satellites. CCS-C provides launch and early orbit support and on-orbit anomaly resolution.

AEHF Space Vehicle-3 (SV-3) and SV-4 are derivatives of the first two AEHF satellites which were delivered on the AEHF System Development and Demonstration (SDD) contract (RDT&E funded). SV-3 was successfully launched on 18 Sep 2013. SV-4 has a projected launch availability of 3QFY17.

SVs 5 and 6 are being procured under the Department of Defense's Efficient Space Procurement (ESP) approach which enables stable production and strategic sub-tier management through the block buy of space vehicles employing fixed-price contracting. The AEHF block buy of two satellites enables savings by reducing the effect of obsolescence and production breaks, allowing for economic buying of components, and optimizing production resources. Additionally, ESP enables cost efficiencies with the prime and subcontractor team as well as predictability for the space industrial base.

The Resilient Basis for SATCOM (RBS) in Joint Operations study directed an Analysis of Alternatives (AoA) to investigate how best to provision for protected MILSATCOM capabilities beyond SV-6. The Protected Satellite Communications Services (PSCS) AoA has completed and the report is being finalized. The USAF Space and Missile Systems Center (SMC) is conducting a follow-on study to refine the PSCS AoA recommendations and provide additional insight to support the future protected MILSATCOM architecture.

The flyaway unit cost is not included on P-40 exhibit because there are multiple P-5 Cost Analysis exhibits.

Funding for this exhibit is contained in PE 0303604F. This program has associated Research Development Test and Evaluation funding in PE 0603430F (FY13 and prior) and PE 0605431F (FY14 and beyond).

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: ADV555 / Advanced EHF
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0605431F
Line Item MDAP/MAIS Code: 261	Item MDAP/MAIS Code(s): N/A	
Total AEHF SV3 SV4 3020/3021 funds are \$3,059.420M. Total AEHF SV5 SV6 3020/3021 funds are \$2,649.925M.		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs

P-1 Line Item Number / Title:
ADV555 / Advanced EHF

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605431F

Line Item MDAP/MAIS Code: 261 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AEHF SV3 SV4		A	- / 0.000	- / -	- / 106.072	- / 21.544	- / -	- / 21.544
P-5	AEHF SV5 SV6		A	- / 0.000	- / -	- / 221.294	- / 624.025	- / -	- / 624.025
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 327.366	- / 645.569	- / -	- / 645.569

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AEHF SV3 SV4		A	- / -	- / -	- / -	- / -	- / -	- / 127.616
P-5	AEHF SV5 SV6		A	- / 56.854	- / 29.299	- / 31.180	- / 31.742	- / -	- / 994.394
P-40	Total Gross/Weapon System Cost			- / 56.854	- / 29.299	- / 31.180	- / 31.742	- / -	- / 1,122.010

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

In FY17 AEHF will continue funding efforts such as the SV 5-6 production block buy, continuation of technical support to include obsolescence/Diminishing Manufacturing Sources (DMS) studies, SV-4 launch support, systems engineering and integration (SE&I), AEHF Calibration Facility/Interim Command and Control (ACF/IC2) test asset support, and continuation of program office and related support. Also, funds the Command and Control System - Consolidated (CCS-C) mission unique software and databases for AEHF 4-6 satellites.

On 31 Oct 2013, a Fixed-Price Incentive (Firm Target) contract for the AEHF SV 5/6 Production and Launch Operations was definitized, with a period of performance from fiscal years 2012 through 2021. The maximum total program funding liability is \$2.232 billion (includes \$227M in FY11 advanced procurement funds).

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: ADV555 / Advanced EHF	Item Number / Title [DODIC]: - / AEHF SV3 SV4
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	0.000	-	106.072	21.544	-	21.544	-	-	-	-	-	127.616
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	0.000	-	106.072	21.544	-	21.544	-	-	-	-	-	127.616
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	0.000	-	106.072	21.544	-	21.544	-	-	-	-	-	127.616

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - AEHF SV3 SV4 Cost																		
Recurring Cost																		
Plus Advance Procurement CY AEHF SV 3-4	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Advance Procurement PY AEHF SV 3-4	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - AEHF SV3 SV4 Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Vehicle - AEHF SV3 SV4 Cost																		
Recurring Cost																		
AEHF Space Vehicle (SV) 3	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF Space Vehicle (SV) 4	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enterprise SE&I	-	-	-	-	-	-	-	-	2.302	-	-	1.479	-	-	-	-	-	1.479
Technical Mission Analysis (WS)	-	-	-	-	-	-	-	-	10.000	-	-	10.764	-	-	-	-	-	10.764
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>12.302</i>	-	-	<i>12.243</i>	-	-	-	-	-	<i>12.243</i>
<i>Subtotal: Space Vehicle - AEHF SV3 SV4 Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>12.302</i>	-	-	<i>12.243</i>	-	-	-	-	-	<i>12.243</i>
Checkout and Launch - AEHF SV3 SV4 Cost																		

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Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: ADV555 / Advanced EHF						Item Number / Title [DODIC]: - / AEHF SV3 SV4					
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:							

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AEHF SV 3 Launch Support Services	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Integration of AEHF SV 3 with Launch Vehicle	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF SV 3 Propellant	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF Spectrum Management Support	-	-	0.000	-	-	-	-	-	0.176	-	-	-	-	-	-	-	-	-
AEHF SV 4 Launch Support Services/Launch Readiness	-	-	0.000	-	-	-	-	-	81.372	-	-	4.895	-	-	-	-	-	4.895
AEHF SV 4 Propellant	-	-	0.000	-	-	-	-	-	3.705	-	-	-	-	-	-	-	-	-
AEHF SV 3-4 Satellite Transportation for Launch	-	-	0.000	-	-	-	-	-	1.394	-	-	-	-	-	-	-	-	-
Command & Control System - Consolidated (CCS-C) Launch Support AEHF SV 4	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Checkout and Launch - AEHF SV3 SV4 Cost</i>	-	-	0.000	-	-	-	-	-	86.647	-	-	4.895	-	-	-	-	-	4.895
Support - AEHF SV3 SV4 Cost																		
FFRDC	-	-	0.000	-	-	-	-	-	2.920	-	-	1.656	-	-	-	-	-	1.656
A&AS	-	-	0.000	-	-	-	-	-	3.703	-	-	2.000	-	-	-	-	-	2.000
Other Support	-	-	0.000	-	-	-	-	-	0.500	-	-	0.750	-	-	-	-	-	0.750
<i>Subtotal: Support - AEHF SV3 SV4 Cost</i>	-	-	0.000	-	-	-	-	-	7.123	-	-	4.406	-	-	-	-	-	4.406
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	106.072	-	-	21.544	-	-	-	-	-	21.544
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - AEHF SV3 SV4 Cost																		
Recurring Cost																		
Plus Advance Procurement CY AEHF SV 3-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Advance Procurement PY AEHF SV 3-4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2017 Air Force													Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: ADV555 / Advanced EHF						Item Number / Title [DODIC]: - / AEHF SV3 SV4						
ID Code (A=Service Ready, B=Not Service Ready) : A									MDAP/MAIS Code:									
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - AEHF SV3 SV4 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Vehicle - AEHF SV3 SV4 Cost																		
<i>Recurring Cost</i>																		
AEHF Space Vehicle (SV) 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF Space Vehicle (SV) 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enterprise SE&I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.781
Technical Mission Analysis (WS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.764
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.545
<i>Subtotal: Space Vehicle - AEHF SV3 SV4 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.545
Checkout and Launch - AEHF SV3 SV4 Cost																		
AEHF SV 3 Launch Support Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Integration of AEHF SV 3 with Launch Vehicle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF SV 3 Propellant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AEHF Spectrum Management Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.176
AEHF SV 4 Launch Support Services/Launch Readiness	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86.267
AEHF SV 4 Propellant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.705
AEHF SV 3-4 Satellite Transportation for Launch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.394
Command & Control System - Consolidated (CCS-C) Launch Support AEHF SV 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Checkout and Launch - AEHF SV3 SV4 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91.542
Support - AEHF SV3 SV4 Cost																		
FFRDC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.576
A&AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.703
Other Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.250

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: ADV555 / Advanced EHF	Item Number / Title [DODIC]: - / AEHF SV3 SV4
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Support - AEHF SV3 SV4 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.529
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127.616

Remarks:
Total AEHF SV3 SV4 funds are \$3,048.224M.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: ADV555 / Advanced EHF	Item Number / Title [DODIC]: - / AEHF SV5 SV6
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	221.294	624.025	-	624.025	56.854	29.299	31.180	31.742	-	994.394
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	221.294	624.025	-	624.025	56.854	29.299	31.180	31.742	-	994.394
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	221.294	624.025	-	624.025	56.854	29.299	31.180	31.742	-	994.394

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space Vehicle - SV5 SV6 Cost																		
Recurring Cost																		
AEHF SV 5-6 Block Buy	-	-	0.000	-	-	-	-	-	165.579	-	-	560.991	-	-	-	-	-	560.991
FY14 Incremental Funding	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FY15 Incremental Funding	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FY16 Incremental Funding	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FY17 Incremental Funding	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plus Advance Procurement CY AEHF SV 5-6	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Advance Procurement PY AEHF SV 5-6	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enterprise SE&I	-	-	-	-	-	-	-	-	9.934	-	-	10.558	-	-	-	-	-	10.558
Technical Mission Analysis	-	-	-	-	-	-	-	-	13.929	-	-	14.761	-	-	-	-	-	14.761
ACF/IC2 Test Asset Support	-	-	-	-	-	-	-	-	8.976	-	-	9.251	-	-	-	-	-	9.251
Subtotal: Recurring Cost	-	-	0.000	-	-	-	-	-	198.418	-	-	595.561	-	-	-	-	-	595.561

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Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: ADV555 / Advanced EHF						Item Number / Title [DODIC]: - / AEHF SV5 SV6					
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:					

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Space Vehicle - SV5 SV6 Cost</i>	-	-	0.000	-	-	-	-	-	198.418	-	-	595.561	-	-	-	-	-	595.561
Checkout and Launch - SV5 SV6 Cost																		
AEHF SV 5-6 Propellant	-	-	-	-	-	-	-	-	-	-	-	3.854	-	-	-	-	-	3.854
AEHF Spectrum Management	-	-	-	-	-	-	-	-	-	-	-	0.244	-	-	-	-	-	0.244
AEHF SV 5-6 Launch Support Services/Launch Readiness	-	-	-	-	-	-	-	-	1.036	-	-	2.459	-	-	-	-	-	2.459
Command & Control System-Consolidated (CCS-C) Launch Support AEHF 5-6	-	-	-	-	-	-	-	-	1.906	-	-	-	-	-	-	-	-	-
AEHF SV 5-6 Satellite Transportation for Launch	-	-	-	-	-	-	-	-	-	-	-	1.533	-	-	-	-	-	1.533
<i>Subtotal: Checkout and Launch - SV5 SV6 Cost</i>	-	-	-	-	-	-	-	-	2.942	-	-	8.090	-	-	-	-	-	8.090
Support - SV5 SV6 Cost																		
FFRDC	-	-	0.000	-	-	-	-	-	0.600	-	-	0.621	-	-	-	-	-	0.621
A&AS	-	-	0.000	-	-	-	-	-	19.334	-	-	19.753	-	-	-	-	-	19.753
Other Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - SV5 SV6 Cost</i>	-	-	0.000	-	-	-	-	-	19.934	-	-	20.374	-	-	-	-	-	20.374
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	221.294	-	-	624.025	-	-	-	-	-	624.025
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space Vehicle - SV5 SV6 Cost																		
Recurring Cost																		
AEHF SV 5-6 Block Buy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	726.570
FY14 Incremental Funding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FY15 Incremental Funding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FY16 Incremental Funding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** ADV555 / Advanced EHF **Item Number / Title [DODIC]:** - / AEHF SV5 SV6

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
FY17 Incremental Funding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plus Advance Procurement CY AEHF SV 5-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Advance Procurement PY AEHF SV 5-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enterprise SE&I	-	-	12.773	-	-	4.802	-	-	7.900	-	-	9.000	-	-	-	-	-	54.967
Technical Mission Analysis	-	-	18.039	-	-	9.358	-	-	6.472	-	-	6.900	-	-	-	-	-	69.459
ACF/IC2 Test Asset Support	-	-	9.093	-	-	9.597	-	-	9.857	-	-	8.975	-	-	-	-	-	55.749
<i>Subtotal: Recurring Cost</i>	-	-	39.905	-	-	23.757	-	-	24.229	-	-	24.875	-	-	-	-	-	906.745
<i>Subtotal: Space Vehicle - SV5 SV6 Cost</i>	-	-	39.905	-	-	23.757	-	-	24.229	-	-	24.875	-	-	-	-	-	906.745
Checkout and Launch - SV5 SV6 Cost																		
AEHF SV 5-6 Propellant	-	-	4.008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.862
AEHF Spectrum Management	-	-	0.386	-	-	0.176	-	-	0.176	-	-	-	-	-	-	-	-	0.982
AEHF SV 5-6 Launch Support Services/Launch Readiness	-	-	3.333	-	-	1.141	-	-	1.129	-	-	1.140	-	-	-	-	-	10.238
Command & Control System-Consolidated (CCS-C) Launch Support AEHF 5-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.906
AEHF SV 5-6 Satellite Transportation for Launch	-	-	1.685	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.218
<i>Subtotal: Checkout and Launch - SV5 SV6 Cost</i>	-	-	9.412	-	-	1.317	-	-	1.305	-	-	1.140	-	-	-	-	-	24.206
Support - SV5 SV6 Cost																		
FFRDC	-	-	2.400	-	-	0.665	-	-	0.918	-	-	1.188	-	-	-	-	-	6.392
A&AS	-	-	4.637	-	-	3.260	-	-	4.428	-	-	4.539	-	-	-	-	-	55.951
Other Support	-	-	0.500	-	-	0.300	-	-	0.300	-	-	-	-	-	-	-	-	1.100
<i>Subtotal: Support - SV5 SV6 Cost</i>	-	-	7.537	-	-	4.225	-	-	5.646	-	-	5.727	-	-	-	-	-	63.443
Gross/Weapon System Cost	-	-	56.854	-	-	29.299	-	-	31.180	-	-	31.742	-	-	-	-	-	994.394

Remarks:
AEHF SV 5-6 Block Buy funding includes Engineering Change Orders

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: ADV555 / Advanced EHF	Item Number / Title [DODIC]: - / AEHF SV5 SV6
ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:	

Total AEHF SV5 SV6 funds are \$2,673.442M.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs
P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305110F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	-	74.673	42.375	-	42.375	57.395 ^(a)	44.507 ^(b)	47.924 ^(c)	48.785 ^(d)	-	315.659 ^(e)
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	-	74.673	42.375	-	42.375	57.395	44.507	47.924	48.785	-	315.659
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	-	74.673	42.375	-	42.375	57.395	44.507	47.924	48.785	-	315.659

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Air Force Satellite Control Network (AFSCN) is a satellite ground terminal network comprised of two communication nodes (Schriever AFB & Vandenberg AFB) and 15 antenna systems. The antennas are distributed around the world at seven locations -- Vandenberg Tracking Station (VTS), Diego Garcia Station (DGS), Guam Tracking Station (GTS), Hawaii Tracking Station (HTS), New Hampshire Tracking Station (NHS), Thule Tracking Station (TTS), and Telemetry and Commanding Station (TCS) at RAF Oakhanger, England -- to ensure global coverage for 140 satellites in various orbits. The AFSCN conducts an average of 450 satellite contacts per day supporting Positioning, Navigation and Timing (PNT); Intelligence, Surveillance and Reconnaissance (ISR); Missile Warning; Communications; Weather; and Research and Development (R&D) satellites for Department of Defense (DoD), Intelligence Community (IC), and National Aeronautics and Space Administration (NASA) operations. While most of the 450 satellite contacts/day are routine command and control activities, the AFSCN is also used for satellite emergencies (e.g. tumbling satellite) because its high power antennas are often the only earthbound assets that can contact a non-responsive satellite to re-establish command & control. During FY14 and FY15, the AFSCN supported 28 space vehicle emergencies resulting in the preservation of over \$8.5B worth of satellites. In addition to routine and emergency satellite operations C2, the AFSCN provides support to launch vehicle and early orbit operations, ensuring worldwide antennas receive telemetry and transmit commands to newly orbiting satellites to initiate early orbit checkout. Finally, the AFSCN provides Factory Compatibility Testing (FCT) to ensure satellites and launch vehicles can communicate via the AFSCN before the satellite is launched. These efforts include systems engineering and integration (SE&I) activities.

These funds are used to procure modernized equipment for the AFSCN to ensure the capability is available to support DoD, Intelligence community, and civil users.

Principal efforts include:

- 1) AFSCN Interim Supply Support: procures support services, peculiar and common support materials, and required re-procurement data for the Satellite Control Network Contract, and to transition to government supply support.
- 2) Remote Tracking Station (RTS) Block Change (RBC): The RBC Program was initiated in Dec 2001 to modernize the legacy system. The RBC program replaces legacy remote ground antenna systems that have reached end of life. To date, RBC systems have been installed at VTS, DGS, TCS, GTS, HTS, and NHS. TTS is projected to complete in 1Q FY16. In addition, the Air Force is upgrading the electronics in the remaining eight serviceable systems. This "hybrid" architecture couples the RBC electronics with existing antennas and normalizes electronics across the network. A prototype effort was implemented in FY12 to validate the approach and the first two hybrid articles were awarded in FY13 to upgrade legacy systems at GTS and HTS. A third article was awarded in FY14 to upgrade the legacy system at VTS. Funds in FY15 (DGS, TTS), FY16 (TCS, NHS) and FY17 (TCS, a station with three antenna systems) continue RBC Hybrid procurement for the remaining locations; completion is projected by FY20. Finally, the Enhanced

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0305110F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A	
<p>High Power Amplifier (EHPA) spacecraft anomaly resolution system is scheduled for first-article delivery in 4Q 2016 at GTS. EHPA buys include VTS in FY16, NHS and DGS in FY18. Upon completion, EHPA will provide high-power anomaly resolution capability at four sites. The EHPA enables emergency satellite operations and is needed to replace obsolete parts.</p> <p>3) AIR FORCE SATELLITE CONTROL NETWORK RECAPITALIZATION: The Air Force will use various contract vehicles to address the highest priority upgrades. Obsolescence and sustainment "worst actors" are prioritized annually in order of criticality to the mission. The potential for failed satellite contacts drives priority. In FY17, funds are planned to be used for Cyber Defense solutions, Wide Area Network Interface (WANIF) implementation and Electronic Scheduling Dissemination 3.0 Standard Space Training environment for external users. Other FYDP projects include: Authentication, Authorization, Auditing/Host Based Security System (AAA/HBSS) implementation to external users, AFSCN test bed upgrades, continued cyber defense work, network automation, moving the AFSCN Test Bed (ATB) from a leased contractor facility to a government facility, Range/Network/Communication obsolescence upgrades, and Multi-band & Phased Array projects.</p> <p>4) ELECTRONIC SCHEDULING DISSEMINATION 3.0: ESD 3.0 is a significant upgrade to the currently fielded scheduling system ESD 2.7. The upgrade will allow satellite operators to request contact time with their satellites via the shared AFSCN antennas, automatically de-conflict overlapping requests, create a schedule, and publish the schedule in real time to all users. The ESD 3.0 program will initialize Interim Contractor Support (ICS) pending successful resolution of all known CAT I Urgent Deficiency Reports (DRs). The ICS phase, including ongoing maintenance, drawing updates, technical data updates, and general support will be required as ESD 3.0 prepares for initial deployment. The ICS period concludes once maintenance responsibility is transferred to the inheriting organization. ICS is planned for approximately one year across FY17 - FY18.</p> <p>Funding for this effort is contained in PE 0305110F. As of the FY16 PB submission, space programs procurement funding has been re-categorized from appropriation 3080, Other Procurement Air Force (OPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in FY16 and beyond. This exhibit will display values in FY16 and beyond. Prior years will be displayed in the corresponding OPAF/3080 exhibits. Total 3080/3021 procurement funding is \$370.095M.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
AFSCOM / AF Satellite Comm System

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305110F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AIR FORCE SATELLITE CONTROL NETWORK SPACE		B	- / -	- / -	- / 27.014	- / 22.405	- / -	- / 22.405
P-40a	AIR FORCE SATELLITE CONTROL NETWORK SPACE MODS			- / 0.000	- / -	- / 5.217	- / 1.968	- / -	- / 1.968
P-3a	1 / Remote Tracking Station Block Change (RBC) (Capability Improvement)			- / 0.000	- / -	- / 42.442	- / 18.003	- / -	- / 18.003
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 74.673	- / 42.375	- / -	- / 42.375

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	AIR FORCE SATELLITE CONTROL NETWORK SPACE		B	- / -	- / -	- / -	- / -	- / -	- / -
P-40a	AIR FORCE SATELLITE CONTROL NETWORK SPACE MODS			- / 10.051	- / 20.336	- / 24.512	- / 24.329	- / -	- / 86.413
P-3a	1 / Remote Tracking Station Block Change (RBC) (Capability Improvement)			- / 21.971	- / -	- / -	- / -	- / -	- / 82.416
P-40	Total Gross/Weapon System Cost			- / 57.395	- / 44.507	- / 47.924	- / 48.785	- / -	- / 315.659

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

1) AFSCN Interim Supply Support (P-5): FY17 funding provides peculiar and common support material, required re-procurement data, and interim supply support management. In addition, funds procure the most urgently needed capital equipment replacements for items that exceed the O&M dollar threshold. This equipment replaces items such as, but not limited to, high power amplifiers, processors, archival event recorders, and router switches, AFSCN Link Projection System (ALPS) equipment, legacy Electronic Scheduling Dissemination (ESD) 2.7 equipment and Diminishing Manufacturing Sources and Material Shortages (DMSMS) items which are at the top of the sustainers "worst actors" list and account for significant maintenance effort, down time, and lost or failed contacts.

2) RBC and AFSCN Recapitalization Projects (P-3As): These efforts are critical to ensuring telemetry, tracking, and commanding are provided for over 140 satellites and that satellite emergencies requiring high-power antennas can be supported.

3) ELECTRONIC SCHEDULING DISSEMINATION 3.0: These efforts are critical to ensuring operational turnover of the ESD 3.0 system, allowing satellite operators to request contact time, create a schedule, and publish the schedule in real-time to all users. Without this system, the process would require extensive manual operator interaction, which exceeds current operational resources.

FY17 funds continue Advisory & Assistance Services (A&AS) to procure other support for the system program office including, but not limited to cost estimating, contract reconciliation, and configuration management. These Advisory and Assistance Services and FFRDC efforts support the functions of government personnel in managing the production activities to upgrade the AFSCN system, and include FFRDC analyses to support installation, integration, and testing, as well as the installs and integration of equipment for the ongoing upgrades.

Efforts with funding starting in FY 2018 through FY 2021 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:

(a) FY 2018 Cost Delta: 25.373 million

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0305110F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A	

- (b) FY 2019 Cost Delta: 24.171 million
- (c) FY 2020 Cost Delta: 23.412 million
- (d) FY 2021 Cost Delta: 24.456 million
- (e) FY Total Cost Delta: 146.830 million

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System	Item Number / Title [DODIC]: - / AIR FORCE SATELLITE CONTROL NETWORK SPACE

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	27.014	22.405	-	22.405
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	27.014	22.405	-	22.405
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	27.014	22.405	-	22.405

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Logistics - AFSCNS Cost																		
Recurring Cost																		
INTERIM SUPPLY SPT - Labor	-	-	-	-	-	-	-	-	2.722	-	-	1.804	-	-	-	-	-	1.804
INTERIM SUPPLY SPT - Materiel	-	-	-	-	-	-	-	-	5.837	-	-	2.841	-	-	-	-	-	2.841
Technical Mission Analysis	-	-	-	-	-	-	-	-	3.819	-	-	2.914	-	-	-	-	-	2.914
Test & Evaluation	-	-	-	-	-	-	-	-	0.517	-	-	0.532	-	-	-	-	-	0.532
AFSCN Enterprise Systems Engineering and Integration (SE&I)	-	-	-	-	-	-	-	-	6.535	-	-	6.510	-	-	-	-	-	6.510
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	<i>19.430</i>	-	-	<i>14.601</i>	-	-	-	-	-	<i>14.601</i>
<i>Subtotal: Logistics - AFSCNS Cost</i>	-	-	-	-	-	-	-	-	<i>19.430</i>	-	-	<i>14.601</i>	-	-	-	-	-	<i>14.601</i>
Support - Support End Item Cost																		
Advisory & Assistance Services (A&AS)	-	-	-	-	-	-	-	-	1.149	-	-	1.195	-	-	-	-	-	1.195
Other Support	-	-	-	-	-	-	-	-	1.082	-	-	1.096	-	-	-	-	-	1.096
FFRDC	-	-	-	-	-	-	-	-	5.353	-	-	5.513	-	-	-	-	-	5.513
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	-	-	-	<i>7.584</i>	-	-	<i>7.804</i>	-	-	-	-	-	<i>7.804</i>
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	27.014	-	-	22.405	-	-	-	-	-	22.405

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System	Item Number / Title [DODIC]: - / AIR FORCE SATELLITE CONTROL NETWORK SPACE
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2017 Air Force														Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1					P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System									Aggregated Modification Items Title: AIR FORCE SATELLITE CONTROL NETWORK SPACE MODS					

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
02-AFSCN / Air Force Satellite Control Network Recapitalization Projects			-	-	0.000	-	-	-	-	-	5.217	-	-	-	-	-	-	-	-	-
03 - ESD / 03-ESD - Electronic Scheduling Dissemination			-	-	-	-	-	-	-	-	-	-	-	1.968	-	-	-	-	-	1.968
Total			-	-	0.000	-	-	-	-	-	5.217	-	-	1.968	-	-	-	-	-	1.968

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
02-AFSCN / Air Force Satellite Control Network Recapitalization Projects			-	-	10.051	-	-	20.336	-	-	24.512	-	-	24.329	-	-	-	-	-	84.445
03 - ESD / 03-ESD - Electronic Scheduling Dissemination			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.968
Total			-	-	10.051	-	-	20.336	-	-	24.512	-	-	24.329	-	-	-	-	-	86.413

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
02-AFSCN / Air Force Satellite Control Network Recapitalization Projects	Air Force Satellite Control Network	Capability Improvement
03 - ESD / 03-ESD - Electronic Scheduling Dissemination	Air Force Satellite Control Network	Capability Improvement

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Exhibit P-3a, Individual Modification: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System				Modification Number / Title: 1 / Remote Tracking Station Block Change (RBC)				

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	42.442	18.003	-	18.003	21.971	-	-	-	-	82.416
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	42.442	18.003	-	18.003	21.971	-	-	-	-	82.416
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	42.442	18.003	-	18.003	21.971	-	-	-	-	82.416
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Remote Tracking Station (RTS) Block Change (RBC): The RBC Program was initiated in Dec 2001 to modernize the legacy system. The RBC program replaces legacy remote ground antenna systems that have reached end of life. To date, RBC systems have been installed at VTS, DGS, TCS, GTS, HTS, and NHS. TTS is projected to complete in 1Q FY16. In addition, the Air Force is upgrading the electronics in the remaining eight serviceable systems. This "hybrid" architecture couples the RBC electronics with existing antennas and normalizes electronics across the network. A prototype effort was implemented in FY12 to validate the approach and the first two hybrid articles were awarded in FY13 to upgrade legacy systems at GTS and HTS. A third article was awarded in FY14 to upgrade the legacy system at VTS. Funds in FY15 (DGS, TTS), FY16 (TCS, NHS) and FY17 (TCS, a station with three antenna systems) continue RBC Hybrid procurement for the remaining locations; completion is projected by FY20. Finally, the Enhanced High Power Amplifier (EHPA) spacecraft anomaly resolution system is scheduled for first-article delivery in 4Q 2016. Future EHPA buys for VTS in FY16, NHS in FY17 and DGS in FY18 will provide high-power capability at four sites. The EHPA enables emergency satellite operations and is needed to replace obsolete parts. These efforts include systems engineering and integration (SE&I) activities.

Milestone/Development Status

N/A

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System	Modification Number / Title: 1 / Remote Tracking Station Block Change (RBC)

Models of Systems Affected: Air Force Satellite Control Network	Modification Type: Capability Improvement	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Procurement												
Modification Item 1 of 2: E-HPA												
B Kits												
Recurring												
E-HPA:EQUIPMENT Group B (Active)	- / -	- / -	1 / 9.525	- / -	- / -	- / -	2 / 21.971	- / -	- / -	- / -	- / -	3 / 31.496
<i>Subtotal: Recurring</i>	- / -	- / -	- / 9.525	- / -	- / -	- / -	- / 21.971	- / -	- / -	- / -	- / -	- / 31.496
<i>Subtotal: E-HPA</i>	- / -	- / -	- / 9.525	- / -	- / -	- / -	- / 21.971	- / -	- / -	- / -	- / -	- / 31.496
Modification Item 2 of 2: RBC/Hybrid												
B Kits												
Recurring												
RBC/Hybrid:EQUIPMENT Group B (Active)	- / -	- / -	2 / 32.917	1 / 18.003	- / -	1 / 18.003	- / -	- / -	- / -	- / -	- / -	3 / 50.920
<i>Subtotal: Recurring</i>	- / -	- / -	- / 32.917	- / 18.003	- / -	- / 18.003	- / -	- / -	- / -	- / -	- / -	- / 50.920
<i>Subtotal: RBC/Hybrid</i>	- / -	- / -	- / 32.917	- / 18.003	- / -	- / 18.003	- / -	- / -	- / -	- / -	- / -	- / 50.920
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / 42.442	- / 18.003	- / -	- / 18.003	- / 21.971	- / -	- / -	- / -	- / -	- / 82.416
Installation												
Modification Item 1 of 2: E-HPA	- / -	- / -	1 / -	- / -	- / -	- / -	2 / -	- / -	- / -	- / -	- / -	3 / -
Modification Item 2 of 2: RBC/Hybrid	- / -	- / -	2 / -	1 / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	3 / -
<i>Subtotal: Installation</i>	- / -	- / -	3 / -	1 / -	- / -	1 / -	2 / -	- / -	- / -	- / -	- / -	6 / -
Total												
Total Cost (Procurement + Support + Installation)	0.000	-	42.442	18.003	-	18.003	21.971	-	-	-	-	82.416

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System	Modification Number / Title: 1 / Remote Tracking Station Block Change (RBC)

Modification Item 1 of 2: E-HPA

Manufacturer Information

Manufacturer Name: Honeywell Technical Solutions, Inc (HTSI)	Manufacturer Location: Colorado Springs, CO
Administrative Leadtime (in Months): 9	Production Leadtime (in Months): 24

Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates		Oct 2016	Oct 2017	Oct 2018			
Delivery Dates		Oct 2018	Oct 2019	Oct 2020			

Installation Information

Method of Implementation: Contract Field Team

Installation Cost	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2015	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2016	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2017	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	2 / -	- / -	- / -	- / -	- / -	2 / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	1 / -	- / -	- / -	- / -	2 / -	- / -	- / -	- / -	- / -	3 / -

Installation Schedule

	PYS	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	0	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	0	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: AFSCOM / AF Satellite Comm System	Modification Number / Title: 1 / Remote Tracking Station Block Change (RBC)

Modification Item 2 of 2: RBC/Hybrid

Manufacturer Information

Manufacturer Name: Honeywell Technical Solutions, Inc (HTSI)	Manufacturer Location: Colorado Springs, CO
Administrative Leadtime (in Months): 5	Production Leadtime (in Months): 36

Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates		Mar 2016	Mar 2017	Mar 2018			
Delivery Dates		Mar 2019	Mar 2020	Mar 2021			

Installation Information

Method of Implementation: Contract Field Team

Installation Cost	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2015	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2016	- / -	- / -	2 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / -
FY 2017	- / -	- / -	- / -	1 / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	2 / -	1 / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	3 / -

Installation Schedule

	PYS	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	0	-	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
 1: Space Programs

P-1 Line Item Number / Title:
 CTRSPC / Counterspace Systems

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0604421F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	43.065	26.984	-	26.984	22.676	-	-	-	-	92.725
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	43.065	26.984	-	26.984	22.676	-	-	-	-	92.725
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	43.065	26.984	-	26.984	22.676	-	-	-	-	92.725

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Counter Communications System (CCS) Pre-planned Product Improvement (P3I) program provides expeditionary, deployable, reversible offensive space control (OCS) effects applicable across the full spectrum of conflict. It prevents adversary satellite communications (SATCOM) in the Area of Responsibility (AOR) including Command and Control (C2), Early Warning, and Propaganda; and hosts Rapid Reaction Capabilities in response to Urgent Needs. Acquisition Decision Memorandum (24 April 2009) directed all capabilities identified in the October 2006 CCS Block 20, Joint Requirements Oversight Council (JROC) approved Capability Development Document (CDD) shall be accomplished as P3I upgrades to the CCS Block 10.

Funding for this exhibit and developmental funding for CCS is in Program Element 0604421F, Counterspace Systems.

In the FY16 Consolidated Appropriations Act, selected space programs funded with Other Procurement, Air Force (OPAF) were transferred to Space Procurement, Air Force (SPAF) in FY16 and beyond. This exhibit will display values for FY16 and beyond; funding prior to FY16 will be displayed where they were appropriated in the budget exhibits.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs

P-1 Line Item Number / Title:
 CTRSPC / Counterspace Systems

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0604421F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Counterspace Systems	P-5a	B	- / 0.000	- / -	- / 43.065	- / 26.984	- / -	- / 26.984
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 43.065	- / 26.984	- / -	- / 26.984

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 COUNTER COMMUNICATIONS SYSTEM (CCS): Funding in FY17 provides equipment (e.g. signal generation hardware, antennas, spectrum analyzers, etc.) for one completely new CCS 10.2 system (versus an upgrade to an existing CCS 10.1 system) for the Air National Guard (ANG).

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: CTRSPC / Counterspace Systems	Item Number / Title [DODIC]: - / Counterspace Systems
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ID Code (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	43.065	26.984	-	26.984
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	43.065	26.984	-	26.984
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	43.065	26.984	-	26.984

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Hardware End Item Cost																		
Recurring Cost																		
a. CCS PRE-PLANNED PRODUCT IMPROVEMENT (P3I) ^(t)	-	-	0.000	-	-	-	5.800	3	17.400	-	-	-	-	-	-	-	-	-
b. Air National Guard CCS ^(t)	-	-	0.000	-	-	-	24.732	1	24.732	25.947	1	25.947	-	-	-	25.947	1	25.947
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>42.132</i>	-	-	<i>25.947</i>	-	-	-	-	-	<i>25.947</i>
<i>Subtotal: Hardware - Hardware End Item Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>42.132</i>	-	-	<i>25.947</i>	-	-	-	-	-	<i>25.947</i>
Support - Support End Item Cost																		
e. FFRDC	-	-	0.000	-	-	-	-	-	0.647	-	-	0.632	-	-	-	-	-	0.632
f. A&AS	-	-	0.000	-	-	-	-	-	0.286	-	-	0.405	-	-	-	-	-	0.405
<i>Subtotal: Support - Support End Item Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>0.933</i>	-	-	<i>1.037</i>	-	-	-	-	-	<i>1.037</i>
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	43.065	-	-	26.984	-	-	-	-	-	26.984

(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: CTRSPC / Counterspace Systems	Item Number / Title [DODIC]: - / Counterspace Systems
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
a. CCS PRE-PLANNED PRODUCT IMPROVEMENT (P3I)		2016	Harris / Melbourne, FL	Various	LAAFB, CA	Jan 2016	Dec 2017	3	5.800	N	Jan 2016	
b. Air National Guard CCS		2016	Harris / Melbourne, FL	Various	LAAFB, CA	Jan 2016	Aug 2018	1	24.732	N	Jan 2016	
b. Air National Guard CCS		2017	Harris / Melbourne, FL	Various	LAAFB, CA	Jan 2017	Oct 2018	1	25.947	N	Jan 2017	

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
 1: Space Programs

P-1 Line Item Number / Title:
 FBLOST / Family of Beyond Line-of-Sight Terminals

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0303001F **Other Related Program Elements:** 0303601F

Line Item MDAP/MAIS Code: 199 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	52.192	88.963	-	88.963	144.877	39.128	45.852	16.408	-	387.420
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	52.192	88.963	-	88.963	144.877	39.128	45.852	16.408	-	387.420
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	52.192	88.963	-	88.963	144.877	39.128	45.852	16.408	-	387.420

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	14.078	-	14.078	3.590	20.752	-	-	-	38.420
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program replaces legacy Milstar terminals and will provide Extremely High Frequency (EHF), protected high data rate communication for nuclear and conventional forces to include Presidential and National Voice Conferencing (PNVC). FAB-T will provide this new, highly secure, state-of-the-art capability for DoD platforms to include strategic platforms and airborne/ground command posts via Milstar, AEHF, and Enhanced Polar System (EPS) satellites. FAB-T terminals will also support the critical command and control (C2) of the Milstar, AEHF and EPS satellite constellations. In June 2014 the Air Force down-selected to Raytheon for production of FAB-T Command Post Terminals (CPT). Production contract options to produce CPT terminals were exercised after a successful Milestone C decision was approved September 1, 2015.

There are two distinct Program Elements(PE) encompassed within this document. In FY15 FAB-T transferred to this current Line Item Number 836700. In FY16, FAB-T transferred from PE 0303601F to PE 0303001F. Therefore both PE 030601F and 0303001F are represented in the P-5 document.

In the prior years through FY14, FAB-T was in Line Item Number 836780.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs

P-1 Line Item Number / Title:
FBLOST / Family of Beyond Line-of-Sight Terminals

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0303001F **Other Related Program Elements:** 0303601F

Line Item MDAP/MAIS Code: 199 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Family of Beyond Line-of-Sight Terminals	P-5a, P-21	B	- / -	- / -	12 / 52.192	16 / 88.963	- / -	16 / 88.963
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / 52.192	- / 88.963	- / -	- / 88.963

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Family of Beyond Line-of-Sight Terminals	P-5a, P-21	B	24 / 144.877	- / 39.128	- / 45.852	- / 16.408	- / -	52 / 387.420
P-40	Total Gross/Weapon System Cost			- / 144.877	- / 39.128	- / 45.852	- / 16.408	- / -	- / 387.420

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
Funding in FY17 will continue program office support and production activities including full rate production. In June 2014 the Air Force down-selected to Raytheon for production of FAB-T Command Post Terminals (CPT). Production contract options to produce CPT terminals were exercised after a Milestone C decision was approved September 1, 2015.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: FBLOST / Family of Beyond Line-of-Sight Terminals	Item Number / Title [DODIC]: - / Family of Beyond Line-of-Sight Terminals

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	12	16	-	16	24	-	-	-	-	52
Gross/Weapon System Cost (\$ in Millions)	-	-	52.192	88.963	-	88.963	144.877	39.128	45.852	16.408	-	387.420
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	52.192	88.963	-	88.963	144.877	39.128	45.852	16.408	-	387.420
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	52.192	88.963	-	88.963	144.877	39.128	45.852	16.408	-	387.420

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	14.078	-	14.078	3.590	20.752	-	-	-	38.420
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	4.349	5.560	-	5.560	6.037	-	-	-	-	7.450

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 0303601F MILSATCOM Space; 0303001F FBLOST Cost																		
Recurring Cost																		
FAB-T Terminals (PE 33601F/33001F) ^(†)	-	-	-	-	-	-	2.516	12	30.192	4.010	16	64.163	-	-	-	4.010	16	64.163
Technical Mission Analysis	-	-	-	-	-	-	-	-	16.900	-	-	19.100	-	-	-	-	-	19.100
Enterprise SE&I	-	-	-	-	-	-	-	-	1.400	-	-	2.000	-	-	-	-	-	2.000
GFE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PNVC Prime	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	48.492	-	-	85.263	-	-	-	-	-	85.263
Subtotal: Hardware - 0303601F MILSATCOM Space; 0303001F FBLOST Cost	-	-	-	-	-	-	-	-	48.492	-	-	85.263	-	-	-	-	-	85.263
Support - 0303001F FBLOST Cost																		
FAB-T A&AS	-	-	-	-	-	-	-	-	3.100	-	-	3.100	-	-	-	-	-	3.100
Other Support	-	-	-	-	-	-	-	-	0.600	-	-	0.600	-	-	-	-	-	0.600
Subtotal: Support - 0303001F FBLOST Cost	-	-	-	-	-	-	-	-	3.700	-	-	3.700	-	-	-	-	-	3.700
Gross/Weapon System Cost	-	-	-	-	-	-	4.349	12	52.192	5.560	16	88.963	-	-	-	5.560	16	88.963

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Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: FBLOST / Family of Beyond Line-of-Sight Terminals						Item Number / Title [DODIC]: - / Family of Beyond Line-of-Sight Terminals					

ID Code (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 0303601F MILSATCOM Space; 0303001F FBLOST Cost																		
Recurring Cost																		
FAB-T Terminals (PE 33601F/33001F) ^(t)	3.939	24	94.525	-	-	6.366	-	-	20.357	-	-	2.269	-	-	-	4.190	52	217.872
Technical Mission Analysis	-	-	24.600	-	-	7.900	-	-	5.300	-	-	1.400	-	-	-	-	-	75.200
Enterprise SE&I	-	-	2.100	-	-	1.900	-	-	1.600	-	-	2.300	-	-	-	-	-	11.300
GFE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PNVC Prime	-	-	19.652	-	-	17.862	-	-	13.495	-	-	7.839	-	-	-	-	-	58.848
<i>Subtotal: Recurring Cost</i>	-	-	140.877	-	-	34.028	-	-	40.752	-	-	13.808	-	-	-	-	-	363.220
<i>Subtotal: Hardware - 0303601F MILSATCOM Space; 0303001F FBLOST Cost</i>	-	-	140.877	-	-	34.028	-	-	40.752	-	-	13.808	-	-	-	-	-	363.220
Support - 0303001F FBLOST Cost																		
FAB-T A&AS	-	-	3.300	-	-	4.300	-	-	4.400	-	-	2.600	-	-	-	-	-	20.800
Other Support	-	-	0.700	-	-	0.800	-	-	0.700	-	-	-	-	-	-	-	-	3.400
<i>Subtotal: Support - 0303001F FBLOST Cost</i>	-	-	4.000	-	-	5.100	-	-	5.100	-	-	2.600	-	-	-	-	-	24.200
Gross/Weapon System Cost	6.037	24	144.877	-	-	39.128	-	-	45.852	-	-	16.408	-	-	-	7.450	52	387.420

Remarks:

This P-Doc incorporates two Program Elements for FAB-T: PE 0303601F - Prior years through FY15; and PE 0303001F - FY16 and out.

^(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1			P-1 Line Item Number / Title: FBLOST / Family of Beyond Line-of-Sight Terminals				Item Number / Title [DODIC]: - / Family of Beyond Line-of-Sight Terminals					

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
FAB-T Terminals (PE 33601F/33001F)		2016	Raytheon / Largo, FL	Various	AFLCMC Hanscom AFB	Jul 2016	Jun 2017	12	2.516	N	Jun 2016	Mar 2013
FAB-T Terminals (PE 33601F/33001F) ^(†)		2017	Raytheon / Largo, FL	Various	AFLCMC Hanscom AFB	Dec 2016	Nov 2017	16	4.010	N	Nov 2016	Mar 2013
FAB-T Terminals (PE 33601F/33001F)		2018	Raytheon / Largo, FL	Various	AFLCMC Hanscom AFB	Dec 2017	Nov 2018	24	3.939	N	Nov 2017	Mar 2013

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2017 Air Force															Date: February 2016									
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1										P-1 Line Item Number / Title: FBLOST / Family of Beyond Line-of-Sight Terminals										Item Number / Title [DODIC]: - / Family of Beyond Line-of-Sight Terminals				

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2016												Fiscal Year 2017												BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016												Calendar Year 2017												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P

FAB-T Terminals (PE 33601F/33001F)																													
1	2017	AF		16	-	16																							16

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Exhibit P-21, Production Schedule: PB 2017 Air Force	Date: February 2016
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Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: FBLOST / Family of Beyond Line-of-Sight Terminals	Item Number / Title [DODIC]: - / Family of Beyond Line-of-Sight Terminals
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Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019										B A L A N C E					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y		J U N	J U L	A U G	S E P	
FAB-T Terminals (PE 33601F/33001F)																																
1		2017	AF	16	-	16	-	4	-	-	-	-	-	-	-	-	-	-	-	-	1											11
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		

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Exhibit P-21, Production Schedule: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1		P-1 Line Item Number / Title: FBLOST / Family of Beyond Line-of-Sight Terminals
		Item Number / Title [DODIC]: - / Family of Beyond Line-of-Sight Terminals

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2017	1-8-5 For 2017	MAX For 2017	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon - Largo, FL	1	2	4	-	-	-	-	-	-	-	-

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
GAP000 / Wideband Gapfiller Satellites(Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605433F

Line Item MDAP/MAIS Code: 326 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	74.476	86.272	-	86.272	90.659	62.112	-	-	-	313.519
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	74.476	86.272	-	86.272	90.659	62.112	-	-	-	313.519
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	74.476	86.272	-	86.272	90.659	62.112	-	-	-	313.519

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Funding for this exhibit is contained in PE 0303600F. This program has associated Research Development Test and Evaluation funding in PE 0605433F.

As of the FY16 PB submission, space programs' satellite procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in FY16 and beyond. This exhibit will display values in FY16 and beyond. Prior Years, PY, CY will be displayed in the corresponding MPAF/3020 exhibits. Total 3020/3021 procurement funding is \$3,332.249M.

The Wideband Global SATCOM (WGS) System, previously known as the Wideband Gapfiller Satellite System, provides the DoD with high data rate military satellite communication (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (August 1996), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (October 1997), and JROC-approved WGS Operational Requirements Document (May 2000). This program was originally conceived to augment the near-term "bandwidth gap" in warfighter communications needs. Dual-frequency WGS satellites augment, then replace the DoD's Defense Satellite Communications System X-band service and augment one-way Global Broadcast Service Ka-band capabilities. In addition, WGS provides a high capacity two-way Ka-band service.

WGS Block I consists of satellites 1-3. These satellites were successfully launched on 10 October 2007, 3 April 2009, and 5 December 2009, respectively.

WGS Block II consists of satellites 4-6. Block II satellites are designed with slight modifications to better support the Airborne Intelligence, Surveillance and Reconnaissance mission. Satellite 4 was successfully launched on 19 January 2012. Satellite 5 was successfully launched on 24 May 2013.

A United States-Australia WGS partnership was codified in a Memorandum of Understanding (MOU) dated 14 November 2007. Australia provides funds needed to buy Space Vehicle-6 (SV-6) in exchange for access to constellation-wide (SVs 1-6) resources. Satellite 6 was successfully launched on 7 August 2013. SV-6 is not included in the Procurement Quantities in these documents.

WGS Block II Follow-On (B2FO) consists of satellites 7 and beyond. The WGS procurement program element funds the Command and Control System - Consolidated (CCS-C) mission unique software and databases for the WGS B2FO satellites. CCS-C provides launch and early orbit support and on-orbit anomaly resolution.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: GAP000 / Wideband Gapfiller Satellites(Space)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0605433F
Line Item MDAP/MAIS Code: 326	Item MDAP/MAIS Code(s): N/A	
<p>A multilateral partnership between the United States, Canada, Denmark, Luxembourg, the Netherlands, and New Zealand was codified in an MOU in January 2012. The United States contributions include existing and programmed infrastructure, to include the acquisition, launch, operations, and sustainment costs of WGS 1-8, and the launch, operations, and sustainment of SV-9. Other Partners' contributions fund SV-9 acquisition and support activities. Each Partner provides funds needed to buy SV-9 in exchange for access to constellation-wide (SVs 1-9) resources commensurate with its level of contribution. SV-9 is not included in the Procurement Quantities in these documents.</p> <p>FY12 \$335M Congressional add procured WGS SV-10.</p> <p>WGS-7 was successfully launched on 23 July 2015. Satellites 8 through 10 are available for launch in FY16, FY17 and FY18, respectively.</p> <p>The Air Force has been working to identify opportunities for more affordable, efficient commercial satellite communications (COMSATCOM) business arrangements. Specifically, the Space and Missile Systems Center (SMC), Military Satellite Communications Systems (MILSATCOM) Directorate has developed a five phase COMSATCOM pathfinder investment strategy to burn down risk targeting affordability and performance.</p> <p>In an FY2014 effort to study SATCOM capabilities to support Remotely Piloted Aircraft (RPA) requirements, the WGS program invested \$8.0M in what is known as COMSATCOM Pathfinder #1. In Pathfinder #1, on-orbit commercial Ku-band transponders were purchased to support AFRICOM while demonstrating risk mitigation steps toward future innovative, affordable procurement of long term COMSATCOM capabilities.</p> <p>In FY2016, Congress added \$26.0M for the COMSATCOM pathfinder effort. The Pathfinder #2 plan is to purchase two pre-launch commercial Ku-band transponders and trade for pooled, portable bandwidth within CONUS.</p> <p>In FY2017, the Air Force plans to execute Pathfinder #3 by purchasing pre-launch commercial Ku-band transponder capability to expand pooled bandwidth concept (cover the Mediterranean area) and fund a study to prove that airborne intelligence, surveillance and reconnaissance (ISR) assets can handoff from one commercial satellite to another.</p> <p>In FY2018-2019, the Air Force has programmed funds for Pathfinders #4-5. The plans are to scale up the pooled bandwidth concept from Pathfinder #3 and buy one Ku-band transponder per year, and use an airborne ISR test asset to demonstrate the viability of exploring "high capacity" satellites.</p> <p>The flyaway unit cost is not included on P-40 exhibit because there are multiple P-5 Cost Analysis exhibits.</p> <p>Total WGS SV1 SV5 3020 funds are \$1,619.426M. There are no WGS SV1 SV5 3021 funds. Total WGS B2FO 3020/3021 funds are \$1,712.823M.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs

P-1 Line Item Number / Title:
 GAP000 / Wideband Gapfiller Satellites(Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0605433F

Line Item MDAP/MAIS Code: 326 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	WGS B2FO		A	- / 0.000	- / -	- / 74.476	- / 86.272	- / -	- / 86.272
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 74.476	- / 86.272	- / -	- / 86.272

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	WGS B2FO		A	- / 90.659	- / 62.112	- / -	- / -	- / -	- / 313.519
P-40	Total Gross/Weapon System Cost			- / 90.659	- / 62.112	- / -	- / -	- / -	- / 313.519

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 FY17 funding includes: Continue support for B2FO satellite production, including Federally Funded Research and Development Center (FFRDC) technical analysis, mission assurance, SV-9 storage, reactivation and transport, test support (to include Camp Parks), technical support to include obsolescence/Diminishing Manufacturing Sources (DMS) studies, program office and other related support activities. Continue to expand the COMSATCOM pooled and portable bandwidth investment from the previous Pathfinder projects to other global regions of the world while defining ground and terminal requirements that will enhance COMSATCOM access that will result in demonstration of terminal flexibility. Also funds the Command and Control System - Consolidated (CCS-C) mission unique software and databases for the WGS B2FO satellites.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: GAP000 / Wideband Gapfiller Satellites(Space)				Item Number / Title [DODIC]: - / WGS B2FO				

ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:				
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	74.476	86.272	-	86.272	90.659	62.112	-	-	-	313.519
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	74.476	86.272	-	86.272	90.659	62.112	-	-	-	313.519
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	74.476	86.272	-	86.272	90.659	62.112	-	-	-	313.519

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Flyaway - WGS B2FO Cost																		
Non Recurring Cost																		
Factory Restart	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 7 RF Bypass Mod	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 7 Redundant Ports	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 10 Test Battery Refurbishment	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS B2FO Enhanced Digital Channelizer Implementation	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway - WGS B2FO Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - WGS B2FO Cost																		
Recurring Cost																		
Plus Advance Procurement (Current Year)	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Advance Procurement (Prior Year)	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** GAP000 / Wideband Gapfiller Satellites(Space) **Item Number / Title [DODIC]:** - / WGS B2FO

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Hardware - WGS B2FO Cost</i>	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Vehicle - WGS B2FO Cost																		
<i>Recurring Cost</i>																		
WGS SV 7	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 8	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 10 (Congressional add)	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Space Vehicle - WGS B2FO Cost</i>	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Checkout and Launch - WGS B2FO Cost																		
WGS B2FO Checkout & Launch/Launch Readiness	-	-	0.000	-	-	-	-	-	31.345	-	-	17.792	-	-	-	-	-	17.792
WGS B2FO Storage, Reactivation and Transport	-	-	0.000	-	-	-	-	-	-	-	-	25.000	-	-	-	-	-	25.000
Command & Control System - Consolidated (CCS-C) WGS B2FO support	-	-	0.000	-	-	-	-	-	2.083	-	-	2.083	-	-	-	-	-	2.083
Technical Mission Analysis	-	-	-	-	-	-	-	-	7.027	-	-	6.458	-	-	-	-	-	6.458
WGS Enterprise SE&I	-	-	-	-	-	-	-	-	0.956	-	-	0.922	-	-	-	-	-	0.922
<i>Subtotal: Checkout and Launch - WGS B2FO Cost</i>	-	-	0.000	-	-	-	-	-	41.411	-	-	52.255	-	-	-	-	-	52.255
Support - WGS B2FO Cost																		
WGS B2FO Test Support	-	-	0.000	-	-	-	-	-	0.242	-	-	0.250	-	-	-	-	-	0.250
WGS B2FO Lincoln Labs	-	-	0.000	-	-	-	-	-	1.042	-	-	1.078	-	-	-	-	-	1.078
Pathfinder COMSATCOM pooled bandwidth and demo	-	-	0.000	-	-	-	-	-	26.000	-	-	30.000	-	-	-	-	-	30.000
WGS B2FO A&AS	-	-	0.000	-	-	-	-	-	5.001	-	-	1.972	-	-	-	-	-	1.972
FFRDC	-	-	-	-	-	-	-	-	0.780	-	-	0.717	-	-	-	-	-	0.717
<i>Subtotal: Support - WGS B2FO Cost</i>	-	-	0.000	-	-	-	-	-	33.065	-	-	34.017	-	-	-	-	-	34.017
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	74.476	-	-	86.272	-	-	-	-	-	86.272

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Exhibit P-5, Cost Analysis: PB 2017 Air Force														Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: GAP000 / Wideband Gapfiller Satellites(Space)						Item Number / Title [DODIC]: - / WGS B2FO						
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:								
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Flyaway - WGS B2FO Cost																		
Non Recurring Cost																		
Factory Restart	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 7 RF Bypass Mod	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 7 Redundant Ports	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 10 Test Battery Refurbishment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS B2FO Enhanced Digital Channelizer Implementation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway - WGS B2FO Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware - WGS B2FO Cost																		
Recurring Cost																		
Plus Advance Procurement (Current Year)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Advance Procurement (Prior Year)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - WGS B2FO Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Space Vehicle - WGS B2FO Cost																		
Recurring Cost																		
WGS SV 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WGS SV 10 (Congressional add)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Space Vehicle - WGS B2FO Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Checkout and Launch - WGS B2FO Cost																		
WGS B2FO Checkout & Launch/Launch Readiness	-	-	14.651	-	-	4.177	-	-	-	-	-	-	-	-	-	-	-	67.965

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GAP000 / Wideband Gapfiller Satellites(Space)	Item Number / Title [DODIC]: - / WGS B2FO
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
WGS B2FO Storage, Reactivation and Transport	-	-	25.370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.370
Command & Control System - Consolidated (CCS-C) WGS B2FO support	-	-	0.208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.374
Technical Mission Analysis	-	-	5.339	-	-	4.688	-	-	-	-	-	-	-	-	-	-	-	23.512
WGS Enterprise SE&I	-	-	0.881	-	-	0.435	-	-	-	-	-	-	-	-	-	-	-	3.194
<i>Subtotal: Checkout and Launch - WGS B2FO Cost</i>	-	-	46.449	-	-	9.300	-	-	-	-	-	-	-	-	-	-	-	149.415
Support - WGS B2FO Cost																		
WGS B2FO Test Support	-	-	0.104	-	-	0.104	-	-	-	-	-	-	-	-	-	-	-	0.700
WGS B2FO Lincoln Labs	-	-	0.833	-	-	0.729	-	-	-	-	-	-	-	-	-	-	-	3.682
Pathfinder COMSATCOM pooled bandwidth and demo	-	-	41.000	-	-	50.000	-	-	-	-	-	-	-	-	-	-	-	147.000
WGS B2FO A&AS	-	-	1.678	-	-	1.458	-	-	-	-	-	-	-	-	-	-	-	10.109
FFRDC	-	-	0.595	-	-	0.521	-	-	-	-	-	-	-	-	-	-	-	2.613
<i>Subtotal: Support - WGS B2FO Cost</i>	-	-	44.210	-	-	52.812	-	-	-	-	-	-	-	-	-	-	-	164.104
Gross/Weapon System Cost	-	-	90.659	-	-	62.112	-	-	-	-	-	-	-	-	-	-	-	313.519

Remarks:
Total WGS B2FO 3020/3021 funds are \$1,712.823M.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
GPSIII / GPS III Space Segment

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: 292 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	1	-	-	-	2	3	3	2	12	23
Gross/Weapon System Cost (\$ in Millions)	0.000	-	286.218	34.059	-	34.059	761.515	899.241	761.565	554.763	4,011.491	7,308.852
Less PY Advance Procurement (\$ in Millions)	0.000	-	87.000	-	-	-	-	-	-	-	-	87.000
Net Procurement (P-1) (\$ in Millions)	0.000	-	199.218	34.059	-	34.059	761.515	899.241	761.565	554.763	4,011.491	7,221.852
Plus CY Advance Procurement (\$ in Millions)	0.000	87.000 ⁽¹⁾	-	-	-	-	-	-	-	-	-	87.000
Total Obligation Authority (\$ in Millions)	0.000	87.000	199.218	34.059	-	34.059	761.515	899.241	761.565	554.763	4,011.491	7,308.852

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	286.218	-	-	-	380.758	299.747	253.855	277.382	334.291	317.776

Description:

As of the FY16 PB submission, space programs satellite procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in FY16 and beyond. This exhibit will display values in FY16 and beyond. Prior Years, PY, CY will be displayed in the corresponding MPAF/3020 exhibits. Total 3020/3021 funding is \$8992.7M

The Global Positioning System (GPS) is a space-based navigation system that fills validated Joint Service requirements for worldwide, accurate, common grid three-dimensional positioning/navigation for military aircraft, ships and ground personnel. The consistent accuracy, unaffected by location or weather and available in real time, significantly improves effectiveness of reconnaissance, weapons delivery, mine countermeasures and rapid deployment for all services. GPS must comply with 10 United States Code (USC) Sec. 2281, which requires that the Secretary of Defense ensures the continued sustainment and operation of GPS for military and civilian purposes, and 51 USC Sec. 50112, which requires that GPS complies with certain standards and facilitates international cooperation.

The system is composed of three segments: User Equipment (funded under PE 0305164F), Space (funded under PE 0305265F and 0305165F), and a Control Network (funded under PE 0603423F and 0305165F). RDT&E,AF funding for GPS III, including development and acquisition of Space Vehicles (SV) 01-02, is in PE 0305265F, BPAC 23GPS3, GPS III Space Segment. The satellites broadcast high-accuracy data using precisely synchronized signals which are received and processed by user equipment installed in military platforms. This equipment computes the platform position and velocity and provides steering vectors to target locations or navigation waypoints. The control segment provides daily updates to the navigation messages broadcast from the satellites to maintain system precision in three dimensions to 16 meters spherical error probable worldwide. Additionally, GPS supports the United States Nuclear Detonation (NUDET) Detection System (NDS) mission and provides strategic and tactical support to the following Department of Defense (DoD) missions: Joint Operations by providing capabilities for Positioning, Navigation, and Timing (PNT); Command, Control, Communications, and Intelligence (C3I); Special Operations; Military Operations in Urban Terrain (MOUT); Defense-Wide Mission Support (DWMS); Air Mobility; and Space Launch Orbital Support.

GPS III is the next generation SV to join the GPS constellation. GPS III SVs will deliver significant enhancements, including a new civil (L1C) Galileo-compatible signal and enhanced anti-jam power. Two auxiliary payloads, Search and Rescue/GPS (SAR/GPS) and Laser Retroreflector Array (LRA) will be added no earlier than SV11. The SAR/GPS payload provided by Canada will fill a validated National Search and Rescue Committee requirement to provide enduring, space-based distress alerting capability to detect, locate, and relay distress alerts to fulfill its responsibilities under international agreements for Search and Rescue. SAR integration costs are funded jointly by Air Combat Command (ACC) and the Coast Guard. LRA, built by the Naval Research Lab (NRL), is a passive reflector that will improve accuracy and provide better ephemeris data. National Geospatial-Intelligence Agency (NGA) funds the integration costs of the LRA.

USD(AT&L) approved the first phase of a two-phased GPS III SV acquisition strategy starting no earlier than SV11. Phase 1 utilizes FY15-17 RDT&E funding to mature up to three contractors' GPS production designs. Phase 1 is a Production Readiness Feasibility Assessment which will provide data and insight into contractors GPS III Production Design with emphasis on a mature navigation payload that includes a

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: GPSIII / GPS III Space Segment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: 292	Item MDAP/MAIS Code(s): N/A	
<p>regional M-Code capability that is consistent with the GPS Enterprise analysis of alternatives. Phase 2 has not been approved and options continue to be explored by USD(AT&L). Notionally, Phase 2 will be a full and open competition for up to 22 GPS III SVs with an expected decision no earlier than SV11. Phase 2 is funded via Space Procurement Air Force (SPAF) in PE 0305265F, BPAC23GPS3.</p> <p>The Air Force GPS directorate received USD(AT&L) approval to purchase GPS III SV09-10 at the December 2014 Defense Acquisition Board in order to sustain the constellation while competitive options are pursued. The GPS III SV09-10 purchase will be on the current Lockheed Martin contract as technical equivalents of SV01-08. SV09 is funded with FY14 MPAF advance procurement and FY15 MPAF regular procurement. SV10 is funded with FY15 MPAF advance procurement and FY16 SPAF regular procurement.</p> <p>The Air Force has converted Advanced Procurement funds into regular procurement for GPS III SV11-32 beginning in FY17. Due to the historical 5-year production timeline for GPS SVs, there is sufficient time to procure the necessary hardware with regular procurement funding provided in the year of the requirement, alleviating the need to procure long lead parts using Advanced Procurement. Furthermore, fully procuring the SVs in the year required allows the Air Force to realize cost savings for the U.S. taxpayer by purchasing the parts at one time, enabling quantity buys with suppliers, reducing prime and subcontractor material handling costs, decreasing non-recurring lot charges, and consolidating the parts quality test and screening process.</p> <p>Funding for this exhibit is contained in PE 0305265F, BPAC 23GPS3.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs

P-1 Line Item Number / Title:
GPSIII / GPS III Space Segment

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: 292 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	GPS III Space Segment	P-5a, P-21	A	- / 0.000	- / -	1 / 286.218	- / 34.059	- / -	- / 34.059
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	1 / 286.218	- / 34.059	- / -	- / 34.059

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	GPS III Space Segment	P-5a, P-21	A	2 / 761.515	3 / 899.241	3 / 761.565	2 / 554.763	12 / 4,011.491	23 / 7,308.852
P-40	Total Gross/Weapon System Cost			2 / 761.515	3 / 899.241	3 / 761.565	2 / 554.763	12 / 4,011.491	23 / 7,308.852

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
FY17 funding procures independent technical, systems engineering, and integration support critical to managing SV03-10 production milestones, mission assurance activities and launch preparation events.

Refer to P5A in lieu of Item Schedule for unit cost based on actual contract award or forecast contract cost.

Footnotes:
(1) MPAF FY15 Advance Procurement as of 30 Sep 15 was \$87.0M. FY15 Advance Procurement is reported in SPAF MGPS00 GPS III to preserve Weapon System Costs.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** GPSIII / GPS III Space Segment **Item Number / Title [DODIC]:**
- / GPS III Space Segment

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	1	-	-	-	2	3	3	2	12	23
Gross/Weapon System Cost (\$ in Millions)	0.000	-	286.218	34.059	-	34.059	761.515	899.241	761.565	554.763	4,011.491	7,308.852
Less PY Advance Procurement (\$ in Millions)	0.000	-	87.000	-	-	-	-	-	-	-	-	87.000
Net Procurement (P-1) (\$ in Millions)	0.000	-	199.218	34.059	-	34.059	761.515	899.241	761.565	554.763	4,011.491	7,221.852
Plus CY Advance Procurement (\$ in Millions)	0.000	87.000	-	-	-	-	-	-	-	-	-	87.000
Total Obligation Authority (\$ in Millions)	0.000	87.000	199.218	34.059	-	34.059	761.515	899.241	761.565	554.763	4,011.491	7,308.852

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	286.218	-	-	-	380.758	299.747	253.855	277.382	334.291	317.776

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - GPS III Cost																		
Recurring Cost																		
GPS III SV 11+ SAR	-	-	-	-	-	-	-	-	3.308	-	-	3.357	-	-	-	-	-	3.357
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	3.308	-	-	3.357	-	-	-	-	-	3.357
<i>Subtotal: Hardware - GPS III Cost</i>	-	-	-	-	-	-	-	-	3.308	-	-	3.357	-	-	-	-	-	3.357
Space Vehicle - Space Vehicle End Item Cost																		
Recurring Cost																		
GPS III SV 03-10 ^(†)	-	-	0.000	-	-	-	232.620	1	232.620	-	-	1.143	-	-	-	-	-	1.143
GPS III SV11 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS III SV 03-10 Enterprise SE&I	-	-	-	-	-	-	-	-	1.098	-	-	2.272	-	-	-	-	-	2.272
GPS III SV11+ Enterprise SE&I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS III SV 03-10 Technical Mission Analysis	-	-	-	-	-	-	-	-	13.278	-	-	12.766	-	-	-	-	-	12.766
GPS III SV 11+ Technical Mission Analysis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	0.000	-	-	-	-	-	246.996	-	-	16.181	-	-	-	-	-	16.181
Non Recurring Cost																		
GPS III NRE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** GPSIII / GPS III Space Segment **Item Number / Title [DODIC]:**
- / GPS III Space Segment

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Space Vehicle - Space Vehicle End Item Cost</i>	-	-	0.000	-	-	-	-	-	246.996	-	-	16.181	-	-	-	-	-	16.181
Checkout and Launch - Checkout And Launch End Item Cost																		
GPS III SV 03-10 Launch Services	-	-	-	-	-	-	-	-	1.900	-	-	-	-	-	-	-	-	-
GPS III SV 03-10 On-Orbit Incentive	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS III SV 03-10 Storage and MRT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS III SV 11+ Launch Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Checkout and Launch - Checkout And Launch End Item Cost</i>	-	-	-	-	-	-	-	-	1.900	-	-	-	-	-	-	-	-	-
Support - Support End Item Cost																		
GPS III SV 03-10 FFRDC	-	-	-	-	-	-	-	-	12.632	-	-	7.523	-	-	-	-	-	7.523
GPS III SV 03-10 A&AS	-	-	-	-	-	-	-	-	18.852	-	-	6.798	-	-	-	-	-	6.798
GPS III SV 03-10 Other Support	-	-	-	-	-	-	-	-	2.330	-	-	0.200	-	-	-	-	-	0.200
GPS III SV 03-10 Launch/ On-Orbit Support	-	-	-	-	-	-	-	-	0.200	-	-	-	-	-	-	-	-	-
GPS III SV 11+ FFRDC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS III SV 11+ A&AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS III SV 11+ Other Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	-	-	-	34.014	-	-	14.521	-	-	-	-	-	14.521
Gross/Weapon System Cost	-	-	0.000	-	-	-	286.218	1	286.218	-	-	34.059	-	-	-	-	-	34.059
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - GPS III Cost																		
Recurring Cost																		
GPS III SV 11+ SAR	-	-	3.419	-	-	3.482	-	-	-	-	-	-	-	-	-	-	-	13.566

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Exhibit P-5, Cost Analysis: PB 2017 Air Force													Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: GPSIII / GPS III Space Segment						Item Number / Title [DODIC]: - / GPS III Space Segment						
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:								
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Recurring Cost</i>	-	-	3.419	-	-	3.482	-	-	-	-	-	-	-	-	-	-	-	13.566
<i>Subtotal: Hardware - GPS III Cost</i>	-	-	3.419	-	-	3.482	-	-	-	-	-	-	-	-	-	-	-	13.566
Space Vehicle - Space Vehicle End Item Cost																		
Recurring Cost																		
GPS III SV 03-10 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233.763	1	233.763
GPS III SV11+ ^(†)	245.541	2	491.082	186.132	3	558.396	163.154	3	489.461	211.150	2	422.300	224.273	12	2,691.281	211.478	22	4,652.520
GPS III SV 03-10 Enterprise SE&I	-	-	0.124	-	-	0.128	-	-	0.131	-	-	0.136	-	-	0.408	-	-	4.297
GPS III SV11+ Enterprise SE&I	-	-	2.972	-	-	3.061	-	-	3.153	-	-	3.248	-	-	22.283	-	-	34.717
GPS III SV 03-10 Technical Mission Analysis	-	-	0.644	-	-	0.664	-	-	0.684	-	-	0.704	-	-	2.113	-	-	30.853
GPS III SV 11+ Technical Mission Analysis	-	-	15.468	-	-	15.931	-	-	16.409	-	-	16.902	-	-	121.694	-	-	186.404
<i>Subtotal: Recurring Cost</i>	-	-	510.290	-	-	578.180	-	-	509.838	-	-	443.290	-	-	2,837.779	-	-	5,142.554
Non Recurring Cost																		
GPS III NRE	-	-	178.715	-	-	225.963	-	-	136.204	-	-	10.406	-	-	132.409	-	-	683.697
<i>Subtotal: Non Recurring Cost</i>	-	-	178.715	-	-	225.963	-	-	136.204	-	-	10.406	-	-	132.409	-	-	683.697
<i>Subtotal: Space Vehicle - Space Vehicle End Item Cost</i>	-	-	689.005	-	-	804.143	-	-	646.042	-	-	453.696	-	-	2,970.188	-	-	5,826.251
Checkout and Launch - Checkout And Launch End Item Cost																		
GPS III SV 03-10 Launch Services	-	-	7.800	-	-	18.700	-	-	31.500	-	-	30.200	-	-	137.700	-	-	227.800
GPS III SV 03-10 On-Orbit Incentive	-	-	-	-	-	1.000	-	-	3.000	-	-	5.000	-	-	63.000	-	-	72.000
GPS III SV 03-10 Storage and MRT	-	-	3.700	-	-	6.400	-	-	8.600	-	-	8.557	-	-	14.900	-	-	42.157
GPS III SV 11+ Launch Services	-	-	-	-	-	-	-	-	1.900	-	-	7.400	-	-	486.200	-	-	495.500
<i>Subtotal: Checkout and Launch - Checkout And Launch End Item Cost</i>	-	-	11.500	-	-	26.100	-	-	45.000	-	-	51.157	-	-	701.800	-	-	837.457
Support - Support End Item Cost																		
GPS III SV 03-10 FFRDC	-	-	2.006	-	-	1.966	-	-	2.490	-	-	2.960	-	-	8.879	-	-	38.456
GPS III SV 03-10 A&AS	-	-	19.105	-	-	19.797	-	-	20.658	-	-	1.159	-	-	10.317	-	-	96.686

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment	Item Number / Title [DODIC]: - / GPS III Space Segment
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
GPS III SV 03-10 Other Support	-	-	1.520	-	-	1.645	-	-	1.638	-	-	1.541	-	-	2.183	-	-	11.057
GPS III SV 03-10 Launch/ On-Orbit Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.200
GPS III SV 11+ FFRDC	-	-	9.708	-	-	10.762	-	-	11.105	-	-	10.272	-	-	73.958	-	-	115.805
GPS III SV 11+ A&AS	-	-	25.052	-	-	29.286	-	-	32.510	-	-	31.793	-	-	228.431	-	-	347.072
GPS III SV 11+ Other Support	-	-	0.200	-	-	2.060	-	-	2.122	-	-	2.185	-	-	15.735	-	-	22.302
<i>Subtotal: Support - Support End Item Cost</i>	-	-	57.591	-	-	65.516	-	-	70.523	-	-	49.910	-	-	339.503	-	-	631.578
Gross/Weapon System Cost	380.758	2	761.515	299.747	3	899.241	253.855	3	761.565	277.382	2	554.763	334.291	12	4,011.491	317.776	23	7,308.852

(t) indicates the presence of a P-5a

UNCLASSIFIED

Exhibit P-5a, Procurement History and Planning: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment	Item Number / Title [DODIC]: - / GPS III Space Segment
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
GPS III SV 03-10 ^(†)		2016	Lockheed Martin / Denver, CO	C / CPAF	SMC, LA AFB, CA	Mar 2016	Sep 2021	1	232.620	Y		Mar 2015
GPS III SV11+ ^(†)		2018	TBD / TBD	C / FPIF	SMC, LA AFB, CA	Feb 2018	Feb 2023	2	245.541	Y		Feb 2016
GPS III SV11+ ^(†)		2019	TBD / TBD	C / FPIF	SMC, LA AFB, CA	Feb 2019	Feb 2024	3	186.132	Y		Feb 2016
GPS III SV11+ ^(†)		2020	TBD / TBD	C / FPIF	SMC, LA AFB, CA	Feb 2020	Feb 2025	3	163.154	Y		Feb 2016
GPS III SV11+ ^(†)		2021	TBD / TBD	C / FPIF	SMC, LA AFB, CA	Feb 2021	Feb 2026	2	211.150	Y		Feb 2016

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment	Item Number / Title [DODIC]: - / GPS III Space Segment
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2016												Fiscal Year 2017												BALANCE					
O C O #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016												Calendar Year 2017																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P				
GPS III SV 03-10																																			
1		2016	AF	1	-	1																												1	
GPS III SV11+																																			
2		2018	AF	2	-	2																												2	
2		2019	AF	3	-	3																													3
2		2020	AF	3	-	3																													3
2		2021	AF	2	-	2																													2
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** GPSIII / GPS III Space Segment **Item Number / Title [DODIC]:** - / GPS III Space Segment

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2018														Fiscal Year 2019														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018														Calendar Year 2019														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
GPS III SV 03-10																																			
1		2016	AF	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1						
GPS III SV11+																																			
2		2018	AF	2	-	2																						2							
2		2019	AF	3	-	3																						3							
2		2020	AF	3	-	3																						3							
2		2021	AF	2	-	2																						2							
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** GPSIII / GPS III Space Segment **Item Number / Title [DODIC]:** - / GPS III Space Segment

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020														Fiscal Year 2021														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020														Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
GPS III SV 03-10																																			
1		2016	AF	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-			
GPS III SV11+																																			
2		2018	AF	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
2		2019	AF	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3				
2		2020	AF	3	-	3																									3				
2		2021	AF	2	-	2																									2				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** GPSIII / GPS III Space Segment **Item Number / Title [DODIC]:** - / GPS III Space Segment

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
GPS III SV 03-10																																			
1		2016	AF	1	1	-																													
GPS III SV11+																																			
2		2018	AF	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-					
2		2019	AF	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3					
2		2020	AF	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3					
2		2021	AF	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** GPSIII / GPS III Space Segment **Item Number / Title [DODIC]:** - / GPS III Space Segment

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2024												Fiscal Year 2025												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2023	BAL DUE AS OF 1 OCT	Calendar Year 2024												Calendar Year 2025												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
GPS III SV 03-10																															
	1	2016	AF	1	1	-																							-		
GPS III SV11+																															
	2	2018	AF	2	2	-																							-		
	2	2019	AF	3	-	3	-	-	-	-	-	1	-	-	-	-	1	-	-	-	1								-		
	2	2020	AF	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1		
	2	2021	AF	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment	Item Number / Title [DODIC]: - / GPS III Space Segment
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2026														Fiscal Year 2027														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2025	BAL DUE AS OF 1 OCT	Calendar Year 2026														Calendar Year 2027														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
GPS III SV 03-10																																			
1		2016	AF	1	1	-																													
GPS III SV11+																																			
2		2018	AF	2	2	-																													
2		2019	AF	3	3	-																													
2		2020	AF	3	2	1	1																												
2		2021	AF	2	-	2	-	-	-	-	-	1	-	-	-	-	1																		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment	Item Number / Title [DODIC]: - / GPS III Space Segment
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MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)								
		MSR For 2017	1-8-5 For 2017	MAX For 2017	Initial				Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	
1	Lockheed Martin - Denver, CO	-	-	-	-	-	-	-	-	-	6	66	72
2	TBD - TBD	-	-	-	-	-	-	-	-	-	-	-	-

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment
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Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 292	Item MDAP/MAIS Code(s): N/A
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	87.000 ⁽¹⁾	-	-	-	-	-	-	-	-	-	87.000
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	87.000 ⁽¹⁾	-	-	-	-	-	-	-	-	-	87.000
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	87.000 ⁽¹⁾	-	-	-	-	-	-	-	-	-	87.000

Description:

As of the FY16 PB submission, space programs satellite procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in FY16 and beyond. This exhibit will display values in FY16 and beyond. Prior Years, PY, CY will be displayed in the corresponding MPAF/3020 exhibits. Total 3020/3021 funding is \$8992.7M.

GPS is a satellite-based radio navigation system that serves military and civil users worldwide. GPS users process satellite signals to determine accurate position, velocity and time. GPS must comply with 10 United States Code (USC) sec 2281, which requires that the Secretary of Defense ensures the continued sustainment and operation of GPS for military and civilian purposes, and 51 USC sec 50112, which requires that GPS complies with certain standards and facilitates international cooperation.

The Global Positioning System (GPS) fills validated Joint Service requirements for worldwide, accurate, common grid three-dimensional positioning/navigation for military aircraft, ships and ground personnel. The consistent accuracy, unaffected by location or weather and available in real time, significantly improves effectiveness of reconnaissance, weapons delivery, mine countermeasures and rapid deployment for all services. The system is composed of three segments: user equipment (funded under PE 0305164F), space, and a control network (funded under PE 0603423F and 0305165F). RDT&E, AF funding for GPS III, including development and acquisition of Space Vehicles (SV) 01-02, is in this PE 0305265F, GPS III Space Segment. The satellites broadcast high-accuracy data using precisely synchronized signals which are received and processed by user equipment installed in military platforms. This equipment computes the platform position and velocity and provides steering vectors to target locations or navigation waypoints. The control segment provides daily updates to the navigation messages broadcast from the satellites to maintain system precision in three dimensions to 16 meters spherical error probable worldwide.

GPS III is the next generation SV to join the GPS constellation. GPS III SVs will deliver significant enhancements, including a new civil (L1C) Galileo-compatible signal and enhanced anti-jam power.

USD(AT&L) approved the first phase of a two-phased GPS III SV acquisition strategy starting no earlier than SV11. Phase 1 utilizes FY15-17 RDT&E funding to mature up to three contractors' GPS production designs. Phase 2 has not been approved and options continue to be explored by USD(AT&L). Notionally, Phase 2 will be a full and open competition for up to 22 GPS III SVs with an expected decision no earlier than SV11. Phase 2 is funded via Space Procurement Air Force (3021) in PE 0305265F. Phase 1 is a Production Readiness Feasibility Assessment which will provide data and insight into contractors GPS III Production Design with emphasis on a mature navigation payload that includes a regional M-Code capability that is consistent with the GPS Enterprise analysis of alternatives.

The Air Force converted Advanced Procurement funds into regular procurement for GPS III SV11-32 beginning in FY17. Due to the historical 5-year production timeline for GPS SVs, there is sufficient time to procure the necessary hardware with regular procurement funding provided in the year of the requirement, alleviating the need to procure long lead parts using Advanced Procurement. Furthermore, fully procuring the SVs in the year required allows the Air Force to realize cost savings for the U.S. taxpayer by purchasing the parts at one time, enabling quantity buys with suppliers, reducing prime and subcontractor material handling costs, decreasing non-recurring lot charges, and consolidating the parts quality test and screening process.

The Air Force GPS directorate received USD(AT&L) approval to purchase GPS III SV09-10 at the December 2014 Defense Acquisition Board in order to sustain the constellation while competitive options are pursued. The GPS III SV09-10 purchase will be on the current Lockheed Martin contract as technical equivalents of SV01-08. SV10 Advance Procurement will be funded with FY15 3020/MPAF while SV10 Full Procurement will be funded with FY16 3021/SPAF funding.

Funding for this exhibit is contained in PE 0305265F.

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Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment
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Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 292	Item MDAP/MAIS Code(s): N/A
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Exhibits Schedule			Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-10	GPS III Space Segment		- / 0.000	- / 87.000	1 / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost		- / 0.000	- / 87.000⁽¹⁾	1 / -	- / -	- / -	- / -

Exhibits Schedule			FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-10	GPS III Space Segment		2 / -	3 / -	3 / -	2 / -	12 / -	23 / 87.000
P-40	Total Gross/Weapon System Cost		2 / -	3 / -	3 / -	2 / -	12 / -	23 / 87.000

*Title represents the P-10 Title for Advance Procurement.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 No FY17 funding requested

Footnotes:
⁽¹⁾ MPAF FY15 Advance Procurement as of 30 Sep 15 was \$87.0M. FY15 Advance Procurement is reported in SPAF MGPS00 GPS III to preserve Weapon System Costs.

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Exhibit P-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification): PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment	P-5 Number / Title: - / GPS III Space Segment
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First System (2017) Award Date: February 2016	First System (2017) Completion Date: February 2016	Interval Between Systems: 0 Months
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GPS III Space Segment	Production Leadtime (Months)	Prior Years (Each)	FY 2015 (Each)	FY 2016 (Each)	FY 2017 (Each)	FY 2018 (Each)	FY 2019 (Each)	FY 2020 (Each)	FY 2021 (Each)	To Complete (Each)	Total (Each)
Quantity		-	-	1	-	2	3	3	2	12	23

Cost Elements	When Required (Months)	Prior Years (\$ M)	FY 2015 (\$ M)	FY 2016 (\$ M)	FY 2017 (\$ M)	FY 2018 (\$ M)	FY 2019 (\$ M)	FY 2020 (\$ M)	FY 2021 (\$ M)	To Complete (\$ M)	Total (\$ M)
CFE											
GPS III SV 03-10	0	-	87.000	-	-	-	-	-	-	-	87.000
<i>Total: CFE</i>		-	87.000	-	-	-	-	-	-	-	87.000
Total Advance Procurement/Obligation Authority		0.000	87.000	-	-	-	-	-	-	-	87.000

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Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification): PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSIII / GPS III Space Segment	P-5 Number / Title: - / GPS III Space Segment
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Cost Elements	QPA <i>(Each)</i>	FY 2017					Total Cost Request <i>(\$ M)</i>
		Production Leadtime <i>(Months)</i>	Unit Cost <i>(\$ M)</i>	Contract Forecast Date	2017 Qty <i>(Each)</i>	For FY	
CFE							
GPS III SV 03-10	-						-
<i>Total: CFE</i>							-
Total Advance Procurement/Obligation Authority							-

Description:
Funding procures long lead items (e.g. atomic clocks, critical Bus hardware items and other long lead components).

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
 1: Space Programs

P-1 Line Item Number / Title:
 GPSSPC / Global Positioning (Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305164F

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	2.029	2.169	-	2.169	2.193	2.199	2.238	2.278	-	13.106
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	2.029	2.169	-	2.169	2.193	2.199	2.238	2.278	-	13.106
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	2.029	2.169	-	2.169	2.193	2.199	2.238	2.278	-	13.106

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Navstar Global Positioning System (GPS) provides highly accurate time, three-dimensional position, and velocity information to an unlimited number of users anywhere on or above the surface of the earth, in any weather. GPS satisfies validated joint service requirements for worldwide, accurate, common grid navigation for military aircraft, ships, ground vehicles and personnel. The system is comprised of three segments: (1) satellites, (2) a ground control, and (3) user equipment. The satellites broadcast high-accuracy data using precisely synchronized signals that are received and processed by user equipment installed in military platforms. The ground control network updates the navigation messages broadcast from the satellites to provide system vectors to target location or navigational way points. Funds in this line support various GPS specific production efforts associated with the ground control and user equipment segments.

In the FY16 Consolidated Appropriations Act, selected space programs funded with Other Procurement, Air Force (OPAF) were transferred to Space Procurement, Air Force (SPAF) in FY16 and beyond. This exhibit will display values for FY16 and beyond; funding prior to FY16 will be displayed where they were appropriated in the budget exhibits.

PE 0305164F NAVSTAR GPS (USER EQUIPMENT) (SPACE)

KEY DATA LOADING INSTALLATION FACILITY (KLIF)/GPS SECURITY DEVICE: The KLIF facilitates the programming of black key (cryptographic) algorithms into the Selective Availability Anti-Spoofing Module (SAASM) to provide accurate positioning solutions for GPS users using secure equipment.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs
P-1 Line Item Number / Title: GPSSPC / Global Positioning (Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305164F

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Navstar GPS Space			- / -	- / -	- / 2.029	- / 2.169	- / -	- / 2.169
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / 2.029	- / 2.169	- / -	- / 2.169

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

PE 0305164F NAVSTAR GPS (USER EQUIPMENT) (SPACE)

KEY DATA LOADING INSTALLATION FACILITY (KLIF)/GPS SECURITY DEVICE: FY17 funding provides for the programming of black key (cryptographic) algorithms into the Selective Availability Anti-Spoofing Module (SAASM), providing an accurate positioning solution for GPS users using secure equipment. Funding will procure support for Key Data Processors (KDP), ensuring uninterrupted support to SAASM vendors. SAASM vendors are required to use government-provided KDP as part of the security architecture of GPS User Equipment.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: GPSSPC / Global Positioning (Space)	Aggregated Items Title: Navstar GPS Space
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Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Recurring Costs																				
KLIF/GPS Security Device	A		-	-	-	-	-	-	-	-	2.029	-	-	2.169	-	-	-	-	-	2.169
Subtotal: Recurring Costs			-	-	-	-	-	-	-	-	2.029	-	-	2.169	-	-	-	-	-	2.169
Total			-	-	-	-	-	-	-	-	2.029	-	-	2.169	-	-	-	-	-	2.169

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs	P-1 Line Item Number / Title: MCOMSE / Spaceborne Equip (Comsec)
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	13.362	46.708	-	46.708	31.995	32.157	34.368	34.987	-	193.577
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	13.362	46.708	-	46.708	31.995	32.157	34.368	34.987	-	193.577
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	13.362	46.708	-	46.708	31.995	32.157	34.368	34.987	-	193.577

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

In FY2016, Appn 3020, BA:05 Line Item #MCOMSE, Spaceborne Equip transferred to Appn 3021.

Space Communications Security (COMSEC) procures cryptographic products to operate in the space environment. Space COMSEC equipment is a foundational element in achieving AF space and information superiority. Space COMSEC is an enabler for space system compliance with DoDI 8581.01 - Information Assurance (IA) Policy for Space Systems Used by the Department of Defense. Space COMSEC mission provides communications security products and lifecycle sustainment support to all DoD satellite systems and commercial systems supporting DOD missions. It enables secure Command and Control (C2) of satellites and prevents unauthorized access and destruction. It enables secure transmission of satellite systems' health and status telemetry data (satellite health and relative orbital position) to ground control stations, thus protecting critical information about the capabilities of DoD satellite systems. The capability of a system must be protected from an adversary to avoid exploitation of a system weakness/limitation, knowledge of which could assist an adversary in a successful mission against DoD military forces and potential loss of life. Space COMSEC also provides secure transmission of information collected by satellite sensors, which provides the warfighter an integrated view of the battle space. Space COMSEC provides for secure SATCOM, positioning, navigation, timing, weather, nuclear detection and early warning missions. Space COMSEC also enables Transmission Security (TRANSEC) for space platforms. Space COMSEC mission procures crypto end items and logistics elements to support developing and operational space systems.

Funding for this effort is in program element (PE) 0303140F.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
 1: Space Programs

P-1 Line Item Number / Title:
 MC0MSE / Spaceborne Equip (Comsec)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	0303140F MC0MSE Spaceborne Equip (COMSEC)		A	- / -	- / -	- / 13.362	- / 46.708	- / -	- / 46.708
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / 13.362	- / 46.708	- / -	- / 46.708

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

a. Products: FY17 funding provides for the production of Space COMSEC products to meet developing and operational space program needs. Space COMSEC products include End Crypto Units (ECU), Embedded Solutions (ES), TRANSEC and ancillaries. Due to low volume production quantities and high reliability design, Space COMSEC products can range in price from \$10K per unit to \$2M per unit. As a commodity item, Space COMSEC procures standard crypto products which enable minimized lifecycle footprints. Space COMSEC procures from multiple crypto vendors, however, with the low volume consumption by space programs, the space crypto industry base is less than a dozen companies. Items requested in FY16 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. Contractor support costs are included as part of the Space COMSEC products funding line in order to provide for end item operational capability.

b. Logistics: FY17 funding provides for the production of Space COMSEC Logistics elements. Space COMSEC products typically have a 20 to 40 year lifecycle to support development, launch and operation of multiple Air Force and DoD space systems. Space COMSEC is provided as Government Furnished Equipment (GFE) to the space system developing contractors and operational ground stations. Space COMSEC products are high cost critical assets and are organically sustained to include component level maintenance exclusively by the Air Force. Logistics procures the necessary lifecycle sustainment elements required to meet the 40 year mission requirements. Logistics elements include, but not limited to, specialized test sets, certified training materials and courses, maintenance manuals, provisioning, spare components, and modifications. Contractor support costs are included as part of the Space COMSEC logistics funding line in order to provide for end item operational capability.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MCOMSE / Spaceborne Equip (Comsec)	Item Number / Title [DODIC]: - / 0303140F MCOMSE Spaceborne Equip (COMSEC)

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	13.362	46.708	-	46.708
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	13.362	46.708	-	46.708
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	13.362	46.708	-	46.708

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>
Hardware - 0303140F MCOMSE Spaceborne Equip (COMSEC) Cost																		
Recurring Cost																		
a. Products	-	-	-	-	-	-	0.083	161	13.362	0.019	1,801	33.430	-	-	-	0.019	1,801	33.430
b. Logistics	-	-	-	-	-	-	-	-	-	2.213	6	13.278	-	-	-	2.213	6	13.278
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	13.362	-	-	46.708	-	-	-	-	-	46.708
<i>Subtotal: Hardware - 0303140F MCOMSE Spaceborne Equip (COMSEC) Cost</i>	-	-	-	-	-	-	-	-	13.362	-	-	46.708	-	-	-	-	-	46.708
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	13.362	-	-	46.708	-	-	-	-	-	46.708

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
MGPS00 / Global Positioning (Space)

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305165F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: 166 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	64.135	13.171	-	13.171	-	-	-	-	-	77.306
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	64.135	13.171	-	13.171	-	-	-	-	-	77.306
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	64.135	13.171	-	13.171	-	-	-	-	-	77.306

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

As of the FY16 PB submission, FY16 and beyond space programs satellite procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF). This exhibit will display values in FY16 and beyond. Prior Years (PY) will be displayed in the corresponding MPAF/3020 exhibits. Total 3020/3021 procurement funding is \$3974.999M.

The Navstar Global Positioning System (GPS) fills validated Joint Service requirements for worldwide, accurate, common grid three-dimensional positioning/navigation for military aircraft, ships, and ground personnel. The consistent accuracy, unaffected by location or weather and available in real time, significantly improves effectiveness of reconnaissance, weapons delivery, mine countermeasures and rapid deployment for all services. The system is composed of three segments: user equipment (funded under PE 0305164F), satellites and a control network. The satellites broadcast high-accuracy data using precisely synchronized signals which are received and processed by user equipment installed in military platforms. This equipment computes the platform position and velocity and provides steering vectors to target locations or navigation waypoints. The control segment provides daily updates to the navigation messages broadcasted from the satellites to maintain system precision.

The GPS IIF program will continue Launch and On-Orbit Support (LOOS) on the LOOS firm fixed price services contract with a period of performance from 1 Jan 2013 to 31 Dec 2016. LOOS contract will end on 31 Dec 2016 and IIF will transition to sustainment. The contract includes: launch readiness activities, launch and on-orbit checkout of up to nine GPS IIF Space Vehicles (SVs). Services to store, maintain, and transport up to nine GPS IIF SVs, on-orbit operations for up to twelve GPS IIF SVs, quick reaction support, anomaly resolution, and anomaly investigation.

GPS IIF is the follow-on program to IIR-M (last launch Aug 09) and was awarded in 1995 to Rockwell International (now Boeing, El Segundo, California). The contract was modified in 2002 for the modernization of all IIF SVs. Of the 12 satellite vehicles contracted for, 11 have been launched and are successfully on orbit (the 11th was launched in October 2015). The remaining vehicle has been accepted, and is at the Cape awaiting launch in February 2016. The Block IIF program continues launch readiness activities, to include storage and transport services, launch and on-orbit checkout, and on-orbit operations.

Block IIF is launched on the Evolved Expendable Launch Vehicle (EELV). Launch schedules are established based on constellation sustainment needs and launch manifest constraints. The system hosts the Nuclear Detonation (NUDET) Detection System (NDS) funded under PE 0305913F.

The acquisition strategy for the Block IIF satellites was a competitive multiyear contract for 6 satellites awarded in FY1996. Options for 6 additional Space Vehicles (SVs) were exercised in FY2004 and FY2005 (3 each year). Block IIF satellites have been modernized to include a new military signal and a second and third civil signal.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: MGPS00 / Global Positioning (Space)
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0305165F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: 166	Item MDAP/MAIS Code(s): N/A	

Funding for this exhibit contained in PE 0305165F.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs

P-1 Line Item Number / Title:
 MGPS00 / Global Positioning (Space)

ID Code (A=Service Ready, B=Not Service Ready): B **Program Elements for Code B Items:** 0305165F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: 166 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Global Positioning (Space)		B	- / 0.000	- / -	- / 64.135	- / 13.171	- / -	- / 13.171
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 64.135	- / 13.171	- / -	- / 13.171

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Global Positioning (Space)		B	- / -	- / -	- / -	- / -	- / -	- / 77.306
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / -	- / -	- / -	- / 77.306

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 FY2017 funding required for Global Positioning System (GPS) Block IIF satellite on-orbit support and contract closeout. Funding decreases from FY16 to FY17 as program transitions to operations & sustainment in CY2017. Final GPS IIF launch (SV12) scheduled for Feb 2016.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: MGPS00 / Global Positioning (Space)				Item Number / Title [DODIC]: - / Global Positioning (Space)				

ID Code (A=Service Ready, B=Not Service Ready) : B							MDAP/MAIS Code:					
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	-	64.135	13.171	-	13.171	-	-	-	-	-	77.306
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	-	64.135	13.171	-	13.171	-	-	-	-	-	77.306
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	-	64.135	13.171	-	13.171	-	-	-	-	-	77.306

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Checkout and Launch - GPS Cost																		
GPS IIF Launch Vehicle Integration	-	-	0.000	-	-	-	-	-	0.010	-	-	-	-	-	-	-	-	-
GPS IIF Launch Services Planning	-	-	-	-	-	-	-	-	11.865	-	-	-	-	-	-	-	-	-
GPS IIF Propellants	-	-	-	-	-	-	-	-	0.500	-	-	-	-	-	-	-	-	-
GPS IIF GSA Vehicles	-	-	-	-	-	-	-	-	0.020	-	-	-	-	-	-	-	-	-
GPS IIF Technical Mission Analysis	-	-	-	-	-	-	-	-	1.133	-	-	-	-	-	-	-	-	-
GPS IIF Enterprise SE&I	-	-	-	-	-	-	-	-	1.464	-	-	1.136	-	-	-	-	-	1.136
GPS IIF Storage Reactivation & Transport	-	-	-	-	-	-	-	-	4.771	-	-	-	-	-	-	-	-	-
<i>Subtotal: Checkout and Launch - GPS Cost</i>	-	-	0.000	-	-	-	-	-	19.763	-	-	1.136	-	-	-	-	-	1.136
Support - On Orbit Support End Item Cost																		
GPS IIF On-Orbit Space Vehicle Support	-	-	-	-	-	-	-	-	35.235	-	-	-	-	-	-	-	-	-
GPS IIF Closeout	-	-	-	-	-	-	-	-	3.781	-	-	7.905	-	-	-	-	-	7.905
<i>Subtotal: Support - On Orbit Support End Item Cost</i>	-	-	-	-	-	-	-	-	39.016	-	-	7.905	-	-	-	-	-	7.905
Support - Support Costs End Item Cost																		
GPS IIF FFRDC	-	-	-	-	-	-	-	-	2.797	-	-	2.930	-	-	-	-	-	2.930
GPS IIF A&AS	-	-	-	-	-	-	-	-	2.359	-	-	1.000	-	-	-	-	-	1.000

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Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: MGPS00 / Global Positioning (Space)						Item Number / Title [DODIC]: - / Global Positioning (Space)					
ID Code (A=Service Ready, B=Not Service Ready) : B										MDAP/MAIS Code:							

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
GPS IIF Other Support	-	-	-	-	-	-	-	-	0.200	-	-	0.200	-	-	-	-	-	0.200
<i>Subtotal: Support - Support Costs End Item Cost</i>	-	-	-	-	-	-	-	-	5.356	-	-	4.130	-	-	-	-	-	4.130
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	64.135	-	-	13.171	-	-	-	-	-	13.171
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Checkout and Launch - GPS Cost																		
GPS IIF Launch Vehicle Integration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.010
GPS IIF Launch Services Planning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.865
GPS IIF Propellants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.500
GPS IIF GSA Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.020
GPS IIF Technical Mission Analysis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.133
GPS IIF Enterprise SE&I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.600
GPS IIF Storage Reactivation & Transport	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.771
<i>Subtotal: Checkout and Launch - GPS Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.899
Support - On Orbit Support End Item Cost																		
GPS IIF On-Orbit Space Vehicle Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35.235
GPS IIF Closeout	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.686
<i>Subtotal: Support - On Orbit Support End Item Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46.921
Support - Support Costs End Item Cost																		
GPS IIF FFRDC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.727
GPS IIF A&AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.359
GPS IIF Other Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.400
<i>Subtotal: Support - Support Costs End Item Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.486
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77.306

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
 1: Space Programs

P-1 Line Item Number / Title:
 MILSAT / MILSATCOM

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: 199 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.261	-	35.495	41.799	-	41.799	32.964	13.742	11.183	11.386	190.976	337.806
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.261	-	35.495	41.799	-	41.799	32.964	13.742	11.183	11.386	190.976	337.806
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.261	-	35.495	41.799	-	41.799	32.964	13.742	11.183	11.386	190.976	337.806

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

PE 0303601F MILSATCOM TERMINALS

MILITARY SATELLITE COMMUNICATIONS (MILSATCOM) joint-service systems collectively provide a broad range of satellite communication capabilities, including secure, jam-resistant, 24-hour worldwide communications to meet essential strategic, tactical and general-purpose operational requirements. MILSATCOM terminals support communications requirements for the President and Secretary of Defense, unified and specified commanders, uniformed services and defense agencies. Procurement funding is in program element (PE) 0303601F, MILSATCOM Terminals, except where otherwise noted. There are also research and development efforts related to some of these efforts, and that RDT&E AF funding is also in PE 0303601F.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA **P-1 Line Item Number / Title:**
 MILSAT / MILSATCOM
 1: Space Programs

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: 199 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	MILSATCOM Terminals		A	- / -	- / -	- / 35.226	- / 41.527	- / -	- / 41.527
P-40a	Satellite Communications (SATCOM) O&M			- / 0.261	- / -	- / 0.269	- / 0.272	- / -	- / 0.272
P-40	Total Gross/Weapon System Cost			- / 0.261	- / -	- / 35.495	- / 41.799	- / -	- / 41.799

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	MILSATCOM Terminals		A	- / 32.688	- / 13.459	- / 11.183	- / 11.386	- / 190.976	- / 336.445
P-40a	Satellite Communications (SATCOM) O&M			- / 0.276	- / 0.281	- / -	- / -	- / -	- / 1.359
P-40	Total Gross/Weapon System Cost			- / 32.964	- / 13.742	- / 11.183	- / 11.386	- / 190.976	- / 337.806

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.
 Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 PE 0303601F MILSATCOM TERMINALS

AIR FORCE WIDEBAND ENTERPRISE TERMINALS (AFWET): AFWET terminals form the Satellite Communications (SATCOM) backbone of the DoD Information Network (DoDIN), operating over Wideband Global SATCOM (WGS), Defense Satellite Communications System, commercial and Allied satellites. These Enterprise terminals support the command and control requirements of Combatant Commanders worldwide and the communication requirements of the President, Secretary of Defense, Department of State (DoS), US strategic and tactical forces, and the North Atlantic Treaty Organization. The Air Force is responsible for sustaining facilities and terminal equipment at Air Force operated and maintained Enterprise ground terminal locations. AFWET upgrades include modifications and life extensions to: baseband equipment, interconnect facilities, radomes, supporting facilities and antennas. AFWET funding includes: Advisory and Assistance Services (A&AS), Product Support, and other related activities worldwide to ensure operational viability in accordance with the Joint Staff, DoD Chief Information Officer and Defense Information Systems Agency (DISA) directives. In FY17, the Air Force will procure and install major modernization kits as Government-Off-The-Shelf (via the Army's Modernization of Enterprise Terminals program), conduct numerous targeted sustainment actions to extend the life of the system, sustain operational suitability, safety and effectiveness, and maintain high interoperability with other DoS, Army, Navy, and Air Force strategic and tactical terminals. Procurement includes ground terminal modernization, baseband equipment, installation and integration, site preparation, and facilities. Unit cost for MET procurement changes substantially depending on specific versions purchased (small, fixed, transportable, protected, etc). Installation, integration and site preparation costs also change substantially based on location. Life extension and modernization efforts also provide incidental increases in capability, allowing for full utilization of WGS capabilities, compliance with directives on the usage of Internet Protocol, adherence to Unified Capabilities Requirements, compliance with National Security Agency directives on cryptographic equipment, and more efficient and effective usage of satellite resources for jam-resistant and anti-scintillation wideband links.

GLOBAL BROADCAST SERVICE (GBS): This AF-led joint program implements a worldwide high-capacity satellite broadcast information system to provide a continuous, one-way, high-speed, high-volume flow of classified and unclassified data and imagery to garrisoned, deployed or moving forces. GBS provides DoD some relief from reliance on leased commercial satellite communications. GBS Receive Suites provide lower-echelon AF users with efficient high-data-rate in-theater to many distributed information sources via satellite-hosted GBS packages. In addition to Prime Mission Equipment, FY17 funds will fund integration and installation, technical manual updates, spares, systems engineering, test, training, A&AS, upgrades, and other related activities.

- a. GBS RECEIVE SUITES: The receive suites link users to information sources via GBS, offering worldwide service.
- b. GBS PORTABLE RECEIVE SUITES: These are Rucksack and Suitcase variants of the GBS terminals required by Special Operations Forces in forward operating areas.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: MILSAT / MILSATCOM
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: 199	Item MDAP/MAIS Code(s): N/A	
<p>c. Interim Non-TRANSEC MODEM: Interim non-TRANSEC solution has been identified. Modification is being processed. Government testing will begin 4th Qtr 2015 and concludes 4th Qtr 2016. Following an operational trial period, operational acceptance will occur 1st Qtr 2017, until a TRANSEC solution is Operationally Accepted (OA).</p> <p>d. JOINT INTERNET PROTOCOL MODEM (JIPM): On 13 Nov 14, DoD Chief Information Officer (CIO) re-directed the JIPM acquisition strategy to a commercial-off-the-shelf (COTS) solution.</p> <p>e. TRANSEC MODEM: GBS is funded in FY17 to begin a TRANSEC solution.</p> <p>f. GBS BROADCAST MANAGER: The Satellite Broadcast Manager (SBM) systems at two of DISA's Defense Enterprise Computing Centers (DECC) that provide the GBS broadcast to the GBS Receive Suites worldwide.</p> <p>MILSATCOM SUSTAINMENT MODIFICATIONS: Provides minor modifications for MILSATCOM systems currently in sustainment and those currently fielded. Funding FY17 continues sustainment for MPE 0303605F SATELLITE COMMUNICATIONS (SATCOMS).</p>		

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Exhibit P-5, Cost Analysis: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: MILSAT / MILSATCOM				Item Number / Title [DODIC]: - / MILSATCOM Terminals				

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	35.226	41.527	-	41.527	32.688	13.459	11.183	11.386	190.976	336.445
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	35.226	41.527	-	41.527	32.688	13.459	11.183	11.386	190.976	336.445
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	35.226	41.527	-	41.527	32.688	13.459	11.183	11.386	190.976	336.445

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 0303601F Cost																		
Recurring Cost																		
AFWET - MODERNIZATION OF ENTERPRISE TERMINALS	-	-	-	-	-	-	8.404	3	25.211	7.537	3	22.612	-	-	-	7.537	3	22.612
AFWET - UPGRADES	-	-	-	-	-	-	-	-	4.927	-	-	7.843	-	-	-	-	-	7.843
GBS - Enterprise Systems Engineering & Integration	-	-	-	-	-	-	-	-	-	-	-	2.000	-	-	-	-	-	2.000
GBS - Technical Mission Analysis	-	-	-	-	-	-	-	-	-	-	-	0.187	-	-	-	-	-	0.187
GBS - Receive Suites, Integration and Installation	-	-	-	-	-	-	-	-	-	-	-	1.072	-	-	-	-	-	1.072
AFWET - Product Services	-	-	-	-	-	-	-	-	1.696	-	-	1.376	-	-	-	-	-	1.376
GBS - ESGM Implementation	-	-	-	-	-	-	-	-	-	-	-	3.755	-	-	-	-	-	3.755
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	<i>31.834</i>	-	-	<i>38.845</i>	-	-	-	-	-	<i>38.845</i>
<i>Subtotal: Hardware - 0303601F Cost</i>	-	-	-	-	-	-	-	-	<i>31.834</i>	-	-	<i>38.845</i>	-	-	-	-	-	<i>38.845</i>
Support - 0303601F Cost																		

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Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: MILSAT / MILSATCOM						Item Number / Title [DODIC]: - / MILSATCOM Terminals					
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:							

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFWET - Advisory and Assistance Services (A&AS)	-	-	-	-	-	-	-	-	0.490	-	-	0.499	-	-	-	-	-	0.499
GBS - Advisory and Assistance Services (A&AS)	-	-	-	-	-	-	-	-	1.307	-	-	0.585	-	-	-	-	-	0.585
GBS - OTHER SUPPORT	-	-	-	-	-	-	-	-	0.392	-	-	0.444	-	-	-	-	-	0.444
AFWET - OTHER SUPPORT	-	-	-	-	-	-	-	-	1.203	-	-	1.154	-	-	-	-	-	1.154
<i>Subtotal: Support - 0303601F Cost</i>	-	-	-	-	-	-	-	-	3.392	-	-	2.682	-	-	-	-	-	2.682
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	35.226	-	-	41.527	-	-	-	-	-	41.527

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - 0303601F Cost																		
Recurring Cost																		
AFWET - MODERNIZATION OF ENTERPRISE TERMINALS	8.866	2	17.732	-	-	-	-	-	-	-	-	-	-	-	-	8.194	8	65.555
AFWET - UPGRADES	-	-	8.120	-	-	8.617	-	-	8.679	-	-	8.832	-	-	149.263	-	-	196.281
GBS - Enterprise Systems Engineering & Integration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.000
GBS - Technical Mission Analysis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.187
GBS - Receive Suites, Integration and Installation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.072
AFWET - Product Services	-	-	1.403	-	-	1.431	-	-	1.460	-	-	1.489	-	-	24.256	-	-	33.111
GBS - ESGM Implementation	-	-	3.915	-	-	2.383	-	-	-	-	-	-	-	-	-	-	-	10.053
<i>Subtotal: Recurring Cost</i>	-	-	31.170	-	-	12.431	-	-	10.139	-	-	10.321	-	-	173.519	-	-	308.259
<i>Subtotal: Hardware - 0303601F Cost</i>	-	-	31.170	-	-	12.431	-	-	10.139	-	-	10.321	-	-	173.519	-	-	308.259
Support - 0303601F Cost																		

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** MILSAT / MILSATCOM **Item Number / Title [DODIC]:**
- / MILSATCOM Terminals

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
AFWET - Advisory and Assistance Services (A&AS)	-	-	0.509	-	-	0.519	-	-	0.529	-	-	0.540	-	-	8.795	-	-	11.881
GBS - Advisory and Assistance Services (A&AS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.892
GBS - OTHER SUPPORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.836
AFWET - OTHER SUPPORT	-	-	1.009	-	-	0.509	-	-	0.515	-	-	0.525	-	-	8.662	-	-	13.577
<i>Subtotal: Support - 0303601F Cost</i>	-	-	1.518	-	-	1.028	-	-	1.044	-	-	1.065	-	-	17.457	-	-	28.186
Gross/Weapon System Cost	-	-	32.688	-	-	13.459	-	-	11.183	-	-	11.386	-	-	190.976	-	-	336.445

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2017 Air Force															Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1										P-1 Line Item Number / Title: MILSAT / MILSATCOM					Aggregated Items Title: Satellite Communications (SATCOM) O&M				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
CCS-C	A		-	-	0.261	-	-	-	-	-	0.269	-	-	0.272	-	-	-	-	-	0.272
Subtotal: Uncategorized			-	-	0.261	-	-	-	-	-	0.269	-	-	0.272	-	-	-	-	-	0.272
Total			-	-	0.261	-	-	-	-	-	0.269	-	-	0.272	-	-	-	-	-	0.272
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
CCS-C	A		-	-	0.276	-	-	0.281	-	-	-	-	-	-	-	-	-	-	-	1.359
Subtotal: Uncategorized			-	-	0.276	-	-	0.281	-	-	-	-	-	-	-	-	-	-	-	1.359
Total			-	-	0.276	-	-	0.281	-	-	-	-	-	-	-	-	-	-	-	1.359

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
MSEELC / EVOLVED EXPENDABLE LAUNCH CAPABILITY

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604853F

Line Item MDAP/MAIS Code: 176 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	571.076	768.586	-	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.606
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	571.076	768.586	-	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.606
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	571.076	768.586	-	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.606

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

As of the Fiscal Year 2016 PB submission, space programs procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in Fiscal Year 2016 and beyond.

The Air Force requests funding for the Evolved Expendable Launch Vehicle (EELV) program in two separate P-1 line items in compliance with the Fiscal Years 2013 and 2014 Appropriation Acts. Launch services will be executed from the Evolved Expendable Launch Veh (Space) P-1 line item. Launch capability will be executed from the Evolved Expendable Launch Veh (Infrastructure) P-1 line item. Both line items are necessary to achieve successful placement of National Security Space (NSS) space vehicles (SVs) on-orbit.

Funding for this exhibit is contained in PE 0305953F. Related RDT&E, AF funding is contained in PE 0604853F. This exhibit only provides funding for Evolved Expendable Launch Veh (Infrastructure).

This program does not require and does not include advance procurement or initial spares. Flyaway Unit Cost is not applicable and Weapon System Unit Cost are not representative due to the mix (medium through heavy) of vehicles in the program. EELV procures launch services and is not a weapon system. The program provides launch capacity for Government National Launch Forecast (NLF) requirements, but does not take ownership of any specific launch hardware. The requirements for EELV launch services are derived from multiple spacecraft requirements. "To Complete" projections include only known requirements at this time.

The EELV program is a Major Defense Acquisition Program (MDAP) Acquisition Category (ACAT) 1D program that acquires launch services to provide critical space support required to satisfy Department of Defense (DoD) warfighter, national security, and other Government space lift missions while fostering interagency and commercial cooperation. The EELV program provides satellite delivery to specific orbits through certified launch vehicle providers. To provide flexibility to meet NSS requirements, Air Force acquires launch services through a white tail concept where designating configurations to specific missions in the same launch vehicle family is accomplished just-in-time to meet mission integration requirements.

The Air Force is currently focused on awarding competed launch services using funds from the Launch Services appropriation in Fiscal Year 2015 - 2017. The first award is scheduled for March 2016. The corresponding launch capability funding for competitive launches from this appropriation is funded in the year of award of the launch service.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs
P-1 Line Item Number / Title: MSEELC / EVOLVED EXPENDABLE LAUNCH CAPABILITY

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604853F

Line Item MDAP/MAIS Code: 176 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	EVOLVED EXPENDABLE LAUNCH CAPABILITY	P-5a	A	- / 0.000	- / -	- / 571.076	- / 768.586	- / -	- / 768.586
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 571.076	- / 768.586	- / -	- / 768.586

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	EVOLVED EXPENDABLE LAUNCH CAPABILITY	P-5a	A	- / 758.357	- / 507.467	- / 516.541	- / 525.838	- / 8,656.741	- / 12,304.606
P-40	Total Gross/Weapon System Cost			- / 758.357	- / 507.467	- / 516.541	- / 525.838	- / 8,656.741	- / 12,304.606

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 Fiscal Year 2017 Evolved Expendable Launch Vehicle (Infrastructure) procurement funding is required to support launch and acquisition of National Security Space (NSS) launch vehicles. Fiscal Year 2017 is last year of the ordering period for Launch Services on the EELV Phase 1 contract. Phase 1 Launch Capability associated with Fiscal Year 2017 Launch Services is scheduled to completed 30 Sep 2019. Evolved Expendable Launch Vehicle (Infrastructure) is annually funded and includes, but is not limited, to systems and factory engineering, program management, standard integration/testing, launch and range activities, infrastructure, parts obsolescence mitigation, post mission analysis, studies and analysis, support costs, non-recurring engineering (NRE) and other efforts necessary to achieve Orbital Debris Mitigation Standard Practice (ODMSP) compliance. Funds are also required for fully funded competitive missions in the year of award with related infrastructure, studies/analysis, postponement fees, and support costs annually funded.

Launch Services (EELV) is requested under a separate P-1 line item in accordance with the direction in the Consolidated and Further Continuing Appropriations Act 2013.

A revised Memorandum of Understanding (MOU) between the Air Force and National Reconnaissance Office (NRO), dated 7 Oct 2011 provides a cost share agreement for the Launch Capability of 75 percent (Air Force) and 25 percent (NRO). The cost share arrangement for Fiscal Year 2017 is consistent with the number of total cores procured and launched during Fiscal Year 2017. This PE contains only the Air Force position.

The SV is responsible for funding mission unique integration/testing.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force										Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1					P-1 Line Item Number / Title: MSEELC / EVOLVED EXPENDABLE LAUNCH CAPABILITY					Item Number / Title [DODIC]: - / EVOLVED EXPENDABLE LAUNCH CAPABILITY		

ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:					
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	-	571.076	768.586	-	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.606
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	-	571.076	768.586	-	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.606
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	-	571.076	768.586	-	768.586	758.357	507.467	516.541	525.838	8,656.741	12,304.606

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Launch - Launch End Item Cost																		
Recurring Cost																		
Launch Capability ^(†)	-	-	0.000	-	-	-	554.826	1	554.826	737.273	1	737.273	-	-	-	737.273	1	737.273
Subtotal: Recurring Cost	-	-	0.000	-	-	-	-	-	554.826	-	-	737.273	-	-	-	-	-	737.273
Subtotal: Launch - Launch End Item Cost	-	-	0.000	-	-	-	-	-	554.826	-	-	737.273	-	-	-	-	-	737.273
Support - Support End Item Cost																		
Other Support	-	-	0.000	-	-	-	-	-	0.555	0.570	1	0.570	-	-	-	0.570	1	0.570
Independent Readiness Review Team	-	-	0.000	-	-	-	-	-	15.695	-	-	30.743	-	-	-	-	-	30.743
Subtotal: Support - Support End Item Cost	-	-	0.000	-	-	-	-	-	16.250	-	-	31.313	-	-	-	-	-	31.313
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	571.076	-	-	768.586	-	-	-	-	-	768.586

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Launch - Launch End Item Cost																		
Recurring Cost																		
Launch Capability ^(†)	727.429	1	727.429	486.569	1	486.569	495.269	1	495.269	504.183	1	504.183	8,300.618	1	8,300.618	1,686.595	7	11,806.167

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSEELC / EVOLVED EXPENDABLE LAUNCH CAPABILITY	Item Number / Title [DODIC]: - / EVOLVED EXPENDABLE LAUNCH CAPABILITY

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Recurring Cost</i>	-	-	727.429	-	-	486.569	-	-	495.269	-	-	504.183	-	-	8,300.618	-	-	11,806.167
<i>Subtotal: Launch - Launch End Item Cost</i>	-	-	727.429	-	-	486.569	-	-	495.269	-	-	504.183	-	-	8,300.618	-	-	11,806.167
Support - Support End Item Cost																		
Other Support	-	-	0.594	-	-	0.599	-	-	0.610	-	-	0.621	-	-	6.117	9.666	1	9.666
Independent Readiness Review Team	-	-	30.334	-	-	20.299	-	-	20.662	-	-	21.034	-	-	350.006	-	-	488.773
<i>Subtotal: Support - Support End Item Cost</i>	-	-	30.928	-	-	20.898	-	-	21.272	-	-	21.655	-	-	356.123	-	-	498.439
Gross/Weapon System Cost	-	-	758.357	-	-	507.467	-	-	516.541	-	-	525.838	-	-	8,656.741	-	-	12,304.606

Remarks:

A revised Memorandum of Understanding (MOU) between the Air Force and National Reconnaissance Office (NRO), dated 7 October 2011 provides a cost share agreement for the Launch Capability of 75 percent (Air Force) and 25 percent (NRO). The cost share arrangement for Fiscal Year 2017 is consistent with the number of total cores procured and launched during Fiscal Year 2017. This PE contains only the Air Force position.

Fiscal Year 2017 launch capability is significantly higher than Fiscal Year 2016 because this request includes twelve months of capability, one year of depreciation, and capability for four competitive opportunities. The Fiscal Year 2016 request funded nine months of capability, no depreciation, and one competitive opportunity.

(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2017 Air Force								Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1			P-1 Line Item Number / Title: MSEELC / EVOLVED EXPENDABLE LAUNCH CAPABILITY					Item Number / Title [DODIC]: - / EVOLVED EXPENDABLE LAUNCH CAPABILITY				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Launch Capability		2016	United Launch Alliance (ULA)/Space X / CO/CA	Various	SMC, LA AFB, CA	Oct 2015	Oct 2015	1	554.826	Y		Mar 2012
Launch Capability		2017	United Launch Alliance (ULA)/Space X / CO/CA	Various	SMC, LA AFB, CA	Oct 2016	Oct 2016	1	737.273	Y		Mar 2012
Launch Capability		2018	United Launch Alliance (ULA)/Space X / CO/CA	Various	SMC, LA AFB, CA	Oct 2017	Oct 2017	1	727.429	Y		Mar 2012
Launch Capability		2019	United Launch Alliance (ULA)/Various / CO/TBD	Various	SMC, LA AFB, CA	Oct 2018	Oct 2018	1	486.569	Y		Mar 2012
Launch Capability		2020	TBD / CO/TBD	Various	SMC, LA AFB, CA	Oct 2019	Oct 2019	1	495.269	Y		Oct 2018
Launch Capability		2021	TBD / CO/TBD	Various	SMC, LA AFB, CA	Oct 2020	Oct 2020	1	504.183	Y		Oct 2019

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
MSEELV / Evolved Expendable Launch Veh(Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604853F

Line Item MDAP/MAIS Code: 176 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	4	5	-	5	3	6	5	4	34	61
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	679.851	737.853	-	737.853	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.315
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	679.851	737.853	-	737.853	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.315
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	679.851	737.853	-	737.853	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.315

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	169.963	147.571	-	147.571	222.757	219.784	246.705	289.711	268.184	244.513

Description:

As of the Fiscal Year 2016 PB submission, space programs procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in Fiscal Year 2016 and beyond.

The Air Force requests funding for the Evolved Expendable Launch Vehicle (EELV) program in two separate P-1 line items in compliance with the Fiscal Years 2013 and 2014 Appropriations Acts. Launch services will be executed from the Evolved Expendable Launch Veh (Space) P-1 line item. Launch capability will be executed from the Evolved Expendable Launch Veh (Infrastructure) P-1 line item. Both line items are necessary to achieve successful placement of National Security Space (NSS) space vehicles (SVs) on-orbit.

Funding for this exhibit is contained in PE 0305953F. Related RDT&E, AF funding is contained in PE 0604853F. This exhibit only provides funds for Evolved Expendable Launch Veh (Space).

This program does not require and does not include advance procurement or initial spares. Flyaway Unit Cost is not applicable and Weapon System Unit Cost are not representative due to the mix (medium through heavy) of vehicles in the program. EELV procures launch services and is not a weapon system. The program provides launch capacity for the Government National Launch Forecast (NLF) requirements, but does not take ownership of any specific launch hardware. The requirements for EELV launch services are derived from multiple spacecraft requirements. "To Complete" projections include only known requirements at this time.

The EELV program is a Major Defense Acquisition Program (MDAP) Acquisition Category (ACAT) 1D program that acquires launch services to provide critical space support to satisfy Department of Defense (DoD) warfighter, national security, and other Government space lift missions while fostering inter-agency and commercial cooperation. The EELV program provides satellite delivery to specific orbits through certified Launch Vehicle (LV) providers. To provide flexibility to meet NSS requirements, the Air Force acquires launch services through a white tail concept, where designating configurations to specific missions in the same launch vehicle family is accomplished just-in-time to meet mission integration requirements.

The Air Force, National Reconnaissance Office (NRO), and the National Aeronautics and Space Administration (NASA) agreed to a coordinated strategy for certification of New Entrants to launch payloads in support of NSS and other USG requirements which has so far resulted in the certification of one New Entrant. The Air Force continues to actively work with potential New Entrants to reliably launch NSS requirements. Air Force awards integration studies when New Entrants demonstrate a successful launch.

The Air Force is currently focused on awarding competed launch services using funds from this appropriation in Fiscal Year 2015 - 2017. The first award is scheduled for March 2016.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs

P-1 Line Item Number / Title:
MSEELV / Evolved Expendable Launch Veh(Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0604853F

Line Item MDAP/MAIS Code: 176 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Evolved Expendable Launch Veh(Space)	P-5a, P-21	A	- / 0.000	- / -	4 / 679.851	5 / 737.853	- / -	5 / 737.853
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	4 / 679.851	5 / 737.853	- / -	5 / 737.853

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Evolved Expendable Launch Veh(Space)	P-5a, P-21	A	3 / 668.270	6 / 1,318.702	5 / 1,233.523	4 / 1,158.844	34 / 9,118.272	61 / 14,915.315
P-40	Total Gross/Weapon System Cost			3 / 668.270	6 / 1,318.702	5 / 1,233.523	4 / 1,158.844	34 / 9,118.272	61 / 14,915.315

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
Fiscal Year 2017 Evolved Expendable Launch Vehicle (Space) procurement funding is to acquire launch services to provide critical space support required to satisfy Department of Defense (DoD) warfighter, national security, and other Government space lift missions while fostering interagency and commercial cooperation. Launch services include but are not limited to launch vehicle manufacturing, mission success incentives, recurring costs for Orbital Debris Mitigation Standard Practice, EELV secondary payload adapter, launch propellants, independent mission assurance, evaluation and certification of potential New Entrants, early integration activities and analysis/support, and any other related studies to support mission requirements. The Air Force is responsible for funding its own missions. All non-Air Force EELV launch services are funded within their respective entities (e.g. NRO, Navy, etc.).

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Exhibit P-5, Cost Analysis: PB 2017 Air Force										Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1					P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)					Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)		

ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:					
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	4	5	-	5	3	6	5	4	34	61
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	679.851	737.853	-	737.853	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.315
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	679.851	737.853	-	737.853	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.315
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	679.851	737.853	-	737.853	668.270	1,318.702	1,233.523	1,158.844	9,118.272	14,915.315

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	169.963	147.571	-	147.571	222.757	219.784	246.705	289.711	268.184	244.513

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Launch - Launch End Item Cost																		
Recurring Cost																		
Launch Services ^(†)	-	-	-	-	-	-	117.647	4	470.587	117.653	5	588.266	-	-	-	117.653	5	588.266
Launch Capability	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EELV Enterprise Systems Engineering & Integration	-	-	-	-	-	-	-	-	22.579	-	-	21.736	-	-	-	-	-	21.736
Mission Assurance	-	-	-	-	-	-	-	-	149.191	-	-	89.673	-	-	-	-	-	89.673
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>642.357</i>	-	-	<i>699.675</i>	-	-	-	-	-	<i>699.675</i>
<i>Subtotal: Launch - Launch End Item Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>642.357</i>	-	-	<i>699.675</i>	-	-	-	-	-	<i>699.675</i>
Support - Support End Item Cost																		
Other Support	-	-	-	-	-	-	-	-	1.859	-	-	1.627	-	-	-	-	-	1.627
A&AS	-	-	-	-	-	-	-	-	9.722	-	-	11.301	-	-	-	-	-	11.301
FFRDC	-	-	-	-	-	-	-	-	25.913	-	-	25.250	-	-	-	-	-	25.250
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	-	-	-	<i>37.494</i>	-	-	<i>38.178</i>	-	-	-	-	-	<i>38.178</i>
Gross/Weapon System Cost	-	-	0.000	-	-	-	169.963	4	679.851	147.571	5	737.853	-	-	-	147.571	5	737.853

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Exhibit P-5, Cost Analysis: PB 2017 Air Force													Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1							P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)						Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)					

ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:							
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Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Launch - Launch End Item Cost																		
Recurring Cost																		
Launch Services ^(t)	159.814	3	479.441	183.412	6	1,100.472	202.996	5	1,014.981	237.827	4	951.308	201.939	34	6,865.916	188.049	61	11,470.971
Launch Capability	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EELV Enterprise Systems Engineering & Integration	-	-	15.609	-	-	15.018	-	-	22.580	-	-	23.300	-	-	243.360	-	-	364.182
Mission Assurance	-	-	135.295	-	-	164.331	-	-	157.074	-	-	150.983	-	-	1,611.429	-	-	2,457.976
<i>Subtotal: Recurring Cost</i>	-	-	630.345	-	-	1,279.821	-	-	1,194.635	-	-	1,125.591	-	-	8,720.705	-	-	14,293.129
<i>Subtotal: Launch - Launch End Item Cost</i>	-	-	630.345	-	-	1,279.821	-	-	1,194.635	-	-	1,125.591	-	-	8,720.705	-	-	14,293.129
Support - Support End Item Cost																		
Other Support	-	-	1.579	-	-	1.634	-	-	1.733	-	-	1.764	-	-	25.295	-	-	35.491
A&AS	-	-	11.547	-	-	11.654	-	-	11.851	-	-	12.064	-	-	125.263	-	-	193.402
FFRDC	-	-	24.799	-	-	25.593	-	-	25.304	-	-	19.425	-	-	247.009	-	-	393.293
<i>Subtotal: Support - Support End Item Cost</i>	-	-	37.925	-	-	38.881	-	-	38.888	-	-	33.253	-	-	397.567	-	-	622.186
Gross/Weapon System Cost	222.757	3	668.270	219.784	6	1,318.702	246.705	5	1,233.523	289.711	4	1,158.844	268.184	34	9,118.272	244.513	61	14,915.315

Remarks:

Flyaway is not applicable to a program that procures launch services. Unit cost varies due to the mix (medium through heavy lift) of vehicles in the program.

A Memorandum of Understanding (MOU) between the NRO and the Air Force, dated 7 October 2011, specifies a 60/40 Air Force/NRO share ratio for Federally Funded Research and Development Center (FFRDC) Mission Assurance.

All non-Air Force launch services are funded by their respective agencies.

In Fiscal Year 2016, AFPEO/SP directed changes to how P-5 categories are presented to standardize the approach across the NSS portfolio. EELV is maintaining investments in Mission Assurance and New Entrant certification, but portions of these efforts are now categorized as FFRDC.

(t) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1			P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)				Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)					

Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Launch Services ^(†)		2016	United Launch Alliance (ULA)/Space X / CO/CA	Various	SMC, LA AFB, CA	Dec 2015	Dec 2017	4	117.647	Y		Mar 2012
Launch Services ^(†)		2017	United Launch Alliance (ULA)/Space X / CO/CA	Various	SMC, LA AFB, CA	Dec 2016	Dec 2018	5	117.653	Y		Mar 2012
Launch Services ^(†)		2018	TBD / TBD	Various	SMC, LA AFB, CA	Dec 2017	Dec 2019	3	159.814	Y		Dec 2016
Launch Services ^(†)		2019	TBD / TBD	Various	SMC, LA AFB, CA	Dec 2018	Dec 2020	6	183.412	Y		Dec 2016
Launch Services ^(†)		2020	TBD / TBD	Various	SMC, LA AFB, CA	Dec 2019	Dec 2021	5	202.996	Y		Dec 2016
Launch Services ^(†)		2021	TBD / TBD	Various	SMC, LA AFB, CA	Dec 2020	Dec 2022	4	237.827	Y		Dec 2016

^(†) indicates the presence of a P-21

Remarks:
The Air Force plans to compete selected launch services beginning with the Fiscal Year 2015 appropriation with the first award scheduled for March 2016.

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Exhibit P-21, Production Schedule: PB 2017 Air Force															Date: February 2016									
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1										P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)										Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)				

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2016														Fiscal Year 2017														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016														Calendar Year 2017														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Launch Services																																			
1	2016	AF		4	-	4			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4						
1	2017	AF		5	-	5															A	-	-	-	-	-	-	-	5						
2	2018	AF		3	-	3																							3						
2	2019	AF		6	-	6																							6						
2	2020	AF		5	-	5																							5						
2	2021	AF		4	-	4																							4						

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Exhibit P-21, Production Schedule: PB 2017 Air Force															Date: February 2016														
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1										P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)										Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2018														Fiscal Year 2019														B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018														Calendar Year 2019														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Launch Services																																			
	1	2016	AF	4	-	4	-	-	4																									-	
	1	2017	AF	5	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	2	2018	AF	3	-	3			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3		
	2	2019	AF	6	-	6																												6	
	2	2020	AF	5	-	5																												5	
	2	2021	AF	4	-	4																												4	

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Exhibit P-21, Production Schedule: PB 2017 Air Force															Date: February 2016														
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1										P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)										Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2020														Fiscal Year 2021														BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020														Calendar Year 2021														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Launch Services																																			
1		2016	AF	4	4	-																								-					
1		2017	AF	5	5	-																								-					
2		2018	AF	3	-	3	-	-	-	3																				-					
2		2019	AF	6	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6								-				
2		2020	AF	5	-	5				A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5						
2		2021	AF	4	-	4																	A	-	-	-	-	-	-	4					

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Exhibit P-21, Production Schedule: PB 2017 Air Force														Date: February 2016															
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1										P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)										Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022														Fiscal Year 2023														B A L A N C E	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
Launch Services																																			
	1	2016	AF	4	4	-																										-			
	1	2017	AF	5	5	-																											-		
	2	2018	AF	3	3	-																											-		
	2	2019	AF	6	6	-																											-		
	2	2020	AF	5	-	5	-	-	5																								-		
	2	2021	AF	4	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					

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Exhibit P-21, Production Schedule: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1		P-1 Line Item Number / Title: MSEELV / Evolved Expendable Launch Veh(Space)
		Item Number / Title [DODIC]: - / Evolved Expendable Launch Veh(Space)

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2017	1-8-5 For 2017	MAX For 2017	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	United Launch Alliance (ULA)/Space X - CO/CA	3	10	10	-	-	-	-	-	3	24	27
2	TBD - TBD	-	-	-	-	-	-	-	-	-	-	-

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
MSSBIR / SBIR High (Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0604441F **Other Related Program Elements:** 0604441F

Line Item MDAP/MAIS Code: 210 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	542.713	362.504	-	362.504	933.169	118.649	110.121	112.102	-	2,179.258
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	542.713	362.504	-	362.504	933.169	118.649	110.121	112.102	-	2,179.258
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	542.713	362.504	-	362.504	933.169	118.649	110.121	112.102	-	2,179.258

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Note 1: As of the FY16 PB submission, space programs satellite procurement funding has been re-categorized from appropriation 3020, Missile Procurement Air Force (MPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in FY16 and beyond. This exhibit will display values in FY16 and beyond. Prior Years and PY will be displayed in the corresponding MPAF/3020 exhibits. Total 3020/3021 procurement funding is \$7,354.555M.

Note 2: In the FY16 Consolidated Appropriations Act, selected space programs funded with Other Procurement, Air Force (OPAF) were transferred to Space Procurement, Air Force (SPAF) in FY16 and beyond. This exhibit will display values for FY16 and beyond; funding prior to FY16 will be displayed where they were appropriated in the budget exhibits. Total 3080/3021 procurement funding is \$380.320M.

Note 3: This P-40 describes SBIRS funding in PE0305915F. The associated RDT&E funding is in RDT&E, AF PE 0604441F.

Note 4: The flyaway unit cost is not included on the P-40 exhibit because there are multiple P-5 Cost Analysis exhibits.

The Space Based Infrared System's (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces and its allies. SBIRS enhances detection and improves reporting of intercontinental ballistic missiles, submarine launched ballistic missiles, and tactical ballistic missiles. SBIRS provides increased detection and tracking performance in order to meet requirements in the Operational Requirements Document (ORD). SBIRS will consist of satellites in Geosynchronous Earth Orbit (GEO) and payloads in Highly Elliptical Orbit (HEO) with an integrated, centralized ground station serving all SBIRS space elements, Defense Support Program (DSP) satellites and other program related support activities. The HEO payloads operate on a classified host.

SBIRS GEO-3 and 4 satellites are derivatives of the first two GEO satellites which were delivered on the SBIRS Engineering and Manufacturing Development (EMD) contract (RDT&E funded). The GEO-3 and 4 satellite production efforts are necessary to meet constellation requirements. In Dec 2008, the Department approved the procurement of GEO-3 and 4 satellites and the HEO-3 and 4 payloads using a Cost-Plus contract. In order to minimize the number of storage actions and costs associated with aligning the SBIRS launches to the earliest assigned Initial Launch Capability (ILC) date of Apr 2016, the GEO-3 satellite completed production and was placed into storage in Jul 2015. The GEO-4 satellite is manifested for launch as the third flight (GEO-4 Flight-3) in Jul 2016. The GEO-3 (Flight-4) satellite is projected to launch not-earlier-than 4th quarter FY17.

GEO-5 and 6 production contract was modified in Jun 2015 to modernize the existing spacecraft bus design to improve commonality across Air Force and Government satellite programs, and enable compatibility with multiple launch vehicles. GEO-5 and 6 satellites are derivatives of the GEO-3 and 4 satellites and will be replacements for GEO-1 and 2. A four phased contract approach awarded non-recurring engineering

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0604441F	Other Related Program Elements: 0604441F
Line Item MDAP/MAIS Code: 210	Item MDAP/MAIS Code(s): N/A	
<p>and parts obsolescence using advanced procurement funds in Sep 2012, followed by award of long lead items in Feb 2013, full production in Jun 2014, and technical refresh in Jun 2015. The full production effort includes 2 satellites with persistent infrared missile and threat warning payloads, launch vehicle integration, launch and early orbit test, dual communication band modification (unified S-Band), contractor operations support through operational acceptance, and Interim Contractor Support (ICS).</p> <p>For the GEO 5-6 block buy, the FY13 NDAA authorizes six years of incremental funding and limits the incrementally funded contract obligation to \$3,900M. The years of incremental funding are FY13-18. Advance procurement was appropriated in FY11 and FY12. GEO 5-6 advance procurement and incremental funding are attributed to FY13 for the purposes of identifying full funding for procurement end items. Each year of appropriation FY13-18 is in two parts, the incrementally funded contract amount and annual program support costs. The incrementally funded amount complies with the NDAA cap.</p> <p>SBIRS HEO-3 and 4 payloads are replenishments for HEO-1 and 2 payloads, which were delivered on the SBIRS Engineering and Manufacturing Development (EMD) contract (RDT&E funded). The HEO-1 and 2 payloads are on-orbit and certified for Integrated Tactical Warning/Attack Assessment (ITW/AA) missile warning operations and certified for technical intelligence operations. The HEO-3 payload is on-orbit and has completed its initial checkout. The HEO-4 payload was delivered to the classified host in May 2015.</p> <p>To complete costs are zero; the last year of GEO-5/6 funding is FY21.</p> <p>Total GEO 3-4 3020/3021 funds are \$2,845.684M. Total GEO 5-6 3020/3021 funds are \$3,359.825M. Total HEO 3-4 3020/3021 funds are \$1,489.046M.</p> <p>SBIRS MOBILE AND FIXED SITE COMMUNICATIONS/ELECTRONIC REPLACEMENT: This effort procures DSP and SBIRS assets to maintain the Data Processing Sub-System. Fixed site examples include, but are not limited to, legacy receiver, antenna drive system, Spacecraft Simulator RF, MCS display, Rapid Delog (instantaneous translation of computer data to a human-readable format), Sybase database obsolescence, communications and network routers, and switches and time server replacements. Mobile system examples include, but are not limited to, aging radio frequency communications equipment, aging antenna equipment, aging electrical equipment and cabling, and unsupported data processing subsystem components. Funding for this effort is in program element 0305915F and was previously funded under Other Procurement Air Force (OPAF).</p> <p>SBIRS High-Altitude Electromagnetic Pulse (HEMP): This effort provides for upgrades, hardiness assurance and verification testing, to gain and maintain USSTRATCOM certification. AFSPC HEMP program supports the USSTRATCOM Integrated Nuclear Survivable and Endurable Report (INSER) to the Joint Staff, Secretary of Defense, and Congress. Funding for this effort is in program element 0305915F and was previously funded under Other Procurement Air Force (OPAF) in FY15 only.</p> <p>SBIRS SURVIVABLE ENDURABLE EVOLUTION (S2E2): The S2E2 effort recapitalizes the DSP Mobile Ground System (MGS) DSP Mobile Ground Terminals with SBIRS Mobile Ground Terminals (SMGT). The MGS is the only US Survivable and Endurable (S/E) Tactical Warning and Attack Assessment (TW/AA) system (S/E TW/AA). It is the critical Situation Monitoring element in three national-level architectures: Integrated TW/AA System, Chairman, Joint Chiefs of Staff (CJCS) Critical Nodes, and Nuclear Command and Control System (NCCS). USSTRATCOM needs AFSPCs global S/E TW/AA operational capabilities to meet President of the United States, Joint Staff, Combatant Commander and Forward User (FU) requirements for continuous, persistent, and enduring TW/AA non-imaging infrared (NIR) for Missile Warning and static events, and Nuclear Detonation (NUDET) detection and reporting across all phases of military operations. The current MGS can only process DSP data for strategic Missile Warning and NUDET detection. This effort will address long-standing obsolescence/supportability concerns of the MGS, enable the MGS to process SBIRS and DSP satellite data. Training software, spares and integration of Universal Ground NDS Terminals (UGNTs) are included. The shelters will also be upgraded for increased protection from high altitude electromagnetic pulse (HEMP) per MIL-STD-188-125-2. Funding for this effort is in program element 0305915F and was previously funded under Other Procurement Air Force (OPAF).</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs **P-1 Line Item Number / Title:** MSSBIR / SBIR High (Space)

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0604441F **Other Related Program Elements:** 0604441F

Line Item MDAP/MAIS Code: 210 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	GEO 3-4		A	- / 0.000	- / -	- / 62.501	- / 95.959	- / -	- / 95.959
P-5	GEO 5-6		A	- / -	- / -	- / 379.661	- / 238.457	- / -	- / 238.457
P-5	HEO 3-4		A	- / 0.000	- / -	- / 10.361	- / 20.547	- / -	- / 20.547
P-5	SBIRS Survivable Endurable Evolution (S2E2)	P-5a	A	- / -	- / -	2 / 81.202	- / -	- / -	- / -
P-3a	1 / SBIRS Mobile System & Fixed Comm Electronics Upgrades (Reliability & Maintainability)			- / -	- / -	- / 8.988	- / 7.541	- / -	- / 7.541
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 542.713	- / 362.504	- / -	- / 362.504

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	GEO 3-4		A	- / 27.694	- / -	- / -	- / -	- / -	- / 186.154
P-5	GEO 5-6		A	- / 890.316	- / 110.837	- / 102.170	- / 104.009	- / -	- / 1,825.450
P-5	HEO 3-4		A	- / 7.483	- / -	- / -	- / -	- / -	- / 38.391
P-5	SBIRS Survivable Endurable Evolution (S2E2)	P-5a	A	- / -	- / -	- / -	- / -	- / -	2 / 81.202
P-3a	1 / SBIRS Mobile System & Fixed Site Communications/Electronics Upgrades (Reliability & Maintainability)			- / 7.676	- / 7.812	- / 7.951	- / 8.093	- / -	- / 48.061
P-40	Total Gross/Weapon System Cost			- / 933.169	- / 118.649	- / 110.121	- / 112.102	- / -	- / 2,179.258

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 FY17 funding provides for continued procurement of the GEO-5 and 6 satellites, and launch and checkout activities for GEO 3/4 and HEO 3/4; continues enterprise Systems Engineering and Integration (SE&I) which provides intra- and inter-program requirements development, enterprise master planning, validation and verification, specialty engineering, and architecture development; and continues Program Office and related support activities to include Systems Engineering and Technical Assistance (SETA) for technical analysis and verification of contractor performance.

SBIRS Mobile System & Fixed Site Communications/Electronics Upgrades: FY17 funding procures SBIRS ground hardware or software.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** MSSBIR / SBIR High (Space) **Item Number / Title [DODIC]:** - / GEO 3-4

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	-	62.501	95.959	-	95.959	27.694	-	-	-	-	186.154
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	-	62.501	95.959	-	95.959	27.694	-	-	-	-	186.154
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	-	62.501	95.959	-	95.959	27.694	-	-	-	-	186.154

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space Vehicle - GEO 3-4 Cost																		
Recurring Cost																		
GEO 3-4 Hardware	-	-	0.000	-	-	-	-	-	5.396	-	-	-	-	-	-	-	-	-
GEO 3-4 Integration and Assembly	-	-	0.000	-	-	-	-	-	0.983	-	-	-	-	-	-	-	-	-
GEO 3-4 Enterprise Systems Engineering & Integration (SE&I)	-	-	-	-	-	-	-	-	10.418	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>16.797</i>	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
GEO 3-4 Obsolescence Non-Recurring	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEO 3-4 Launch Vehicle and Range Integration	-	-	-	-	-	-	-	-	6.813	-	-	30.539	-	-	-	-	-	30.539
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>6.813</i>	-	-	<i>30.539</i>	-	-	-	-	-	<i>30.539</i>
<i>Subtotal: Space Vehicle - GEO 3-4 Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	<i>23.610</i>	-	-	<i>30.539</i>	-	-	-	-	-	<i>30.539</i>
Checkout and Launch - GEO 3-4 Cost																		
GEO 3-4 Launch Ops & Checkout	-	-	-	-	-	-	-	-	16.891	-	-	65.420	-	-	-	-	-	65.420
Interim Contractor Support (ICS)	-	-	-	-	-	-	-	-	22.000	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)						Item Number / Title [DODIC]: - / GEO 3-4					
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:							

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Checkout and Launch - GEO 3-4 Cost</i>	-	-	-	-	-	-	-	-	38.891	-	-	65.420	-	-	-	-	-	65.420
<i>Support - GEO 3-4 Cost</i>																		
Other Support	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FFRDC	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A&AS	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - GEO 3-4 Cost</i>	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	62.501	-	-	95.959	-	-	-	-	-	95.959

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Space Vehicle - GEO 3-4 Cost</i>																		
<i>Recurring Cost</i>																		
GEO 3-4 Hardware	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.396
GEO 3-4 Integration and Assembly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.983
GEO 3-4 Enterprise Systems Engineering & Integration (SE&I)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.418
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.797
<i>Non Recurring Cost</i>																		
GEO 3-4 Obsolescence Non-Recurring	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEO 3-4 Launch Vehicle and Range Integration	-	-	8.066	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45.418
<i>Subtotal: Non Recurring Cost</i>	-	-	8.066	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45.418
<i>Subtotal: Space Vehicle - GEO 3-4 Cost</i>	-	-	8.066	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62.215
<i>Checkout and Launch - GEO 3-4 Cost</i>																		
GEO 3-4 Launch Ops & Checkout	-	-	19.628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101.939
Interim Contractor Support (ICS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.000

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** MSSBIR / SBIR High (Space) **Item Number / Title [DODIC]:** - / GEO 3-4

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Checkout and Launch - GEO 3-4 Cost</i>	-	-	19.628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	123.939
<i>Support - GEO 3-4 Cost</i>																		
Other Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FFRDC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A&AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - GEO 3-4 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	27.694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	186.154

Remarks:
Total GEO 3-4 3020/3021 funds are \$2,845.684M.

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force										Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1					P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)					Item Number / Title [DODIC]: - / GEO 5-6		

ID Code (A=Service Ready, B=Not Service Ready) : A							MDAP/MAIS Code:					
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	379.661	238.457	-	238.457	890.316	110.837	102.170	104.009	-	1,825.450
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	379.661	238.457	-	238.457	890.316	110.837	102.170	104.009	-	1,825.450
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	379.661	238.457	-	238.457	890.316	110.837	102.170	104.009	-	1,825.450

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space Vehicle - GEO 5-6 Cost																		
Recurring Cost																		
GEO 5-6 Hardware	-	-	-	-	-	-	-	-	227.203	-	-	88.484	-	-	-	-	-	88.484
GEO 5-6 Integration and Assembly	-	-	-	-	-	-	-	-	46.804	-	-	30.282	-	-	-	-	-	30.282
GEO 5-6 Enterprise Systems Engineering & Integration (SE&I)	-	-	-	-	-	-	-	-	-	-	-	17.284	-	-	-	-	-	17.284
Technical Mission Analysis	-	-	-	-	-	-	-	-	22.415	-	-	22.232	-	-	-	-	-	22.232
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	296.422	-	-	158.282	-	-	-	-	-	158.282
Non Recurring Cost																		
GEO 5-6 Obsolescence Non-Recurring	-	-	-	-	-	-	-	-	25.508	-	-	13.235	-	-	-	-	-	13.235
GEO 5-6 Launch Vehicle and Range Integration	-	-	-	-	-	-	-	-	-	-	-	2.130	-	-	-	-	-	2.130
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	25.508	-	-	15.365	-	-	-	-	-	15.365
<i>Subtotal: Space Vehicle - GEO 5-6 Cost</i>	-	-	-	-	-	-	-	-	321.930	-	-	173.647	-	-	-	-	-	173.647
Checkout and Launch - GEO 5-6 Cost																		
GEO 5-6 Launch Ops & Checkout	-	-	-	-	-	-	-	-	-	-	-	3.271	-	-	-	-	-	3.271

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force													Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1							P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)						Item Number / Title [DODIC]: - / GEO 5-6					
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:								

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Interim Contractor Support (ICS)	-	-	-	-	-	-	-	-	-	-	-	22.000	-	-	-	-	-	22.000
<i>Subtotal: Checkout and Launch - GEO 5-6 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	25.271	-	-	-	-	-	25.271
Support - GEO 5-6 Cost																		
Other Support	-	-	-	-	-	-	-	-	19.269	-	-	10.841	-	-	-	-	-	10.841
FFRDC	-	-	-	-	-	-	-	-	13.241	-	-	11.715	-	-	-	-	-	11.715
A&AS	-	-	-	-	-	-	-	-	25.221	-	-	16.983	-	-	-	-	-	16.983
<i>Subtotal: Support - GEO 5-6 Cost</i>	-	-	-	-	-	-	-	-	57.731	-	-	39.539	-	-	-	-	-	39.539
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	379.661	-	-	238.457	-	-	-	-	-	238.457

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space Vehicle - GEO 5-6 Cost																		
Recurring Cost																		
GEO 5-6 Hardware	-	-	169.553	-	-	-	-	-	-	-	-	-	-	-	-	-	-	485.240
GEO 5-6 Integration and Assembly	-	-	233.321	-	-	-	-	-	-	-	-	-	-	-	-	-	-	310.407
GEO 5-6 Enterprise Systems Engineering & Integration (SE&I)	-	-	18.826	-	-	14.172	-	-	12.807	-	-	12.180	-	-	-	-	-	75.269
Technical Mission Analysis	-	-	27.743	-	-	20.996	-	-	20.788	-	-	19.647	-	-	-	-	-	133.821
<i>Subtotal: Recurring Cost</i>	-	-	449.443	-	-	35.168	-	-	33.595	-	-	31.827	-	-	-	-	-	1,004.737
Non Recurring Cost																		
GEO 5-6 Obsolescence Non-Recurring	-	-	4.712	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43.455
GEO 5-6 Launch Vehicle and Range Integration	-	-	27.835	-	-	3.643	-	-	16.753	-	-	21.035	-	-	-	-	-	71.396
<i>Subtotal: Non Recurring Cost</i>	-	-	32.547	-	-	3.643	-	-	16.753	-	-	21.035	-	-	-	-	-	114.851
<i>Subtotal: Space Vehicle - GEO 5-6 Cost</i>	-	-	481.990	-	-	38.811	-	-	50.348	-	-	52.862	-	-	-	-	-	1,119.588

Checkout and Launch - GEO 5-6 Cost

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)	Item Number / Title [DODIC]: - / GEO 5-6
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
GEO 5-6 Launch Ops & Checkout	-	-	287.314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	290.585
Interim Contractor Support (ICS)	-	-	74.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96.500
<i>Subtotal: Checkout and Launch - GEO 5-6 Cost</i>	-	-	361.814	-	-	-	-	-	-	-	-	-	-	-	-	-	-	387.085
Support - GEO 5-6 Cost																		
Other Support	-	-	11.377	-	-	8.726	-	-	8.524	-	-	8.735	-	-	-	-	-	67.472
FFRDC	-	-	16.338	-	-	13.839	-	-	13.223	-	-	12.498	-	-	-	-	-	80.854
A&AS	-	-	18.797	-	-	49.461	-	-	30.075	-	-	29.914	-	-	-	-	-	170.451
<i>Subtotal: Support - GEO 5-6 Cost</i>	-	-	46.512	-	-	72.026	-	-	51.822	-	-	51.147	-	-	-	-	-	318.777
Gross/Weapon System Cost	-	-	890.316	-	-	110.837	-	-	102.170	-	-	104.009	-	-	-	-	-	1,825.450

Remarks:

The incrementally funded amount includes the above Total Space Vehicle Cost (less: SE&I and Launch Vehicle & Range Integration), Launch Ops & Checkout Cost, and Interim Contractor Support through transition to sustainment. Total incrementally funded amount of \$2,658.9M complies with FY13 NDAA limiting procurement cost to \$3,900M.

The FY13 gross weapon system cost includes advance procurement amount of \$243.314M appropriated in FY11 and \$243.500M appropriated in FY12.

Total GEO 5-6 3020/3021 funds are \$3,359.825M.

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)	Item Number / Title [DODIC]: - / HEO 3-4
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	-	10.361	20.547	-	20.547	7.483	-	-	-	-	38.391
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	-	10.361	20.547	-	20.547	7.483	-	-	-	-	38.391
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	-	10.361	20.547	-	20.547	7.483	-	-	-	-	38.391

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Space Vehicle - HEO 3-4 Cost																		
Recurring Cost																		
HEO 3-4 Hardware	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEO 3-4 Integration and Assembly	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEO 3-4 Enterprise Systems Engineering & Integration (SE&I)	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
HEO 3-4 Obsolescence Non-Recurring	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEO 3-4 Launch Vehicle and Range Integration	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Space Vehicle - HEO 3-4 Cost</i>	-	-	<i>0.000</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Checkout and Launch - HEO 3-4 Cost																		
HEO Host Accommodation	-	-	-	-	-	-	-	-	6.863	-	-	8.710	-	-	-	-	-	8.710
HEO 3-4 Launch Ops & Checkout	-	-	-	-	-	-	-	-	3.498	-	-	11.837	-	-	-	-	-	11.837

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)						Item Number / Title [DODIC]: - / HEO 3-4					
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:							

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Checkout and Launch - HEO 3-4 Cost</i>	-	-	-	-	-	-	-	-	10.361	-	-	20.547	-	-	-	-	-	20.547
<i>Support - HEO 3-4 Cost</i>																		
Other Support	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FFRDC	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A&AS	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - HEO 3-4 Cost</i>	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	10.361	-	-	20.547	-	-	-	-	-	20.547

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Space Vehicle - HEO 3-4 Cost</i>																		
<i>Recurring Cost</i>																		
HEO 3-4 Hardware	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEO 3-4 Integration and Assembly	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEO 3-4 Enterprise Systems Engineering & Integration (SE&I)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Non Recurring Cost</i>																		
HEO 3-4 Obsolescence Non-Recurring	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEO 3-4 Launch Vehicle and Range Integration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Space Vehicle - HEO 3-4 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Checkout and Launch - HEO 3-4 Cost</i>																		
HEO Host Accommodation	-	-	4.700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.273
HEO 3-4 Launch Ops & Checkout	-	-	2.783	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.118

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** MSSBIR / SBIR High (Space) **Item Number / Title [DODIC]:** - / HEO 3-4

ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Checkout and Launch - HEO 3-4 Cost</i>	-	-	7.483	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38.391
<i>Support - HEO 3-4 Cost</i>																		
Other Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FFRDC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A&AS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - HEO 3-4 Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	7.483	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38.391

Remarks:
Total HEO 3-4 3020/3021 funds are \$1,149.046M.

UNCLASSIFIED

Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)	Item Number / Title [DODIC]: - / SBIRS Survivable Endurable Evolution (S2E2)

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (Units in Each)	-	-	2	-	-	-	-	-	-	-	-	2
Gross/Weapon System Cost (\$ in Millions)	-	-	81.202	-	-	-	-	-	-	-	-	81.202
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	81.202	-	-	-	-	-	-	-	-	81.202
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	81.202	-	-	-	-	-	-	-	-	81.202

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	40.601	-	-	-	-	-	-	-	-	40.601

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - SBIRS Survivable Endurable Evolution (S2E2) Cost																		
Recurring Cost																		
2.5 S2E2 SMGT ^(†)	-	-	-	-	-	-	25.000	2	50.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	50.000	-	-	-	-	-	-	-	-	-
Non Recurring Cost																		
2.2 S2E2 Software Integration Facility (SIF)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3 S2E2 System Test Environment (STE)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4 S2E2 SMGT 1-3 DSP/GEO Stereo Capability Modification	-	-	-	-	-	-	6.000	3	18.000	-	-	-	-	-	-	-	-	-
2.6 S2E2 Integration	-	-	-	-	-	-	-	-	6.502	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	24.502	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware - SBIRS Survivable Endurable Evolution (S2E2) Cost</i>	-	-	-	-	-	-	-	-	74.502	-	-	-	-	-	-	-	-	-
Software - SBIRS Survivable Endurable Evolution (S2E2) Cost																		
Non Recurring Cost																		
2.1 S2E2 Software	-	-	-	-	-	-	6.700	1	6.700	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)	Item Number / Title [DODIC]: - / SBIRS Survivable Endurable Evolution (S2E2)

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	6.700	-	-	-	-	-	-	-	-	-
<i>Subtotal: Software - SBIRS Survivable Endurable Evolution (S2E2) Cost</i>	-	-	-	-	-	-	-	-	6.700	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	-	40.601	2	81.202	-	-	-	-	-	-	-	-	-

Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - SBIRS Survivable Endurable Evolution (S2E2) Cost																		
Recurring Cost																		
2.5 S2E2 SMGT ^(f)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.000	2	50.000
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.000
Non Recurring Cost																		
2.2 S2E2 Software Integration Facility (SIF)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.3 S2E2 System Test Environment (STE)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4 S2E2 SMGT 1-3 DSP/GEO Stereo Capability Modification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.000	3	18.000
2.6 S2E2 Integration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.502
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.502
<i>Subtotal: Hardware - SBIRS Survivable Endurable Evolution (S2E2) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74.502
Software - SBIRS Survivable Endurable Evolution (S2E2) Cost																		
Non Recurring Cost																		
2.1 S2E2 Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.700	1	6.700
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.700
<i>Subtotal: Software - SBIRS Survivable Endurable Evolution (S2E2) Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.700

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)	Item Number / Title [DODIC]: - / SBIRS Survivable Endurable Evolution (S2E2)

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.601	2	81.202

Remarks:
 Note: Starting in FY16 funding has been re-categorized from Other Procurement (3080) to Space Procurement Air Force (SPAF/3021).

 SBIRS Survivable Endurable Evolution (S2E2): SBIRS capable MGS require the interim deliverables over this period as described below.

 S2E2 Software Non-Recurring:
 -FY11 - Provided non-recurring engineering for S2E2 System Test Environment (STE) design and integration.
 -FY12 - Provided non-recurring engineering for S2E2 HEMP shelters and software integration.
 -FY13 - Provided non-recurring engineering for track data relay processing, and S2E2 Maintenance Ops Support suite (MOSS).
 -FY14 - Provided non-recurring engineering for GEO capable S2E2 upgrade.
 -FY16- Provides training software for Standardized Space Trainer. (SPAF funded)

 S2E2 Hardware Non-Recurring:
 -FY11 - Modernized the current Software Integration Facility (SIF) to include development functionality for S2E2.
 -FY12 - Provided non-recurring engineering for S2E2 HEMP shelters and hardware integration.
 -FY13 - Provided non-recurring engineering for S2E2 Maintenance Ops Support Suite (MOSS). Modernized the existing Integrated Maintenance Facility (IMF) with a sustainable MOSS for S2E2 System predeployment, maintainer training, and limited operator training.
 -FY14 - Provided non-recurring engineering for GEO-Capable Parabolic Dish Sub-System (PDSS) antennas
 -FY16- Modifies SMGTs 1-3 to add PDSS antennas and other hardware for full Stereo DSP/GEO capability; completes UGNT integration (SPAF funded)

 S2E2 Hardware Recurring:
 -FY12 - Procured 1 fully tested and sustainable Mono-DSP SMGT.
 -FY13 - Procured 1 fully tested and sustainable Mono-DSP SMGT.
 -FY14 - Procures 2 fully tested and sustainable PDSSs, and fully functional GEO-upgraded SMGTs 1&2.
 -FY15 - Procured 1 fully tested and sustainable GEO SMGT with two PDSSs. Procures the System Test Environment (STE) for high fidelity Development, Testing & Evaluation (DT&E) and future sustainment.
 -FY16 - Procures 2 fully capable Stereo DSP/GEO SMGTs with two PDSSs each, as well as 9 additional PDSSs needed to field full, simultaneous DSP and SBIRS downlink capability for FOC. (SPAF funded)

 Total S2E2 Funding for FY11-16 = \$232.5M (FY16 SPAF funding = \$81.2M)
 Quantity = 5
 Gross Unit Cost = \$46.5M

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Exhibit P-5a, Procurement History and Planning: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1			P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)				Item Number / Title [DODIC]: - / SBIRS Survivable Endurable Evolution (S2E2)					
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
2.5 S2E2 SMGT		2016	Lockheed Martin Space Systems / Sunnyvale, CA	SS / CPIF	SMC, LA AFB, CA	Jan 2016	Jul 2020	2	25.000	Y		

Remarks:
Remarks:

SBIRS Survivable Endurable Evolution (S2E2):
 -FY14 purchased GEO-capability upgrades to SMGTs 1 & 2 (delivery Dec 2017)
 -FY15 purchased GEO-capable SMGT 3 (delivery Jan 2018) and associated PDSS antennas
 -FY16 purchases GEO-capable SMGTs 4&5 (delivery Jul 2020 and Sep 2020) and modifies SMGTs 1-3 to full Stereo DSP/GEO capability and associated PDSS antennas (SPAF funded)

FY16 Unit Cost Calculations (SPAF funded):
 \$20M - Single SMGT cost based on contract option
 \$2.5M - Additional Parabolic Dish Sub-System (PDSS) Antenna
 \$2.5M - Spares
 Total Unit Cost = \$25.0M

Gross Unit Cost Calculation:
 S2E2 unit costs above are not representative of overall S2E2 costs due to interim deliverables. S2E2 unit costs are calculated as follows:
 Total S2E2 Funding for FY11-16 = \$232.5M (FY16 SPAF funding = \$81.2M)
 Quantity = 5
 Gross Unit Cost = \$46.5M

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Exhibit P-3a, Individual Modification: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)				Modification Number / Title: 1 / SBIRS Mobile System & Fixed Comm Electronics Upgrades				

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	-	-	8.988	7.541	-	7.541	7.676	7.812	7.951	8.093	-	48.061
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	8.988	7.541	-	7.541	7.676	7.812	7.951	8.093	-	48.061
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	-	-	8.988	7.541	-	7.541	7.676	7.812	7.951	8.093	-	48.061
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Note: Starting in FY16 funding has been re-categorized from Other Procurement (3080) to Space Procurement Air Force (SPAF/3021).

SBIRS MOBILE AND FIXED SITE COMMUNICATIONS/ELECTRONIC REPLACEMENT: This effort procures DSP and SBIRS assets to maintain the ground system equipment. Fixed site examples include, but are not limited to, legacy receiver, antenna drive system, Spacecraft Simulator RF, MCS display, Rapid Delog (instantaneous translation of computer data to a human-readable format), Sybase database obsolescence, communications and network routers, and switches and time server replacements. Mobile system examples include, but are not limited to, aging radio frequency communications equipment, aging antenna equipment, aging electrical equipment and cabling, and unsupported data processing subsystem components. Funding also provides for Program Office and related support activities to include but not limited to Systems Engineering and Technical Assistance (SETA) enterprise activities which provides intra-and inter-program office support. Funding for this effort is in program element 0305915F.

Milestone/Development Status

Program office has recurring DSP and SBIRS requirements that is planned and programmed on an annual basis to maintain the ground system equipment.

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)	Modification Number / Title: 1 / SBIRS Mobile System & Fixed Comm Electronics Upgrades

Models of Systems Affected: SBIRS	Modification Type: Reliability & Maintainability	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Procurement												
<i>Modification Item 1 of 1:</i> SBIRS Mobiles Sys & Fixed Comm Elect Upgrades												
B Kits												
Recurring												
SBIRS Mobiles Sys & Fixed Comm Elect Upgrades:EQUIPMENT Group B (Active)	- / -	- / -	1 / 7.583	1 / 6.088	- / -	1 / 6.088	1 / 6.174	1 / 6.259	1 / 6.345	1 / 6.432	- / -	6 / 38.881
<i>Subtotal: Recurring</i>	- / -	- / -	- / 7.583	- / 6.088	- / -	- / 6.088	- / 6.174	- / 6.259	- / 6.345	- / 6.432	- / -	- / 38.881
<i>Subtotal: SBIRS Mobiles Sys & Fixed Comm Elect Upgrades</i>	- / -	- / -	- / 7.583	- / 6.088	- / -	- / 6.088	- / 6.174	- / 6.259	- / 6.345	- / 6.432	- / -	- / 38.881
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / 7.583	- / 6.088	- / -	- / 6.088	- / 6.174	- / 6.259	- / 6.345	- / 6.432	- / -	- / 38.881
Support (All Modification Items)												
OTHER GOVT	- / -	- / -	- / 0.050	- / 0.052	- / -	- / 0.052	- / 0.054	- / 0.056	- / 0.058	- / 0.060	- / -	- / 0.330
A&AS	- / -	- / -	- / 1.355	- / 1.401	- / -	- / 1.401	- / 1.448	- / 1.497	- / 1.548	- / 1.601	- / -	- / 8.850
<i>Subtotal: Support</i>	- / -	- / -	- / 1.405	- / 1.453	- / -	- / 1.453	- / 1.502	- / 1.553	- / 1.606	- / 1.661	- / -	- / 9.180
Installation												
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	-	-	8.988	7.541	-	7.541	7.676	7.812	7.951	8.093	-	48.061

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: MSSBIR / SBIR High (Space)	Modification Number / Title: 1 / SBIRS Mobile System & Fixed Comm Electronics Upgrades

Modification Item 1 of 1: SBIRS Mobiles Sys & Fixed Comm Elect Upgrades

Manufacturer Information

Manufacturer Name: Lockheed Martin Space Systems				Manufacturer Location: Colorado Springs, CO			
Administrative Leadtime (in Months): 8				Production Leadtime (in Months): 12			
Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates		Jun 2016	Jun 2017	Jun 2018	Jun 2019	Jun 2020	Jun 2021
Delivery Dates		Jun 2017	Jun 2018	Jun 2019	Jun 2020	Jun 2021	Jun 2022

Installation Information

Method of Implementation (Organic): Org/Intermediate	Installation Quantity: 0
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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
NUDETS / NUDET Detection System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305913F

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	5.095	4.395	-	4.395	6.357	6.469	6.583	6.701	-	35.600
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	5.095	4.395	-	4.395	6.357	6.469	6.583	6.701	-	35.600
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	5.095	4.395	-	4.395	6.357	6.469	6.583	6.701	-	35.600

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

In the FY16 Consolidated Appropriations Act, selected space programs funded with Other Procurement, Air Force (OPAF) were transferred to Space Procurement, Air Force (SPAF) in FY16 and beyond. This exhibit will display values for FY16 and beyond; funding prior to FY16 will be displayed where they were appropriated in the budget exhibits.

The United States Nuclear Detonation (NUDET) Detection System (USNDS) provides a near real-time worldwide, highly survivable/endurable capability to detect, locate, and report any nuclear detonations in the atmosphere of the earth or in near space. The USNDS Operational Requirements Document (ORD), dated 21 Jan 2004, documents the requirements for space-based NUDET detection. Space-based NUDET detection is also mandated by Public Law 110-181, dated 28 Jan 2008, which directs the Secretary of Defense to maintain the capability for space-based nuclear detection at or above 2008 capability levels. USNDS supports NUDET detection requirements across five mission areas: Integrated Tactical Warning and Attack Assessment (ITW/AA), Nuclear Force Management (NFM), Space Control (SC), Treaty Monitoring (TM) and a classified mission.

The USNDS 6 program is jointly sponsored and funded by the Department of Defense (DoD), through the US Air Force (AF), and the Department of Energy (DOE), through the National Nuclear Security Administration (NNSA) and its Nuclear Detonation Detection (NA-22) office, respectively. NNSA/NA-22 supplies, at no cost to DoD, USNDS space sensors as Government Furnished Equipment (GFE) to the AF USNDS Program Office, which is responsible for all acquisition and systems engineering, integration and test (SEIT) activities on space vehicles (SVs), to include Global Positioning System (GPS) and additional hosts, and their supporting ground control segments. The AF directly funds the procurement of the USNDS 6 ground segment (described below).

DoD funds its contribution to the NDS program in PE 0305913F with RDT&E, OPAF, SPAF and O&M dollars. NDS payload integration onto GPS satellites is funded in the GPS Space & Control PE 0305165F for GPS IIF SVs and GPS III Space Segment PE 0305265F for GPS III SVs. NDS payload integration onto Geosynchronous Earth Orbit (GEO) satellites is funded by NNSA/NA-22.

USNDS consists of space sensors and complex ground segments. The space segment sensors, funded by DOE, consists of three nuclear detection sensor payloads: the Radiation Detection Capability (RADEC) payload for Defense Support Program (DSP) satellites, the Global Burst Detection (GBD) payload for Medium Earth Orbit (MEO) platforms (GPS satellites), and the Space Atmospheric Burst Reporting System (SABRS) payload for Geosynchronous Earth Orbit platforms (classified GEO hosts). Together, these sensors and associated communications capability provided by the host satellites comprise the global NUDET space segment detection capability for the USNDS. Space sensors communicate NUDET indications to the fixed ground segment (the RADEC Data Processor (RDP) and the Integrated Correlation and Display System (ICADS)) and the deployable mobile ground segment (survivable Ground NDS Terminals (GNTs), and the survivable/endurable Universal Ground NDS Terminals (UGNTs), when fielded). These ground systems perform data analysis and provide a decision support tool to the Air Force controllers concerning probability of NUDET occurrence. The ground segment provides ground receiving analysis and

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: NUDETS / NUDET Detection System
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0305913F
Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A	
<p>reporting capabilities to national authorities, commands, and forward users as well as Department of State for the Treaty Monitoring and Verification mission. The ground control segment is being modernized and continuously improved through an incremental evolutionary acquisition approach.</p> <p>The upgrade to the GNT is the survivable/endurable Universal Ground Nuclear Detonation (NUDET) Detection System (NDS) Terminal (UGNT) which is funded with AF RDT&E in this PE. The UGNT provides NUDET Detection Reports to end users through survivable and endurable USNDS communications via Milstar/Advanced Extremely High Frequency (AEHF) circuits. The GNT supports Integrated Tactical Warning and Attack Assessment (ITW/AA) and Nuclear Force Management (NFM) missions. The UGNT program modifies the baseline of the GNT program and deploys as an integral part of the Space Based Infrared System (SBIRS) Survivable / Endurable Evolution (S2E2) Mobile Ground System (SMGS) units also in support of ITW/AA and NFM. The UGNT, when integrated with the SMGS, will perform NUDET event processing with fused NDS data from GPS and DSP. SMGS capability refers to the result of the S2E2 upgrade program for the MGS mission processing capability, including the integration of UGNT. The intended end state of UGNT integration is delivery of enhanced missile warning and NUDET detection capabilities that meet survivable/endurable ITW/AA requirements directed by the President, SECDEF, Joint Staff, and USSTRATCOM delivering long-term, cost effective, multi-role, multi-mission space effects to the war fighter across the range of military operations.</p> <p>Funding for this effort is in PE 0305913F NUDET DETECTION SYS SPACE.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs
P-1 Line Item Number / Title: NUDETS / NUDET Detection System

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** 0305913F

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	NUDET Detection System		A	- / 0.000	- / -	- / 5.095	- / 4.395	- / -	- / 4.395
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 5.095	- / 4.395	- / -	- / 4.395

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

- Justification:**
1. INTEGRATED CORRELATION AND DISPLAY SYSTEM (ICADS) UPGRADES: No FY17 funding requested.
 2. GROUND NUCLEAR DETONATION DETECTION TERMINALS UPGRADES: FY17 funding purchases equipment for the hardened shelter, and integration and test of data processors for USNDS 6.
 3. SENSOR CHECKOUT ACTIVITIES: FY17 funding purchases equipment upgrades for on-orbit sensor testing, simulators and other ground test environments for USNDS 6.
 4. TECHNICAL SUPPORT: FY17 funding purchases support for equipment upgrades for sensor checkout, testing and simulator modifications for USNDS 6.

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Exhibit P-5, Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: NUDETS / NUDET Detection System	Item Number / Title [DODIC]: - / NUDET Detection System
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ID Code (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	-	5.095	4.395	-	4.395
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	-	5.095	4.395	-	4.395
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	-	5.095	4.395	-	4.395

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - Hardware End Item Cost																		
Recurring Cost																		
Automated Data Processor (ADP)	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ADP + Spares	-	-	0.000	-	-	-	2.040	2	4.080	1.773	2	3.546	-	-	-	1.773	2	3.546
ADP Testbed	-	-	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Sensor Checkout Activities	-	-	0.000	-	-	-	0.500	1	0.500	0.400	1	0.400	-	-	-	0.400	1	0.400
4. Technical Support	-	-	0.000	-	-	-	0.515	1	0.515	0.449	1	0.449	-	-	-	0.449	1	0.449
<i>Subtotal: Recurring Cost</i>	-	-	0.000	-	-	-	-	-	5.095	-	-	4.395	-	-	-	-	-	4.395
<i>Subtotal: Hardware - Hardware End Item Cost</i>	-	-	0.000	-	-	-	-	-	5.095	-	-	4.395	-	-	-	-	-	4.395
Gross/Weapon System Cost	-	-	0.000	-	-	-	-	-	5.095	-	-	4.395	-	-	-	-	-	4.395

Remarks:

(1) Quantity/unit cost data represents the average unit cost per system installation. Due to cost variances between local configurations, unit cost data will fluctuate between fiscal years.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
 1: Space Programs

P-1 Line Item Number / Title:
 SPCMOD / Space Mods

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0305165F, 0305940F **Other Related Program Elements:** 0305614F, 0305940F

Line Item MDAP/MAIS Code: 166 **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.867	-	23.435	8.642	-	8.642	21.541	23.047	15.551	15.830	-	108.913
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.867	-	23.435	8.642	-	8.642	21.541	23.047	15.551	15.830	-	108.913
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.867	-	23.435	8.642	-	8.642	21.541	23.047	15.551	15.830	-	108.913

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

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.

PE 0305160F DEF METEOROLOGICAL SAT PROG (SPACE)

The DEFENSE METEOROLOGICAL SATELLITE PROGRAM (DMSP) is a fully operational program supporting a broad range of national security users who require timely and accurate global weather information. DMSP is DoD only assured source of global weather data providing visible and infrared cloud cover imagery (1/3 nautical miles (nm) constant resolution) and other meteorological, oceanographic, land surface, and space environmental data. DMSP satellites are flown in sun-synchronous, 450nm polar-orbits to meet mission requirements (sun-synchronous means the satellites cross the equator at the same local sun time on each of their 14 orbits/day).

Key elements of the DMSP constellation command and control (C2) ground system have not been re-capitalized since the equipment was transferred to the National Oceanic and Atmospheric Administration Office of Satellite Operations in 1998. Critical C2 component spares have been depleted and parts cannibalization is no longer sustainable. Therefore, DMSP re-established an OPAF (now SPAF) funding line beginning in FY15 to enable continued C2 ground segment sustainment through a selective re-capitalization effort. C2 subsystems to be addressed include but are not limited to the Telemetry and Commanding System, Mission Planning and Scheduling System, and communications tracking station interface units. This selective re-capitalization effort is intended to ensure the DMSP C2 system remains viable through the planned DMSP mission fly-out no later than 2027.

PE 0305165F NAVSTAR GPS (SPACE AND CONTROL SEGMENTS)

NAVSTAR GLOBAL POSITIONING SYSTEM (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, control, and user equipment. 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

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: SPCMOD / Space Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305165F, 0305940F	Other Related Program Elements: 0305614F, 0305940F
Line Item MDAP/MAIS Code: 166	Item MDAP/MAIS Code(s): N/A	
<p>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. OCS is required to operate until the Next Generation Operational Control System (OCX) transitions to operations.</p> <p>PE 0305614F JSPOC MISSION SYSTEM</p> <p>JOINT SPACE OPERATIONS CENTER (JSpOC) Mission System (JMS) provides integrated space situational awareness information and C2 of space forces for the Joint Functional Component Commander for Space (JFCC-SPACE). It will allow JFCC-SPACE to plan, direct, coordinate, and control operations of assigned forces. The JMS provides a net-centric, Services Oriented Architecture (SOA) along with space mission applications to meet the needs above. It implements 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.</p> <p>PE 0305912F SLBM RADAR WARNING SYSTEM</p> <p>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 Intercontinental Ballistic Missiles (ICBMs) penetrating the coverage area. Additionally, Perimeter Acquisition Radar Attack Characterization System (PARCS) and PAVE Phased Array Warning Systems (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 PARCS and b) the AN/FPS-123 PAVE PAWS System (Phased Array Radars for SLBM Detection and Warning System).</p> <p>PE 0305940F SPACE SITUATION AWARENESS OPERATIONS</p> <p>GROUND-BASED ELECTRO OPTICAL DEEP SPACE SURVEILLANCE (GEODSS) SERVICE LIFE EXTENSION PROGRAM (SLEP) Phase II: The GEODSS SLEP Phase II will replace aging unsupportable 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 Joint Space Operations Center (JSpOC). The GEODSS SLEP Phase II will modernize the Sensor Controller, Data Processing, and other unsustainable subsystems as required for all sites. The program will replace the obsolete, diminishing supportable components of the GEODSS Sensor Controller Group (SCG) with sustainable hardware/software technology.</p> <p>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. RDT&E funding for this effort is in PE 0604425F.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA **P-1 Line Item Number / Title:**
SPCMOD / Space Mods
1: Space Programs

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0305165F, 0305940F **Other Related Program Elements:** 0305614F, 0305940F

Line Item MDAP/MAIS Code: 166 **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Defense Meteorological Satellite Program (SPACE)			- / 0.000	- / -	- / 2.174	- / 0.975	- / -	- / 0.975
P-3a	1 / NAVSTAR GPS-OCS COTS UPGRADE (Reliability & Maintainability)			- / -	- / -	- / 11.882	- / 7.667	- / -	- / 7.667
P-40a	JSPOC Mission System			- / 0.867	- / -	- / -	- / -	- / -	- / -
P-40a	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System			- / 0.000	- / -	- / 9.379	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost			- / 0.867	- / -	- / 23.435	- / 8.642	- / -	- / 8.642

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Defense Meteorological Satellite Program (SPACE)			- / 1.077	- / 1.077	- / 1.095	- / 1.115	- / -	- / 7.513
P-3a	1 / NAVSTAR GPS-OCS COTS UPGRADE (Reliability & Maintainability)			- / 8.621	- / 9.716	- / 1.985	- / 2.020	- / -	- / 41.891
P-40a	JSPOC Mission System			- / 11.843	- / 12.254	- / 12.471	- / 12.695	- / -	- / 50.130
P-40a	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System			- / -	- / -	- / -	- / -	- / -	- / 9.379
P-40	Total Gross/Weapon System Cost			- / 21.541	- / 23.047	- / 15.551	- / 15.830	- / -	- / 108.913

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

PE 0305160F DEF METEOROLOGICAL SAT PROG (SPACE)

FY17 funds C2 subsystems that include but not limited to the phase 2 of the Telemetry Control System (TCS) mod and updates the communications system to improve supportability.

PE 0305165F NAVSTAR GPS (SPACE AND CONTROL SEGMENTS)

FY17 GPS OCS COTS Upgrade: FY17 funding procures GPS Architecture Evolution Plan (AEP) and Launch Anomaly Resolution and Disposal Operations (LADO) 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 Station (AMCS), four Ground Antennas (GAs), six Monitor Stations (MSs), a contractor lab facility, and the Telecommunications Simulator Test Set (TSTS). Modifications include required procurement, nonrecurring engineering, installation, testing, configuration management, security, quality assurance and technical documentation. Funding sustains OCS until OCX transitions to operations.

PE 0305614F JSPOC MISSION SYSTEM

Where applicable, justification for individual modifications is provided in the P-3A exhibits.

PE 0305912F SLBM RADAR WARNING SYSTEM

Where applicable, justification for individual modifications is provided in the P-3A exhibits.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: SPCMOD / Space Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305165F, 0305940F	Other Related Program Elements: 0305614F, 0305940F
Line Item MDAP/MAIS Code: 166	Item MDAP/MAIS Code(s): N/A	
PE 0305940F SPACE SITUATIONAL AWARENESS OPERATIONS		
Where applicable, justification for individual modifications is provided in the P-3A exhibits.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2017 Air Force															Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1										P-1 Line Item Number / Title: SPCMOD / Space Mods					Aggregated Items Title: Defense Meteorological Satellite Program (SPACE)				

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Telemetry and Commanding System	A		-	-	-	-	-	-	-	-	1.074	-	-	0.221	-	-	-	-	-	0.221
Mission Plan/Schedule	A		-	-	-	-	-	-	-	-	1.100	-	-	-	-	-	-	-	-	-
Communications	A		-	-	0.000	-	-	-	-	-	-	-	-	0.754	-	-	-	-	-	0.754
Subtotal: Uncategorized			-	-	0.000	-	-	-	-	-	2.174	-	-	0.975	-	-	-	-	-	0.975
Total			-	-	0.000	-	-	-	-	-	2.174	-	-	0.975	-	-	-	-	-	0.975
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Telemetry and Commanding System	A		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.295
Mission Plan/Schedule	A		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.100
Communications	A		-	-	1.077	-	-	1.077	-	-	1.095	-	-	1.115	-	-	-	-	-	5.118
Subtotal: Uncategorized			-	-	1.077	-	-	1.077	-	-	1.095	-	-	1.115	-	-	-	-	-	7.513
Total			-	-	1.077	-	-	1.077	-	-	1.095	-	-	1.115	-	-	-	-	-	7.513

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Remarks:

In the FY16 Consolidated Appropriations Act, selected space programs funded with Other Procurement, Air Force (OPAF) were transferred to Space Procurement, Air Force (SPAF) in FY16 and beyond. This exhibit will display values for FY16 and beyond; funding prior to FY16 will be displayed where they were appropriated in the budget exhibits.

FY17 funds C2 subsystems that include but not limited to the phase 2 of the Telemetry Control System (TCS) mod and updates the communications system to improve supportability.

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Exhibit P-3a, Individual Modification: PB 2017 Air Force								Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: SPCMOD / Space Mods				Modification Number / Title: 1 / NAVSTAR GPS-OCS COTS UPGRADE				

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	11.882	7.667	-	7.667	8.621	9.716	1.985	2.020	-	41.891
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	11.882	7.667	-	7.667	8.621	9.716	1.985	2.020	-	41.891
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	11.882	7.667	-	7.667	8.621	9.716	1.985	2.020	-	41.891
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

In the FY16 Consolidated Appropriations Act, selected space programs funded with Other Procurement, Air Force (OPAF) were transferred to Space Procurement, Air Force (SPAF) in FY16 and beyond. This exhibit will display values for FY16 and beyond; funding prior to FY16 will be displayed where they were appropriated in the budget exhibits.

Funding procures GPS Architecture Evolution Plan (AEP) and Launch Anomaly Resolution and Disposal Operations (LADO) 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 Station (AMCS), four Ground Antennas (GAs), six Monitor Control Stations(MCS), Contractor Lab Facility and Telecommunications Simulator Test Set (TSTS). Modifications include required procurement, non-recurring engineering, installation, testing, configuration management, security, quality assurance and technical documentation. Funding sustains OCS until OCX transitions to operations. If not funded, down time and maintenance costs associated with repair or failed equipment will increase, lowering system operational availability.

Milestone/Development Status

Development funding for the OCS is in PE 0305165F. Program complete in FY13.

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Exhibit P-3a, Individual Modification: PB 2017 Air Force										Date: February 2016			
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1					P-1 Line Item Number / Title: SPCMOD / Space Mods					Modification Number / Title: 1 / NAVSTAR GPS-OCS COTS UPGRADE			
Models of Systems Affected: GPS-OCS				Modification Type: Reliability & Maintainability				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1: Install Kits</i>													
A Kits													
Recurring													
Install Kits:INSTALL KITS Group A (Active)	- / -	- / -	14 / 4.820	14 / 2.820	- / -	14 / 2.820	14 / 2.820	14 / 3.320	- / -	- / -	- / -	56 / 13.780	
<i>Subtotal: Recurring</i>	- / -	- / -	- / 4.820	- / 2.820	- / -	- / 2.820	- / 2.820	- / 3.320	- / -	- / -	- / -	- / 13.780	
B Kits													
Recurring													
Install Kits:EQUIPMENT Group B (Active)	- / -	- / -	14 / 1.720	14 / 1.413	- / -	14 / 1.413	14 / 1.413	14 / 1.936	- / -	- / -	- / -	56 / 6.482	
<i>Subtotal: Recurring</i>	- / -	- / -	- / 1.720	- / 1.413	- / -	- / 1.413	- / 1.413	- / 1.936	- / -	- / -	- / -	- / 6.482	
<i>Subtotal: Install Kits</i>	- / -	- / -	- / 6.540	- / 4.233	- / -	- / 4.233	- / 4.233	- / 5.256	- / -	- / -	- / -	- / 20.262	
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / 6.540	- / 4.233	- / -	- / 4.233	- / 4.233	- / 5.256	- / -	- / -	- / -	- / 20.262	
Support (All Modification Items)													
GROUP A: TOTAL NONRECURRING	- / -	- / -	- / 1.600	- / 0.620	- / -	- / 0.620	- / 0.640	- / 0.640	- / -	- / -	- / -	- / 3.500	
Data	- / -	- / -	14 / 1.342	14 / 0.385	- / -	14 / 0.385	- / 1.344	- / 1.408	- / -	- / -	- / -	28 / 4.479	
SUPPORT-EQUIP	- / -	- / -	14 / 0.397	14 / 0.397	- / -	14 / 0.397	- / 0.372	- / 0.380	- / -	- / -	- / -	28 / 1.546	
<i>Subtotal: Support</i>	- / -	- / -	28 / 3.339	28 / 1.402	- / -	28 / 1.402	- / 2.356	- / 2.428	- / -	- / -	- / -	56 / 9.525	
Installation													
<i>Modification Item 1 of 1: Install Kits</i>	- / -	- / -	14 / 2.003	14 / 2.032	- / -	14 / 2.032	14 / 2.032	14 / 2.032	- / 1.985	- / 2.020	- / -	56 / 12.104	
<i>Subtotal: Installation</i>	- / -	- / -	14 / 2.003	14 / 2.032	- / -	14 / 2.032	14 / 2.032	14 / 2.032	- / 1.985	- / 2.020	- / -	56 / 12.104	
Total													
Total Cost (Procurement + Support + Installation)	-	-	11.882	7.667	-	7.667	8.621	9.716	1.985	2.020	-	41.891	

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPCMOD / Space Mods	Modification Number / Title: 1 / NAVSTAR GPS-OCS COTS UPGRADE

Modification Item 1 of 1: Install Kits

Manufacturer Information

Manufacturer Name: Lockheed Martin	Manufacturer Location: Various
Administrative Leadtime (in Months): 7	Production Leadtime (in Months): 2

Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates		May 2016	May 2017	May 2018	May 2019		
Delivery Dates		Jul 2016	Jul 2017	Jul 2018	Jul 2019		

Installation Information

Method of Implementation: Contract Field Team

Installation Cost	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2015	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2016	- / -	- / -	14 / 2.003	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	14 / 2.003
FY 2017	- / -	- / -	- / -	14 / 2.032	- / -	14 / 2.032	- / -	- / -	- / -	- / -	- / -	14 / 2.032
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	14 / 2.032	- / -	- / -	- / -	- / -	14 / 2.032
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	14 / 2.032	- / 1.985	- / 2.020	- / -	14 / 6.037
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	14 / 2.003	14 / 2.032	- / -	14 / 2.032	14 / 2.032	14 / 2.032	- / 1.985	- / 2.020	- / -	56 / 12.104

Installation Schedule

	PYS	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	0	-	-	-	-	-	-	14	-	-	-	-	14	-	-	-	-	14	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	56
Out	0	-	-	-	-	-	-	-	14	-	-	-	14	-	-	-	-	14	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-	56

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** SPCMOD / Space Mods **Aggregated Items Title:** JSPOC Mission System

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Joint Space Operations Center Mission System	A		-	-	0.867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: Uncategorized			-	-	0.867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total			-	-	0.867	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Uncategorized																				
Joint Space Operations Center Mission System	A		-	-	11.843	-	-	12.254	-	-	12.471	12.695	1	12.695	-	-	-	50.130	1	50.130
Subtotal: Uncategorized			-	-	11.843	-	-	12.254	-	-	12.471	-	-	12.695	-	-	-	-	-	50.130
Total			-	-	11.843	-	-	12.254	-	-	12.471	-	-	12.695	-	-	-	-	-	50.130

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2017 Air Force														Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1							P-1 Line Item Number / Title: SPCMOD / Space Mods							Aggregated Modification Items Title: Submarine-Launched Ballistic Missile (SLBM) Radar Warning System					

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
P-3A PAVE PAWS Modifications / P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total			-	-	0.000	-	-	-	-	-	9.379	-	-	-	-	-	-	-	-	

Item Number / Title	ID CD	MDAP/MAIS Code	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
P-3A PAVE PAWS Modifications / P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.379	
Total			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.379	

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
P-3A PAVE PAWS Modifications / P-3A PAVE PAWS Modification (formerly PAVE PAWS Front End)	NA	Reliability & Maintainability

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
1: Space Programs

P-1 Line Item Number / Title:
SPRNGE / Spacelift Range System Space

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0305182F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	103.275	123.088	-	123.088	123.615 ^(a)	133.474 ^(b)	123.248 ^(c)	110.325 ^(d)	-	717.025 ^(e)
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	103.275	123.088	-	123.088	123.615	133.474	123.248	110.325	-	717.025
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	103.275	123.088	-	123.088	123.615	133.474	123.248	110.325	-	717.025

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Spacelift Range System (SLRS), also known as the Launch and Test Range System (LTRS), provides public safety and assured access to space. SLRS operates at the Eastern Range (ER) at Patrick AFB/ Cape Canaveral AFS, FL and the Western Range (WR) at Vandenberg AFB, CA. SLRS provides tracking, telemetry, communications, flight safety, and other capabilities to support launch of national security space (NSS), civil and commercial space payloads, Intercontinental and Sea Launched ballistic missile and missile defense evaluations, and aeronautical and guided weapon tests. SLRS enables national security, civil, and commercial spacelift operations to be conducted safely; together with national security space launch capability, SLRS provides assured access to space for the nation. The ER and WR are part of the Department of Defense Major Range and Test Facility Base (MRTFB).

SLRS is comprised of twelve subsystems that together provide this capability to the ranges. The Range Safety and Command Destruct subsystems provide the capability to destroy an errant rocket, if necessary to protect public safety. These subsystems rely on the Telemetry, Radar, and Optics subsystems to provide tracking data. The Weather and Surveillance subsystems allow range operators and customers to determine if conditions are safe for launch. The Communications, Data Handling, and Timing & Sequencing subsystems ensure critical data is expeditiously routed from remote sensors (e.g., radars, optics, etc.) to range operators and customers. Finally, the Planning and Scheduling subsystem ensures all assets are available when needed for a launch or test operation.

The Air Force prioritizes procurement funds to ensure aging range equipment is modernized to support mission requirements. Sustainment trends are continuously analyzed and assessed across all twelve subsystems and procurement funds are used to modernize the most critical mission equipment.

- 1) SLRS Interim Supply Support (P5): Provides peculiar and common support material, required re-procurement data, and interim supply support management.
- 2) SLRS Support Services (P5): FY17 funds pay for FFRDC mission assurance activities to ensure all twelve subsystems are compatible with mission rules and do not pose a risk to safe and cost-effective satellite launches. Funds are also used for Systems Engineering and Integration (SE&I) to ensure baseline documentation and modernization activities remain synchronized with the sustainment baseline.
- 3) Range Command Destruct Modernization (RCDM) (P3a): Modernizes the Eastern and Western Range Command Destruct Systems. The Range Command Destruct modernization will provide the capability to use a new secure Command Destruct code, the Enhanced Flight Termination System (EFTS), mandated by the NSA for cyber security on both the Eastern and Western Ranges. The Eastern Range Command Destruct system will replace a sustainment "worst actor" that has been the cause of an expensive launch scrub as well as several near scrubs. The Western Range effort will replace the outdated command destruct codes with the new EFTS capability and meet the NSA mandate.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305182F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A	
<p>4) Modernization of Eastern Range Network (MEN) (P3a): Upgrades the communications subsystem on the Eastern Range from outdated Asynchronous Transfer Mode (ATM) technology to Internet Protocol (IP) version 4/6 (IPV4/IPV6). MEN resolves obsolescence issues facing the program starting in 2018, addresses high-priority sustainment issues, and provides improved cyber security for range operations. The contract was awarded as a small business set aside.</p> <p>5) Western Range Modernization of Network (WMN) (P3a): Upgrades the communications subsystem on the Western Range from Asynchronous Transfer Mode (ATM) technology to IPV6. WMN resolves remaining ATM obsolescence issues, numerous high-priority sustainment issues, and provides improved cyber security for range operations. The WMN contract will be awarded in FY16 as a small business set aside.</p> <p>6) SLRS Recapitalization Projects (P3a): The Air Force will use various contract vehicles (LTRS Integrated Support Contract (LISC), General Services Administration (GSA), Design Engineering Support Program (DESP) III, competitively-awarded contracts) to address the highest priority requirements. Obsolescence and sustainment "worst actors" in all twelve subsystems are prioritized annually in order of their criticality to the mission; priority is driven by likelihood of causing a launch delay/scrub.</p> <p>7) Range Communications Facility (RCF) (P3a): Relocate communications capabilities from the Eastern Range XY building to a new RCF, resolving building degradation, code non-compliance, and high risk of flooding. RCF is a new start.</p> <p>Funding for this exhibit is in PE 0305182F. As of the FY16 PB submission, space programs procurement funding has been re-categorized from appropriation 3080, Other Procurement Air Force (OPAF) to appropriation 3021, Space Procurement Air Force (SPAF), in FY16 and beyond. This exhibit will display values in FY16 and beyond. Prior years will be displayed in the corresponding OPAF/3080 exhibits. Total 3080/3021 procurement funding is \$779.550M.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA
P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space
 1: Space Programs

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** 0305182F **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Spacelift Range System Space		A	- / -	- / -	- / 46.433	- / 41.051	- / -	- / 41.051
P-40a	Spacelift Range System Space			- / 0.000	- / -	- / 5.258	- / 4.924	- / -	- / 4.924
P-3a	1 / Modernization of Eastern Range Network (MEN) (Capability Improvement)			- / 0.000	- / -	- / 1.000	- / 7.500	- / -	- / 7.500
P-3a	2 / Western Range Modernization of Network (WMN) (Capability Improvement)			- / 0.000	- / -	- / 37.000	- / 36.500	- / -	- / 36.500
P-3a	3 / Range Command Destruct Modernization (RCDM) (Reliability & Maintainability)			- / 0.000	- / -	- / 13.584	- / 25.114	- / -	- / 25.114
P-3a	4 / Range Communications Facility (RCF) (Capability Improvement)			- / -	- / -	- / -	- / 8.000	- / -	- / 8.000
P-40	Total Gross/Weapon System Cost			- / 0.000	- / -	- / 103.275	- / 123.088	- / -	- / 123.088

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	Spacelift Range System Space		A	- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Spacelift Range System Space			- / 36.619	- / 58.745	- / 31.740	- / 30.496	- / -	- / 167.782
P-3a	1 / Modernization of Eastern Range Network (MEN) (Capability Improvement)			- / 1.000	- / 1.000	- / -	- / -	- / -	- / 10.500
P-3a	2 / Western Range Modernization of Network (WMN) (Capability Improvement)			- / 22.500	- / 2.000	- / 2.000	- / 1.500	- / -	- / 101.500
P-3a	3 / Range Command Destruct Modernization (RCDM) (Reliability & Maintainability)			- / 2.200	- / 1.000	- / 1.000	- / -	- / -	- / 42.898
P-3a	4 / Range Communications Facility (RCF) (Capability Improvement)			- / 19.100	- / 27.200	- / 43.800	- / 32.600	- / -	- / 130.700
P-40	Total Gross/Weapon System Cost			- / 123.615	- / 133.474	- / 123.248	- / 110.325	- / -	- / 717.025

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

This program, P-3A Mod 05-RCF, Range Communications Facility (RCF) , is a new start.

Spacelift Range System Space (P-5): For SLRS Interim Supply Support, FY17 funds will pay for interim supply support, to include supplies and associated interim supply support management. In addition, funds procure the most urgently needed capital equipment replacements for items that exceed the O&M dollar threshold. For SLRS SUPPORT SERVICES, FY17 funds pay for FFRDC mission assurance activities to ensure all twelve subsystems are compatible with mission rules and do not pose a risk to safe and cost-effective satellite launches. Funds are also used for SE&I to ensure baseline documentation and modernization activities remain synchronized with the sustainment baseline.

MEN, WMN, RCDM, Recapitalization Projects and RCF (P-3As): These modifications are required to enable the safe conduct of national security, civil, and commercial launches at the Eastern and Western Ranges. Further, they ensure continued support to test range customers.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 01: Space Procurement, Air Force / BSA 1: Space Programs		P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: 0305182F	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A	

Efforts with funding starting in FY 2018 through FY 2021 are summarized on the P-40. Not all details of this funding are included in this P-40 exhibit set. A summary of the excepted details is as follows:

- (a) FY 2018 Cost Delta: 42.196 million
- (b) FY 2019 Cost Delta: 43.529 million
- (c) FY 2020 Cost Delta: 44.708 million
- (d) FY 2021 Cost Delta: 45.729 million
- (e) FY Total Cost Delta: 263.645 million

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Exhibit P-5, Cost Analysis: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space	Item Number / Title [DODIC]: - / Spacelift Range System Space

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	46.433	41.051	-	41.051
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	46.433	41.051	-	41.051
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	46.433	41.051	-	41.051

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Logistics - Logistics End Item Cost																		
Recurring Cost																		
INTERIM SUPPLY SUPPORT MATERIAL (PARTS/SUPPLIES)	-	-	-	-	-	-	-	-	4.870	-	-	4.059	-	-	-	-	-	4.059
INTERIM SUPPLY SUPPORT SERVICES/LABOR	-	-	-	-	-	-	-	-	2.500	-	-	1.675	-	-	-	-	-	1.675
SLRS ENTERPRISE SYSTEMS ENGINEERING AND INTEGRATION	-	-	-	-	-	-	-	-	7.900	-	-	-	-	-	-	-	-	-
TECHNICAL MISSION ANALYSIS	-	-	-	-	-	-	-	-	2.462	-	-	2.536	-	-	-	-	-	2.536
TEST & EVALUATION (WS)	-	-	-	-	-	-	-	-	1.490	-	-	1.240	-	-	-	-	-	1.240
RN ENTERPRISE SYSTEMS ENGINEERING AND INTEGRATION	-	-	-	-	-	-	-	-	14.954	-	-	18.852	-	-	-	-	-	18.852
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	34.176	-	-	28.362	-	-	-	-	-	28.362
<i>Subtotal: Logistics - Logistics End Item Cost</i>	-	-	-	-	-	-	-	-	34.176	-	-	28.362	-	-	-	-	-	28.362
Support - Support End Item Cost																		
FFRDC	-	-	-	-	-	-	-	-	9.854	-	-	10.150	-	-	-	-	-	10.150

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Exhibit P-5, Cost Analysis: PB 2017 Air Force												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1						P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space						Item Number / Title [DODIC]: - / Spacelift Range System Space					
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:					

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
ADVISORY AND ASSISTANCE SERVICES (A&AS)	-	-	-	-	-	-	-	-	1.406	-	-	1.455	-	-	-	-	-	1.455
OTHER SUPPORT	-	-	-	-	-	-	-	-	0.997	-	-	1.084	-	-	-	-	-	1.084
<i>Subtotal: Support - Support End Item Cost</i>	-	-	-	-	-	-	-	-	12.257	-	-	12.689	-	-	-	-	-	12.689
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	46.433	-	-	41.051	-	-	-	-	-	41.051

Remarks:

- Unit quantities and costs vary widely for multiple types and configurations of equipment being procured under modernization and sustainment project cost elements each fiscal year.

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Exhibit P-40a, Budget Item Justification For Aggregated Modification Items: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** SPRNGE / Spacelift Range System Space **Aggregated Modification Items Title:** Spacelift Range System Space

Item Number / Title	ID CD	MDAP/MAIS Code	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
04-SLRS / Spacelift Range System Recapitalization Projects			-	-	-	-	-	-	-	5.258	-	-	4.924	-	-	-	-	-	4.924	
Total			-	-	0.000	-	-	-	-	5.258	-	-	4.924	-	-	-	-	-	4.924	
Item Number / Title	ID CD	MDAP/MAIS Code	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
			Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
04-SLRS / Spacelift Range System Recapitalization Projects			-	-	36.619	-	-	58.745	-	-	31.740	-	-	30.496	-	-	-	-	-	167.782
Total			-	-	36.619	-	-	58.745	-	-	31.740	-	-	30.496	-	-	-	-	-	167.782

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Modification Information:

Item Number / Title	Models of Systems Affected	Modification Type
04-SLRS / Spacelift Range System Recapitalization Projects	Spacelift Range System Space	Reliability & Maintainability

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Exhibit P-3a, Individual Modification: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space				Modification Number / Title: 1 / Modernization of Eastern Range Network (MEN)				

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	0.000	-	1.000	7.500	-	7.500	1.000	1.000	-	-	-	10.500
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	0.000	-	1.000	7.500	-	7.500	1.000	1.000	-	-	-	10.500
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	0.000	-	1.000	7.500	-	7.500	1.000	1.000	-	-	-	10.500
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Modernized Eastern Network (MEN): upgrade the communications subsystem on the Eastern range from Asynchronous Transfer Mode (ATM) technology to today's standard of IPV4/IPV6, resolving obsolescence issues, numerous sustainment issues, and providing improved cyber security for range operations. The contract was awarded as a small business set aside.

Milestone/Development Status

Awarded.

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space	Modification Number / Title: 1 / Modernization of Eastern Range Network (MEN)

Models of Systems Affected: Spacelift Range System Space	Modification Type: Capability Improvement	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)

Procurement

<i>Modification Item 1 of 1:</i> Modernization of Eastern Range Network (MEN)												
B Kits												
Recurring												
Modernization of Eastern Range Network (MEN):EQUIPMENT Group B (Active)	- / -	- / -	1 / 1.000	1 / 7.500	- / -	1 / 7.500	1 / 1.000	1 / 1.000	- / -	- / -	- / -	4 / 10.500
<i>Subtotal: Recurring</i>	- / -	- / -	- / 1.000	- / 7.500	- / -	- / 7.500	- / 1.000	- / 1.000	- / -	- / -	- / -	- / 10.500
<i>Subtotal: Modernization of Eastern Range Network (MEN)</i>	- / -	- / -	- / 1.000	- / 7.500	- / -	- / 7.500	- / 1.000	- / 1.000	- / -	- / -	- / -	- / 10.500
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / 1.000	- / 7.500	- / -	- / 7.500	- / 1.000	- / 1.000	- / -	- / -	- / -	- / 10.500

Installation

<i>Modification Item 1 of 1:</i> Modernization of Eastern Range Network (MEN)	- / -	- / -	1 / -	1 / -	- / -	1 / -	1 / -	1 / -	- / -	- / -	- / -	4 / -
<i>Subtotal: Installation</i>	- / -	- / -	1 / -	1 / -	- / -	1 / -	1 / -	1 / -	- / -	- / -	- / -	4 / -

Total												
Total Cost (Procurement + Support + Installation)	0.000	-	1.000	7.500	-	7.500	1.000	1.000	-	-	-	10.500

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space	Modification Number / Title: 1 / Modernization of Eastern Range Network (MEN)

Modification Item 1 of 1: Modernization of Eastern Range Network (MEN)

Manufacturer Information

Manufacturer Name: Phacil, Inc.	Manufacturer Location: Alexandria, VA
Administrative Leadtime (in Months): 0	Production Leadtime (in Months): 0

Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Contract Field Team

Installation Cost	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2015	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2016	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2017	- / -	- / -	- / -	1 / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	1 / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	1 / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	1 / -	1 / -	- / -	1 / -	1 / -	1 / -	- / -	- / -	- / -	4 / -

Installation Schedule

	PYS	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				TC	Tot				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
In	0	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Out	0	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-3a, Individual Modification: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space				Modification Number / Title: 2 / Western Range Modernization of Network (WMN)				

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	37.000	36.500	-	36.500	22.500	2.000	2.000	1.500	-	101.500
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	37.000	36.500	-	36.500	22.500	2.000	2.000	1.500	-	101.500
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	37.000	36.500	-	36.500	22.500	2.000	2.000	1.500	-	101.500

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Western Modernized Network (WMN): upgrade the communications subsystem on Western Range from Asynchronous Transfer Mode (ATM) technology to IPV4/IPV6, resolving obsolescence issues, numerous sustainment issues, and providing improved cyber security for range operations. The WMN contract will be awarded in FY16 as a small business set aside.

Milestone/Development Status

Pre-Award/Source Selection

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space	Modification Number / Title: 2 / Western Range Modernization of Network (WMN)

Models of Systems Affected: Spacelift Range System Space	Modification Type: Capability Improvement	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)

Procurement												
<i>Modification Item 1 of 1:</i> Western Range Modernization of Network (WMN)												
B Kits												
Recurring												
Western Range Modernization of Network (WMN):EQUIPMENT Group B (Active)	- / -	- / -	1 / 37.000	1 / 36.500	- / -	1 / 36.500	1 / 22.500	1 / 2.000	1 / 2.000	1 / 1.500	- / -	6 / 101.500
<i>Subtotal: Recurring</i>	- / -	- / -	- / 37.000	- / 36.500	- / -	- / 36.500	- / 22.500	- / 2.000	- / 2.000	- / 1.500	- / -	- / 101.500
<i>Subtotal: Western Range Modernization of Network (WMN)</i>	- / -	- / -	- / 37.000	- / 36.500	- / -	- / 36.500	- / 22.500	- / 2.000	- / 2.000	- / 1.500	- / -	- / 101.500
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / 37.000	- / 36.500	- / -	- / 36.500	- / 22.500	- / 2.000	- / 2.000	- / 1.500	- / -	- / 101.500

Installation												
<i>Modification Item 1 of 1:</i> Western Range Modernization of Network (WMN)												
<i>Subtotal: Installation</i>	- / -	- / -	1 / -	1 / -	- / -	1 / -	1 / -	1 / -	1 / -	1 / -	- / -	6 / -

Total												
Total Cost (Procurement + Support + Installation)	0.000	-	37.000	36.500	-	36.500	22.500	2.000	2.000	1.500	-	101.500

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space	Modification Number / Title: 2 / Western Range Modernization of Network (WMN)

Modification Item 1 of 1: Western Range Modernization of Network (WMN)

Manufacturer Information

Manufacturer Name: N/A	Manufacturer Location: N/A
Administrative Leadtime (in Months): 0	Production Leadtime (in Months): 0

Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Contract Field Team

Installation Cost	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2015	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2016	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2017	- / -	- / -	- / -	1 / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	1 / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	1 / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	1 / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	1 / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	1 / -	1 / -	- / -	1 / -	1 / -	1 / -	1 / -	1 / -	- / -	6 / -

Installation Schedule

	PYS	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				TC	Tot								
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4										
In	0	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	6
Out	0	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	6

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Exhibit P-3a, Individual Modification: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space				Modification Number / Title: 3 / Range Command Destruct Modernization (RCDM)				

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	-	13.584	25.114	-	25.114	2.200	1.000	1.000	-	-	42.898
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	-	13.584	25.114	-	25.114	2.200	1.000	1.000	-	-	42.898
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	-	13.584	25.114	-	25.114	2.200	1.000	1.000	-	-	42.898
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Range Command Destruct Modernization (RCDM): Modernizes the Eastern and Western Range Command Destruct Systems. The Range Command Destruct modernization will provide the capability to use a new secure Command Destruct code, the Enhanced Flight Termination System (EFTS), mandated by the NSA for cyber security on both the Eastern and Western Ranges. The Eastern Range (ER) Command Destruct system will replace a sustainment "worst actor" that has been the cause of an expensive launch scrub as well as several near scrubs. The Western Range (WR) effort will replace the outdated command destruct codes with the new EFTS capability; one or more transmitter sites will also be renovated or upgraded to support this capability. The Air Force awarded two separate contracts, one for the ER and one for the WR, to ensure the ER Command Destruct contract meets the ER's more urgent need date. However, both the ER and WR contracts are expected to use similar hardware and software.

Milestone/Development Status

Eastern Range: Awarded; Western Range: Pre-Award

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space	Modification Number / Title: 3 / Range Command Destruct Modernization (RCDM)

Models of Systems Affected: Spacelift Range System Space	Modification Type: Reliability & Maintainability	Related RDT&E PEs:
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Financial Plan	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)

Procurement												
<i>Modification Item 1 of 1:</i> Range Command Destruct Modernization (RCDM)												
B Kits												
Recurring												
Range Command Destruct Modernization (RCDM):EQUIPMENT Group B (Active)	- / -	- / -	1 / 13.584	1 / 25.114	- / -	1 / 25.114	1 / 2.200	1 / 1.000	1 / 1.000	- / -	- / -	5 / 42.898
<i>Subtotal: Recurring</i>	- / -	- / -	- / 13.584	- / 25.114	- / -	- / 25.114	- / 2.200	- / 1.000	- / 1.000	- / -	- / -	- / 42.898
<i>Subtotal: Range Command Destruct Modernization (RCDM)</i>	- / -	- / -	- / 13.584	- / 25.114	- / -	- / 25.114	- / 2.200	- / 1.000	- / 1.000	- / -	- / -	- / 42.898
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / 13.584	- / 25.114	- / -	- / 25.114	- / 2.200	- / 1.000	- / 1.000	- / -	- / -	- / 42.898

Installation												
<i>Modification Item 1 of 1:</i> Range Command Destruct Modernization (RCDM)												
<i>Subtotal: Installation</i>	- / -	- / -	1 / -	1 / -	- / -	1 / -	1 / -	1 / -	1 / -	- / -	- / -	5 / -

Total												
Total Cost (Procurement + Support + Installation)	0.000	-	13.584	25.114	-	25.114	2.200	1.000	1.000	-	-	42.898

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Exhibit P-3a, Individual Modification: PB 2017 Air Force		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1	P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space	Modification Number / Title: 3 / Range Command Destruct Modernization (RCDM)

Modification Item 1 of 1: Range Command Destruct Modernization (RCDM)

Manufacturer Information

Manufacturer Name: Harris Corp.	Manufacturer Location: Melbourne, FL
Administrative Leadtime (in Months): 0	Production Leadtime (in Months): 0

Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates							
Delivery Dates							

Installation Information

Method of Implementation: Contract Field Team

Installation Cost	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2015	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2016	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2017	- / -	- / -	- / -	1 / -	- / -	1 / -	- / -	- / -	- / -	- / -	- / -	1 / -
FY 2018	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	- / -	1 / -
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	- / -	1 / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / -	- / -	- / -	1 / -
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	- / -	1 / -	1 / -	- / -	1 / -	1 / -	1 / -	1 / -	- / -	- / -	5 / -

Installation Schedule

	PYS	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	0	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	5
Out	0	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	5

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Exhibit P-3a, Individual Modification: PB 2017 Air Force							Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1				P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space				Modification Number / Title: 4 / Range Communications Facility (RCF)				

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	-	-	-	8.000	-	8.000	19.100	27.200	43.800	32.600	-	130.700
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	-	8.000	-	8.000	19.100	27.200	43.800	32.600	-	130.700
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	-	-	-	8.000	-	8.000	19.100	27.200	43.800	32.600	-	130.700
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This program, P-3A Mod 05-RCF, Range Communications Facility (RCF) , is a new start.
 Range Communications Facility (RCF): Relocate communications capabilities from the Eastern Range XY Building to a new RCF, resolving building degradation, code non-compliance, and high risk of flooding.

Milestone/Development Status

Pre-Award

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Exhibit P-3a, Individual Modification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1 **P-1 Line Item Number / Title:** SPRNGE / Spacelift Range System Space **Modification Number / Title:** 4 / Range Communications Facility (RCF)

Models of Systems Affected: Spacelift Range System Space **Modification Type:** Capability Improvement **Related RDT&E PEs:**

Financial Plan	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Procurement												
<i>Modification Item 1 of 1:</i> Range Communication Facility (RCF)												
B Kits												
Recurring												
Range Communication Facility (RCF):EQUIPMENT Group B (Active)	- / -	- / -	- / -	1 / 8.000	- / -	1 / 8.000	1 / 19.100	1 / 27.200	1 / 43.800	1 / 32.600	- / -	5 / 130.700
<i>Subtotal: Recurring</i>	- / -	- / -	- / -	- / 8.000	- / -	- / 8.000	- / 19.100	- / 27.200	- / 43.800	- / 32.600	- / -	- / 130.700
<i>Subtotal: Range Communication Facility (RCF)</i>	- / -	- / -	- / -	- / 8.000	- / -	- / 8.000	- / 19.100	- / 27.200	- / 43.800	- / 32.600	- / -	- / 130.700
<i>Subtotal: Procurement, All Modification Items</i>	- / -	- / -	- / -	- / 8.000	- / -	- / 8.000	- / 19.100	- / 27.200	- / 43.800	- / 32.600	- / -	- / 130.700
Installation												
<i>Subtotal: Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total												
Total Cost (Procurement + Support + Installation)	-	-	-	8.000	-	8.000	19.100	27.200	43.800	32.600	-	130.700

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Exhibit P-3a, Individual Modification: PB 2017 Air Force						Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 01 / 1			P-1 Line Item Number / Title: SPRNGE / Spacelift Range System Space			Modification Number / Title: 4 / Range Communications Facility (RCF)	
Modification Item 1 of 1: Range Communication Facility (RCF)							
Manufacturer Information							
Manufacturer Name: N/A				Manufacturer Location: N/A			
Administrative Leadtime (in Months): 0				Production Leadtime (in Months): 0			
Dates	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Org/Intermediate					Installation Quantity: 5		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 02: Spares / BSA 2: SSspares **P-1 Line Item Number / Title:** SSPARE / Initial Spares/Repair Parts

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	-	-	-	22.606	-	22.606	9.669	21.991	1.262	1.284	-	56.812
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	-	22.606	-	22.606	9.669	21.991	1.262	1.284	-	56.812
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	-	22.606	-	22.606	9.669	21.991	1.262	1.284	-	56.812

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Initial Spares consist of reparable components, assemblies, subassemblies, and consumable items required as initial stock (including readiness spares package requirements) in support of space acquisition programs. Requirements are determined by applying established factors against the acquisition cost of the end items. The factors are based on historical data of similar equipment, employment/deployment concepts, production schedules, and other related information.

This line contains funding for the following Major Defense Acquisition Program (MDAP):
FAB-T Inc 1, 199

The funding for the following programs was transferred from the Other Procurement, Air Force appropriation to the Space Procurement, Air Force appropriation beginning in FY17:

- Family of Advanced BLoS Terminals (FAB-T)
- Information Systems Security Program
- NAVSTAR Global Positioning System (Space and Control Segments)
- Space Situation Awareness Operations

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Exhibit P-40, Budget Line Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity: 3021F: Space Procurement, Air Force / BA 02: Spares / BSA 2: SSpares **P-1 Line Item Number / Title:** SSPARE / Initial Spares/Repair Parts

ID Code (A=Service Ready, B=Not Service Ready): **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A **Item MDAP/MAIS Code(s):** N/A

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-18	Initial Spares/Repair Parts			- / -	- / -	- / -	- / 22.606	- / -	- / 22.606
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / -	- / 22.606	- / -	- / 22.606

Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-18	Initial Spares/Repair Parts			- / 9.669	- / 21.991	- / 1.262	- / 1.284	- / -	- / 56.812
P-40	Total Gross/Weapon System Cost			- / 9.669	- / 21.991	- / 1.262	- / 1.284	- / -	- / 56.812

Title represents the P-18 Title for Spares.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 In FY 2017, FAB-T and Space Situation Awareness Operations have large initial spare requirements.

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Exhibit P-18, Initial and Replenishment Spare and Repair Parts Justification: PB 2017 Air Force										Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 3021F / 02 / 2				P-1 Line Item Number / Title: SSPARE / Initial Spares/Repair Parts						Title: Initial Spares/Repair Parts		
End Item Line Item Number / Name [MDAP/MAIS]	Prior Years (\$ M)	FY 2015 (\$ M)	FY 2016 (\$ M)	FY 2017 Base (\$ M)	FY 2017 OCO (\$ M)	FY 2017 Total (\$ M)	FY 2018 (\$ M)	FY 2019 (\$ M)	FY 2020 (\$ M)	FY 2021 (\$ M)	To Complete (\$ M)	Total (\$ M)
Initial												
BA 02 - Spares												
SSPARE / Family of Advanced BLoS Terminals (FAB-T)	-	-	-	14.078	-	14.078	3.590	20.752	-	-	-	38.420
SSPARE / Information Systems Security Program	-	-	-	0.466	-	0.466	0.416	0.424	0.432	0.440	-	2.178
SSPARE / Space Situation Awareness Operations	-	-	-	7.613	-	7.613	4.863	-	-	-	-	12.476
SSPARE / NAVSTAR Global Positioning System (Space and Control Segments)	-	-	-	0.449	-	0.449	0.800	0.815	0.830	0.844	-	3.738
Subtotal: Initial	-	-	-	22.606	-	22.606	9.669	21.991	1.262	1.284	-	56.812
Total Cost (Initial + Replenishment)	-	-	-	22.606	-	22.606	9.669	21.991	1.262	1.284	-	56.812

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