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

February 2016

United States Special Operations Command

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Volumes

Volume 5 Table of Contents

THIS PAGE INTENTIONALLY LEFT BLANK

Department of Defense
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Appropriation	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Research, Development, Test & Eval, DW	495,001	554,145		554,145	497,174		497,174
Total Research, Development, Test & Evaluation	495,001	554,145		554,145	497,174		497,174

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 22, 2016 at 09:16:43

Department of Defense
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Summary Recap of Budget Activities	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Applied Research	35,559	37,517		37,517	37,820		37,820
Advanced Technology Development	49,878	59,741		59,741	61,620		61,620
Operational System Development	409,564	456,887		456,887	397,734		397,734
Total Research, Development, Test & Evaluation	495,001	554,145		554,145	497,174		497,174
Summary Recap of FYDP Programs							
Intelligence and Communications	21,080	70,362		70,362	5,415		5,415
Special Operations Forces	473,921	483,783		483,783	491,759		491,759
Total Research, Development, Test & Evaluation	495,001	554,145		554,145	497,174		497,174

Defense-Wide
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Summary Recap of Budget Activities	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Applied Research	35,559	37,517		37,517	37,820		37,820
Advanced Technology Development	49,878	59,741		59,741	61,620		61,620
Operational System Development	409,564	456,887		456,887	397,734		397,734
Total Research, Development, Test & Evaluation	495,001	554,145		554,145	497,174		497,174
Summary Recap of FYDP Programs							
Intelligence and Communications	21,080	70,362		70,362	5,415		5,415
Special Operations Forces	473,921	483,783		483,783	491,759		491,759
Total Research, Development, Test & Evaluation	495,001	554,145		554,145	497,174		497,174

Defense-Wide
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Appropriation	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total
U.S., Special Operations Command	495,001	554,145		554,145	497,174		497,174
Total Research, Development, Test & Evaluation	495,001	554,145		554,145	497,174		497,174

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 22, 2016 at 09:16:43

Defense-Wide
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Sec
22	1160401BB	SOF Technology Development	02	35,559	37,517		37,517	37,820		37,820	U
		Applied Research		35,559	37,517		37,517	37,820		37,820	
67	1160402BB	SOF Advanced Technology Development	03	49,878	59,741		59,741	61,620		61,620	U
		Advanced Technology Development		49,878	59,741		59,741	61,620		61,620	
211	0304210BB	Special Applications for Contingencies	07	14,818	65,060		65,060				U
223	0305208BB	Distributed Common Ground/Surface Systems	07	6,262	5,302		5,302	5,415		5,415	U
241	1105219BB	MQ-9 UAV	07	14,418	22,151		22,151	17,804		17,804	U
242	1105232BB	RQ-11 UAV	07	259	758		758				U
243	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07	14,438							U
244	1160403BB	Aviation Systems	07	149,337	179,134		179,134	159,143		159,143	U
245	1160405BB	Intelligence Systems Development	07	9,490	6,866		6,866	7,958		7,958	U
246	1160408BB	Operational Enhancements	07	78,627	63,008		63,008	64,895		64,895	U
247	1160431BB	Warrior Systems	07	19,906	33,842		33,842	44,885		44,885	U
248	1160432BB	Special Programs	07	19,887	3,401		3,401	1,949		1,949	U
249	1160434BB	Unmanned ISR	07					22,117		22,117	U
250	1160480BB	SOF Tactical Vehicles	07	3,553	3,212		3,212	3,316		3,316	U
251	1160483BB	Maritime Systems	07	58,656	59,597		59,597	54,577		54,577	U
252	1160489BB	Global Video Surveillance Activities	07	3,788	3,933		3,933	3,841		3,841	U

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 22, 2016 at 09:16:43

Defense-Wide
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Sec
253	1160490BB	Operational Enhancements Intelligence	07	16,125	10,623		10,623	11,834		11,834	U
		Operational System Development		409,564	456,887		456,887	397,734		397,734	
Total Research, Development, Test & Eval, DW				495,001	554,145		554,145	497,174		497,174	

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 22, 2016 at 09:16:43

U.S., Special Operations Command
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Sec
22	1160401BB	SOF Technology Development	02	35,559	37,517		37,517	37,820		37,820	U
Applied Research				35,559	37,517		37,517	37,820		37,820	
67	1160402BB	SOF Advanced Technology Development	03	49,878	59,741		59,741	61,620		61,620	U
Advanced Technology Development				49,878	59,741		59,741	61,620		61,620	
211	0304210BB	Special Applications for Contingencies	07	14,818	65,060		65,060				U
223	0305208BB	Distributed Common Ground/Surface Systems	07	6,262	5,302		5,302	5,415		5,415	U
241	1105219BB	MQ-9 UAV	07	14,418	22,151		22,151	17,804		17,804	U
242	1105232BB	RQ-11 UAV	07	259	758		758				U
243	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07	14,438							U
244	1160403BB	Aviation Systems	07	149,337	179,134		179,134	159,143		159,143	U
245	1160405BB	Intelligence Systems Development	07	9,490	6,866		6,866	7,958		7,958	U
246	1160408BB	Operational Enhancements	07	78,627	63,008		63,008	64,895		64,895	U
247	1160431BB	Warrior Systems	07	19,906	33,842		33,842	44,885		44,885	U
248	1160432BB	Special Programs	07	19,887	3,401		3,401	1,949		1,949	U
249	1160434BB	Unmanned ISR	07					22,117		22,117	U
250	1160480BB	SOF Tactical Vehicles	07	3,553	3,212		3,212	3,316		3,316	U
251	1160483BB	Maritime Systems	07	58,656	59,597		59,597	54,577		54,577	U
252	1160489BB	Global Video Surveillance Activities	07	3,788	3,933		3,933	3,841		3,841	U
253	1160490BB	Operational Enhancements Intelligence	07	16,125	10,623		10,623	11,834		11,834	U

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 22, 2016 at 09:16:43

U.S., Special Operations Command
FY 2017 President's Budget
Exhibit R-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

22 Jan 2016

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Sec
		Operational System Development		409,564	456,887		456,887	397,734		397,734	
Total U.S., Special Operations Command				495,001	554,145		554,145	497,174		497,174	

R-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 22, 2016 at 09:16:43

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

1 SOW	1st Special Operations Wing
160th SOAR	160th Special Operations Aviation Regiment
AAC	Air Armament Center
AFRICOM	Africa Command
AFSOC	Air Force Special Operations Command
ARDEC	U.S. Army Armament Research, Development and Engineering Center
ARSOA	Army Special Operations Aviation
ATEC	Army Test and Evaluation Command
CACI	California Analysis Center, Incorporated
CENTCOM	Central Command
DARPA	Defense Advanced Research Projects Agency
DOD	Department of Defense
DTRA	Defense Threat Reduction Agency
EACS	Exploitation Analysis Centers
FDA	Food and Drug Administration
JITC	Joint Interoperability Test Center
JSOTF	Joint Special Operations Task Force
JTF	Joint Task Force
MARSOC	Marine Special Operations Command
NATC	Nevada Automotive Test Center
NAVAIRSYSCOM PMA-275	Naval Air Systems Command V-22 Joint Program Office
NAVSEA	Naval Systems Engineering Command
NGA	National Geospatial--Intelligence Agency
NPS	Naval Postgraduate School
NSA	National Security Agency
NSWC	Naval Special Warfare Command
OUSD(I)	Office of the Secretary of Defense, Intelligence
SOAR(A)	Special Operations Aviation Regiment (Airborne)
SOFSA	Special Operations Forces Support Activity
SPAWAR	Space and Naval Warfare Systems
TAPO	Technology Applications Program Office
TARDEC	Tank Automotive Research, Development and Engineering Center
USMC	United States Marine Corps
USSOCOM	United States Special Operations Command

THIS PAGE INTENTIONALLY LEFT BLANK

Acronym	Full Naming Convention
ADS-B	Automatic Dependent Surveillance-Broadcast
AECV	All Environment Capable Variant
AFSOC	Air Force Special Operations Command
ALGL	Advanced Lightweight Grenade Launcher
AM	Amplitude Modulation
AMN	Airborne Mission Network
APAS	Active Parallel Actuator System
ASE	Aircraft Survivability Equipment
ASIF	All Source Information Fusion
ASOM	Aerial Search Optimization Model
ATD	Advanced Technology Demonstration
ATPIALS	Advanced Tactical Precision Illuminator Aiming Laser System
ATW	Advanced Threat Warning
AvFID	Aviation Foreign Internal Defense
AVS	Air Variant System
BFT	Blue Force Tracking
BLOS	Beyond Line of Site
BNVD	Binocular Night Vision Device
BOI	Basis of Issue
C/CPAF	Cost/Cost Plus Award Fee
C/F&DR	Conditional Fielding and Deployment Release
C/FFP	Cost Plus Firm-Fixed Price
C/PIF	Cost Plus Incentive Fee
C2	Command and Control
C3	Command, Control, and Communications
C4	Command, Control, Communications, and Computer
C4I	Command, Control, Communications, Computers, and Intelligence
CA	Civil Affairs
CAAS	Common Avionics Architecture Systems
CAR	Combat Assault Rifle
CAS	Close Air Support

CASEVAC	Casualty Evacuation
CCFLIR	Combatant Craft Forward Looking Infrared Radar
CCH	Combatant Craft - Heavy
CCM	Combatant Craft - Medium
CCME	Combatant Craft Mission Equipment
CDAS	Cognitive Decision Aiding System
CDD	Capability Development Document
CDU	Control Display Units
CERP	Capital Equipment Replacement Program
CESE	Civil Engineering Support Equipment
CFE	Contractor Furnished Equipment
CI	Civil Information
CIED	Counter-Improvised Explosive Device
CIM	Civil Information Management
CIMDPS	Civil Information Management Data Processing System
CMNS	Combat Mission Needs Statement
CMS	Combat Mission Simulators
CNVD	Clip-On Night Vision Device
COP	Common Operational Picture
COTI	Clip-On Thermal Imagers
COTS	Commercial-Off-The-Shelf
CP	Counter-Proliferation
CPD	Capabilities Production Document
CQC	Close Quarter Combat
CSP	Common Sensor Payload
CT	Counter-Terrorism
DAP	Defensive Armed Penetrator
DCGS-SOF	Data Common Ground/Surface System--Special Operations Forces
DCM	Defensive Countermeasures
DCS	Dry Combat Submersible
DCU	Data Concentrator Unit
DDP	Detachment Deployment Packages

DDS	Dry Deck Shelter
DRWG	Data Common Ground/Surface System Working Group
DT&E	Development Test and Evaluation
DVE	Degraded Visual Environment
DVEPS	Degraded Visual Environment Piloted System
EA	Evolutionary Acquisition
ECM	Electronic Countermeasures
ECOS	Enhanced Combat Optical Sights
ECP	Engineering Change Proposal
EDM	Engineering Development Model
EGLM	Enhanced Grenade Launcher Module
EMD	Engineering and Manufacturing Development
EO/IR	Electro-Optical Infrared
ESA	Enhanced Situational Awareness
ETI	Evolutionary Technology Insertion
EW	Electronic Warfare
F&DR	Fielding and Deployment Release
FABS	Fly-Away Broadcast System
FCD	Field Computing Devices
FFT	Friendly Force Trackers
FLIR	Forward Looking Infrared Radar
FM	Frequency Modulation
FMBS	Family of Muzzle Brake Suppressors
FMV	Full Motion Video
FMV VDH-L	Full Motion Video Distribution Hub-Light
FOC	Full Operational Capability
FoS	Family of Systems
FRP	Full Rate Production
FSOV	Family of Special Operations Vehicles
FSWS	Family of Sniper Weapon System
FVL	Future Vertical Lift
FW	Fixed Wing

FY	Fiscal Year
GATM	Global Air Traffic Management
GCC	Geographical Combatant Commander
GEOINT	Geological Intelligence
GFE	Government Furnished Equipment
GIG	Global Information Grid
GMV	Ground Mobility Vehicle
GOTS	Government-Off-The-Shelf
GPPU	General Purpose Processing Units
GPS	Global Positioning System
GPU	Graphics Processing Unit
GSK	Ground Signals Intelligence Kit
HF	High Frequency
HFIS	Hostile Fire Indicator System
HFTTL	Hostile Forces Tagging, Tracking, and Locating
HHI	Hand Held Imager
HLM	Handheld Laser Marker
HSAC	High Speed Assault Craft
IC	Intelligence Community
IDIQ	Indefinite Delivery/Indefinite Quantity
IDS	Intrusion Detection System
IED	Improvised Explosive Devices
ILS	Integrated Logistics Support
IM	Insensitive Munitions
INOD	Improved Night/Day Observation/Fire Control Device
IOC	Initial Operational Capability
IR	Infrared
IRCM	Infrared Countermeasures
ISP	Integrated Survey Plan
ISR	Intelligence Surveillance and Reconnaissance
ISR&T	Intelligence, Surveillance, Reconnaissance, and Targeting
IT	Information Technology

JBS	Joint Base Station
JCID	Joint Capabilities Integration and Development
JCTD	Joint Concept Technology Demonstration
JOS	Joint Operational Stocks
JTCITS	Joint Tactical C4I Information Transceiver System
JTWS	Joint Threat Warning System
JUON	Joint Urgent Operational Need
LAM	Laser Acquisition Marker
LCM	Low Cost Modification
LCS	Load Carriage System
LFT&E	Live Fire Test and Evaluation
LIDAR	Light Detection and Ranging
LOS	Line of Sight
LPI/LPD	Low Probability of Intercept/Low Probably of Detection
LRBS	Long Range Broadcast System
LRIP	Low Rate Initial Production
LRU	Line Replaceable Unit
LSDB	Laser--Small Diameter Bomb
LTATV	Lightweight Tactical All Terrain Vehicle
MAAWS	Multi-Purpose Anti-Armor/Anti-Personnel Weapons System
MALET	Medium Altitude Long Endurance Tactical
MCE	Military Construction Collateral Equipment
MDAP	Major Defense Acquisition Program
MEDVAC	Medical Evacuation
MELB	Mission Enhancement Little Bird
MFD	Multi-Function Display
MFP-11	Major Force Program-11
MG	Machine Gun
MGS	Modular Glove System
MICH	Modular Integrated Communications Helmet
MIP	Military Intelligence Program
MIPR	Military Interdepartmental Purchase Request

MISO	Military Information Support Operations
MISOB	Military Information Support Operations Broadcast
MLE	Military Liaison Element
MOC	Media Operations Center
MPC	Media Production Center
MPK	Mission Planning Kits
MPU	Mission Processor Unit
MRAP	Mine Resistant Ambush Protected
MS	Milestone
MSSEP	Mobile SOF Strategic Entry Points
MTPS	Mission Training and Preparation System
MTS-B	Multi-Spectral Targeting System--B
MTUAS	Medium Tactical Unmanned Aerial System
MWS	Missile Warning System
NDAA	National Defense Authorization Act
NDI	Non-Developmental Item
NGFLIR	Next Generation Forward Looking Infrared Radar
NRE	Non-Recurring Engineering
NSAV	Non-Standard Aviation
NSCV	Non-Standard Commercial Vehicle
NSM	Non-Standard Materiel
NSSS	National Systems Support to SOF
NTM	National Technical Means
NVD	Night Vision Devices
OCO	Overseas Contingency Operations
OEM	Original Equipment Manufacturer
OFP	Operational Flight Program
OT	Operational Test
OT&E	Operational Test and Evaluation
P3I	Pre-Planned Product Improvement
PCU	Protective Combat Uniform
PDS	Product Distribution System

PE	Program Element
PED	Processing, Exploitation, and Dissemination
PGL	Precision Geo Location
PGM	Precision Guided Munitions
PME	Primary Mission Equipment
PMP	Prime Mission Product
PMT	Program Management
PN	Partner Nation
PRT	Predator Receiver Terminal
PSP	Precision Strike Package
PSR	Precision Sniper Rifle
QL-CBA	Quick-Look Capabilities-Based Assessment
RAMS	Removeable Airborne Military Information Support Operations System
RAV	Restricted Availability
RC-IED	Radio Counter-Improvised Explosive Device
RDT&E	Research, Development, Test, and Evaluation
RF	Radio Frequency
RFCM	Radio Frequency Countermeasures
RIS	Radio Integration System
RIS	Rail Interface Systems
ROH	Routine Overhaul
ROIC	Read Out Integrated Circuit
ROSES	Reduced Optical Signature Emissions Solution
RPG	Rocket Propelled Grenade
RRT	Rapid Reliable Targeting
RSTA	Reconnaissance, Surveillance, and Targeting Acquisition
RW	Rotary Wing
RWR	Radar Warning Receiver
S&T	Science & Technology
SAAF	Stuggart Army Air Field
SAFC	Special Applications for Contingencies
SAFEAIR	Safe Aircraft Recovery

SAM	Surface-to-Air Missiles
SAPNET	Special Access Program Network
SATCOM	Satellite Communications
SBIR	Small Business Innovative Research
SBUD	Simulator Block Updates
SCE	Special Communications Enterprise
SCO	SOF Cryptoligic Operator
SDB	Small Diameter Bomb
SDN	SOF Deployable Node
SDN-EP	SOF Deployable Node--Extension Packages
SDV	Sea, Air, Land (SEAL) Delivery Vehicle
SEAL	Sea, Air, Land
SEALION	Sea, Air, Land, Insertion Observation Neutralization
SFA	Security Forces Assistance
SFAC	Security Forces Assistance Craft
SGM	Small Glide Munition
SIE	SOF Information Environment
SIGINT	Signals Intelligence
SIRFC	Suite of Integrated Radar Frequency Countermeasures
SKR	Silent Knight Radar
SO	Special Operations
SOCRATES	Special Operations Command, Research, Analysis and Threat Evaluation System
SOF	Special Operations Forces
SOFPREP	Special Operations Forces Planning, Rehearsal, and Execution Preparation
SOMPE	Special Operations Mission Planning Environment
SOPGM	Standoff Precision Guided Munitions
SoS	System of Systems
SOTVS	Special Operations Tactical Video System
SOW	Special Operations Wing
SPCOM	Special Communications Field Segment - Enterprise
SPEAR	SOF Personal Equipment Advanced Requirements
SR	Special Reconnaissance

SRTV	Secure Real-Time Video
SSE	Sensitive Site Exploitation
SSR	Sniper Support Rifle
STC	SOF Tactical Communications
STLD	Small Target Location Devices
STOL	Short Take-Off and Landing
STTR	Small Business Technology Transfer
STUAS	Small Tactical Unmanned Aerial Systems
SUAS	Small Unmanned Aircraft System
SW	Shortwave
SWCS	Shallow Water Combat Submersible
SWIR	Short Wave Infared
TACLAN	Tactical Local Area Network
TAS	Threat Awareness System
TCCC	Tactical Combat Casualty Care
TF/TA	Terrain Following/Terrain Avoidance
TMF	Theater Mission Force
TT	Team Transportable
TTL	Tagging, Tracking and Locating
TV	Television
UAS	Unmanned Aerial System
UAV	Unmanned Aerial Vehicle
UBA	Underwater Breathing Apparatus
UHF	Ultra High Frequency
UI	User Interface
VAS-BM	Visual Augmentation-Binocular-Monocular
VASWA	Visual Augmentation System-Weapons Accessories
VBL	Visible Bright Light
VHF	Very High Frequency
VTC	Video Teleconferencing
WPNAC	Weapons Accessories
WST	Weapons System Trainer

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	401.679	35.559	37.517	37.820	-	37.820	34.493	37.036	44.662	57.618	Continuing	Continuing
S100: *SOF Technology Development*	401.679	35.559	37.517	37.820	-	37.820	34.493	37.036	44.662	57.618	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element enables USSOCOM to conduct studies and develop laboratory prototypes for applied research and advanced technology development, as well as leverage other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to Department of Defense (DOD), other government agencies, and commercial organizations allows USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire emerging technologies for Special Operations Forces. This project provides an investment strategy for USSOCOM to link technology opportunities with capability deficiencies, capability objectives, technology thrust areas, human endurance and sensory performance, and technology development objectives.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	36.750	37.517	38.104	-	38.104
Current President's Budget	35.559	37.517	37.820	-	37.820
Total Adjustments	-1.191	0.000	-0.284	-	-0.284
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.191	-			
• Other Adjustments	-	-	-0.284	-	-0.284

Change Summary Explanation

Funding:

FY 2015: Decrease of -$1.191 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2016: None.

FY 2017: Decrease of -$0.284 million is due to a Departmental economic assumption decrease.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 2	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*	**Project (Number/Name)** S100 / *SOF Technology Development*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S100: *SOF Technology Development*	401.679	35.559	37.517	37.820	-	37.820	34.493	37.036	44.662	57.618	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Small incremental co-investments with DOD, other government agencies, and commercial organizations allow USSOCOM to influence the schedule and direction of technology developments, emerging technologies, and capabilities for Special Operations Forces (SOF), with significant economies of investment. This USSOCOM investment strategy is used to link technology opportunities with USSOCOM capability deficiencies, capability objectives; technology thrust areas, and technology objectives. Technology development needs in these areas may be advertised to industry and government research and development agencies via agency announcements and calls for white papers. Sub-projects within the SOF Technology Demonstration effort include:

• SOF Technology Development Sub-Project: This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11.

• Tagging, Tracking, and Locating (TTL) Sub-Project: TTL funds Applied Research projects identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL applies leading edge nanotechnology, biometric and biotechnology, and chemistry which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing.

• Classified Sub-Project (provided under separate cover).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: SOF Technology Development	17.988	18.780	18.858
FY 2015 Accomplishments: Continued ongoing technology development sub-projects in areas such as, but not limited to: reduced signature technologies; advanced lightweight armor and materials; advanced long duration small form factor power supplies; and alternative fuel power systems. Advanced technologies for combat medical equipment and tactics; sensor and processing improvements; improved interfaces and displays; and secure communications. Continued pursuit of methods to reduce operator load and provide advanced protection. Developed technologies for improved and widened window of target engagement (escalation of force), pursued enhancements to technologies that can aid in detection of enemy intentions and movement, and continued development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transferred successful projects into programs of record. Continued the integration of critical technologies focused on providing the dismounted special			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 2	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*	**Project (Number/Name)** S100 / *SOF Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
operator leap-ahead capabilities via innovative collaborative processes. Focus was on delivering prototype system for soldier protection and augmentation and continued development of situational awareness and command/control systems. ***FY 2016 Plans:*** Continue ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduce signature technologies, advance lightweight armor and materials, and begin studying high data-rate throughput. Continue advance technologies for combat medical equipment and tactics, sensor and processing improvements, improve interfaces and displays, and secure communications. Continue pursuit of methods to reduce operator load and provide advanced protection. Develop technologies for improved and widened window of target engagement (escalation of force), pursue enhancements to technologies that can aid in detection of enemy intentions and movement, and continue development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfer successful projects into programs of record. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Focus is on delivering prototype system for soldier protection and augmentation and continue development of situational awareness and command/control systems. ***FY 2017 Plans:*** Continues ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduces signature technologies, high data-rate throughput, and advances lightweight armor and materials. Advances technologies for combat medical equipment and tactics, sensor and processing improvements, improves interfaces and displays, and secure communications. Continues pursuit of methods to reduce operator load and provides advanced protection. Develops technologies for improved and widened window of target engagement (escalation of force), pursues enhancements to technologies that can aid in detection of enemy intentions and movement, and continues development and exploration across the electromagnetic spectrum. Based upon agreed technology maturity metrics, transfers successful projects into programs of record. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Focus is on delivering prototype system for soldier protection and augmentation and continues development of situational awareness and command/control systems.			
Title: Tagging, Tracking, and Locating Technologies (TTL) ***FY 2015 Accomplishments:*** Specific objectives, priorities, technical approaches, and potential operational applications are classified. Continued projects to exploit nanotechnology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiated projects linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. ***FY 2016 Plans:***	14.414	14.950	15.137

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 2	**R-1 Program Element (Number/Name)** PE 1160401BB / *SOF Technology Development*	**Project (Number/Name)** S100 / *SOF Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Specific objectives, priorities, technical approaches, and potential operational applications are classified. Continue projects to exploit nanotechnology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiate projects linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. ***FY 2017 Plans:*** Specific objectives, priorities, technical approaches, and potential operational applications are classified. Continues projects to exploit nanotechnology, biotechnology and chemistry for application to TTL and TTL-enabling systems. Initiates projects linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA.			
Title: Classified Sub-Project ***FY 2015 Accomplishments:*** Details provided under separate cover. ***FY 2016 Plans:*** Details provided under separate cover. ***FY 2017 Plans:*** Details provided under separate cover.	3.157	3.787	3.825
Accomplishments/Planned Programs Subtotals	35.559	37.517	37.820

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	1,089.770	49.878	59.741	61.620	-	61.620	73.505	80.032	89.334	101.823	Continuing	Continuing
S200: *Advanced Technology Development*	1,084.010	38.255	47.137	48.097	-	48.097	53.362	57.062	65.983	78.085	Continuing	Continuing
SF101: *Engineering Analysis*	0.847	6.660	7.457	8.312	-	8.312	14.827	17.558	17.831	18.108	Continuing	Continuing
S225: *Information and Broadcast Systems Adv Tech*	4.913	4.963	5.147	5.211	-	5.211	5.316	5.412	5.520	5.630	Continuing	Continuing

A. Mission Description and Budget Item Justification

Advanced Technology Development (project S200) conducts rapid prototyping and Advanced Technology Demonstrations (ATDs). ATDs provide a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by Special Operations Forces (SOF) users. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. ATDs also address projects that are a result of unique joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

Engineering Analysis (project SF101) provides rapid response capability for the investigation, evaluation, and demonstration of technologies for SOF platform (ground, air, and maritime) and soldier system-unique requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: sensor integration; enhanced situational awareness; near-real-time intelligence to include data fusion, threat detection and avoidance; electronic support measures for threat geo-location and specific emitter identification; navigation; target detection; weapon performance integration; and future SOF platform and soldier system requirements. Provides additional engineering analysis and testing required to transition items from national forces to theater forces.

Information and Broadcast Systems Advanced Technology (project S225) conducts rapid prototyping, advanced technology demonstrations, and advanced concept technology demonstrations of information and broadcast systems technology. Includes planning, analyzing, evaluating, and production information systems capabilities and distribution/dissemination broadcast systems capabilities. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project also integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs for which prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	51.622	57.741	61.333	-	61.333
Current President's Budget	49.878	59.741	61.620	-	61.620
Total Adjustments	-1.744	2.000	0.287	-	0.287
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	2.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.070	-			
• SBIR/STTR Transfer	-1.674	-			
• Other adjustments	-	-	0.287	-	0.287

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2015	FY 2016
Project: S200: *Advanced Technology Development*		
Congressional Add: *S200: Advanced Technology Development*	-	2.000
Congressional Add Subtotals for Project: S200	-	2.000
Congressional Add Totals for all Projects	-	2.000

Change Summary Explanation

Funding:

FY 2015: Decrease of -$1.744 million is due to a decrease for transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$1.674 million), and a decrease for higher command priorities (-$0.070 million).

FY 2016: Increase of $2.000 million is due to a congressional add to project S200 Advanced Technology Development.

FY 2017: Net increase of $0.287 million is due to an increase for engineering analysis to address aviation mission survivability such as signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning, capabilities to operate in Global Positioning System degraded environment, and counter measures versatile mission equipment (payloads, communications, weapons) that perform multiple functions capable of range of effects ($0.750 million), and a decrease for Departmental economic assumption (-$0.463 million).

Schedule: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 1160402BB *I SOF Advanced Technology Development*

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / *SOF Advanced Technology Development*	Project (Number/Name) S200 / *Advanced Technology Development*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S200: *Advanced Technology Development*	1,084.010	38.255	47.137	48.097	-	48.097	53.362	57.062	65.983	78.085	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides for rapid prototyping, Advanced Technology Demonstrations (ATDs) and Joint Capability Technology Demonstrations. It is a means for demonstrating and evaluating the utility of emerging/advanced technologies in operationally relevant environments with Special Operations Forces (SOF) users. This project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. Evaluation results often facilitate the initiation of new programs and the insertion of appropriate technologies to acquisition programs. The element also addresses unique, joint special mission or area-specific needs for which a few rapid prototypes must be developed on a responsive basis, or are of sufficient time sensitivity to accelerate prototyping efforts of a normal acquisition program in any phase. Sub-projects within the SOF Special Technology Development efforts include:

• Special Operations Special Technology Sub-Project. This sub-project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. This project received a congressional add in FY 2016.

• Tagging, Tracking, and Locating (TTL) Technologies Sub-Project. TTL funds SOF unique ATDs identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL rapidly prototypes and expeditiously transitions projects from laboratory to acquisition Programs of Record/operational use to address SOF capability deficiencies.

• National to Theater Transition Sub-Project. Conduct additional testing required to transition items from national forces to theater forces.

• Classified Sub-Project (provided under separate cover).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: SOF Special Technology Sub-Project	18.241	23.570	26.212
FY 2015 Accomplishments: Continued to develop and insert technology into existing programs. Technologies include, but are not limited to: reduced signature profiles, improved weapons, communications, command, and control systems, sensors, and situational awareness tools; lightweight armor and materials; alternative power systems; eco-friendly sustainable energy devices; long duration, reduced size, high output power supplies; and technologies that reduce the load of the operator. Continued development of technologies supporting undersea and ground mobility. Evaluated and developed sensors across the electromagnetic spectrum to meet operational requirements. Continued the integration of critical technologies focused on providing the dismounted special operator leap ahead capabilities via innovative collaborative processes. Began initial effort for field prototype system incorporating			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
technologies likely to transition to fielded systems. Based upon agreed technology maturity metrics, transferred successful projects into programs of record, and conducted field experimentations at various venues to facilitate technology insertion. ***FY 2016 Plans:*** Continue to develop and insert technology into existing programs. Technologies include, but are not limited to: reduced signature profiles, improved weapons, communications, command, and control systems, sensors, and situational awareness tools; lightweight armor and materials, alternative power systems, eco-friendly sustainable energy devices, long duration, reduced size, high output power supplies, and technologies that reduce the load of the operator. Continue development of technologies supporting undersea and ground mobility. Evaluate and develop sensors across the electromagnetic spectrum to meet operational requirements. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Continues effort for field prototype system incorporating technologies likely to transition to fielded systems. Based upon agreed technology maturity metrics, transfer successful projects into programs of record, and conduct field experimentations at various venues to facilitate technology insertion. ***FY 2017 Plans:*** Continues to develop and insert technology into existing programs. Technologies include, but are not limited to: reduced signature profiles, improved weapons, communications, command, and control systems, sensors, and situational awareness tools; lightweight armor and materials, alternative power systems, eco-friendly sustainable energy devices, long duration, reduced size, high output power supplies, and technologies that reduce the load of the operator. Continues development of technologies supporting undersea and ground mobility. Evaluates and develops sensors across the electromagnetic spectrum to meet operational requirements. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Continues developing unique robotic systems to reduce the load of the operator and augment human performance. Continues to develop Command, Control, Computer, and Intelligence Technology to implement a robust, ultra-wideband communication capability. Continues effort for field prototype system incorporating technologies likely to transition to fielded systems. Based upon agreed technology maturity metrics, transfers successful projects into programs of record, and conducts field experimentations at various venues to facilitate technology insertion.			
Title: Tagging, Tracking, and Locating Technologies (TTL) Sub-Project ***FY 2015 Accomplishments:*** Specific objectives, priorities, technical approaches, and potential operational applications are classified. Exploited and integrated recently-proven and emerging technologies for TTL and TTL-enabling systems. Continued projects toward maturity that are linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. ***FY 2016 Plans:***	13.552	15.940	16.201

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Specific objectives, priorities, technical approaches, and potential operational applications are classified. Exploit and integrate recently-proven and emerging technologies for TTL and TTL-enabling systems. Continue projects toward maturity that are linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. Increase focus on tactical sensors and enabling technologies in support of the special reconnaissance mission set. ***FY 2017 Plans:*** Specific objectives, priorities, technical approaches, and potential operational applications are classified. Exploits and integrates recently-proven and emerging technologies for TTL and TTL-enabling systems. Continues projects toward maturity that are linked to the USSOCOM/DOD TTL Roadmap, which is updated via the JCS/J8-approved annual TTL QL-CBA. Increases focus on tactical sensors and enabling technologies in support of the special reconnaissance mission set.			
Title: Classified Sub-Project ***FY 2015 Accomplishments:*** Details provided under separate cover. ***FY 2016 Plans:*** Details provided under separate cover. ***FY 2017 Plans:*** Details provided under separate cover.	6.462	5.627	5.684
Accomplishments/Planned Programs Subtotals	38.255	45.137	48.097

	FY 2015	FY 2016
Congressional Add: S200: Advanced Technology Development ***FY 2016 Plans:*** Conduct rapid prototyping and advanced technology demonstrations.	-	2.000
Congressional Adds Subtotals	-	2.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** SF101 / *Engineering Analysis*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
SF101: *Engineering Analysis*	0.847	6.660	7.457	8.312	-	8.312	14.827	17.558	17.831	18.108	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides a rapid response capability to support Special Operations Forces (SOF) platforms (ground, air and maritime), Unmanned Aerial Vehicle (UAV) payload sensors and soldier systems. The purpose is to correct system deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies, analysis of alternatives, pre-developmental risk reduction studies, and engineering analyses. This project provides the engineering required to improve the design and performance integrity of the SOF platforms, UAV payload sensors and soldier support systems, sub-systems, equipment, and embedded computer software as they relate to the maintenance, overhaul, repair, quality assurance, modifications, materiel improvements, and service life extensions. This project also conducts risk reduction studies, analyses, and demonstrations to support emerging, time-critical weapons and sensor enhancements.

Platform Engineering Analysis: Funding supports engineering assessments and evaluation of technology, manufacturing, and integration readiness in six distinct areas: 1) small UAV payloads; 2) air-to-ground interoperability; 3) mission suite architectures; 4) common sensor suites; 5) low-cost, high-load-out Stand-Off Precision Guided Munitions (SOPGMs) and air-launched UAV; and 6) next generation Intelligence, Surveillance, and Reconnaissance (ISR) capabilities.

Soldier System Engineering Analysis: Funding supports engineering assessments and evaluation of technology feasibility, producibility, and integration readiness in the following areas: 1) next generation lightweight low-cost body armor and ballistic helmets 2) ballistic and laser variable light transmission protective eyewear 3) soldier worn sensors to assess ballistic and blast events as well as soldier health 4) next generation soldier worn load carriage systems 5) soldier worn head borne communications that provide greater situational awareness and hearing protection.

National to Theater Transition Engineering Analysis: Provides additional engineering analysis and testing required to transition items from national forces to theater forces.

Aviation Mission Improved Survivability: Begins engineering analysis activities to address aviation survivability such as signature management, situational awareness, and versatile mission equipment (payloads, communications and weapons) to achieve SOF mission objectives.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Platform Engineering Analysis	5.249	4.865	4.928
FY 2015 Accomplishments: For small UAV payloads, identified, assessed, and evaluated the risks/benefits of efforts to reduce the size, weight, and power of current capabilities to be integrated into Group I-III UAV. Air-to-ground interoperability efforts identified shortfalls and gaps in current SOF air-to-ground communications architecture and recommended and evaluated interoperability enhancements. For mission suite architectures, identified, assessed, and evaluated open architecture approaches to reduce life-cycle costs,			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** SF101 / *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
increase responsive integration of new capabilities, and increase competition. In the area of common sensor suites, assessed and evaluated individual sensors and suites of sensors to optimize the commonality of sensors between our manned ISR fleet and our Group IV/V UAV. Identified low-cost and high load-out SOPGM and air-launched UAV commodities to reduce costs and provide force multipliers. Identified, assessed, and evaluated risks/benefits/suitability of emerging ISR products and suites. This includes but not limited to: hyper-spectral imaging, moving target indication, Light Detection and Ranging (LIDAR), Signals Intelligence (SIGINT) and high definition Electro-Optical/Infrared (EO/IR) capabilities. ***FY 2016 Plans:*** For small UAV payloads, identify, assess, and evaluate the risks/benefits of efforts to reduce the size, weight, and power of current capabilities to be integrated into Group I-III UAV. Air-to-ground interoperability efforts identify shortfalls and gaps in current SOF air-to-ground communications architecture and recommend and evaluate interoperability enhancements. For mission suite architectures, identify, assess, and evaluate open architecture approaches to reduce life-cycle costs, increase responsive integration of new capabilities, and increase competition. In the area of common sensor suites, assess and evaluate individual sensors and suites of sensors to optimize the commonality of sensors between manned ISR fleet and Group IV/V UAV. Identify low-cost and high load-out SOPGM and air-launched UAV commodities to reduce costs and provide force multipliers. Identify, assess, and evaluate risks/benefits/suitability of emerging ISR products and suites. This includes but not limited to: hyper-spectral imaging, moving target indication, LIDAR, SIGINT and high definition EO/IR capabilities. ***FY 2017 Plans:*** For small UAV payloads, identifies, assesses, and evaluates the risks/benefits of efforts to reduce the size, weight, and power of current capabilities to be integrated into Group I-III UAV. Air-to-ground interoperability efforts identify shortfalls and gaps in current SOF air-to-ground communications architecture and recommends and evaluates interoperability enhancements. For mission suite architectures, identifies, assesses, and evaluates open architecture approaches to reduce life-cycle costs, increase responsive integration of new capabilities, and increase competition. In the area of common sensor suites, assesses and evaluates individual sensors and suites of sensors to optimize the commonality of sensors between manned ISR fleet and Group IV/V UAV. Identifies low-cost and high load-out SOPGM and air-launched UAV commodities to reduce costs and provide force multipliers. Identifies, assesses, and evaluates risks/benefits/suitability of emerging ISR products and suites. This includes but not limited to: hyper-spectral imaging, moving target indication, LIDAR, SIGINT and high definition EO/IR capabilities.			
Title: Soldier System Engineering Analysis ***FY 2015 Accomplishments:*** Continued to assess advanced body armor and ballistic helmet materials, concepts and prototypes to reduce soldier load and provide increased ballistic protection against the latest emerging threats. For eye protection, efforts reduced the number of eyewear lenses needed and to have one lens that provides ballistic and laser protection, as well as automatically darkens/ lightens based on combat conditions. Evaluated soldier worn sensors and heads up display for operability within soldier worn	0.480	0.496	0.496

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** SF101 / *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
components and subsystems. Assessed technology feasibility and integration readiness of next generation load carriage systems such as exoskeletons and load-assist devices. Assessed proof of concepts and technology for next generation head borne communications systems that provide reliable and secure wireless transmission in all combat conditions, as well as provide 360 degree situational awareness and noise attenuation while increasing hearing protection. ***FY 2016 Plans:*** Continue to assess advanced body armor and ballistic helmet materials, concepts and prototypes to reduce soldier load and provide increased ballistic protection against the latest emerging threats. Reduce the number of eyewear lenses needed and to have one lens that provides ballistic and laser protection as well as automatically darkens/lightens based on combat conditions. Evaluate soldier worn sensors and heads up displays for operability within soldier worn components and subsystems. Assess technologies feasibility and integration readiness of next generation load carriage systems such as exoskeletons and load-assist devices. Assess proof of concepts and technologies for next generation head borne communications systems that provide reliable and secure wireless transmission in all combat conditions, as well as provide 360 degree situational awareness and noise attenuation while increasing hearing protection. ***FY 2017 Plans:*** Continues to assess advanced body armor and ballistic helmet materials, concepts and prototypes to reduce soldier load and provide increased ballistic protection against the latest emerging threats. Reduces the number of eyewear lenses needed and to have one lens that provides ballistic and laser protection as well as automatically darkens/lightens based on combat conditions. Evaluates soldier worn sensors and heads up displays for operability within soldier worn components and subsystems. Assesses technologies feasibility and integration readiness of next generation load carriage systems such as exoskeletons and load-assist devices. Assesses proof of concepts and technologies for next generation head borne communications systems that provide reliable and secure wireless transmission in all combat conditions, as well as provide 360 degree situational awareness and noise attenuation while increasing hearing protection.			
Title: National to Theater Engineering Analysis ***FY 2015 Accomplishments:*** Conducted additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces. ***FY 2016 Plans:*** Conduct additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces. ***FY 2017 Plans:***	0.931	2.096	2.138

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** SF101 / *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Conducts additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces.			
Title: Aviation Improved Survivability ***FY 2017 Plans:*** Begins engineering analysis activities to improve SOF aviation mission survivability. Activities include, but are not limited to signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications and weapons) to improve SOF survivability in less than permissive operating environments.	-	-	0.750
Accomplishments/Planned Programs Subtotals	6.660	7.457	8.312

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S225 / *Information and Broadcast Systems Adv Tech*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S225: *Information and Broadcast Systems Adv Tech*	4.913	4.963	5.147	5.211	-	5.211	5.316	5.412	5.520	5.630	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project conducts rapid prototyping of information and broadcast system technology. Includes cyber capabilities that predict the best media channels to reach potential target audiences, data mining and information collections tools, propaganda and social behavior analytical tools, cultural analysis tool sets and emerging technologies that support the planning and analytical needs for the Military Information Support Operations (MISO) forces. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project integrates efforts and conducts technology demonstrations in conjunction with joint experiments and other assessment events and performs market research on emerging technologies that support all phases of MISO. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs. Seeks technologies that will transform current MISO capabilities through two major objectives: 1) Exploit technologies capable of disseminating products to reach target audiences across a variety of media to include audiences in denied areas. 2) Automate and improve MISO planning and analytical capability through technologies that are integrated into SOF planning systems (Cultural Analysis, Targeting, Theme Development, Media & Product Selection, Distribution & Dissemination, and Measures of Effectiveness). Develops software applications that increases the efficiency and shortens the timeline to get MISO dissemination packages approved. Develops hardware/software tools that facilitate the collaboration and sharing of information and other critical data.

Broadcast and Dissemination Modernization. Develops emerging technologies available in the marketplace to transform and modernize planning, analysis, development, broadcast, distribution, dissemination, and feedback capabilities for MISO forces. This initiative will also continue development of appropriate emerging technologies initially identified by Advance Technology Demonstrations and Joint Capability Technology Demonstrations to transition to acquisition programs. Technologies include: multi-frequency broadcast systems; digital broadcast capabilities; remote controlled electronic paper; near-real-time command and control of unattended systems, especially in denied areas; focused/beam speaker sound technologies; visual projection technologies; advanced commercial broadcast technologies including amplitude modulation and frequency modulation radio transmitters and antenna; television transmitter and antenna systems; internet and telephony dissemination and broadcast systems; technologies capable of long-loiter broadcast and delivery in denied and permissive environment; and technologies that automate and improve planning and analytical capability through integrated capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Broadcast and Dissemination Modernization	4.963	5.147	5.211
FY 2015 Accomplishments: Continued to perform engineering studies, development, and demonstrations of planning, analysis, distribution, and broadcast capabilities.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S225 / *Information and Broadcast Systems Adv Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Continue to perform engineering studies, development, and demonstrations of planning, analysis, distribution, and broadcast capabilities. ***FY 2017 Plans:*** Continues to perform engineering studies, development, and demonstrations of planning, analysis, distribution, and broadcast capabilities.			
Accomplishments/Planned Programs Subtotals	4.963	5.147	5.211

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304210BB / *Special Applications for Contingencies*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	229.897	14.818	65.060	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	309.775
9999: *Special Applications for Contingencies*	229.897	14.818	65.060	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	309.775

A. Mission Description and Budget Item Justification

NOTE: Beginning in FY 2017, this Program Element has been consolidated into SOCOM Program Element 1160434BB, Unmanned ISR.

This program element is part of the Military Intelligence Program (MIP). The SAFC program develops and deploys special capabilities to perform intelligence, surveillance, and reconnaissance for deployed Special Operations Forces (SOF) using non-traditional means. It provides a mechanism for SOF user combat evaluation of emerging sensor technologies. Special Applications for Contingencies (SAFC) applies focused Research & Development (R&D) for relatively low cost solutions to provide remotely controlled system emplacement and data exfiltration from denied areas. This program also specifically addresses short lead-time contingency planning requirements where focused R&D will allow for test and evaluation of leading edge solutions to emergent problem sets.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	15.794	65.060	20.037	-	20.037
Current President's Budget	14.818	65.060	0.000	-	0.000
Total Adjustments	-0.976	0.000	-20.037	-	-20.037
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.976	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustment	-	-	-20.037	-	-20.037

Change Summary Explanation

Funding:

FY 2015: Decrease of -$0.976 million is due to reprogramming to higher command priorities.

FY 2016: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304210BB / *Special Applications for Contingencies*

FY 2017: Decrease of -$20.037 million is due to beginning in FY 2017, this Program Element has been consolidated into SOCOM Program Element 1160434BB, Unmanned ISR.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0304210BB / *Special Applications for Contingencies*	**Project (Number/Name)** 9999 / *Special Applications for Contingencies*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
9999: *Special Applications for Contingencies*	229.897	14.818	65.060	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	309.775
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Military Intelligence Program (MIP) sub-project develops and deploys special capabilities to perform intelligence, surveillance, and reconnaissance (ISR) for deployed Special Operations Forces (SOF) using non-traditional means. It provides a mechanism for SOF user combat evaluation of emerging sensor technologies. Special Applications for Contingencies (SAFC) applies focused Research and Development (R&D) for relatively low cost solutions to provide remotely controlled system emplacement and data exfiltration. This program also specifically addresses short lead-time contingency planning requirements where focused R&D will allow for test and evaluation of leading edge solutions to emergent problem sets.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: SAFC ***FY 2015 Accomplishments:*** Continued development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short notice requirements. Integrated Silent Echo payload on Scan Eagle system. Continued to evaluate unique sensor technologies, persistent stare and quick reaction systems. ***FY 2016 Plans:*** Continue development and combat evaluation of selected sensor delivery platforms and mounted/integrated payloads or deliverable ISR capabilities for global contingencies including short notice requirements. Continue to evaluate unique sensor technologies, persistent stare and quick reaction systems.	14.818	19.460	-	-	-
Title: Classified Program ***FY 2016 Plans:*** Additional details can be provided under separate cover.	-	45.600	-	-	-
Accomplishments/Planned Programs Subtotals	14.818	65.060	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0304210BB / *Special Applications for Contingencies*	**Project (Number/Name)** 9999 / *Special Applications for Contingencies*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/1108STU: *Small Tactical Unmanned Aerial Systems*	1.500	1.514	-	-	-	-	-	-	-	0.000	3.014
• PROC/0201UMISR: *Unmanned ISR*	-	-	21.190	11.880	33.070	12.555	6.877	6.980	7.443	Continuing	Continuing

Remarks

D. Acquisition Strategy

SAFC acquisition strategy is evolutionary and spiral-based for technology insertion and low volume procurement. As a non-standard DOD acquisition program, it allows sensor capability for maximum flexibility to respond to quickly emerging, short lead time, contingency based requirements.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0304210BB / *Special Applications for Contingencies*	**Project (Number/Name)** 9999 / *Special Applications for Contingencies*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platform/Payload Integration	MIPR	Various : Various	138.154	8.891	Mar 2015	11.676	Mar 2016	-		-		-	0.000	158.721	-
Classified Program	SS/ Various	Various : Various	-	-		45.600	Feb 2016	-		-		-	0.000	45.600	-
		Subtotal	138.154	8.891		57.276		-		-		-	0.000	204.321	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Various : Various	3.654	0.600	Mar 2015	0.611	Mar 2016	-		-		-	0.000	4.865	-
		Subtotal	3.654	0.600		0.611		-		-		-	0.000	4.865	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sensor Testing, Evaluation and Demonstration	MIPR	Various : Various	88.089	5.327	Mar 2015	7.173	Mar 2016	-		-		-	0.000	100.589	-
		Subtotal	88.089	5.327		7.173		-		-		-	0.000	100.589	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	229.897	14.818		65.060		-		-		-	0.000	309.775	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0304210BB / *Special Applications for Contingencies*	**Project (Number/Name)** 9999 / *Special Applications for Contingencies*

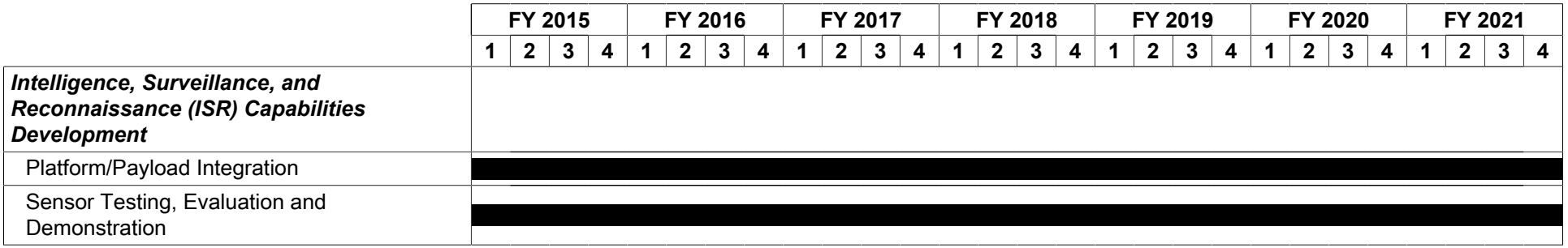


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0304210BB / *Special Applications for Contingencies*	**Project (Number/Name)** 9999 / *Special Applications for Contingencies*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Intelligence, Surveillance, and Reconnaissance (ISR) Capabilities Development				
Platform/Payload Integration	1	2015	4	2021
Sensor Testing, Evaluation and Demonstration	1	2015	4	2021

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	26.247	6.262	5.302	5.415	-	5.415	5.496	6.345	6.451	6.580	Continuing	Continuing
S400A: *Distributed Common Ground/Surface Systems*	26.247	6.262	5.302	5.415	-	5.415	5.496	6.345	6.451	6.580	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP). The Distributed Common Ground/Surface System Special Operations Forces (DCGS-SOF) is part of a family of systems providing Intelligence, Surveillance, and Reconnaissance Processing, Exploitation, Dissemination (PED), and analytical capabilities at the Joint Task Force level and below through a combination of reach back, forward support, and collaboration. The mission tailored infrastructure interconnects the warfighter and sensors to find and fix High Value Targets and provides a network-enabled, interoperable construct allowing continual, unimpeded sharing of intelligence data, information and services with SOF and between the Services, other national intelligence agencies, combatant commands and Multi-National partners. It connects the SOF warfighter with the essential intelligence information and provides situation awareness information to the SOF leadership at all echelons. The four components of DCGS-SOF include the following: The Enterprise provides infrastructure and processing capability to allow for worldwide SOF intelligence information sharing. Full Motion Video PED provides PED capabilities in garrison and deployed tactical environments of manned and unmanned sensors. SILENT DAGGER provides Signals Intelligence exploitation capability in both garrison and deployable environments. The All Source Information Fusion will provide the intelligence analytical tools via a global and disconnected architecture.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	5.286	5.302	5.456	-	5.456
Current President's Budget	6.262	5.302	5.415	-	5.415
Total Adjustments	0.976	0.000	-0.041	-	-0.041
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.976	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.041	-	-0.041

Change Summary Explanation

Funding:

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208BB *I Distributed Common Ground/Surface Systems*

FY 2015: Increase of $0.976 million is due to a reprogramming in support of emerging operational requirements to accelerate delivery of enterprise capability on multiple networks, advanced analytics, and the SOF unique user interface.

FY 2016: None.

FY 2017: Decrease of $0.041 million is due to Departmental economic assumption decrease.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S400A: *Distributed Common Ground/Surface Systems*	26.247	6.262	5.302	5.415	-	5.415	5.496	6.345	6.451	6.580	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP). The Distributed Common Ground/Surface System Special Operations Forces (DCGS-SOF) is part of a family of systems providing Intelligence, Surveillance and Reconnaissance (ISR) Processing, Exploitation, Dissemination (PED), and analytical capabilities at the Joint Task Force level and below through a combination of reach back, forward support, and collaboration. The mission tailored infrastructure interconnects the warfighter and sensors to find and fix High Value Targets and provides a network-enabled, interoperable construct allowing continual, unimpeded sharing of intelligence data, information and services with SOF and between the Services, other national intelligence agencies, combatant commands and Multi-National partners. It connects the SOF warfighter with the essential intelligence information and provides situation awareness information to the SOF leadership at all echelons. The four components of DCGS-SOF include the following: The Enterprise provides infrastructure and processing capability to allow for worldwide SOF intelligence information sharing. Full Motion Video (FMV) PED provides PED capabilities in garrison and deployed environments of manned and unmanned sensors. SILENT DAGGER provides Signals Intelligence exploitation capability in both garrison and deployable environments. The All Source Information Fusion (ASIF) will provide the intelligence analytical tools via a global and disconnected architecture.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: DCGS	6.262	5.302	5.415
FY 2015 Accomplishments: SOF Ontology testing completed, delivered to DCGS-SOF Enterprise baseline; Continued to integrate emerging technologies and capabilities for Enterprise and ASIF to include: Advanced analytics, user interface, and disconnected operations into the DCGS-SOF baseline; Continued to refine and integrate FMV PED emerging technologies to include: Language translation, upgrading imaging and video exploitation tools, voice-to-text translation, and human detection and characterization; Continued DCGS-SOF Limited Objective Events and exercise participation to test integration efforts.			
FY 2016 Plans: Continue to integrate emerging technologies and capability for Enterprise and ASIF to include: Advanced analytics, user interface, and disconnected operations into the DCGS-SOF baseline; Continue to refine and integrate FMV PED emerging technologies and capabilities to include: Language translation, upgrading imaging and video exploitation tools, voice-to-text translation, and human detection and characterization; Continue DCGS-SOF Limited Objective Events and exercise participation to test integration efforts. Begin development of the DCGS-SOF next generation pipeline development.			
FY 2017 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Completes integration of emerging technologies and capability for Enterprise and ASIF to include: Advanced analytics, user interface, and disconnected operations into the DCGS-SOF baseline; Continues to refine and integrate FMV PED emerging technologies and capabilities to include: Language translation, upgrading imaging and video exploitation tools, voice-to-text translation, and human detection and characterization; Continues DCGS-SOF Limited Objective Events and exercise participation to test integration efforts; Continues development of the DCGS-SOF next generation pipeline development; Begins development of the interoperability with Coalition partners and DCGS-SOF.			
Accomplishments/Planned Programs Subtotals	6.262	5.302	5.415

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/020401INTL: *Distributed Common Ground/Surface System*	17.323	14.964	13.432	-	13.432	11.529	13.461	14.011	12.435	Continuing	Continuing

Remarks

D. Acquisition Strategy

DCGS-SOF leverages SOF programs, DoD partners and other Government Agencies to integrate commercial/government off-the-shelf systems, and other mature technologies into the Program of Record which resides within the SOF Information Enterprise (SIE) and enables more agile access to (searchable, discoverable) and sharing of data and services to meet SOF-peculiar documented requirements. The technology allows for seamless integration and federation with DoD, interagency, and Coalition ISR tactical PED systems. The DCGS-SOF program office employs an agile development process with capability insertions into the development baseline for assessment and future deployment into the operational baseline. All development requirements are prioritized through the DCGS Requirements Working Group (DRWG) chaired by J2. Once approved, the requirements are evaluation and scheduled by an engineering development team. Using this methodology allows capabilities to be inserted in a fast and agile manner based on user requirements and priorities. All evolutionary technology insertions (ETIs) in the R-4 schedule are based on current program office projections. If requirements change based on the DRWG, the ETI and version capabilities identified may change.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Distributed Common Ground System (DCGS) Capabilities Modernization	Various	Various : Various	13.483	0.889	Jan 2015	0.728	Jan 2016	0.747	Jan 2017	-		0.747	Continuing	Continuing	-
Development and Integration - All Source Information Fusion	C/FFP	SITEC : Various	1.775	2.321	Dec 2014	1.995	Mar 2016	2.256	Mar 2017	-		2.256	Continuing	Continuing	-
Independent Verification and Validation	MIPR	MITRE : Bedford, MA	0.827	0.329	Oct 2014	0.280	Oct 2015	0.289	Oct 2016	-		0.289	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	1.788	-		-		-		-		-	0	1.788	-
		Subtotal	17.873	3.539		3.003		3.292		-		3.292	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	C/FFP	SITEC : Various	1.264	1.046	Dec 2014	0.900	Mar 2016	0.928	Mar 2017	-		0.928	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	0.576	-		-		-		-		-	0	0.576	-
		Subtotal	1.840	1.046		0.900		0.928		-		0.928	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	SPAWAR : Charleston, SC	1.440	0.277	Oct 2014	0.239	Oct 2015	-		-		-	-	-	-
Independent Verification and Validation	MIPR	MITRE : Bedford, MA	1.982	0.329	Oct 2014	0.280	Oct 2015	0.289	Oct 2016	-		0.289	Continuing	Continuing	-
Interoperability Support	MIPR	JITC : Ft Huachuca, AZ	1.032	0.210	Jan 2015	0.180	Jan 2016	0.186	Jan 2017	-		0.186	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability Testing	C/FFP	SITEC : Various	2.080	0.861	Dec 2014	0.700	Mar 2016	0.720	Mar 2017	-		0.720	Continuing	Continuing	-
		Subtotal	6.534	1.677		1.399		1.195		-		1.195	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	26.247	6.262		5.302		5.415		-		5.415	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

DCGS-SOF
Enterprise & ASIF Schedule

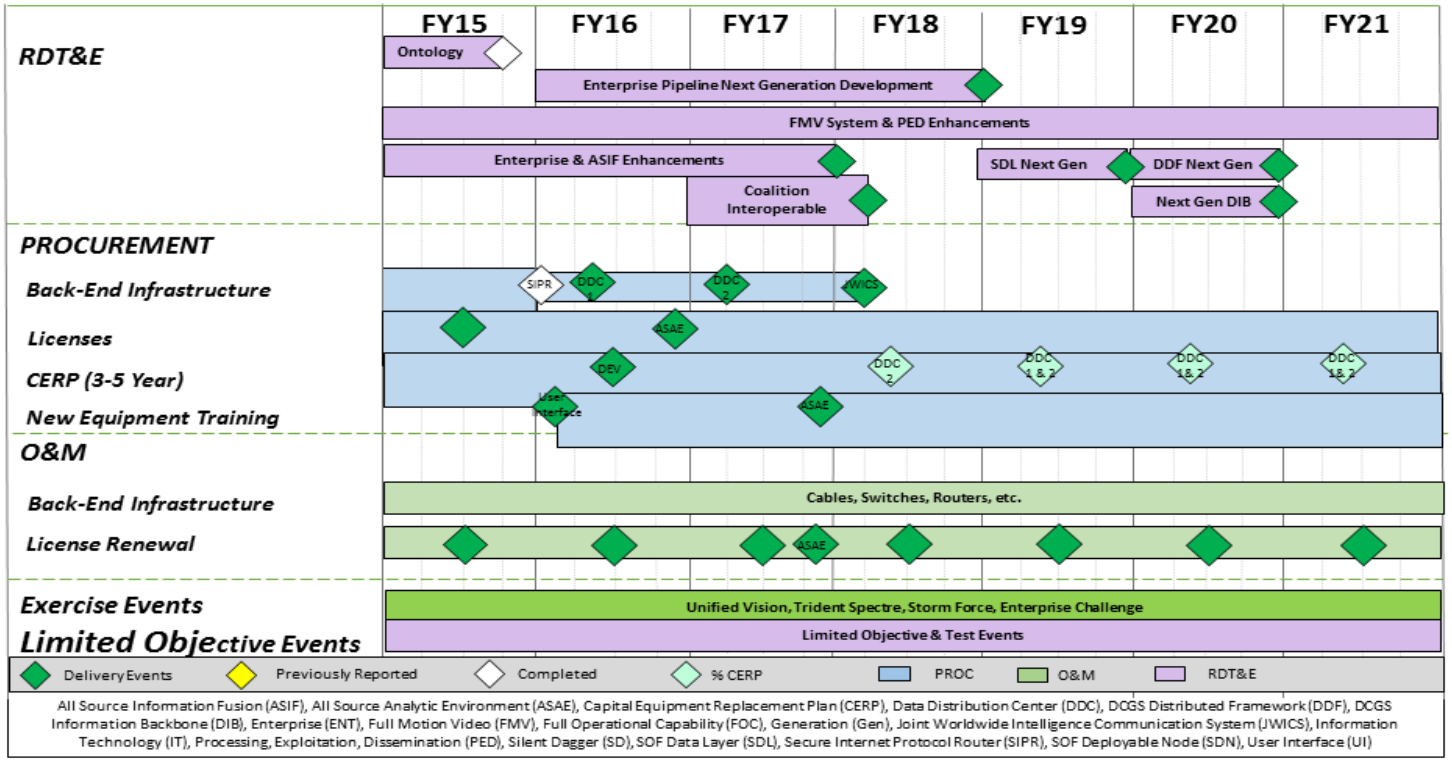


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

DCGS-SOF
FMV Schedule

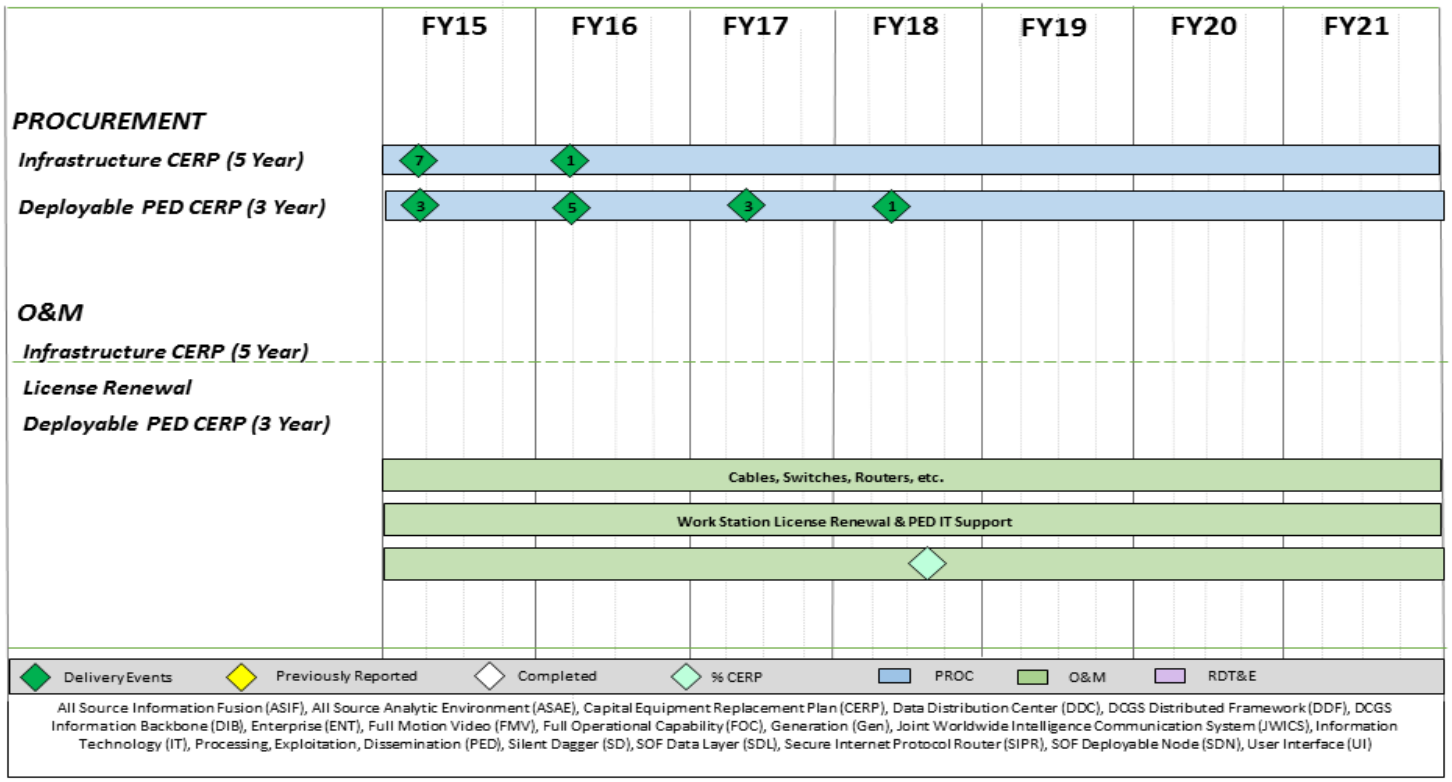
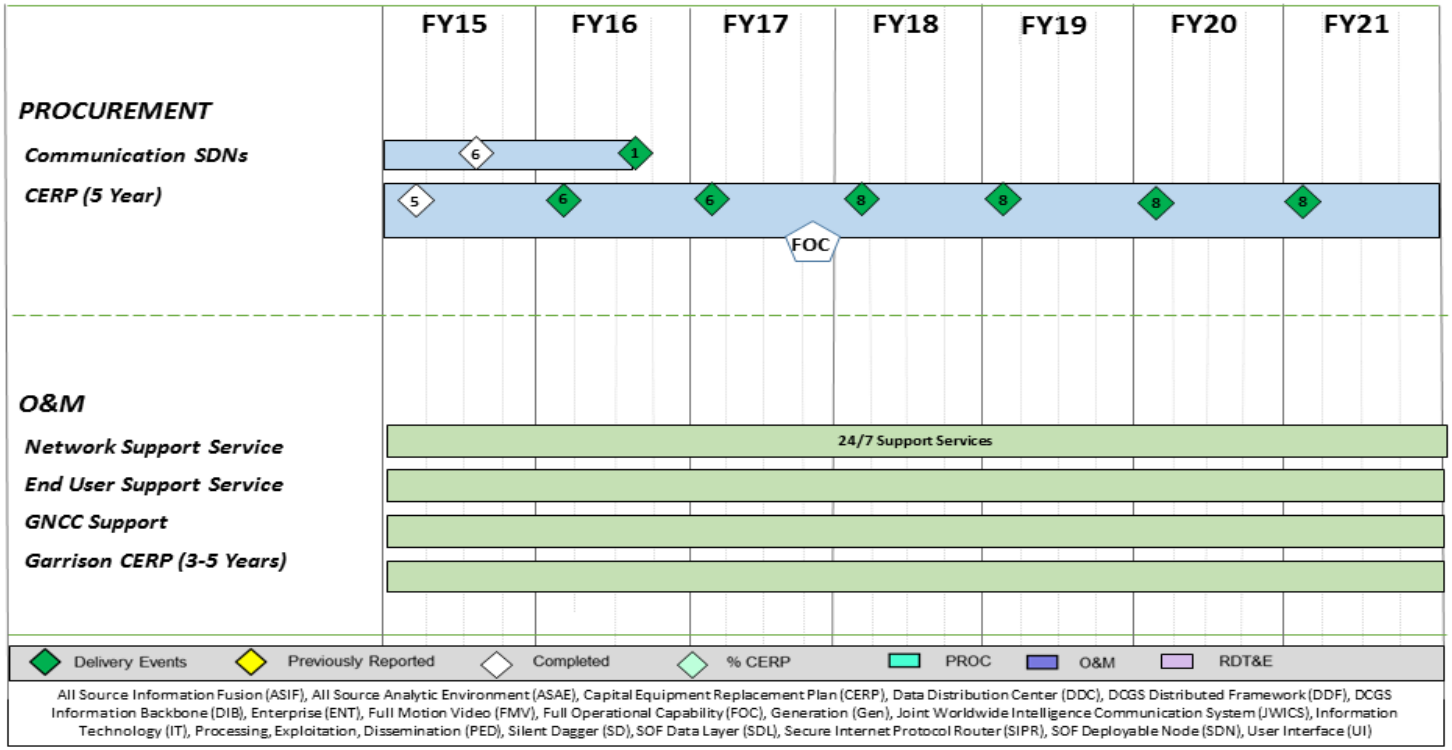


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

DCGS-SOF
Silent Dagger Schedule



All Source Information Fusion (ASIF), All Source Analytic Environment (ASAE), Capital Equipment Replacement Plan (CERP), Data Distribution Center (DDC), DCGS Distributed Framework (DDF), DCGS Information Backbone (DIB), Enterprise (ENT), Full Motion Video (FMV), Full Operational Capability (FOC), Generation (Gen), Joint Worldwide Intelligence Communication System (JWICS), Information Technology (IT), Processing, Exploitation, Dissemination (PED), Silent Dagger (SD), SOF Data Layer (SDL), Secure Internet Protocol Router (SIPR), SOF Deployable Node (SDN), User Interface (UI)

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 0305208BB / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** S400A / *Distributed Common Ground/ Surface Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Develop, integrate, and test DCGS-SOF unique Ontology on the DCGS-SOF enterprise	1	2015	4	2015
Develop, integrate, and test emerging technologies and capabilities for Enterprise and ASIF enhancements to include: advanced analytics, user interface, disconnected operations into DCGS-SOF baseline	1	2015	4	2017
Develop, integrate, test next gen FMV PED tech, capabilities to include: language transl., upgrading imaging, video exploitation tools, voice-to-text transl., human detection and characterization	1	2015	4	2021
Develop, integrate, and test sharing of DCGS-SOF information with Coalition partners	1	2017	1	2018
Develop, integrate, and text next generation DCGS-SOF pipeline to automatically tag and geolocate data from ingested documents	1	2016	4	2018
Develop, integrate, and test SOF Data Layer (SDL) next generation to refine back end design and infrastructure	1	2019	4	2019
Develop, integrate, and test the next generation DCGS Distributed Framework (DDF) providing compliance with DISR/ICSR/DI2E content discovery and retrieval data standards and IdAM/PKI standards	1	2020	4	2020
Develop, integrate, and test the next generation DCGS-SOF Information Backbone to provide integration of services in to the DCGS-SOF Enterprise baseline	1	2020	4	2020
Limited Objective Events to test technology insertion capabilities acros the Enterprise, ASIF, FMV PED, and Silent Dagger	1	2015	4	2021
Participate in Exercise events to include: Trident Spectre, Enterprise Challenge, Storm Force, and D12E Plugfest (annually); United Vision (even fiscal years)	1	2015	4	2021

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	27.492	14.418	22.151	17.804	-	17.804	17.863	14.259	14.528	14.819	Continuing	Continuing
S851: *MQ-9 Unmanned Aerial Vehicle (UAV)*	27.492	14.418	22.151	17.804	-	17.804	17.863	14.259	14.528	14.819	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element identifies, develops, integrates, and tests Special Operations Forces (SOF)-unique mission kits, mission payloads, weapons, and modifications on MQ-9 UAVs, ground control stations, and training systems as a component of the Medium Altitude Long Endurance Tactical program. USSOCOM is designated as the DOD lead for planning, synchronizing, and as directed, executing Overseas Contingency Operations (OCO) against terrorist networks. USSOCOM requires the capability to find, fix, finish, exploit, and analyze time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This program element addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Target (ISR&T) Acquisition, and Strike.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	14.902	18.151	17.938	0.000	17.938
Current President's Budget	14.418	22.151	17.804	0.000	17.804
Total Adjustments	-0.484	4.000	-0.134	0.000	-0.134
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	4.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.484	-			
• Other Adjustments	-	-	-0.134	-	-0.134

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2015	FY 2016
Project: S851: *MQ-9 Unmanned Aerial Vehicle (UAV)*		
Congressional Add: *MQ-9 UAV*	-	4.000
Congressional Add Subtotals for Project: S851	-	4.000
Congressional Add Totals for all Projects	-	4.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1105219BB *I MQ-9 Unmanned Aerial Vehicle (UAV)*

Change Summary Explanation

Funding:

FY 2015: Decrease of -$0.484 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2016: Increase of $4.000 million is due to a congressional add to support MQ–9 capability enhancements for mission kits, mission payloads, weapons and modifications.

FY 2017: Decrease of -$0.134 million is due to a Departmental economic assumption decrease.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	Project (Number/Name) S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S851: *MQ-9 Unmanned Aerial Vehicle (UAV)*	27.492	14.418	22.151	17.804	-	17.804	17.863	14.259	14.528	14.819	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project identifies, develops, integrates, and tests Special Operations Forces (SOF) - unique mission kits, mission payloads, weapons, and modifications on MQ-9 UAVs, ground control stations, and training systems. As the supported combatant command in Overseas Contingency Operations (OCO), USSOCOM requires the capability to find, fix, finish, exploit, and analyze time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This project addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Target (ISR&T) Acquisition and Strike. This project received OCO funding in FY 2015 and a congressional add in FY 2016.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: MQ-9 UAV	14.418	18.151	17.804
FY 2015 Accomplishments: Developed, tested, and completed integration of SOF-unique mission kits, mission payloads, weapons, and modifications on MQ-9 UAVs, ground control stations, and training systems.			
FY 2016 Plans: Develop, test, and integrate SOF-unique mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, ground control stations, and training systems.			
FY 2017 Plans: Develops, tests, and integrates SOF-unique emerging technology mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, ground control stations, and training systems.			
Accomplishments/Planned Programs Subtotals	14.418	18.151	17.804

	FY 2015	FY 2016
Congressional Add: MQ-9 UAV	-	4.000
FY 2016 Plans: Develop, test, and integrate SOF-unique capability enhancements for mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, ground control stations, and training systems.		
Congressional Adds Subtotals	-	4.000

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	**Project (Number/Name)** S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/1108MQ9: *MQ-9 Unmanned Aerial Vehicle*	18.593	17.226	10.598	-	10.598	11.660	5.285	5.411	5.519	Continuing	Continuing

Remarks

D. Acquisition Strategy

MQ-9 UAV is an evolutionary acquisition program that identifies, develops, tests and integrates SOF-unique mission kits, mission payloads, weapons, and modifications on MQ-9 UAVs, ground control stations, and training systems to increase the Intelligence, Surveillance, Reconnaissance, and Targeting acquisition and strike capabilities of SOF. Proprietary issues with operational flight program software, sensor operating software, and aircraft modification considerations dictate sole source contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	**Project (Number/Name)** S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	11.619	4.414	Jun 2015	11.113	Jun 2016	10.954	Jun 2017	-		10.954	Continuing	Continuing	-
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	Raytheon : McKinney, TX	-	2.500	Jul 2015	2.500	Jul 2016	2.500	Jul 2017	-		2.500	Continuing	Continuing	-
MQ-9 UAVs, Ground Control Stations, and Training Systems Overseas Contingency Operations (OCO)	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	9.000	3.900	Jun 2015	-		-		-		-	0.000	12.900	-
MQ-9 UAVs, Ground Control Stations, and Training Systems (Congressional Add)	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	-	-		3.000	Jun 2016	-		-		-	0.000	3.000	-
		Subtotal	20.619	10.814		16.613		13.454		-		13.454	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	3.873	2.304	Jun 2015	4.538	Jun 2016	4.350	Jun 2017	-		4.350	Continuing	Continuing	-
MQ-9 UAVs, Ground Control Stations, and Training Systems Overseas Contingency Operations (OCO)	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	3.000	1.300	Jun 2015	-		-		-		-	0.000	4.300	-
MQ-9 UAVs, Ground Control Stations, and	SS/ Various	General Atomics Aeronautical	-	-		1.000	Jun 2016	-		-		-	0.000	1.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	Project (Number/Name) S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Training Systems (Conressional Add)		Services : San Diego, CA													
		Subtotal	6.873	3.604		5.538		4.350		-		4.350	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	27.492	14.418		22.151		17.804		-		17.804	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	**Project (Number/Name)** S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*

MALET MQ-9 Schedule

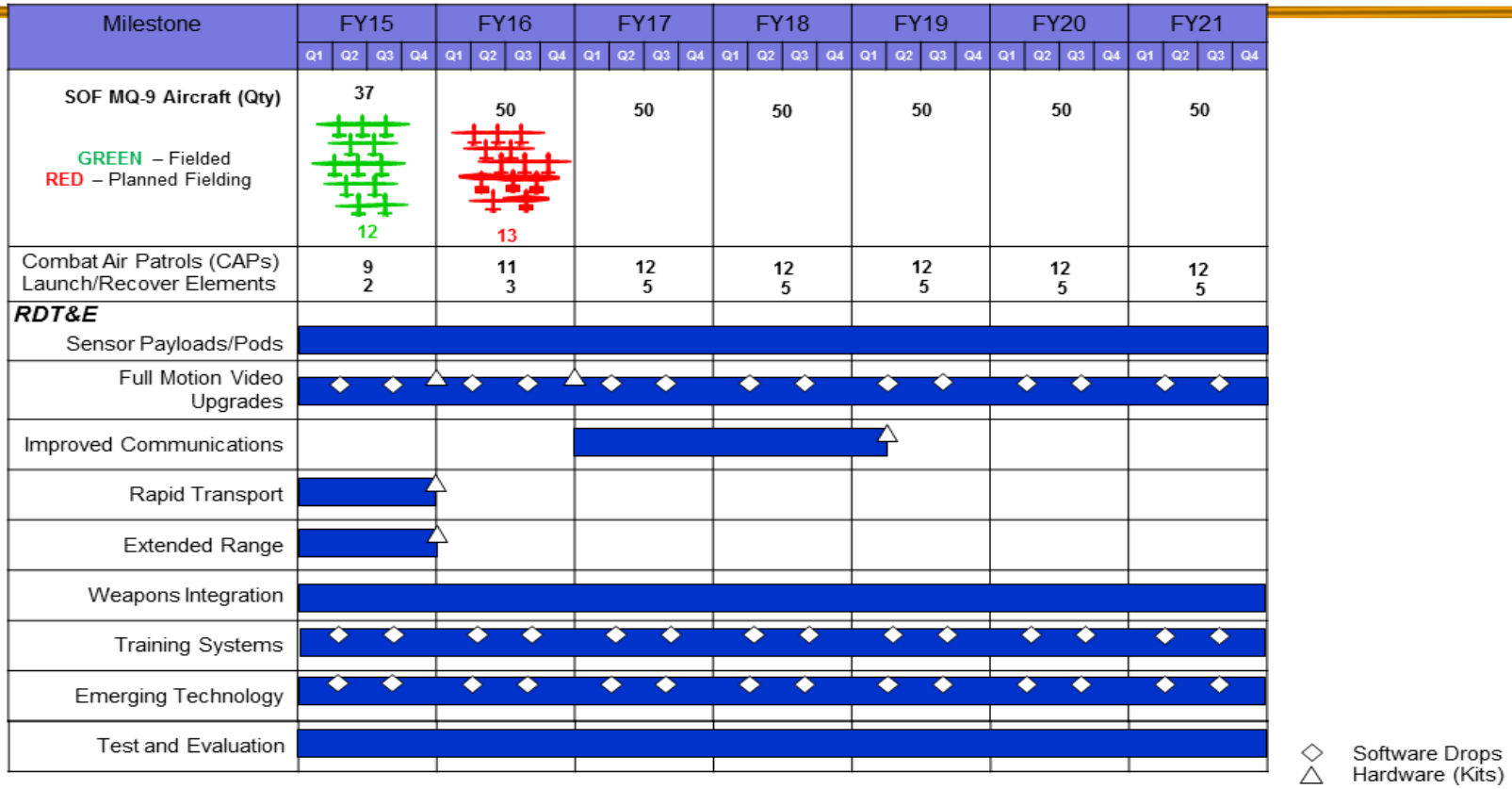


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	**Project (Number/Name)** S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MQ-9 UAVs, Ground Control Stations, and Training Systems				
Sensor Payloads/Pods	1	2015	4	2021
Full Motion Video Upgrades	1	2015	4	2021
Improved Communications	1	2017	1	2019
Rapid Transport	1	2015	4	2015
Extended Range	1	2015	4	2015
Weapons Integration	1	2015	4	2021
Training Systems	1	2015	4	2021
Emerging Technology	1	2015	4	2021
Test and Evaluation	1	2015	4	2021

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1105232BB / *RQ-11 UAV*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	1.380	0.259	0.758	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.397
S853: *RQ-11 UAV*	1.380	0.259	0.758	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.397

A. Mission Description and Budget Item Justification

NOTE: Beginning in FY2017, this Program Element has been consolidated into SOCOM Program Element 1160434BB, Unmanned ISR.

This program element is part of the Military Intelligence Program. Two programs are in this program element: Small Unmanned Aerial System (SUAS) and the Multi-mission Tactical Unmanned Aerial System (MTUAS). SUAS identifies, develops, integrates, and tests Special Operations Forces (SOF) unique mission kits, mission payloads, air vehicle enhancements, and modifications on the SUAS and related ground control stations. MTUAS identifies, develops, integrates, and tests Special Operations Forces (SOF) unique mission kits, mission payloads, air vehicle enhancements, and modifications on the MTUAS and related ground control stations.

USSOCOM has been designated as the DOD lead for planning, synchronizing, and as directed, executing global operations against terrorist networks and targets. USSOCOM requires the capability to find, fix, and finish time-sensitive high-value fixed and fleeting targets at the unit and team level without placing personnel and units in harm's way. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This line item addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) capabilities for SOF.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.259	0.758	3.332	-	3.332
Current President's Budget	0.259	0.758	0.000	-	0.000
Total Adjustments	0.000	0.000	-3.332	-	-3.332
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-3.332	-	-3.332

Change Summary Explanation

Funding:

FY 2015: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1105232BB / *RQ-11 UAV*

FY 2016: None.

FY 2017: Decrease of -$3.332 million is due to beginning in FY 2017, this Program Element has been consolidated into SOCOM Program Element 1160434BB, Unmanned ISR.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105232BB / *RQ-11 UAV*	Project (Number/Name) S853 / *RQ-11 UAV*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S853: *RQ-11 UAV*	1.380	0.259	0.758	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.397
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is part of the Military Intelligence Program. Two programs are in this project: Small Unmanned Aerial System (SUAS) and the Multi-mission Tactical Unmanned Aerial System (MTUAS). SUAS identifies, develops, integrates, and tests Special Operations Forces (SOF)-unique mission kits, mission payloads, air vehicle enhancements, and modifications on the SUAS and related ground control stations. MTUAS identifies, develops, integrates, and tests Special Operations Forces (SOF) unique mission kits, mission payloads, air vehicle enhancements, and modifications on the MTUAS and related ground control stations. The current material solution for SUAS is the All Environment Capable Variant (AECV) of the Puma UAS. The current material solution for MTUAS is the Scan Eagle UAS.

USSOCOM has been designated as the DOD lead for planning, synchronizing, and as directed, executing global operations against terrorist networks and targets. USSOCOM requires the capability to find, fix, and finish time-sensitive high-value fixed and fleeting targets at the unit and team level without placing personnel and units in harm's way. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This line item addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Targeting capabilities for SOF.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: SUAS ***FY 2015 Accomplishments:*** Developed, integrated, and tested SOF-unique mission kits, mission payloads, and modifications to the SUAS and ground control station, to include improved capabilities for geo-location, collection of push-to-talk, communications, specialized tagging, tracking, and locating, and enhanced communications relay. ***FY 2016 Plans:*** Develop, integrate, and test SOF-unique mission kits, mission payloads, and modifications to the SUAS and ground control station, to include but not limited to; improved capabilities for geo-location, collection of push-to-talk, communications, specialized tagging, tracking, and locating, and enhanced communications relay and work to miniaturize previously developed payloads.	0.259	0.261	-	-	-
Title: MTUAS ***FY 2016 Plans:*** Develop, integrate, and test SOF-unique mission kits, mission payloads, and modifications to the MTUAS and ground control station, to include but not limited to; signals intelligence gathering and geo-location.	-	0.497	-	-	-
Accomplishments/Planned Programs Subtotals	0.259	0.758	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105232BB / *RQ-11 UAV*	**Project (Number/Name)** S853 / *RQ-11 UAV*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0809RQ11: *RQ-11 Unmanned Aerial Vehicle*	6.397	15.587	-	-	-	-	-	-	-	0.000	26.484
• PROC/0201UMISR: *Unmanned ISR*	-	-	21.190	11.880	33.070	12.555	6.877	6.980	7.443	Continuing	Continuing

Remarks

D. Acquisition Strategy

The SUAS and MTUAS are evolutionary acquisition programs that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, weapons, air vehicle enhancements, and ground control station upgrades. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some effort to the Original Equipment Manufacturer.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105232BB / *RQ-11 UAV*	Project (Number/Name) S853 / *RQ-11 UAV*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Unmanned Aircraft System Payloads	C/IDIQ	Various : Various	1.380	0.259	Mar 2015	0.261	Mar 2016	-		-		-	0.000	1.900	-
Multi-Mission Tactical Unmanned Aircraft System Payloads	C/TBD	Various : Various	-	-		0.497	Mar 2016	-		-		-	0.000	0.497	-
		Subtotal	1.380	0.259		0.758		-		-		-	0.000	2.397	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.380	0.259		0.758		-		-		-	0.000	2.397	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105232BB / *RQ-11 UAV*	**Project (Number/Name)** S853 / *RQ-11 UAV*

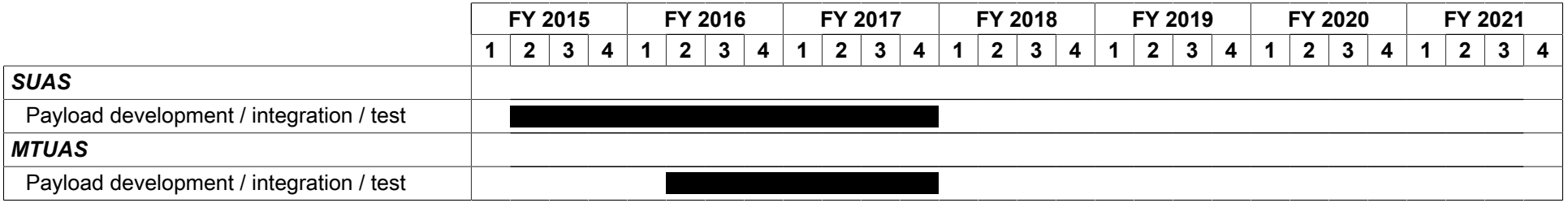


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1105232BB / *RQ-11 UAV*	**Project (Number/Name)** S853 / *RQ-11 UAV*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SUAS				
Payload development / integration / test	2	2015	4	2017
MTUAS				
Payload development / integration / test	2	2016	4	2017

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	172.933	14.438	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S050: *Small Business Innovative Research*	171.634	12.688	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S051: *Small Business Technology Transfer*	1.299	1.750	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element consists of a highly competitive three-phase award system that provides qualified small business concerns with the opportunity to propose high quality innovative ideas that meet specific research and development needs of USSOCOM. Small Business Innovative Research (SBIR) is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 2012. Starting in FY 1994, the SBIR program was refocused toward dual use and defense reinvestment efforts. Phase I projects evaluate the scientific technical merit and feasibility of an idea. Phase II projects expand the results of, and further pursue, the developments of Phase I. Phase III is for commercialization of the results of Phase II and requires the use of private or non-SBIR federal funding. USSOCOM participates annually in the DOD Request for Proposal process. USSOCOM then awards its proposed SBIR projects. FY 2014 is the first year USSOCOM is participating in the Small Business Technology Transfer (STTR) program. The STTR goal is similar to the SBIR program, but the STTR program has the additional goal to expand public/private sector partnerships between small business and nonprofit U.S. research institutions.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	14.438	0.000	0.000	-	0.000
Total Adjustments	14.438	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	14.438	-			

Change Summary Explanation

Funding:

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*

FY 2015: Increase of $14.438 million is due to reprogramming from various program elements for the congressionally mandated Small Business Innovative Research ($12.688 million) and Small Business Technology Transfer ($1.750 million) programs.

FY 2016: None.

FY 2017: None.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research*	Project (Number/Name) S050 / *Small Business Innovative Research*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S050: *Small Business Innovative Research*	171.634	12.688	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project consists of a highly competitive three-phase award system that provides qualified small business concerns with the opportunity to propose high quality innovative ideas that meet specific research and development needs of USSOCOM. Small Business Innovative Research (SBIR) is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 2012. Starting in FY 1994, the SBIR program was refocused toward dual use and defense reinvestment efforts. Phase I projects evaluate the scientific technical merit and feasibility of an idea. Phase II projects expand the results of, and further pursue, the developments of Phase I. Phase III is for commercialization of the results of Phase II and requires the use of private or non-SBIR federal funding. USSOCOM participates annually in the DOD Request for Proposal process. USSOCOM then awards its proposed SBIR projects.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Small Business Innovative Research (SBIR)	12.688	-	-
FY 2015 Accomplishments: Awarded numerous Phase I and Phase II contracts and contract options for SBIR topics: Maritime Surface Search Phase Array, Dual Speed Read Out Integrated Circuit, Abrasion Laceration & Puncture Protection, Novel Optical Solutions, Reduced Size, Weight, and Power Enhanced Electro-Optical, and Team Special Reconnaissance Day/Night Motion Sensor.			
Accomplishments/Planned Programs Subtotals	12.688	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Small Business Innovative Research (SBIR) is a three-phase program that provides early-stage R&D to small companies. Eligible projects must fulfill an R&D need identified by DOD and have the potential to be developed into a product or service for commercial or defense markets. SBIR is designed to stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D and foster participation by minority and disadvantaged firms in technological innovation.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*	**Project (Number/Name)** S050 / *Small Business Innovative Research*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*	**Project (Number/Name)** S050 / *Small Business Innovative Research*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maritime Surface Search Phase Array	C/FFP	Various : Various	-	0.300	Jul 2015	-		-		-		-	0.000	0.300	-
Dual Speed Read Out Integrated Circuit (IC) (ROIC)	C/CPFF	NU TREK : San Diego, CA	0.906	-		-		-		-		-	0.000	0.906	-
Abrasion, Laceration and Puncture Protection	C/CPFF	Nanosonic : Pembroke, VA	0.250	0.018	Apr 2015	-		-		-		-	0.000	0.268	-
Novel Optical Solutions	C/FFP	Various : Various	-	0.450	Aug 2015	-		-		-		-	0.000	0.450	-
Reduced SWAP Enhanced Electro-Optical	C/FFP	Various : Various	-	0.600	Aug 2015	-		-		-		-	0.000	0.600	-
Team Special Reconnaissance Day/Night Motion Sensor	C/FFP	Various : Various	-	0.600	Aug 2015	-		-		-		-	0.000	0.600	-
Phase II >$750K	C/CPFF	Various : Various	6.973	10.720	Feb 2016	-		-		-		-	0.000	17.693	-
Prior Year Funding	C/Various	Various : Various	163.505	-		-		-		-		-	0.000	163.505	-
		Subtotal	171.634	12.688		-		-		-		-	0.000	184.322	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	171.634	12.688		0.000		-		-		-	0.000	184.322	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*	**Project (Number/Name)** S050 / *Small Business Innovative Research*

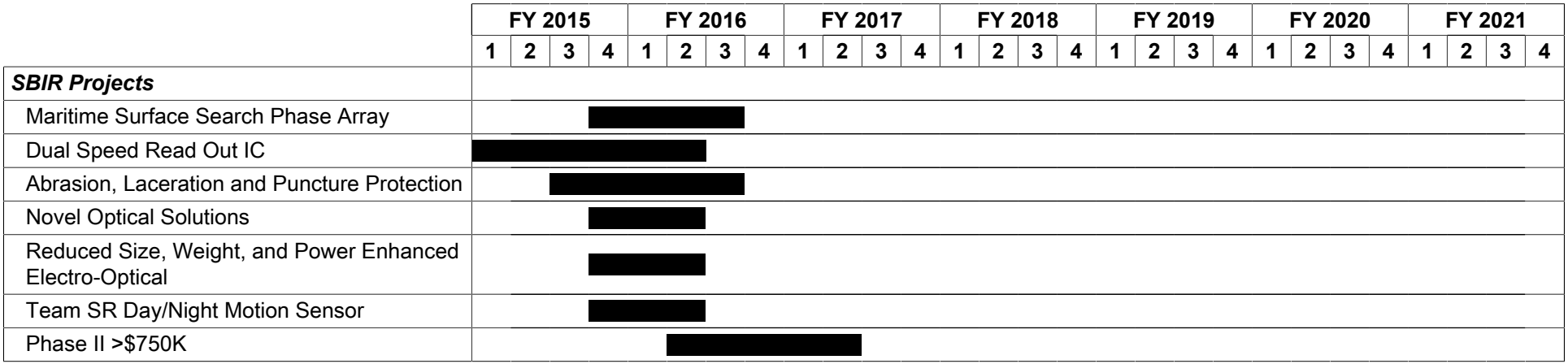


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*	**Project (Number/Name)** S050 / *Small Business Innovative Research*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SBIR Projects				
Maritime Surface Search Phase Array	4	2015	3	2016
Dual Speed Read Out IC	1	2015	2	2016
Abrasion, Laceration and Puncture Protection	3	2015	3	2016
Novel Optical Solutions	4	2015	2	2016
Reduced Size, Weight, and Power Enhanced Electro-Optical	4	2015	2	2016
Team SR Day/Night Motion Sensor	4	2015	2	2016
Phase II >$750K	2	2016	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research*	Project (Number/Name) S051 / *Small Business Technology Transfer*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S051: *Small Business Technology Transfer*	1.299	1.750	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Small Business Technology Transfer (STTR) goal is the expand public/private sector partnerships between small business and nonprofit U.S. research institutions.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Small Business Technology Transfer (STTR)	1.750	-	-
FY 2015 Accomplishments: A Science and Technology (STTR) Phase II contract was awarded to produce a prototype for the MK3 Upper Extremity Exoskeleton to support USSOCOM's Tactical Assault Light Operator Suite program.			
Accomplishments/Planned Programs Subtotals	1.750	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

STTR provides early-stage R&D funding directly to small companies working cooperatively with researchers at universities and other research institutions. STTR program is also a three-phased program and designed to stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D and foster participation by minority and disadvantaged firms in technological innovation.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research*	Project (Number/Name) S051 / *Small Business Technology Transfer*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tactical Assault Light Operator Arm Reaction/ Manipulation System Development	C/FFP	Materials & Electrochemical Research : Tucson, AZ	1.110	1.311	Dec 2015	-		-		-		-	0.000	2.421	-
STTR < $1M	C/FFP	Various : Various	0.189	0.439	Sep 2016	-		-		-		-	Continuing	Continuing	-
		Subtotal	1.299	1.750		-		-		-		-	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.299	1.750		0.000		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*	**Project (Number/Name)** S051 / *Small Business Technology Transfer*

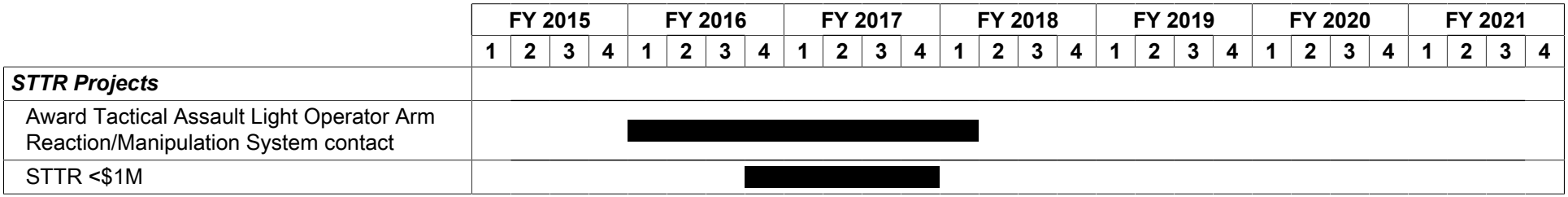


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research*	**Project (Number/Name)** S051 / *Small Business Technology Transfer*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
STTR Projects				
Award Tactical Assault Light Operator Arm Reaction/Manipulation System contact	1	2016	1	2018
STTR <$1M	4	2016	4	2017

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	579.233	149.337	179.134	159.143	-	159.143	155.919	118.929	79.662	99.885	Continuing	Continuing
SF100: *Aviation Systems Advanced Development*	534.228	61.627	102.030	91.659	-	91.659	97.816	51.486	22.742	23.197	Continuing	Continuing
SF200: *CV-22*	2.817	0.176	0.000	15.590	-	15.590	14.259	21.635	4.961	0.000	0.000	59.438
S750: *Mission Training and Preparation Systems*	4.696	8.141	7.052	7.890	-	7.890	8.181	8.252	8.309	9.408	Continuing	Continuing
S875: *AC/MC-130J*	9.915	17.874	7.398	7.964	-	7.964	8.650	12.605	24.127	53.408	Continuing	Continuing
D615: *Rotary Wing Aviation*	27.577	61.519	62.654	36.040	-	36.040	27.013	24.951	19.523	13.872	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 212

A. Mission Description and Budget Item Justification

Aviation Systems Advanced Development:
This project provides for the development, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF)-unique aviation and training requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: SOF specific avionics; Low Probability of Intercept/Low Probability of Detection (LPI/LPD) terrain following/terrain avoidance radar; Defensive Countermeasures; Electronic Warfare (EW) - Radio Frequency Countermeasures (RFCM); Precision Strike Package (PSP); AC-130H, AC-130W, and AC-130U Recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; enhanced situational awareness; near-real-time Intelligence, Surveillance and Reconnaissance (ISR); data fusion; threat detection and avoidance; navigation, target detection, and identification technologies; weapons integration; digital broadcast capabilities; aerial refueling; survivability and ISR payload technological improvements with size, weight, power and integration onto all SOF ISR platforms.

CV-22 Development:
The CV-22 is a SOF variant of the V-22 vertical medium lift, multi-mission aircraft. The CV-22 project provides long range, high speed, infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by other existing aircraft. The V-22 Joint Program Office is developing improved capabilities in block increments. The funding in this project supports these block increments as well as associated flight test support. The Block 10 increment was completed in FY 2007, and the Block 20 increment started in FY 2008. Block 20: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development will provide improved capabilities to include, but not limited to, more robust performance in situational awareness, ISR, weapons, avionics, survivability, maneuverability, mission deployment and improved reliability and maintainability of the CV platform. CV-22 Terrain Following/Terrain Avoidance (TF/TA) Radar (Silent Knight Radar) program provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas to infill, exfill, and resupply SOF forces. Provides more sustainable/ capable replacement to obsolescing and tech limited terrain following/avoidance radar.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*

Mission Training and Preparation Systems:
The Special Operations Mission Planning and Execution (SOMPE) project funds the definition, design, development, prototyping, integration, and testing of SOMPE systems to support mission planning, rehearsal, and execution requirements to meet SOF-unique mission requirements and correct deficiencies in current mission planning, rehearsal, and execution capabilities. The Mission Training and Preparation Systems (MTPS) project also includes program management, systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse mission planning, rehearsal, and execution systems.

AC/MC-130J:
The AC/MC-130J project funds core SOF-unique modifications to replace aging/retired AC-130H Spectre, AC-130W Stinger II, AC-130U Spooky, MC-130E Combat Talon I, MC-130P Combat Shadow, MC-130H Combat Talon II aircraft. The 8 AC-130H Spectre, 12 AC-130W Stinger II and 17 AC-130U Spooky airframes will be replaced with MC-130J aircraft modified with the PSP to achieve the AC-130J configuration. The AC-130J aircraft will provide close air support, air interdiction, and armed reconnaissance capability. The MC-130J Commando II aircraft perform clandestine or low visibility, single or multi-ship low-level missions intruding politically-sensitive or hostile territories; provide air refueling for special operations helicopters and CV-22 aircraft; and airdrop of leaflets, small special operations teams, resupply bundles and combat rubber raiding craft. Additional capabilities include low-level navigation and in-flight refueling. The Air Force will procure and field basic aircraft, common support equipment, and trainers for USSOCOM. An incremental upgrade approach will be used to incorporate SOF capabilities onto the aircraft and training systems.

Rotary Wing Aviation:
This project develops SOF-unique modifications and upgrades to SOF rotary wing aircraft that operate in increasingly hostile environments. This project also includes modifications to Aircraft Survivability Equipment (ASE) and weapons systems to counter rapidly emerging threats, improve lethality and enhance aircraft self-protection. Rotary wing aircraft supported by this project include: MH-60M, MH-47G, and A/MH-6M. These aircraft provide aviation support to SOF in worldwide contingency operations and low-intensity conflicts. They must be capable of rapid deployment, undetected penetration of hostile areas, and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	158.733	173.934	133.619	-	133.619
Current President's Budget	149.337	179.134	159.143	-	159.143
Total Adjustments	-9.396	5.200	25.524	-	25.524
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	7.700			
• Congressional Directed Transfers	-	7.500			
• Reprogrammings	-4.246	-			
• SBIR/STTR Transfer	-5.150	-			
• Other Adjustments	-	0.000	25.524	-	25.524

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2015	FY 2016
Project: SF100: *Aviation Systems Advanced Development*		
Congressional Add: *C-130 Terrain Following (TF) Radar System*	-	7.700
Congressional Add Subtotals for Project: SF100	-	7.700
Congressional Add Totals for all Projects	-	7.700

Change Summary Explanation

Funding:

FY 2015: Decrease of $9.396 million is due to reprogramming to higher command priorities (-$4.246 million) and a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$5.150 million).

FY 2016: Net increase of $5.200 million is due to a $10.000 million Congressional directed reduction to MH-60M Block Upgrades (-$0.700 million), Future Vertical Lift (-$0.500 million), Mission Processor Upgrade (-$2.800 million) and, Electronic Warfare - Radio Frequency Countermeasures (-$6.000 million); Congressional directed transfer of $7.500 million to the C-130 Terrain Following Radar, and congressional add of $7.700 million to the C-130 Terrain Following Radar.

FY 2017: Net increase of $25.524 million is to continue integration and test of the SOF Common TF radar and modifications to aircraft controls and displays to automate TF/TA flight for the MC-130J ($37.039 million); define systems requirements, develop initial capabilities document, and conduct system readiness review for the CV-22 TF/TA radar ($15.590 million); design, develop, and test for A/MH-6M aircraft Block 3.0 upgrade ($5.991 million); develop and test for software applications on tactical mobile devices ($0.898 million); complete design, develop, and test for degraded visual environment ($5.000 million); complete

development, integration and test of missile warning and lightweight infrared countermeasures for the A/MH-6 aircraft ($2.498 million), a realignment to higher command priorities (-$20.878 million), a reduction by the Department to account for prior year execution balances (-$19.272 million), and a decrease due to Departmental economic adjustments (-$1.342 million).

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) SF100 / *Aviation Systems Advanced Development*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
SF100: *Aviation Systems Advanced Development*	534.228	61.627	102.030	91.659	-	91.659	97.816	51.486	22.742	23.197	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the investigation, evaluation, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF)-unique aviation and training requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: SOF specific avionics; low probability of intercept/low probability of detection (LPI/LPD), terrain following/terrain avoidance (TF/TA) radar; Defensive Countermeasures (DCM) which includes Electronic Warfare – Radio Frequency Countermeasures (EW-RFCM); Precision Strike Package (PSP); AC-130H, AC-130W, and AC-130U recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; Enhanced Situational Awareness (ESA); near-real-time intelligence to include data fusion, threat detection and avoidance; navigation, target detection and identification technologies; digital broadcast capability; aerial refueling; and Intelligence, Surveillance, Survivability and Reconnaissance (ISR) payload technological improvements with size, weight, power and integration onto all SOF ISR platforms.

• EC-130J Upgrades provides for integration of SOF-unique implementation of the C-130J block cycle upgrade as installed on the EC-130J Commando Solo aircraft and development of digital broadcast capabilities.

• Enhanced Situational Awareness (ESA) provides SOF C-130 fleet with near-real-time intelligence reporting to include data fusion, threat detection, identification, and avoidance.

• EW-RFCM supports development, integration and test activities to provide EW capability against RF threats for SOF AC/MC-130J aircraft. The DCM suite is an integrated package of existing aircraft defensive systems which provides situational awareness and threat response processing; this includes the Radio Frequency Countermeasures (RFCM) system, and future defensive systems. RFCM program provides SOF-unique aircraft defensive capabilities required for SOF missions. The FY 2017 funding request was reduced by $4.636 million to account for the availability of prior year execution balances.

• PSP for SOF supports systems engineering, analysis, development, and enhancement of the baseline PSP for later integration and installation onto host MC-130J aircraft provided by the U.S. Air Force for the AC-130H, AC-130W and AC-130U recapitalization, as well as current SOF C-130s and other SOF platforms. Missions for the AC-130 aircraft include, but are not limited to, Close Air Support (CAS), Air Interdiction, and Armed Reconnaissance. PSP is modular, scalable, and platform neutral.

• PSP Large Caliber Gun supports systems engineering, analysis, development, integration, and test of a large caliber gun capability enhancement to the PSP installed on the AC-130 aircraft.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

• C-130 TF Radar System supports development, integration and test of a TF/TA radar and on-board processor to provide a multi-mode terrain following capability on MC-130J aircraft. Crew systems integration efforts include modifications to aircraft controls and displays to automate TF/TA flight and reduce pilot, copilot and Combat Systems Officer workload during missions previously performed by five aircrew members on legacy C-130 tankers and penetrators. This project received a congressional add in FY 2016. The FY 2017 funding request was reduced by $4.636 million to account for the availability of prior year execution balances.

• SOF Common TF/TA (Silent Knight) Radar supports Engineering and Manufacturing Development, qualification, and operational flight testing of a SOF common TF/TA LPI/LPD radar to defeat advanced passive detection threats while maintaining ability to fly safe TF. This radar is targeted for use on all MH-47G heavy assault helicopters, MH-60M medium assault helicopters, MC-130J Commando II and CV-22B Osprey aircraft.

• EC-130J Commando Solo supports development, integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft.

• ISR Payload Sensor Technology supports development, integration, and testing of sensor miniaturization effort to place large ISR platform capability, such as Group 4-5 unmanned aerial systems (UASs) onto all SOF ISR platforms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: EC-130J Upgrades	3.389	4.161	1.144
FY 2015 Accomplishments: Began development of trial kit installation of C-130J block cycle upgrade.			
FY 2016 Plans: Continue development and testing of trial kit installation of C-130J block cycle upgrade.			
FY 2017 Plans: Continues testing of C-130J block cycle upgrade.			
Title: ESA	0.749	-	-
FY 2015 Accomplishments: Began flight test for ESA system on SOF C-130 aircraft.			
Title: EW – RFCM	10.930	37.691	39.759
FY 2015 Accomplishments: Conducted source selection and began development, integration and test of EW capability against RF threats for SOF AC/MC-130J aircraft.			
FY 2016 Plans: Continue development, integration and testing to provide EW capability against RF threats for SOF AC/MC-130J aircraft.			
FY 2017 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Continues development, integration and testing to provide EW capability against RF threats for SOF AC/MC-130J aircraft.			
Title: PSP for SOF ***FY 2015 Accomplishments:*** Continued development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft. ***FY 2016 Plans:*** Continue development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft. ***FY 2017 Plans:*** Continues development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft.	10.307	13.294	10.294
Title: PSP Large Caliber Gun ***FY 2015 Accomplishments:*** Continued development, integration and testing of large caliber gun capability upgrade of the PSP installed on AC-130 aircraft. ***FY 2016 Plans:*** Complete development, integration and testing of large caliber gun capability upgrade to the PSP installed on AC-130 aircraft.	3.077	0.801	-
Title: C-130 Terrain Following (TF) Radar System ***FY 2015 Accomplishments:*** Completed contractor flight test of the APN-241 modified for TF on an MC-130J aircraft. ***FY 2016 Plans:*** Begin contracting efforts to integrate and test the SOF common APQ-187 (Silent Knight) TF radar system on MC-130J development testing aircraft and develop modifications to aircraft controls and displays to reduce aircrew workload. This includes integrating the TF radar system with the MC-130J Increment 3 special mission processors. ***FY 2017 Plans:*** Continues SOF Common APQ-187 TF radar system and aircraft control and display integration efforts. Prepare for flight test.	19.397	34.674	38.905
Title: SOF Common Terrain Following/Terrain Avoidance (TF/TA) (Silent Knight) Radar ***FY 2015 Accomplishments:*** Completed developmental flight testing on the MH-47G and MH-60M helicopters and progressed through qualification flight testing.	12.412	-	-
Title: EC-130J Commando Solo ***FY 2015 Accomplishments:***	1.366	2.375	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Began development, integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft. ***FY 2016 Plans:*** Completes integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft.			
Title: Intelligence, Surveillance, and Reconnaissance Payload ***FY 2016 Plans:*** Begin development, integration, and testing of sensor miniaturization effort to place large ISR platform capabilities, such as Group 4-5 unmanned aerial systems (UASs) and fixed wing systems onto all SOF ISR platforms (e.g. such as Group 2-3 UASs). ***FY 2017 Plans:*** Continues spiral development to increase the smaller SOF ISR platforms' capabilities through incremental development, integration, and testing.	-	1.334	1.557
Accomplishments/Planned Programs Subtotals	61.627	94.330	91.659

	FY 2015	FY 2016
Congressional Add: C-130 Terrain Following (TF) Radar System ***FY 2016 Plans:*** Begin contracting efforts to integrate and test the SOF common APQ-187 TF radar system on MC-130J development testing aircraft and develop modifications to aircraft controls and displays to reduce aircrew workload. This includes integrating the TF radar system with the MC-130J Increment 3 special mission processors.	-	7.700
Congressional Adds Subtotals	-	7.700

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/5000C13000: *C-130 Modifications*	24.090	26.412	32.970	-	32.970	39.219	51.424	55.826	50.316	Continuing	Continuing
• PROC/1202PSP: *Precision Strike Package*	131.929	204.105	213.122	-	213.122	191.880	195.476	200.478	204.983	Continuing	Continuing
• PROC0201RWUPGR: *Rotary Wing Upgrades and Sustainment*	163.006	135.985	150.396	-	150.396	169.686	147.659	139.536	144.361	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

D. Acquisition Strategy

• EC-130J Upgrades: Operational Flight Program Block Cycle is being developed by the Air Force program office using existing development and production contracts.

• ESA: Integrate Government/Commercial off-the-shelf communications and computing hardware and software into into carry-on kits for enhanced situational awareness systems.

• EW – RFCM: Award up to two competitive Engineering and Manufacturing Development (EMD) contracts for development, integration and test of an RF Countermeasures System on AC/MC-130J aircraft.

• PSP for SOF: Incremental acquisition strategy to integrate and test the PSP and capability enhancements on donor MC-130J aircraft provided by the U.S. Air Force and other SOF aircraft. Multiple contract awards.

• PSP Large Caliber Gun: Combination of Government Service activity and contractor development, integration and test for large caliber gun capability enhancement for the PSP installed on AC-130 aircraft. Multiple contract awards.

• C-130 TF Radar System: Awarded delivery order on Cost Plus Incentive Fee contract to integrate and test the SOF common APQ-187 TF radar system on MC-130J aircraft and develop modifications to aircraft displays and controls. Government development, Test and Evaluation, FY 2018 - FY 2020; Operational Test and Evaluation, FY 2021 with Initial Operational Capability, Q4FY2021.

• SOF Common TF/TA (Silent Knight) Radar: Competitive EMD contract was awarded to Raytheon in FY 2007 for radar B Kit design, development, and testing. Subsequent MH-47G and MH-60M A Kit design, integration, and test efforts awarded to Lockheed Martin (SOFSA). Follow-on platform A Kit design, integration, and test efforts will be awarded in FY 2018 - FY 2019. MH-47G and MH-60M A Kit production and installation will be completed at the SOFSA. A follow-on Full Rate Production Firm-Fixed-Price contract following completion of operational testing.

• EC-130J Commando SOLO: Digital broadcast capabilities are being developed through an incremental acquisition strategy to incorporate and test readily available equipment into the EC-130J aircraft.

• ISR Payload Sensor Technology: Effort is being executed via a spiral development, integration and testing acquisition strategy based on leveraging existing sensor technology. The focus will be on reducing the size, weight, power and cost of state of the art ISR sensors fielded on larger ISR platforms, such as Group 4-5 unmanned aircraft systems (UAS), in order to make them useable by smaller SOF ISR platforms, such as Group 2-3 UAS. This development will include the integration of the ISR capability with the platform's C2 and Communications systems as appropriate. Example classes of sensors to be included under this development are: Signal Intelligence, Electro Optical / Infrared / Multi-spectral / Synthetic Aperture Radar, Tagging, Tracking, and Locating, and clandestine communications. Integrated systems may include the ability to generate CAT 1 or 2 National Geo-Spatial Agency - validated targeting coordinates.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EC-130J Upgrades	C/CPIF	Lockheed Martin : Marietta, GA	5.811	3.389	Dec 2014	4.161	Aug 2016	1.144	Aug 2017	-		1.144	Continuing	Continuing	-
Enhanced Situational Awareness (ESA) for MC-130H	C/Various	Robins AFB : Warner-Robins, GA	2.300	0.749	Jun 2015	-		-		-		-	0.000	3.049	-
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)	C/Various	Robins AFB : Warner Robins, GA	1.936	5.679	Jul 2015	27.007	Feb 2016	25.259	Jan 2017	-		25.259	Continuing	Continuing	-
Precision Strike Package (PSP) for SOF	TBD	Various : Various	85.402	4.711	Jan 2015	3.125	Jan 2016	8.807	Jan 2017	-		8.807	Continuing	Continuing	-
PSP Large Caliber Gun	C/TBD	Various : Various	9.083	1.534	Mar 2015	-		-		-		-	0.000	10.617	-
C-130 Terrain Following (TF) Radar System	C/CPIF	Various : Various	53.355	7.344	Jan 2015	24.355	Apr 2016	28.609	Jan 2017	-		28.609	Continuing	Continuing	-
C-130 Terrain Following (TF) Radar System (Congressional Add)	C/CPIF	Various : Various	-	-		7.700	Apr 2016	-		-		-	0.000	7.700	-
SOF Common Terrain Following/Terrain Avoidance (TF/TA) Radar - Systems Engineering	C/Various	Various : Various	17.308	9.346	Jan 2015	-		-		-		-	0.000	26.654	-
SOF Common TF/TA Radar	C/CPIF	Raytheon : Dallas, TX	79.829	-		-		-		-		-	0.000	79.829	-
EC-130J Commando Solo	C/CPFF	Johns Hopkins University APL : Baltimore, MD	-	1.366	Aug 2015	2.375	Feb 2016	-		-		-	0.000	3.741	-
Intelligence, Surveillance, and Reconnaissance Payload	TBD	Various : Various	-	-		1.334	Mar 2016	1.557	Mar 2017	-		1.557	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	80.572	-		-		-		-		-	0.000	80.572	-
		Subtotal	335.596	34.118		70.057		65.376		-		65.376	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSP for SOF	C/Various	Various : Various	4.885	0.349	Dec 2014	-		-		-		-	0.000	5.234	-
PSP Large Caliber Gun	C/Various	Various : Various	1.051	0.183	Dec 2014	-		-		-		-	0.000	1.234	-
C-130 TF Radar System	C/CPIF	Scientific Research Corporation : Atlanta, GA	2.001	2.555	Dec 2014	3.028	Apr 2016	4.788	Dec 2016	-		4.788	Continuing	Continuing	-
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)	C/Various	Robins AFB : Warner Robins, GA	-	5.251	Jan 2015	6.184	Feb 2016	5.700	Jan 2017	-		5.700	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	22.334	-		-		-		-		-	0.000	22.334	-
		Subtotal	30.271	8.338		9.212		10.488		-		10.488	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)	C/Various	Robins AFB : Warner Robins, GA	-	-		4.500	Feb 2016	8.800	Jan 2017	-		8.800	Continuing	Continuing	-
PSP for SOF	C/Various	Various : Various	10.180	5.247	Jan 2015	10.169	Jan 2016	1.487	Dec 2016	-		1.487	Continuing	Continuing	-
PSP Large Caliber Gun	C/Various	Various : Various	7.280	1.360	Jan 2015	0.801	Jan 2016	-		-		-	0.000	9.441	-
C-130 TF Radar System	C/CPIF	Various : Various	2.612	6.847	Dec 2014	5.046	Apr 2016	1.118	Dec 2016	-		1.118	Continuing	Continuing	-
SOF Common TF/TA Radar	C/CPIF	Various : Various	115.753	1.966	Jan 2015	-		-		-		-	Continuing	Continuing	-
		Subtotal	135.825	15.420		20.516		11.405		-		11.405	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Management Services ($ in Millions)

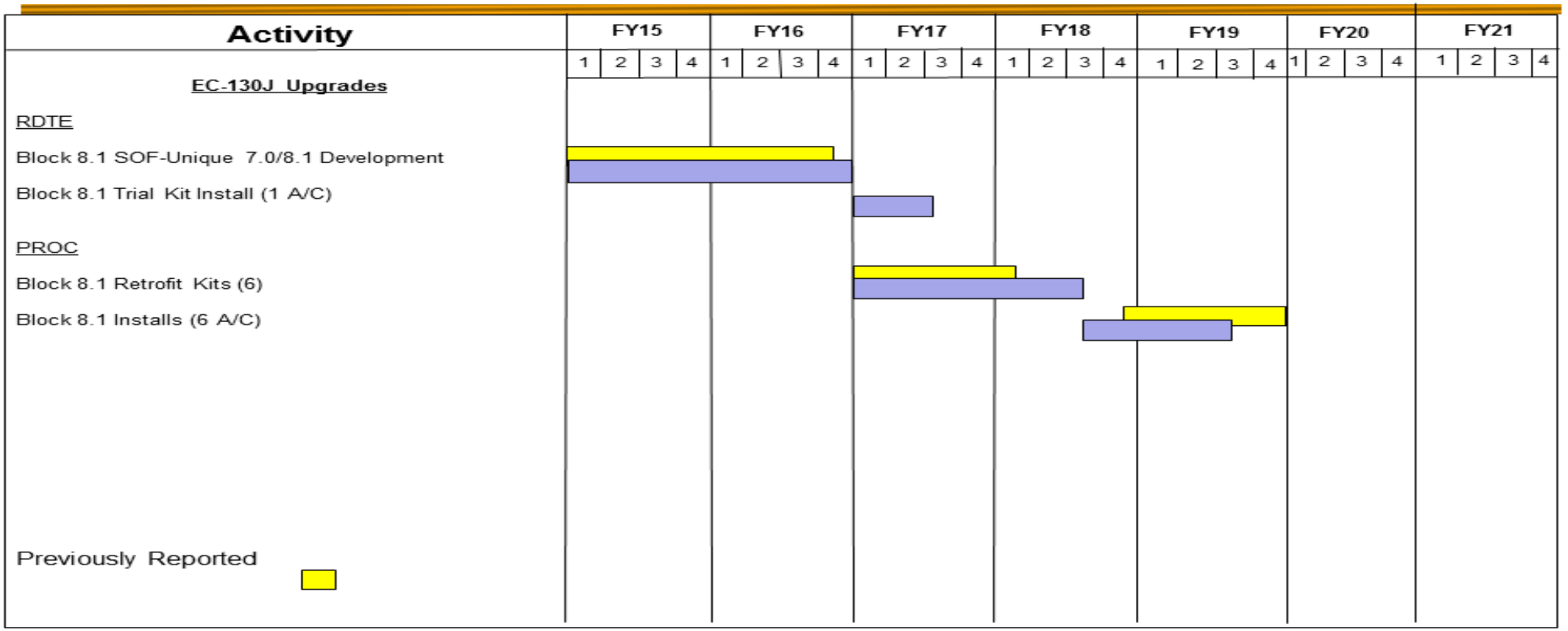
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 TF Radar System	C/CPIF	Scientific Research Corporation : Atlanta, GA	2.620	2.651	Dec 2014	2.245	Dec 2015	4.390	Dec 2016	-		4.390	Continuing	Continuing	-
SOF Common TF/TA Radar	C/CPIF	Raytheon : Dallas, TX	29.916	1.100	Jan 2015	-		-		-		-	0.000	31.016	-
		Subtotal	32.536	3.751		2.245		4.390		-		4.390	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	534.228	61.627		102.030		91.659		-		91.659	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

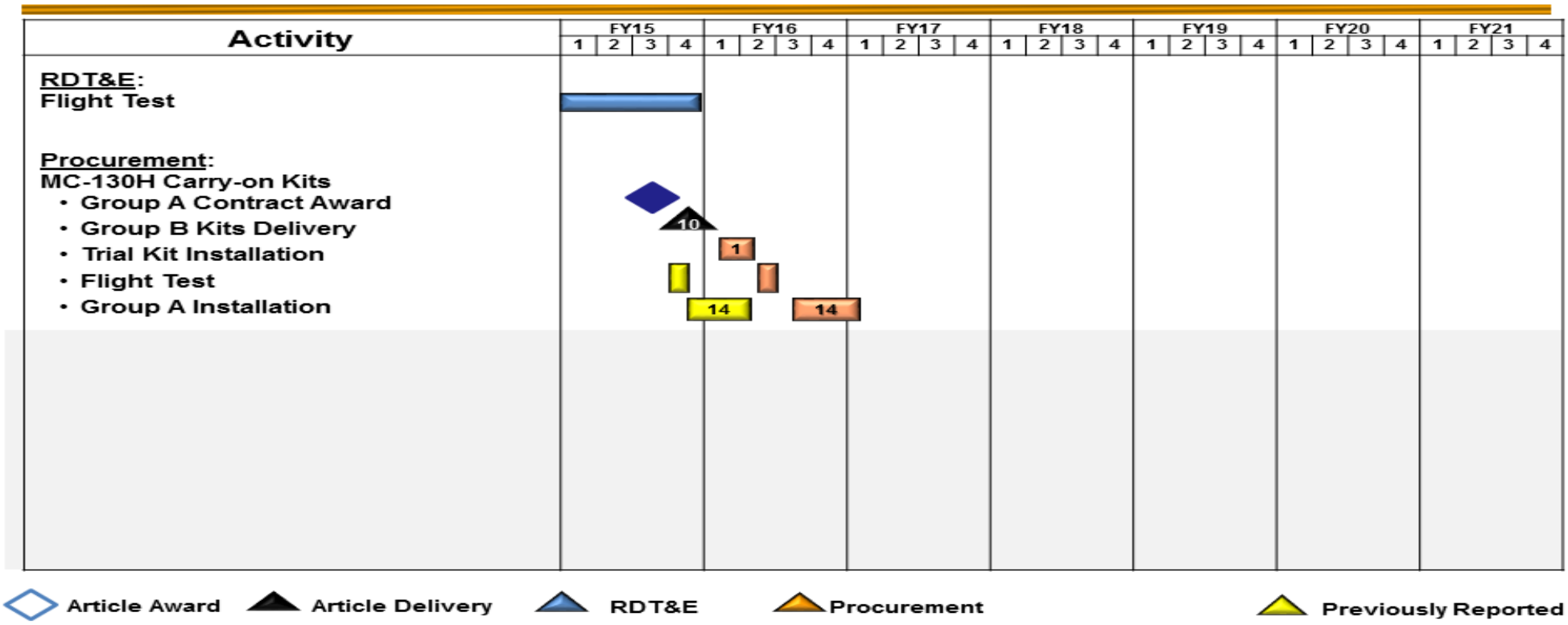
EC-130J Upgrades Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

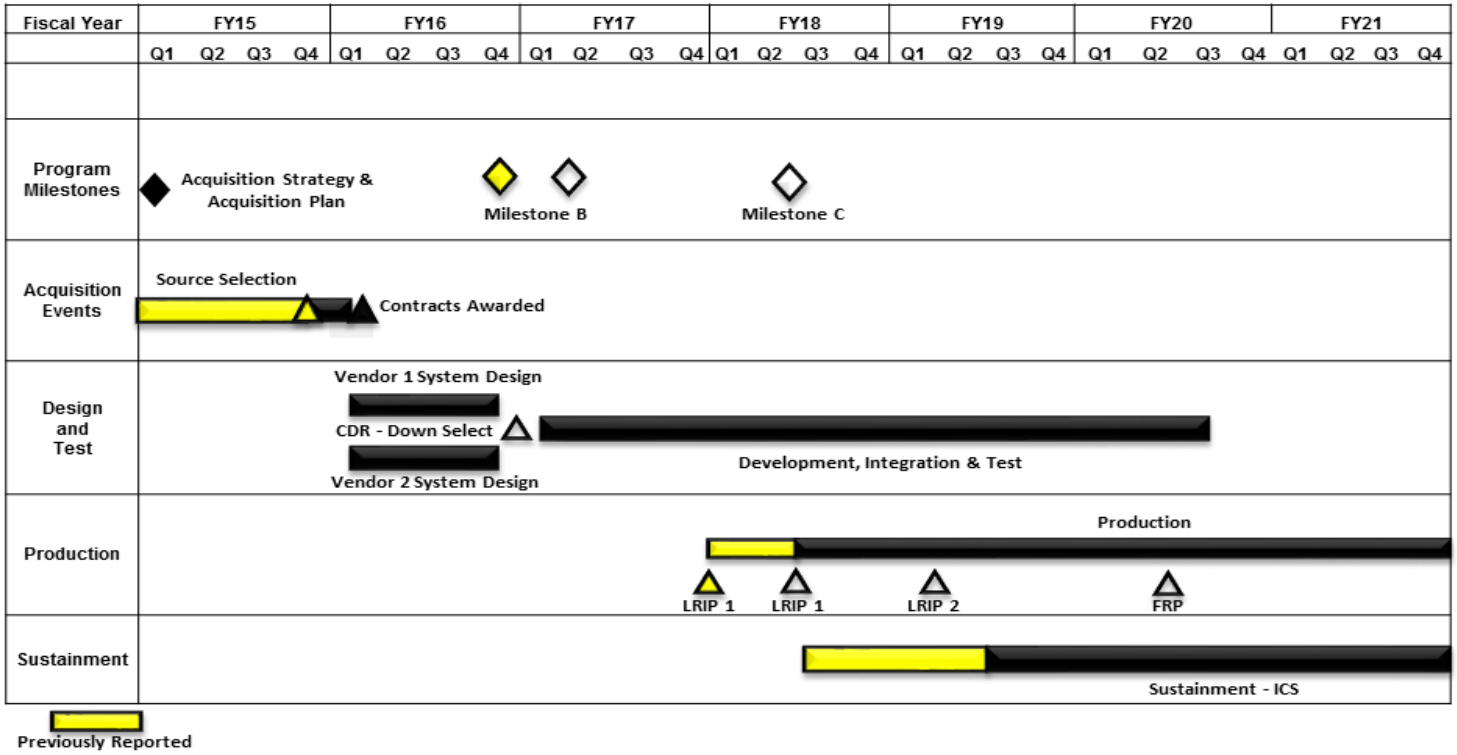
ESA For MC-130H Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

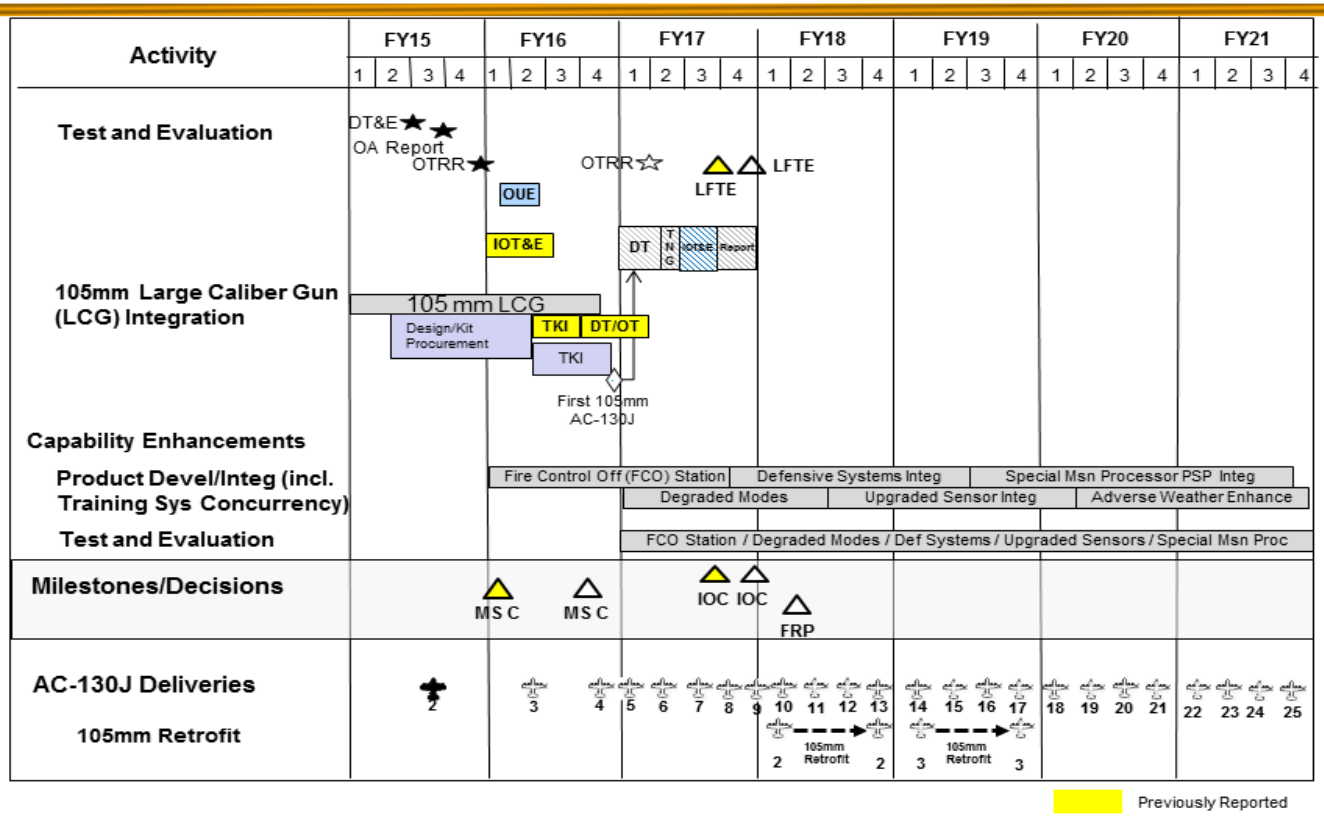
EW RFCM Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

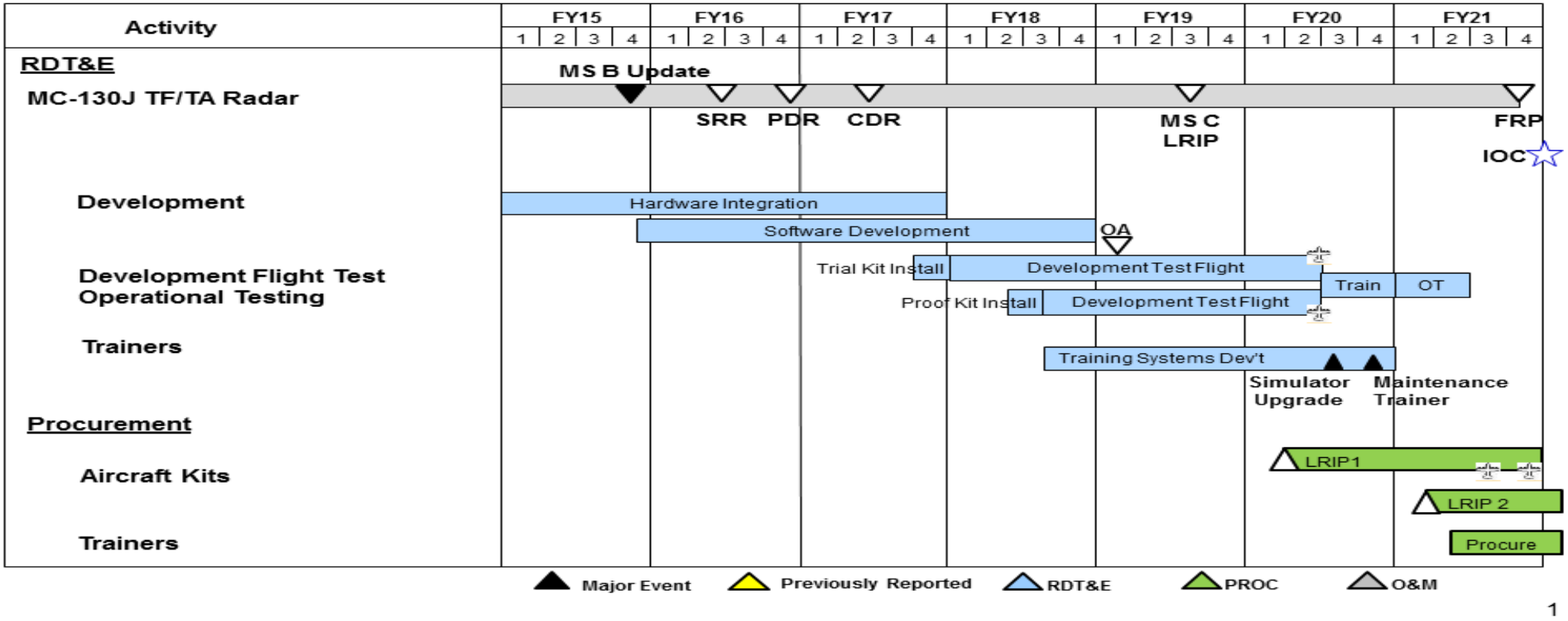
AC-130J/PSP Integrated Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

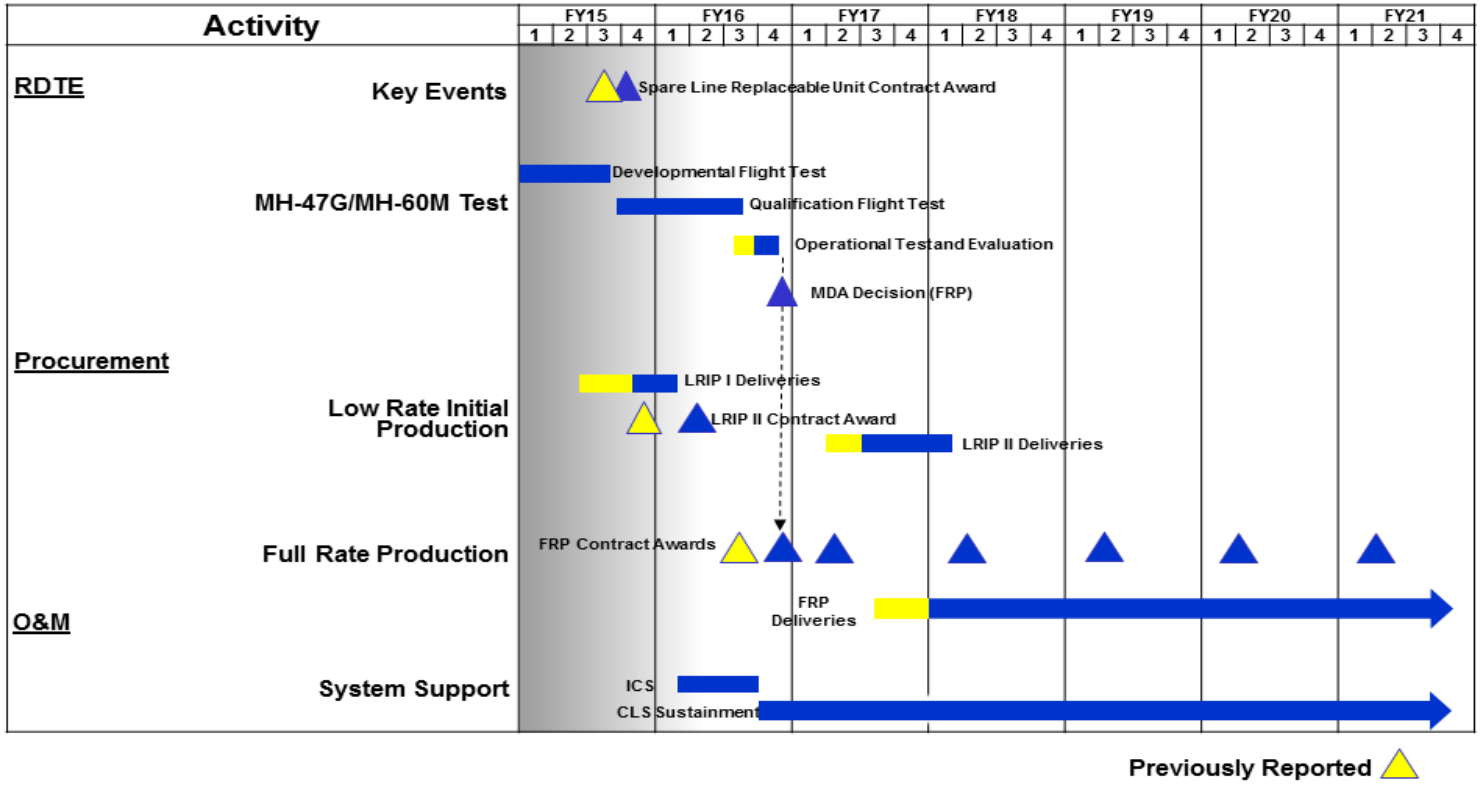
C-130 Terrain Following (TF) Radar System Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

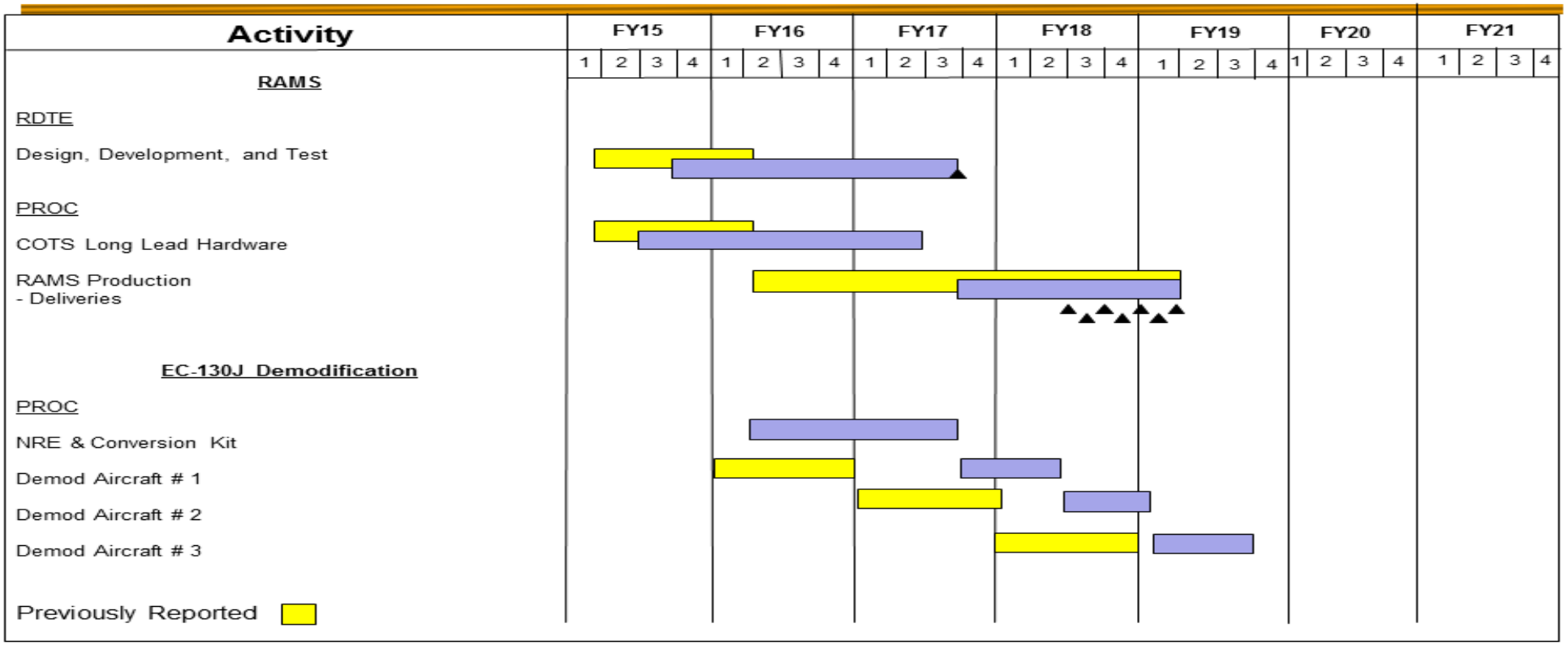
Silent Knight Radar Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

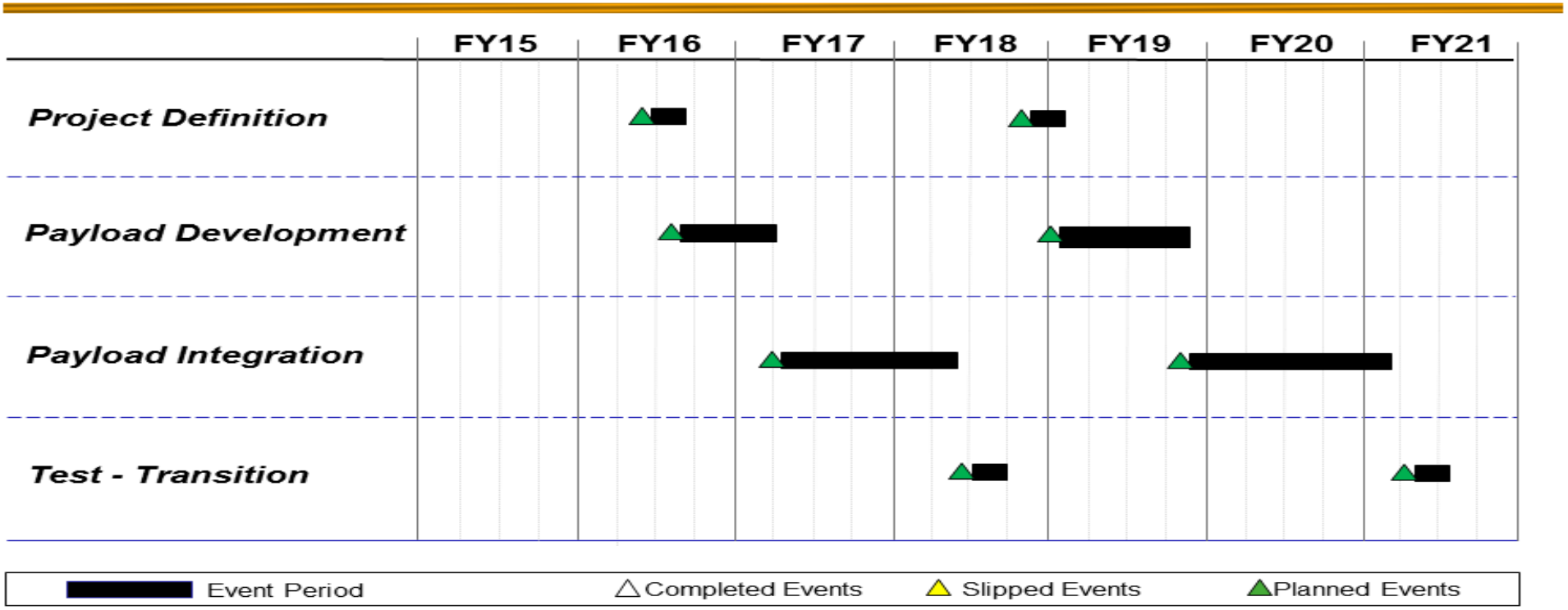
EC-130J Commando SOLO Schedule



2

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

ISR Payload



1

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
EC-130J Upgrades				
Software Development	1	2015	3	2017
Enhanced Situational Awareness for MC-130H				
Development, Integration, and Testing	1	2015	4	2016
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)				
Development, Integration, and Testing	1	2015	3	2020
Precision Strike Package (PSP) for SOF				
PSP for SOF Development, Integration, and Testing	1	2015	4	2021
PSP Large Caliber Gun Development, Integration, and Testing	2	2015	1	2018
C-130 Terrain Following (TF) Radar System				
Software Developmental	4	2015	4	2018
Development Testing	1	2018	3	2020
Operational Testing	1	2021	3	2021
SOF Common Terrain Following/Terrain Avoidance Radar				
Developmental / Qualification Testing	1	2015	2	2016
Operational Testing	2	2016	3	2016
EC-130J Commando Solo				
Development, Integration, and Testing	3	2015	4	2017
Non-Recurring Engineering and Kit Development	2	2016	2	2018
Intelligence, Surveillance, and Reconnnaissance (ISR) Payload				
Phase 1 Development, Integration, and Testing	2	2016	3	2018
Phase 2 Development, Integration, and Testing	3	2018	1	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) SF200 / *CV-22*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
SF200: *CV-22*	2.817	0.176	0.000	15.590	-	15.590	14.259	21.635	4.961	0.000	0.000	59.438
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 212

A. Mission Description and Budget Item Justification

The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical medium lift, multi-mission aircraft. The CV-22 provides long range, high speed infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by existing aircraft. The V-22 Joint Program Office is developing improved capabilities in block increments supported with rapid prototyping. The funding in this project supports these block increments as well as associated flight test support.

• Block 20: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development will provide improved capabilities to include, but not limited to, robust performance in situational awareness, weapons, avionics, survivability, maneuverability, mission deployment, improved reliability and maintainability of the CV platform.

• CV-22 Terrain Following/Terrain Avoidance (TF/TA) Radar: Provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas to infill, exfill, and resupply SOF forces. Provides more sustainable/capable radar to replace obsolescing and tech limited APQ-186 terrain following/avoidance radar.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Block 20 ***FY 2015 Accomplishments:*** Conducted flight test for Helmet Mounted Display, additional testing performed to correct Color Helmet Mounted Display deficiencies, and supported testing of SAMS ESA.	0.176	-	-
Title: TF/TA Radar Replacement ***FY 2017 Plans:*** Define systems requirements, develop Initial Capabilities Document, and conduct System Readiness Review. Begin design of TF/TA radar replacement using SOF Common radar APQ-187 (Silent Knight).	-	-	15.590
Accomplishments/Planned Programs Subtotals	0.176	-	15.590

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/1000CV22: *CV-22 SOF Modification*	21.578	33.582	19.008	-	19.008	34.878	23.124	21.336	21.763	Continuing	Continuing
• PROC/V022A0: *Aircraft Procurement CV-22 (MYP)*	15.000	-	-	-	-	-	-	-	-	0.000	4,258.516
• RDT&E1/0401318F: *RDT&E, USAF*	38.719	36.576	22.369	-	22.369	14.324	14.595	14.856	15.123	132.903	289.465
• RDT&E/0604262N: *V-22 RDT&E, N BA-05*	56.336	87.918	160.288	-	160.288	144.153	96.906	64.495	67.781	199.106	9,956.602

Remarks

D. Acquisition Strategy

The CV-22 program is managed by the Navy V-22 Joint Program Office (NAVAIRSYSCOM PMA-275). This ensures that the CV-22 changes are incorporated into the ongoing V-22 production line with minimum impact. Funding for the baseline CV-22 Engineering Manufacturing and Development, known as Block 0, is embedded in the Navy budget. Block 20 and subsequent block upgrades are planned to follow the same acquisition strategy, with NAVAIRSYSCOM PMA-275 ensuring the integration of SOF-unique systems with the ongoing basic vehicle improvements supporting both the CV-22 and the Marine Corps MV-22.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) SF200 / *CV-22*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 20	SS/ Various	Bell-Boeing; 413FLTS : Amarillo, Tx; Fort Worth, TX	0.881	0.176	Mar 2015	-		-		-		-	0.000	1.057	-
Terrain Following/ Terrain Avoidance Radar Replacement	SS/ Various	Raytheon : McKinney, TX	-	-		-		15.590	May 2017	-		15.590	Continuing	Continuing	-
		Subtotal	0.881	0.176		-		15.590		-		15.590	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year	Various	Various : Various	1.936	-		-		-		-		-	0.000	1.936	-
		Subtotal	1.936	-		-		-		-		-	0.000	1.936	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.817	0.176		0.000		15.590		-		15.590	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

CV-22 Schedule

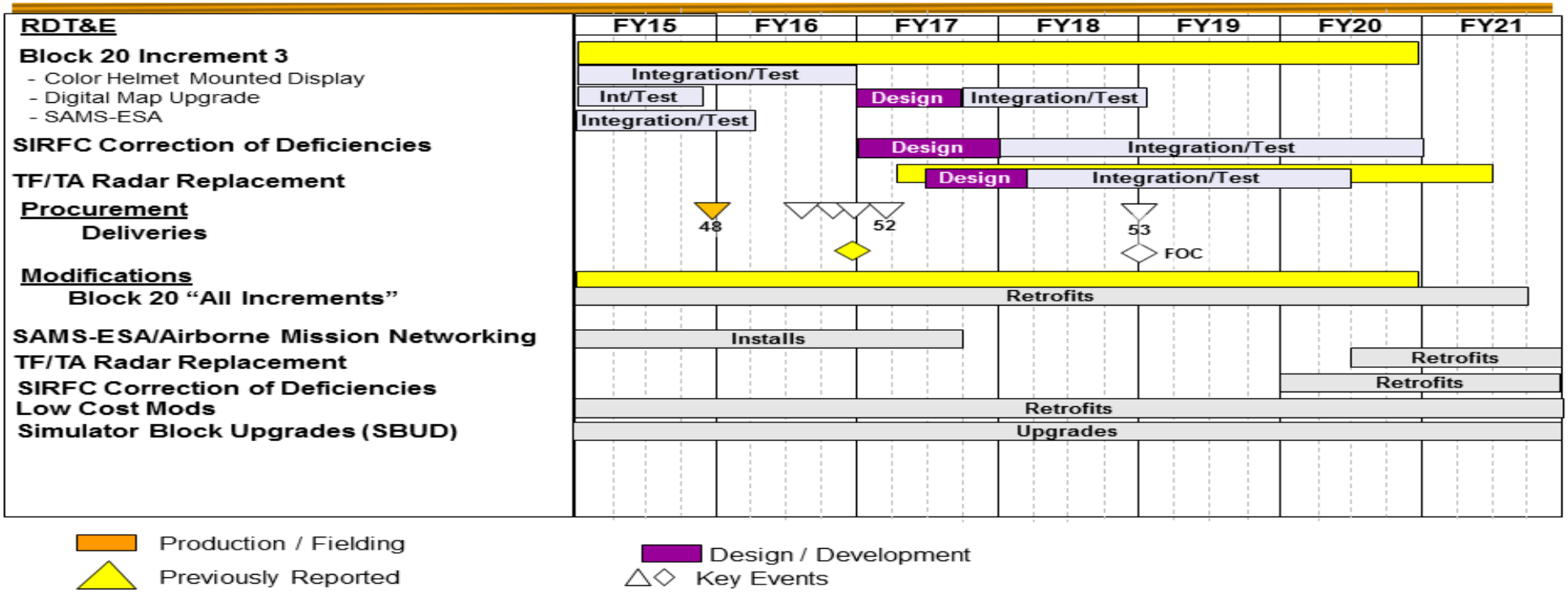


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CV-22				
Block 20 Development/Test	1	2015	1	2017
TF/TA Radar Replacement	3	2017	2	2021
SAMS - ESA Test	1	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) S750 / *Mission Training and Preparation Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S750: *Mission Training and Preparation Systems*	4.696	8.141	7.052	7.890	-	7.890	8.181	8.252	8.309	9.408	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds the definition, design, development, prototyping, integration, and testing of Mission Training and Preparation Systems (MTPS) to support training, avoid obsolescence, and maintain simulator concurrency with weapon system configurations; support mission planning and rehearsal systems enhancements required to meet Special Operations Force (SOF)-unique mission requirements and correct deficiencies identified in previous testing; and support mission planning and rehearsal capabilities in current MTPS. The MTPS project also includes program management, systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse SOF training systems.

Special Operations Mission Planning and Execution (SOMPE) develops, integrates, tests, and validates software enhancements required to meet SOF-unique requirements for, and correct deficiencies to, mission planning, preview, and execution software tools to support all phases of SOF operations from deliberate to time-critical. The SOMPE project automates time-sensitive planning activities and provides enhanced situational awareness during mission execution. SOMPE provides the interoperable environment for SOF adaptive planning to integrate global operations including, but not limited to, precision strike software, digital navigation, and unmanned aerial systems command and control. This project also provides the integration of SOMPE with multi-dimensional visualization systems, providing immersive mission rehearsal in minimal timeframes from the SOMPE mission plan. SOMPE is embedded in the USSOCOM Headquarters, Theater Special Operations Commands, Joint Special Operations Task Forces, Joint Special Operations Aviation Components, SOF warfighters, and SOF warfighter platforms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: SOMPE	8.141	7.052	7.890
FY 2015 Accomplishments: Continued required development of software applications to address SOF-unique aviation, ground and maritime mission planning requirements, (to include tablets, smart phones, etc.) data transfer software from mission planning systems to SOF helicopters, airplanes, and simulator/rehearsal systems, and automated performance models and performance prediction software. Continued testing of mission planning, data transfer and performance software.			
FY 2016 Plans: Continue required development of software applications to address SOF-unique aviation, ground and maritime mission planning requirements, data transfer software from mission planning systems to SOF helicopters, airplanes, and simulator/rehearsal systems, and automated performance models and performance prediction software. Continue testing of mission planning, data			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
transfer and performance software. Continue development of software applications for smaller mobile computer devices (tablets, smart phones, etc). ***FY 2017 Plans:*** Continues required development of software applications to address SOF-unique aviation, ground and maritime mission planning requirements, data transfer software from mission planning systems to SOF helicopters, airplanes, and simulator/rehearsal systems, and automated performance models and performance prediction software. Continues testing of mission planning, data transfer and performance software. Continues development of software applications for smaller mobile computer devices (tablets, smart phones, etc).			
Accomplishments/Planned Programs Subtotals	8.141	7.052	7.890

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

SOMPE comprises multiple mission planning software development contracts awarded annually to developers for each project effort. Acquisition strategies depend on the type of development effort. For minor software development projects, contracts may be awarded as sole source acquisitions from existing contract vehicles. For major software development projects, contracts may be awarded as limited or full and open competition acquisitions. Individual acquisition strategies are developed as the scope of software development projects are identified and defined.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Special Operations Mission Planning and Execution (SOMPE) Software Development and Integration	MIPR	Various : Various	3.999	6.454	Jan 2015	5.609	Jan 2016	6.405	Jan 2017	-		6.405	Continuing	Continuing	-
		Subtotal	3.999	6.454		5.609		6.405		-		6.405	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOMPE Software	MIPR	Special Operations Mission Planning Office : Fort Eustis, VA	0.256	0.461	Feb 2015	0.360	Feb 2016	0.371	Feb 2017	-		0.371	Continuing	Continuing	-
		Subtotal	0.256	0.461		0.360		0.371		-		0.371	-	-	-

Test and Evaluation ($ in Millions)

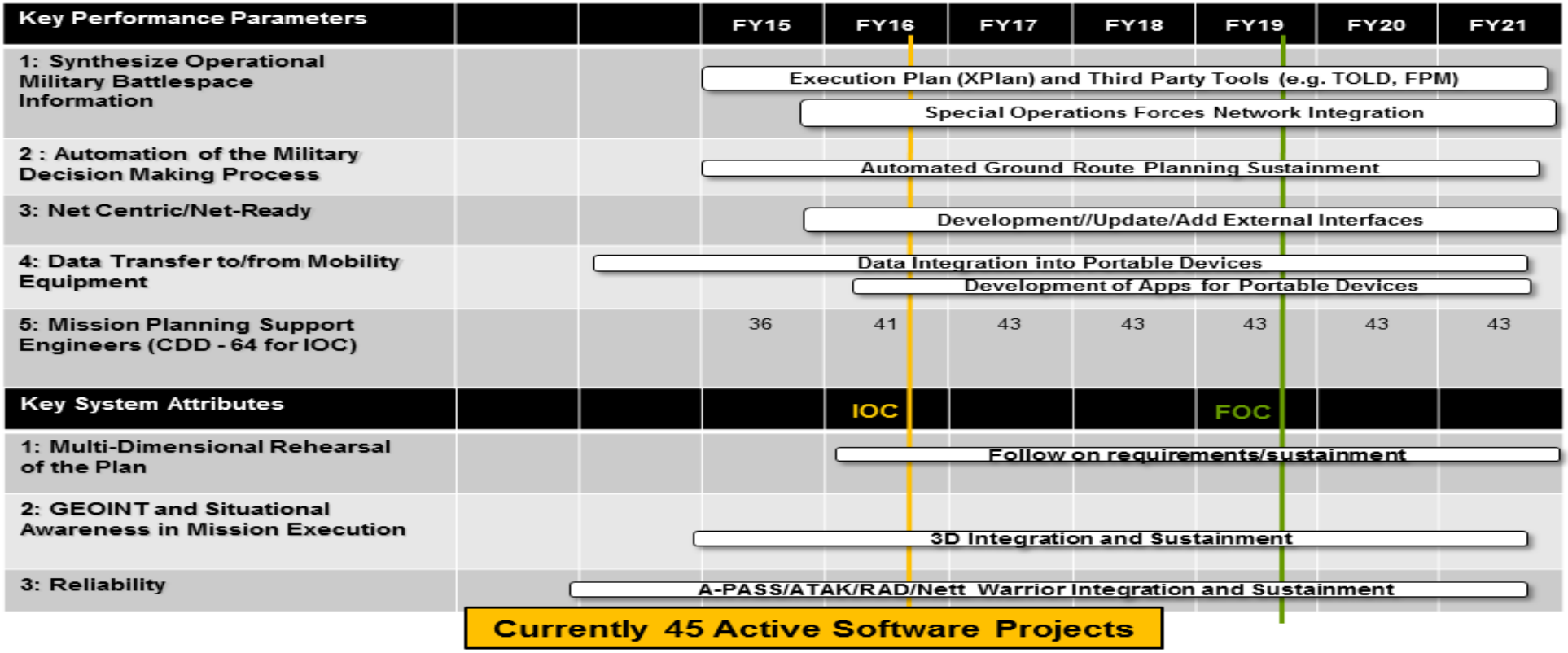
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOMPE Software	C/CPFF	Wyle-CAS : Huntsville, AL	0.441	1.226	Jan 2015	1.083	Jan 2016	1.114	Jan 2017	-		1.114	Continuing	Continuing	-
		Subtotal	0.441	1.226		1.083		1.114		-		1.114	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.696	8.141		7.052		7.890		-		7.890	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

SOMPE Schedule



1

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Special Operations Mission Planning and Execution (SOMPE) Software				
Software Development	1	2015	4	2021
Development Support	1	2015	4	2021
Test & Evaluation	1	2015	4	2021
Integration	1	2015	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) S875 / *AC/MC-130J*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S875: *AC/MC-130J*	9.915	17.874	7.398	7.964	-	7.964	8.650	12.605	24.127	53.408	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AC/MC-130J project funds core Special Operations Forces (SOF)-unique modifications to replace aging/retired MC-130E Combat Talon I, MC-130P Combat Shadow, MC-130H Combat Talon II, AC-130H Spectre, AC-130W Stinger II, and AC-130U Spooky airframes. The 8 AC-130H Spectre, 12 AC-130W Stinger II and 17 AC-130U Spooky airframes will be replaced with MC-130J aircraft modified with the Precision Strike Package (PSP) to achieve the AC-130J Gunship configuration. These platforms perform close air support (CAS), air interdiction, and armed reconnaissance missions and clandestine or low visibility, single- or multi-ship low-level missions intruding politically-sensitive or hostile territories; provide air refueling for special operations helicopters and CV-22 aircraft; and airdrop leaflets, small special operations teams, resupply bundles and combat rubber raiding craft. Additional capabilities include low-level navigation and in-flight refueling. The Air Force will procure and field basic aircraft, common support equipment, and trainers for USSOCOM. USSOCOM will then employ an incremental upgrade approach to incorporate SOF capabilities onto the Air Force-provided aircraft.

Conducts development, integration, and testing of aircraft enhancements to meet SOF-unique mission requirements. Enhancements include, but are not limited to, SOF communications, mission processors, aircraft performance enhancements, enhanced situational awareness (ESA), electronic warfare and survivability systems, and other SOF mission kits. Provides PSP aircraft infrastructure development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: MC-130J Increment 3	2.183	6.118	7.556
FY 2015 Accomplishments: Continued SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
FY 2016 Plans: Continue SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
FY 2017 Plans: Continues SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
Title: ESA (Airborne Mission Networking)	1.650	0.705	-
FY 2015 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Continued ESA integration and test. ***FY 2016 Plans:*** Continue ESA integration and test.			
Title: AC-130J ***FY 2015 Accomplishments:*** Continued development and tested aircraft modification designs for PSP kit installation. ***FY 2016 Plans:*** Continue development and tested aircraft modification designs for PSP kit installation. ***FY 2017 Plans:*** Continues development and tested aircraft modification designs for PSP kit installation.	14.041	0.575	0.408
Accomplishments/Planned Programs Subtotals	17.874	7.398	7.964

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/2012C130J: *AC/MC-130J*	73.947	53.368	73.548	-	73.548	172.372	167.341	155.828	117.463	Continuing	Continuing
• PROC/1202PSP: *Precision Strike Package*	131.929	204.105	213.122	-	213.122	191.880	195.476	200.478	204.983	Continuing	Continuing

Remarks

D. Acquisition Strategy

The basic AC/MC-130J aircraft will be acquired under the United States Air Force HC/MC-130J Recapitalization procurement program. USSOCOM will fund development, integration, and testing of capability enhancements for SOF-unique mission equipment using an incremental acquisition strategy. Multiple contract awards.

ESA: Integrate Government/Commercial off-the-shelf communications and computing hardware and software for enhanced situational awareness systems.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) S875 / *AC/MC-130J*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MC-130J Increment 3	C/Various	Lockheed Martin : Atlanta, GA	5.412	1.793	Mar 2015	5.694	Mar 2016	7.078	Mar 2017	-		7.078	Continuing	Continuing	-
Enhanced Situational Awareness (Airborne Mission Networking)	C/Various	Lockheed Martin : Lexington, KY	0.631	1.650	Dec 2014	-		-		-		-	0.000	2.281	-
AC-130J	C/Various	Lockheed Martin : Lexington, KY	3.872	14.041	Jan 2015	-		-		-		-	0.000	17.913	-
		Subtotal	9.915	17.484		5.694		7.078		-		7.078	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MC-130J Increment 3	C/Various	Lockheed Martin : Atlanta, GA	-	0.390	Mar 2015	0.424	Mar 2016	0.478	Mar 2017	-		0.478	Continuing	Continuing	-
Enhanced Situational Awareness (Airborne Mission Networking)	C/Various	Lockheed Martin : Atlanta, GA	-	-		0.705	Jan 2016	-		-		-	0.000	0.705	-
AC-130J	C/Various	Lockheed Martin : Atlanta, GA	-	-		0.575	Mar 2016	0.408	Jan 2017	-		0.408	Continuing	Continuing	-
		Subtotal	-	0.390		1.704		0.886		-		0.886	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.915	17.874		7.398		7.964		-		7.964	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

MC-130J Schedule

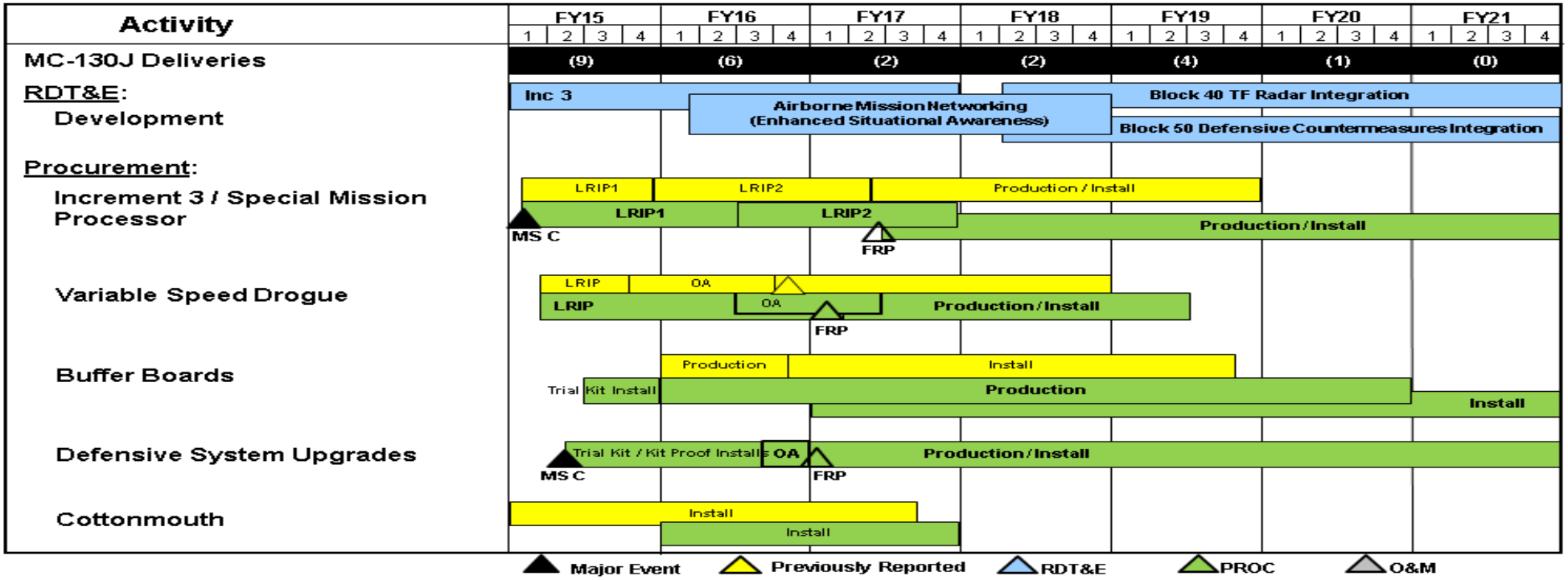
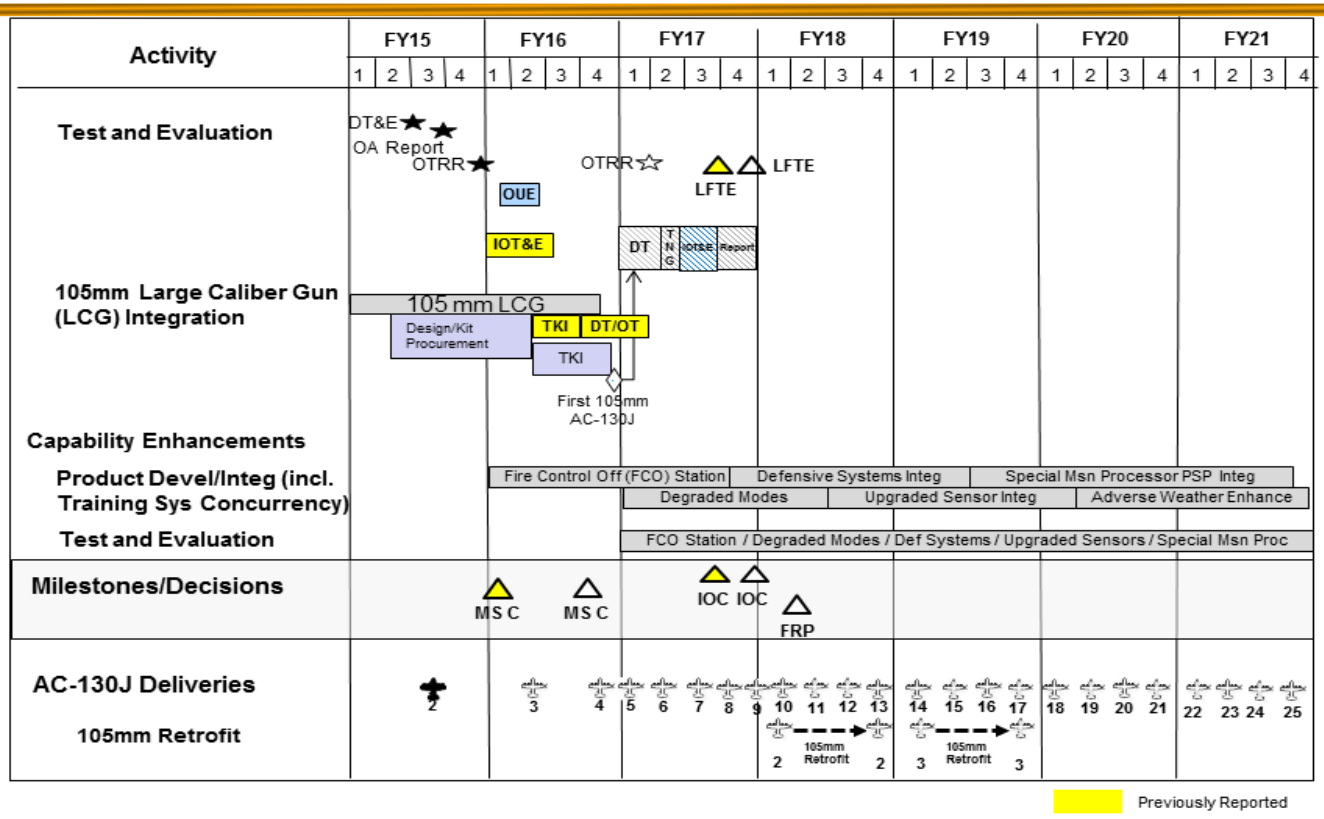


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

AC-130J/PSP Integrated Schedule



1

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MC-130J Increment 3				
Development/Test	1	2015	4	2018
Enhanced Situational Awareness (ESA) (Airborne Mission Networking)				
Development/Test	1	2015	4	2016
AC-130J				
Development/Test	2	2015	1	2018

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) D615 / *Rotary Wing Aviation*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
D615: *Rotary Wing Aviation*	27.577	61.519	62.654	36.040	-	36.040	27.013	24.951	19.523	13.872	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops/upgrades Special Operation Forces (SOF) rotary wing aircraft systems that operate in increasingly hostile environments. This project includes modifications to Aircraft Survivability Equipment (ASE) and weapons systems to counter rapidly merging threats, improved lethality and enhanced aircraft self-protection. Rotary wing aircraft supported by this project include: A/MH-6M, MH-60M, and MH-47G. These aircraft provide aviation support to SOF in world-wide contingency operations and low-intensity conflicts and they must be capable of rapid deployment, undetected penetration of hostile areas, and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters. Sub-projects include:

• A/MH-6M Block 3.0 Upgrade is necessary to restore structural, performance, and safety margins for the aircrews. An airframe structural modification and/or airframe replacement will address recurring structural failures due to high intensity, high gross weight operations, and a decade of battle damage. A main/tail rotor drive train and engine control improvement efforts will reduce airframe loads and restore sufficient safety and performance margins. An avionics upgrade Non-Developmental Item/Commercial Off-the-Shelf (NDI/COTS) will replace obsolescent components and provide improved battlefield situational awareness to the aircrews and customers necessary to support time sensitive mission requirements. This upgrade is critical in keeping the A/MH-6M aircraft operational through FY 2020 and beyond or until a suitable replacement aircraft is available. The non-recurring effort supports development, fabrication of test hardware, qualification of components and systems, and data items to support issuance of Government airworthiness releases for structural and software modifications. This sub-project includes modifications to ASE and weapons systems to counter rapidly merging threats, munitions for testing and enhanced aircraft self-protection.

• MH-60M Modification and Upgrades develops technologies to improve safety of the MH-60 and decrease operational costs. Efforts include, but are not limited to DOD MH-60 engineering changes, product improvements to SOF unique equipment and munitions during testing. This sub-project also includes modifications to ASE and weapons systems to counter rapidly emerging threats, improve lethality and enhance aircraft protection. The FY 2017 funding request was reduced by $2.000 million to account for the prior year execution balances.

• MH-60M Block Upgrades provides the development, integration, and qualification efforts on the MH-60 helicopter to include flight test support, engineering analysis, documentation, and airworthiness substantiation.

• Degraded Visual Environment (DVE) solution will fuse information from currently fielded aircraft sensors with emerging technology to display real-time reference points, obstacles, and landing zone information to the aviator. The DVE solution will provide MH-47/60 aircrews with visual cues for obstacle avoidance and aircraft control during all phases of flight and significantly increase crew and passenger survivability in DVE such as dirt and snow. This program addresses SOF-unique requirements for rapid fielding and weight limitations, capitalizes on the unique skills of the SOF aviator while integrating with SOF-unique avionics, and leverages to the maximum extent possible, the use of existing sensors on SOF aircraft.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

• Future Vertical Lift (FVL) program provides for the long-term replacement of an aging fleet of aircraft and provides a significant increase in range, speed, payload, survivability, reliability, and maintainability of vertical lift aircraft to meet emerging mission requirements. USSOCOM will participate in the service-common development of a joint future vertical lift aircraft by injecting USSOCOM requirements and equities into the initial development and design efforts to minimize SOF-peculiar modifications to the common aircraft.

• Infrared Countermeasure (IRCM) program provides a low Size, Weight, and Power (SWaP) capability suitable for the A/MH-6 Mission Enhanced Little Bird with potential use on the MH-60 and MH-47 aircraft. The IRCM program will develop, integrate, qualify, and test a complete lightweight IRCM system to include a missile warning system, countermeasure capability and infrared suppressor. The A/MH-6 is the only tactical aircraft in the SOF inventory without protection from infrared guided and other advanced Man Portable Air Defense missiles.

• MH-47G Modifications and Upgrades program develops technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include, but not limited to the Active Parallel Actuator System (APAS), Active Noise Cancellation (ANC), and Engine Barrier Filter. This sub-project also includes modifications to ASE and weapons systems to counter rapid emerging threats and enhance aircraft self-protection. The FY 2017 funding request was reduced by $5.000 million to account for the availability of prior year execution balances.

• Mission Processor Upgrade (MPU) program provides for non-recurring engineering (NRE), systems engineering/testing, and future aircraft architecture studies that support the replacement and upgrade of the current mission and video processors for all Army Special Operations Aviation (ARSOA). Upgrading all internal processors increases the processing power to support critical functionality and emerging technologies that will be integrated into the Common Avionics Architecture System (CAAS). This MPU provides the processing and memory resources required to incorporate the following functions into the General Purpose Processing Unit (GPPU): (1) Global Air Traffic Management replaces ground-based navigation aids with a capability that meets the international requirement that all aircraft be compliant with digital and space-based navigation systems; (2) Situational Awareness for Safe Aircraft Recovery provides passive survivability for flight operations in all weather conditions by providing three-dimensional displays with flight path guidance to increase battle space awareness in zero-visibility conditions; (3) Cognitive Decision Aiding System fuses information on threat, route, weather, terrain, and friendly forces instantaneously adjusting an aircraft's route to protect the flight crew in hazardous weather, low levels, and night conditions. The FY 2017 funding request was reduced by $3.000 million to account for the availability of prior year execution balances.

• Next Generation Forward Looking Infrared (NGFLIR) program improves targeting, tracking, and aircrew situational awareness on ARSOA platforms. This program mitigates obsolescence and increasing functionality on the light and heavy assault platforms within the ARSOA fleet.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: A/MH-6M Block 3.0 Upgrade	19.388	20.010	12.890
FY 2015 Accomplishments: Continued development of cockpit upgrades, improved rotor systems, and upgrades to airframe. Continued component level qualification testing and Contract Data Requirements List development/submittals. Initiated system level qualification testing.			
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Continue system level qualification of improved rotor system, avionics upgrade software development, qualifications and initiates Airworthiness and Flight Characteristics testing efforts. ***FY 2017 Plans:*** Continues avionics software development, qualification and Airworthiness and Flight Characteristics testing efforts.			
Title: MH-60M Modifications and Upgrades ***FY 2017 Plans:*** Begins integration and testing of technologies to improve safety and decrease operational costs to include aircraft survivability equipment, weapons systems improvement and munitions during testing.	-	-	0.677
Title: MH-60M Block Upgrades ***FY 2015 Accomplishments:*** Continued flight and qualification testing for the MH-60M Block Upgrades ***FY 2016 Plans:*** Complete integration and flight qualification for the MH-60M Block Upgrades.	12.443	11.966	-
Title: DVE ***FY 2015 Accomplishments:*** Continued Phase II DVE sensor development culminating in flight test of two candidate technical solutions. ***FY 2016 Plans:*** Continue integration and testing of the selected DVE technical solution. ***FY 2017 Plans:*** Completes the qualification and testing of the DVE solution.	16.426	13.465	9.462
Title: FVL ***FY 2015 Accomplishments:*** Participated in the Joint Integrated Product Team material solution analysis with a focus on injecting SOF requirements into the baseline planning and requirements that provides a minimum of SOF-peculiar modifications. ***FY 2016 Plans:*** Continue participation in providing guidance and infrastructure necessary for FVL to implement a mission systems architecture that enables the integration of SOF capabilities into the aircraft. ***FY 2017 Plans:***	1.096	0.782	0.938

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Continues participation in providing guidance and infrastructure necessary for FVL to implement a mission systems architecture that enables the integration of SOF capabilities into the aircraft			
Title: IRCM ***FY 2015 Accomplishments:*** Began development, integration, and qualification testing of a missile warning and lightweight IRCM systems for A/MH-6 aircraft. ***FY 2016 Plans:*** Continue development, integration, and qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft. ***FY 2017 Plans:*** Continues integration and qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft.	2.413	3.450	2.498
Title: MH-47 Modifications and Upgrades ***FY 2015 Accomplishments:*** Began development of APAS and the Engine Barrier Filter for the MH-47G. ***FY 2016 Plans:*** Continue development of APAS and the Engine Barrier Filter for MH-47G. ***FY 2017 Plans:*** Continues APAS development and completes the development of the Engine Barrier Filter for MH-47G.	6.773	11.753	8.501
Title: MPU ***FY 2016 Plans:*** Begin development and testing of replacement mission and video processors for the ARSOA platforms. ***FY 2017 Plans:*** Continues development and testing of replacement mission and video processors for the ARSOA platforms.	-	0.232	1.074
Title: NGFLIR ***FY 2015 Accomplishments:*** Began integration of a life-cycle replacement for the Q2V2 Electro-Optical Sensory System (EOSS) on the MH-60M Defensive Armed Penetrator (DAP). ***FY 2016 Plans:*** Complete integration and testing of a life-cycle replacement for the Q2V2 EOSS on the MH-60M DAP.	2.980	0.996	-
Accomplishments/Planned Programs Subtotals	61.519	62.654	36.040

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0201RWUPGR: *Rotary Wing Upgrades and Sustainment*	163.006	135.985	150.396	-	150.396	169.686	147.659	139.536	144.361	Continuing	Continuing

Remarks

D. Acquisition Strategy

• A/MH-6M Block 3.0 Upgrade comprises three major efforts: airframe/rotors, engine control, and cockpit. The airframe/rotors development effort will be a sole-source contract to Boeing, who owns the technical data associated with the A/MH-6 airframe. The engine control work will be performed by Rolls-Royce and Triumph Electronic Control Systems under sole-source contract to Rolls Royce. The cockpit avionics architecture will be developed by Rockwell-Collins. Any new hardware components will be NDI/COTS and will be competitively selected. Airframe modification and integration work will be conducted at the Special Operations Forces Support Activity (SOFSA) by the incumbent contractor.

• MH-60M SOF Modifications and Upgrades supports the systems integration and qualification efforts on the prototype MH-60M helicopter. This includes, but is not limited to, government and contractor flight test support, engineering analysis, documentation, and airworthiness substantiation. Airframe modification and integration work will be conducted at the Special Operations Forces Support Activity (SOFSA) by the incumbent contractor.

• MH-60M Block Upgrades are accomplished for 72 MH-60M base aircraft with various contractors and acquisition vehicles. The SOFSA executes SOF-peculiar upgrade modifications onto the MH-60M base aircraft.

• DVE integrates and qualifies a solution to address a safety of flight issue while flying in degraded visual environments. A competitive source selection process will be conducted for the DVE solution which will procure, integrate, and install components to provide real-time “see through” imagery and heads up display of visual cues for obstacle avoidance and landing zone information during all phases of flight.

• FVL is the SOF aviation participation in the Joint FVL effort to develop the next generation of vertical takeoff and landing aircraft and establishes the foundation for the transformation of the DOD vertical lift aviation capabilities over the next forty years.

• IRCM develops, integrates, and qualifies a mission configurable Missile Warning System and IRCM capability which does not currently exist at a weight suitable for the A/MH-6 aircraft. Procurement of systems for integration and test will leverage Naval Research Lab IRCM development efforts and contracts. The Government will integrate the systems onto the A/MH-6 utilizing existing aircraft modification contracts.

• MH-47 Modifications and Upgrades will develop technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include the APAS, ANC and Engine Barrier Filter. The upgrades and modifications mostly consist of Government executed integration, testing, and qualification efforts with some analytical engineering services to be completed.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

• MPU - Data Concentrator Unit (DCU) Modernization NRE will be used to improve analog-to-digital signal processing and reliability, as well as reduce weight. The DCU efforts will be sole-source to Sanmina SCI Corporation, the original equipment manufacturer (OEM) for the DCU. The Future Aircraft Architecture Studies will be competitively awarded.

• NGFLIR utilizes the Common Sensor Payload, an existing Army program of record, as a life-cycle replacement for the Q2V2 EOSS. This effort mainly consists of upgrading the camera from Standard Definition to High Definition utilizing existing Army contracts with the OEM. SOF unique integration on the MH-60M DAP platforms will be accomplished through existing aircraft modification contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) D615 / *Rotary Wing Aviation*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A/MH-6M Block 3.0 Upgrades	C/Various	PM MELB : Ft Eustis, VA	12.420	19.388	Feb 2015	20.010	Nov 2015	12.890	Nov 2016	-		12.890	Continuing	Continuing	-
Degraded Visual Environment (DVE)	C/Various	PM TAPO : Ft Eustis, VA	11.850	16.426	Jan 2015	13.465	Jan 2016	9.462	Jan 2017	-		9.462	Continuing	Continuing	-
Future Verticle Lift (FVL) Cost Benefit Analysis	C/Various	PEO-RW : MacDill AFB, FL	0.481	1.096	Sep 2015	0.782	Feb 2016	0.938	Feb 2017	-		0.938	Continuing	Continuing	-
Infrared Countermeasure (IRCM) Integration Testing	C/Various	PM TAPO : Ft Eustis, VA	0.173	2.413	Aug 2015	3.450	Mar 2016	2.498	Mar 2017	-		2.498	Continuing	Continuing	-
MH-47G Modifications and Upgrades	C/Various	PM TAPO : Eustis, VA	-	6.773	Aug 2015	11.753	Jan 2016	8.501	Jan 2017	-		8.501	Continuing	Continuing	-
Mission Processor Upgrade (MPU)	C/Various	PM TAPO : Eustis, VA	-	-		0.232	Apr 2016	1.074	Apr 2017	-		1.074	Continuing	Continuing	-
Next Generation Foward Looking Infrared (NGFLIR)	C/Various	PM TAPO : Eustis, VA	-	2.980	Oct 2015	0.996	Jan 2016	-		-		-	0.000	3.976	-
		Subtotal	24.924	49.076		50.688		35.363		-		35.363	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MH-60M Modification and Upgrades	C/Various	Various : Various	-	-		-		0.677	Dec 2016	-		0.677	Continuing	Continuing	-
MH-60M Block Upgrades Flight Qualification Testing	C/Various	Various : Various	-	12.443	Mar 2015	11.966	Jan 2016	-		-		-	0.000	24.409	-
Prior Years Funding	C/Various	Various : Various	2.653	-		-		-		-		-	0.000	2.653	-
		Subtotal	2.653	12.443		11.966		0.677		-		0.677	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	27.577	61.519		62.654		36.040		-		36.040	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

A/MH-6M Block 3.0 Upgrade Schedule

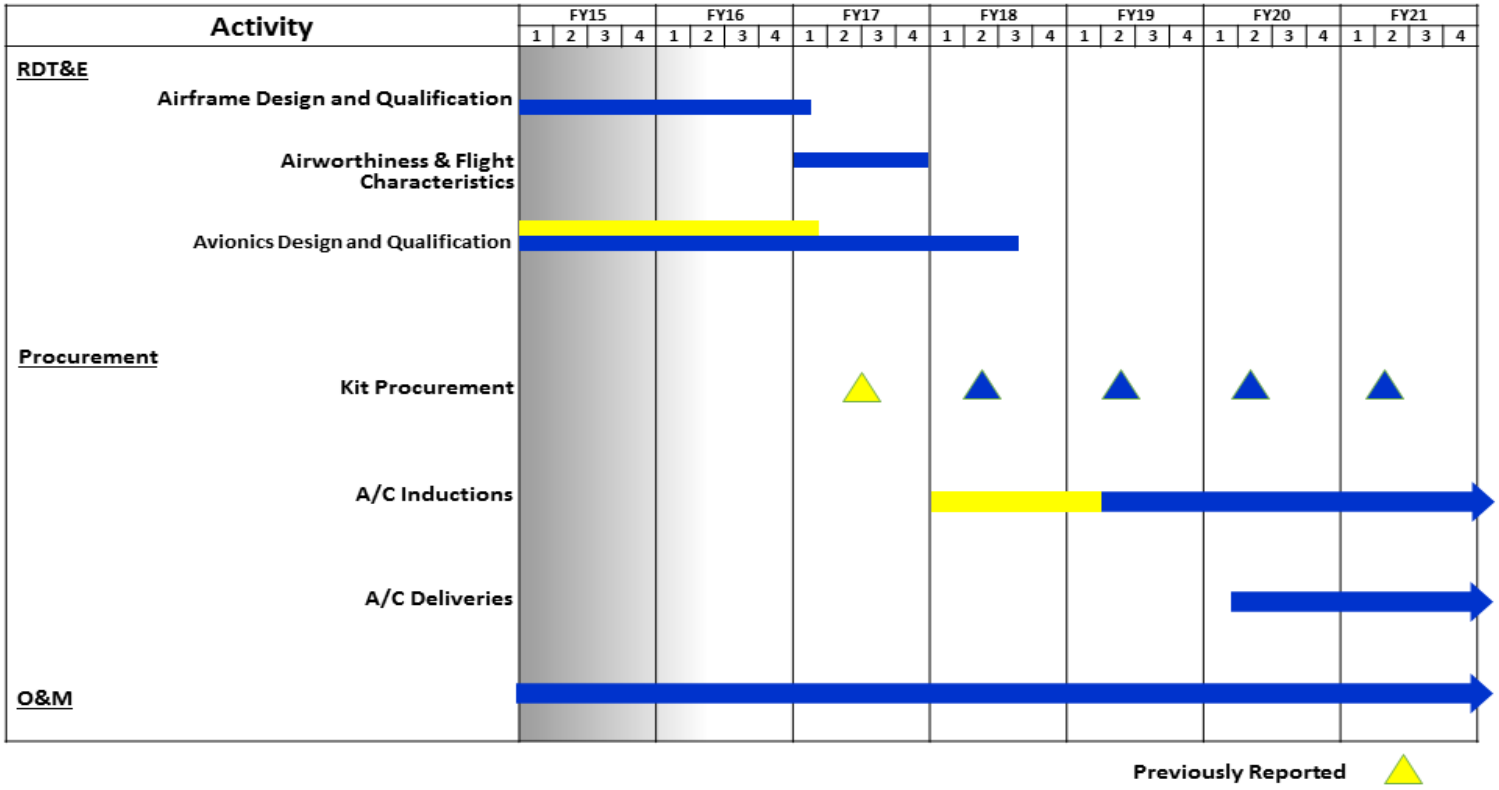


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

MH-60M Block Upgrades Schedule

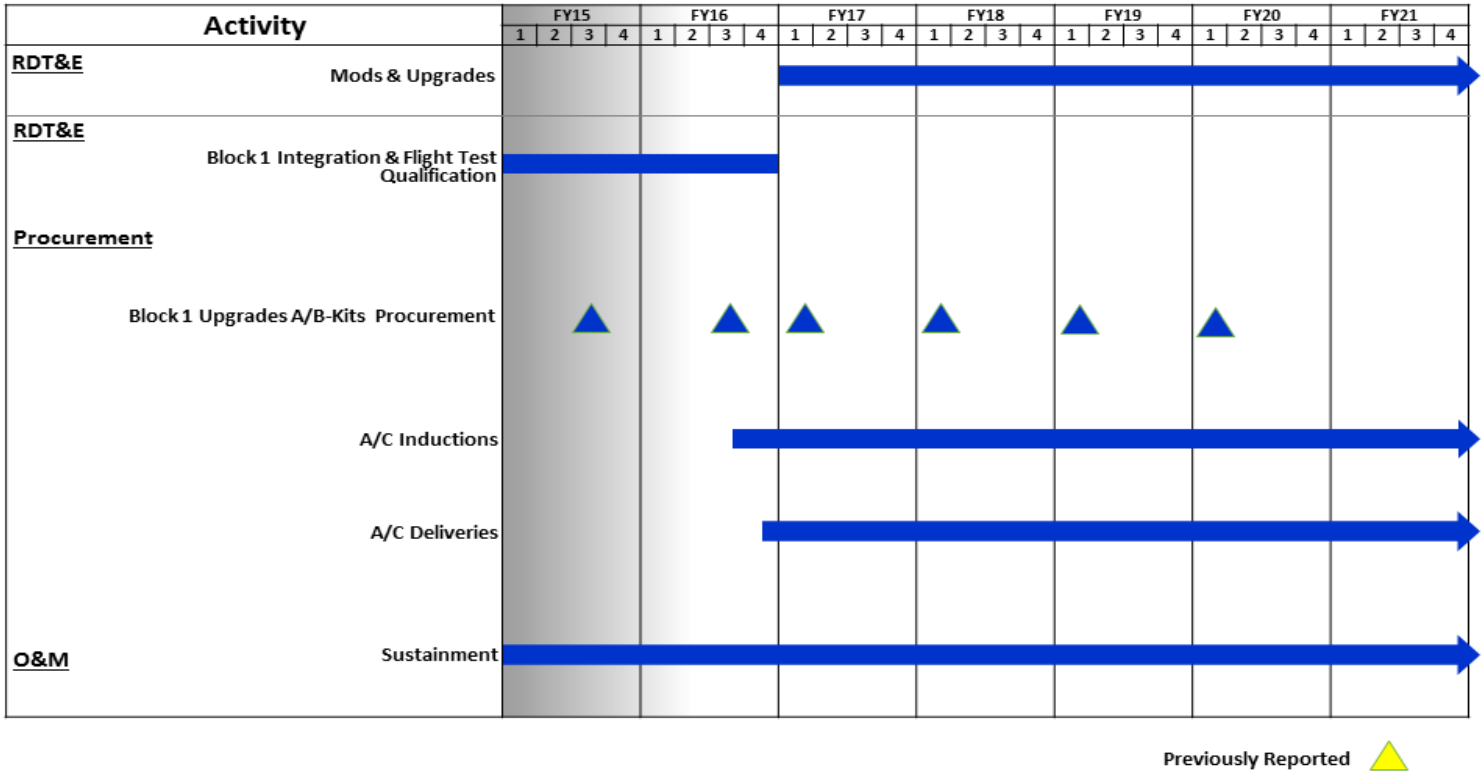


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Degraded Visual Environment Schedule

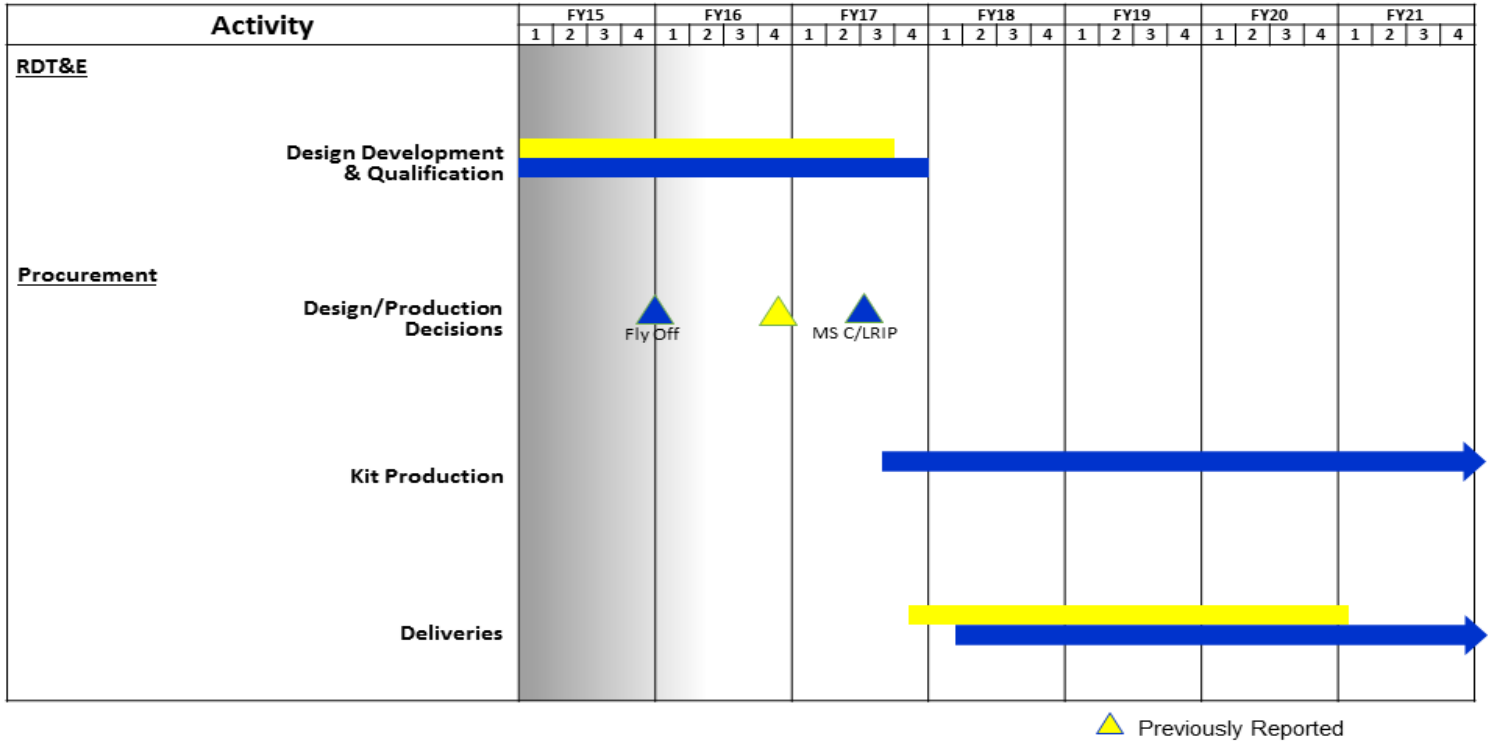


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Future Vertical Lift Schedule

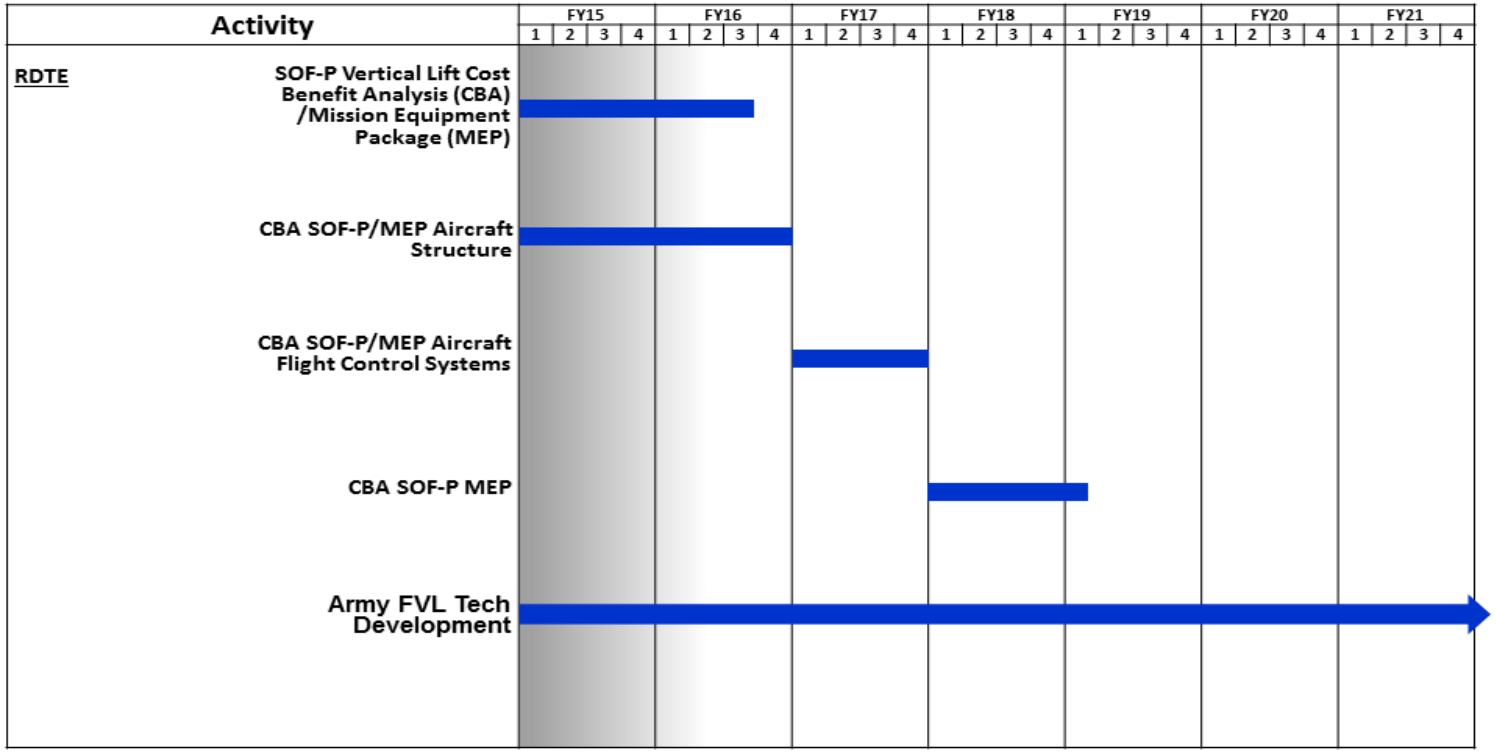


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Infrared Countermeasures Schedule

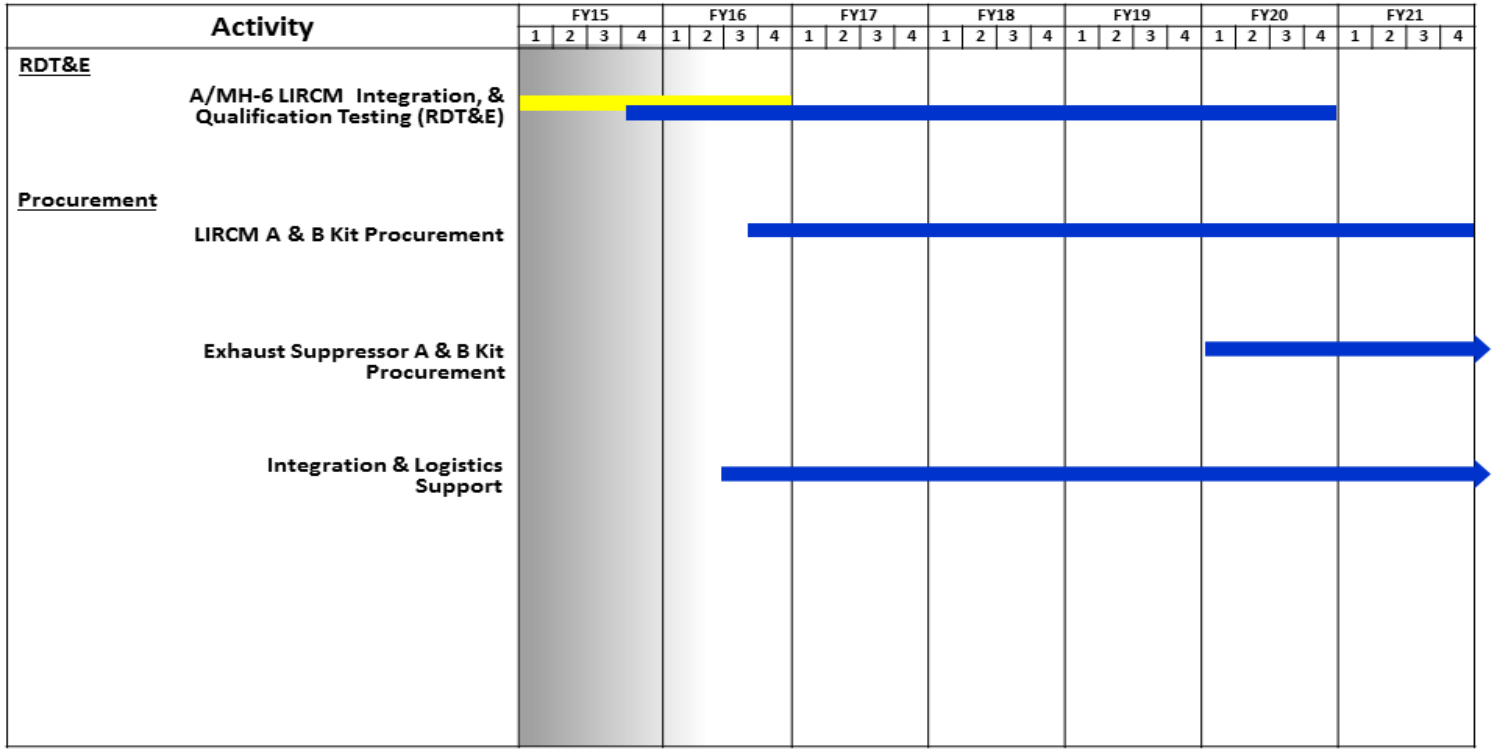


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

MH-47 Modifications & Upgrades Schedule

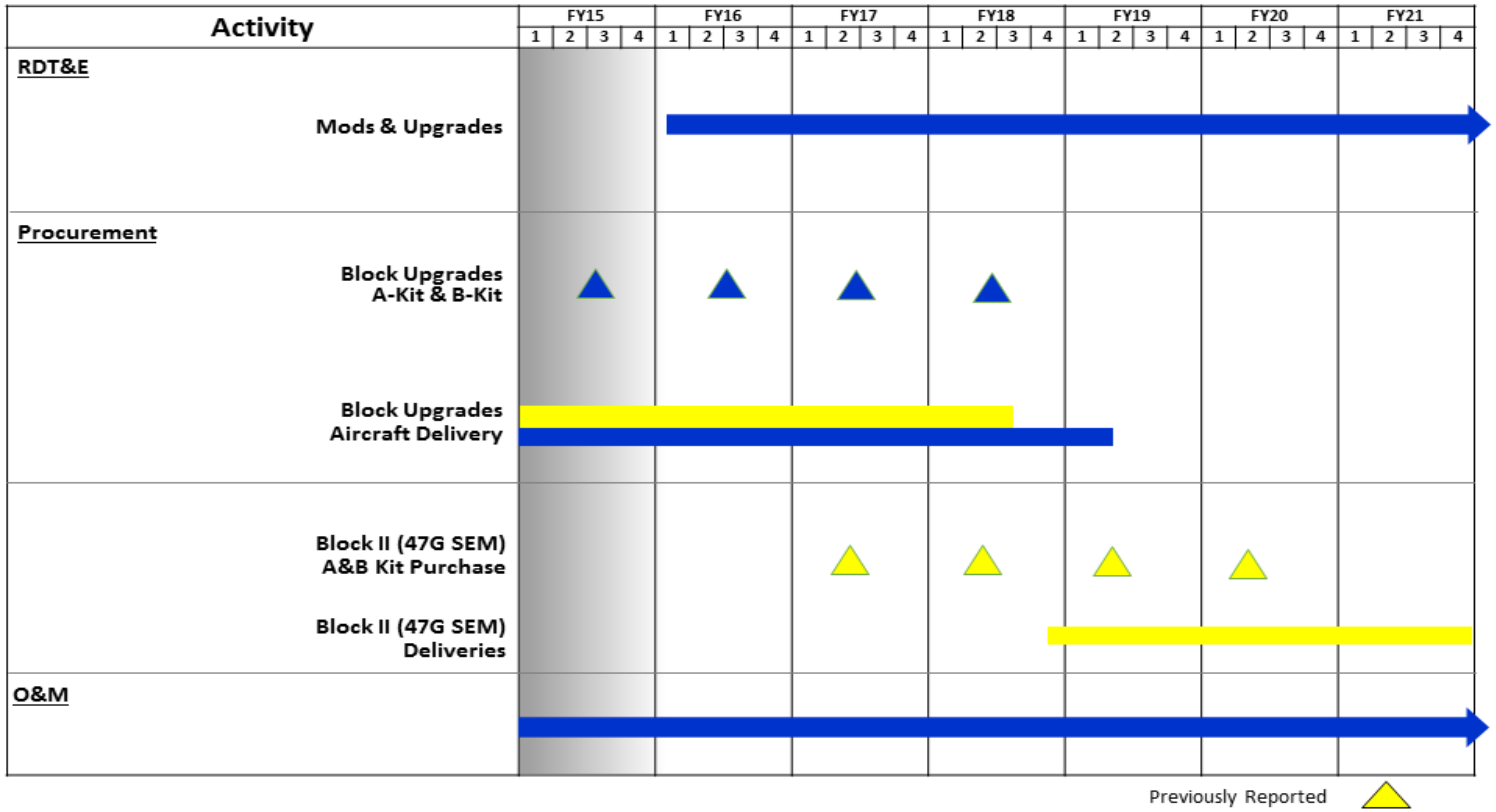


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Mission Processor Upgrades Schedule

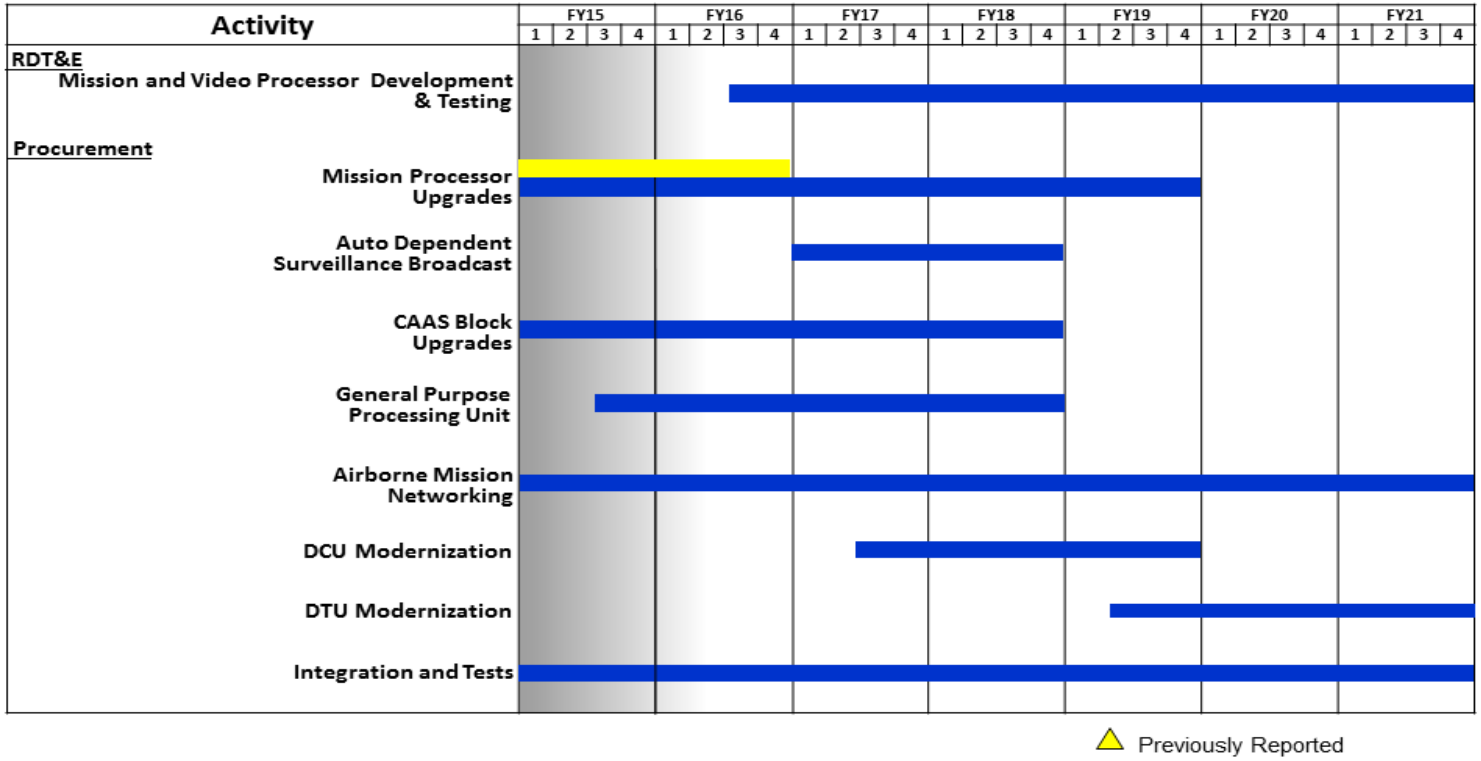


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Next Generation FLIR Schedule

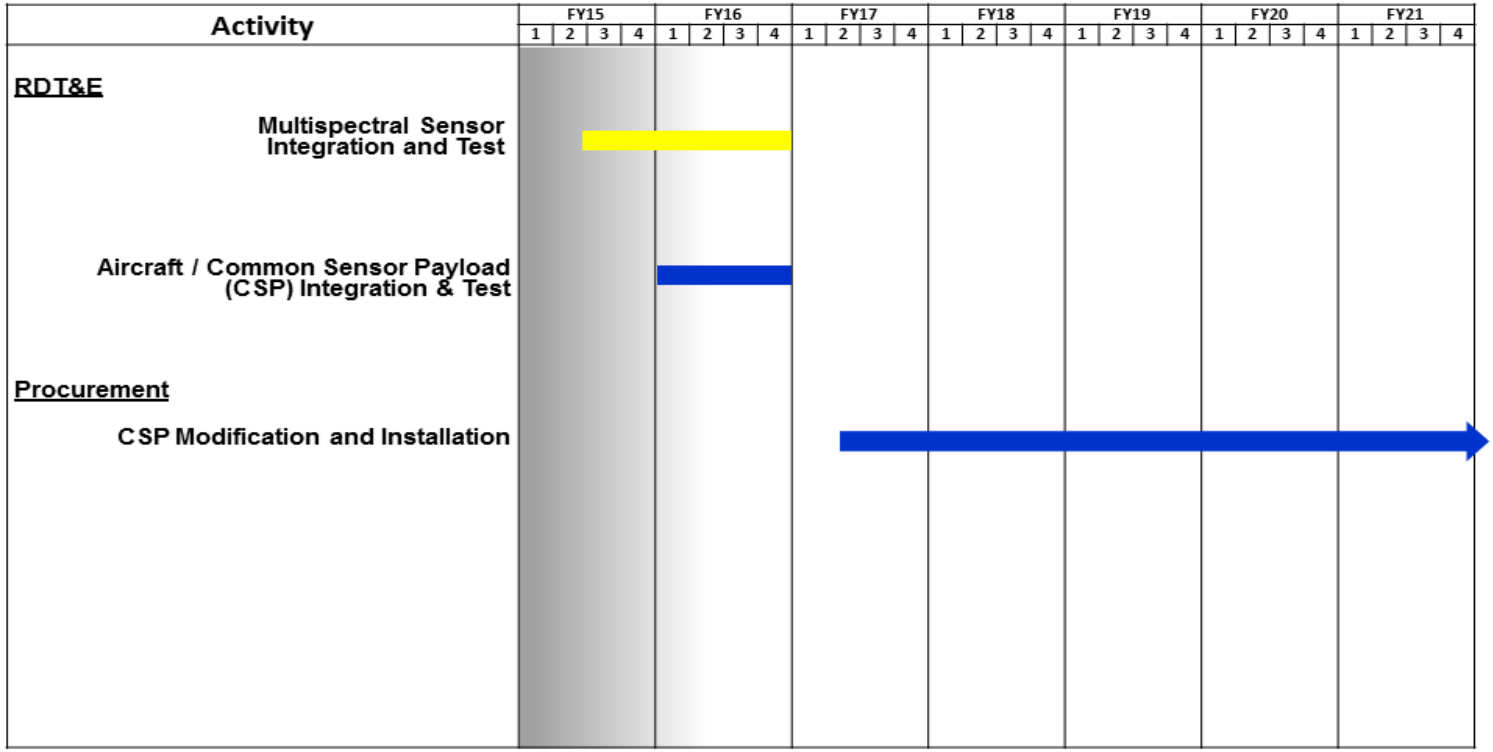


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
A/MH-6M Block 3.0 Development/Qualification/Testing	1	2015	3	2018
MH-60M Modifications and Upgrades	1	2017	4	2021
MH-60M Block Upgrades Testing	3	2015	4	2016
Degraded Visual Environment (DVE)	1	2015	4	2017
Future Vertical Lift (FVL)	1	2015	1	2019
Infrared Countermeasure (IRCM)	4	2015	4	2020
MH-47G Modifications and Upgrades Qualification/Testing	4	2015	4	2021
Mission Processor Upgrade (MPU)	3	2015	4	2021
Next Generation Foward Looking Infrared (NGFLIR)	1	2016	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	554.286	9.490	6.866	7.958	-	7.958	7.952	7.813	7.953	8.099	Continuing	Continuing
S400: *SO Intelligence Systems*	554.286	9.490	6.866	7.958	-	7.958	7.952	7.813	7.953	8.099	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP) that provides for the identification, development, and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, and tactical exploitation of national system capabilities. USSOCOM has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities into the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	9.490	6.866	6.969	-	6.969
Current President's Budget	9.490	6.866	7.958	-	7.958
Total Adjustments	0.000	0.000	0.989	-	0.989
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	0.989	-	0.989

Change Summary Explanation

Funding:

FY 2015: None.

FY 2016: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*

FY 2017: Net increase of $0.989 million funds Joint Threat Warning System's ($0.889 million) Air, Ground Signal Intelligence Kit, Maritime and Unmanned Air System variants' development to address emerging threats with evolutionary technology insertions and developmental and operational testing. The Special Operations Forces Planning, Rehearsal and Execution Preparation (SOFPREP) program ($0.160 million) will fund test and evaluation of operational prototype systems to speed production of enhanced Geospatial Intelligence (GEOINT) and high-resolution 3D terrain databases, and a decrease for Departmental economic assumption (-$0.060 million).

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / *Intelligence Systems Development*	Project (Number/Name) S400 / *SO Intelligence Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S400: *SO Intelligence Systems*	554.286	9.490	6.866	7.958	-	7.958	7.952	7.813	7.953	8.099	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This sub-project is part of the Military Intelligence Program (MIP). Provides for the identification, development, and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, and tactical exploitation of national system capabilities. The systems developed and tested in this line item are National Systems Support to SOF (NSSS); Joint Threat Warning System (JTWS); Hostile Forces - Tagging, Tracking, and Locating (HF-TTL); Special Operations Tactical Video System/Reconnaissance, Surveillance, and Target Acquisition (TVS/RSTA); Special Operations Forces Planning, Rehearsal and Execution Preparation (SOFPREP); Integrated Survey Program (ISP); and Sensitive Site Exploitation (SSE).

U.S. Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities throughout the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments. The intelligence programs funded in this project will meet annual emergent requirements and are grouped by the level of organizational element they support: Operational Element (Team) and Above Operational Element (Garrison).

OPERATIONAL ELEMENT (TEAM)

• NSSS. This program provides a research and development rapid prototyping program that functions as HQ SOCOM's Tactical Exploitation of National Capabilities (TENCAP) program. NSSS improves the combat effectiveness of USSOCOM, its components, and the Theater Special Operations Commands by leveraging National Government Agency (NGA) and Service development efforts to provide innovative space-based intelligence systems technologies and enhancements, products and special communications capabilities to tactical SOF units to include Geospatial Intelligence, Signals Intelligence, Special Communications, and intelligence fusion, reporting, and dissemination. NSSS efforts are characterized by rapid development, fielding and deployment, and focus on transitioning to SOCOM Programs of Records. These developmental efforts usually support SOCOM's existing Military Intelligence Programs. Focus items include: Small Unmanned Aerial System Multi-Intelligence geo-location and targeting capabilities with a Rapid Reliable Targeting system that supports National Geospatial Agency (NGA) CAT1 level targeting, enhanced Geospatial Intelligence (GEOINT) processing capabilities by fusing Light Detection and Ranging with National Technical Means (NTM) and the Enhanced Image Rendering Tool, which allows sharing of NTM Imagery with coalition forces. NSSS will also improve Signal Intelligence (SIGINT) capabilities by pursuing Joint Capabilities Integration and Development 4.x and follow-on compliant SIGINT capabilities, extending SOCOM's cross-domain security infrastructure by adding unclassified sensors into theater net-centric geo-location architecture, improve detection of Low-Probability of Intercept and Low Probability of Detection signals, and automated radar characterizations that enhance tactical SOF capabilities to find, fix, monitor, and target assets using NTM.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

• JTWS. JTWS is a System of Systems (SoS) and is principally a SIGINT system; however, it can be used under Electronic Warfare and/or Cyber authorities if required. The JTWS SoS enables the SOF Cryptologic Operator (SCO) to collect, process, locate and exploit threat communications signals of interest in order to provide timely, relevant, and responsive intelligence, cross-cueing, and threat avoidance information directly to the SOF Commanders. The JTWS SoS is assembled in four variants (level 1): Ground SIGINT Kit variant, Maritime variant, Air variant and Unmanned Aerial System variant. Each variant is further subdivided into a functional layer (level 2): Communications Intelligence, Electronic Intelligence, and Precision Geo-location (PGL) kits and an implementation layer (level 3) designed around the SCO mission environment and SOF platform specific requirements.

• HF-TTL. This program utilizes a commodity procurement strategy to provide SOF warfighters with the necessary tools to find, fix, and finish terrorist networks through the emplacement of sophisticated tags and devices that feed into an integrated architecture. HF-TTL provides Global Combatant Commanders and SOF operators with an immediate capability to tag, track, and locate people, things and activities. The HF-TTL program provides actionable intelligence for SOF planners. The mission sets are comprised of a mix of different classes of tags and their associated detection, interrogation, viewing, tracking, and communications systems that are fielded annually to SOF Components and Theater Special Operations Commands based upon dynamic and emergent SOF operational requirements.

• TVS/RSTA. This program provides SOF with critical Special Reconnaissance (SR) equipment that directly supports the planning and execution of SOF missions. This capability allows the SOF warfighter to meet SOF SR mission requirements to find, fix, finish, exploit, analyze, and disseminate information of adversary's movement, construct, identification, location; and associated things and activities. TVS/RSTA provides Global Combatant Commanders and SOF operators with an immediate capability to visually and electronically acquire people, things, and activities and provides actionable intelligence for SOF planners and Commanders. The program Family of Systems (FoS) consists of interoperable equipment to capture and transfer near-real-time ground-based, tactical day/night/reduced visibility, imagery, video, and electronic proximity and movement sensing, all capable of dissemination through SOF organic, global C4I, and commercial communications infrastructures.

ABOVE OPERATIONAL ELEMENT (GARRISON)

• SOFPREP. This program serves as the intelligence focal point for production of SOF enhanced GEOINT (maps, imagery, and terrain data) and 3D scene visualization databases. SOFPREP gathers, processes, exploits, disseminates and manages classified high resolution 3D databases and GEOINT data in support of SOF training, mission rehearsal and execution preparation systems. The program builds the SOF common geospatial environment and facilitates access to authoritative source data to enable the rapid discovery, retrieval, and reuse of GEOINT data across SOF mission planning, operations, intelligence and modeling and simulation. SOFPREP is a NGA-certified co-producer in support of time-sensitive SOF specific requirements.

• ISP. This program collects and produces current, detailed, tactical planning data to support military operations to counter threats against U.S. citizens, interests, and property located both domestic and overseas. ISP products are specifically tailored packages that provide operational information, as well as intelligence data for use by DOD and the U.S. Department of State to support operational planners for counter-terrorism operations, evacuations, and other rescue missions.

• SSE. This program provides the capability to exploit personnel, documents, electronic data, material, and forensic evidence on sensitive sites/objectives. Biometrics allows collection and transmission of unique, measurable biometric signatures from personnel, including live/latent fingerprints, iris patterns, and facial features. It also provides a means to verify against and enroll subjects into the DOD authoritative database, and to query that database to support hold or release decisions. Forensic

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

kits enable on-objective linking of events to specific persons through chemical analysis, latent fingerprints, cell phones and computer data analysis, and deoxyribonucleic acid collection. Exploitation Analysis Centers provide theater-level forensic laboratory capabilities for more in-depth exploitation of captured evidence.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: NSSS	0.807	0.802	0.816
FY 2015 Accomplishments: Developed SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the Intelligence Community (IC), while coordinating with other SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasized areas include Intelligence, Surveillance, and Reconnaissance (ISR) support for Tagging, Tracking, and higher-accuracy geo-locating hostile forces, as well as Friendly Force Tracking (FFT), especially in system-challenged environments.			
FY 2016 Plans: Continue development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the IC, while coordinating with other SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasize areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating hostile forces, as well as FFT, especially in system-challenged environments.			
FY 2017 Plans: Continues development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the IC, while coordinating with other SOCOM and IC Programs of Record for production and operational fielding of the successful capabilities. Emphasizes areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating hostile forces, as well as FFT, especially in system-challenged environments.			
Title: JTWS	7.301	4.317	5.233
FY 2015 Accomplishments: Continued networking and testing within the JTWS SoS and continued spiral development for all variants. Continued JTWS Maritime prototype development.			
FY 2016 Plans: Continue networking and testing within the JTWS SoS and continues spiral development for all variants. Continue JTWS Maritime prototype development.			
FY 2017 Plans: Continues networking and testing within the JTWS SoS and continues spiral development for all variants. Continues JTWS Maritime development and operational testing.			
Title: HF-TTL	0.731	0.765	0.801

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
FY 2015 Accomplishments: Began specialized device modifications, integration and operational testing and evaluation. ***FY 2016 Plans:*** Continue specialized device modifications, integration and operational testing and evaluation. ***FY 2017 Plans:*** Continues specialized device modifications, integration and operational testing and evaluation.			
Title: TVS/RSTA ***FY 2015 Accomplishments:*** Continued integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/downsized hardware/ software configuration on all systems. ***FY 2016 Plans:*** Continue integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/downsized hardware/ software configuration on all systems. ***FY 2017 Plans:*** Continues integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/downsized hardware/ software configuration on all systems.	0.373	0.377	0.385
Title: SOFPREP ***FY 2016 Plans:*** Begin testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D terrain databases in a Graphics Processing Unit (GPU) accelerated high performance computing architecture. ***FY 2017 Plans:*** Continues testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D terrain databases in a GPU accelerated high performance computing architecture.	-	0.325	0.439
Title: ISP ***FY 2015 Accomplishments:*** Began development for the modernization of the ISP system to integrate with enterprise architecture and support the latest standards and technology. ***FY 2016 Plans:***	0.278	0.125	0.127

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Continue development for the modernization of the ISP system to integrate with enterprise architecture and support the latest standards and technology. ***FY 2017 Plans:*** Continues development for the modernization of the ISP system to integrate with enterprise architecture and support the latest standards and technology.			
Title: SSE ***FY 2016 Plans:*** Begin specialized device integration and operational testing and evaluation. ***FY 2017 Plans:*** Continues evaluation of new technologies, and formal testing to confirm operational effectiveness and suitability prior to fielding.	-	0.155	0.157
Accomplishments/Planned Programs Subtotals	9.490	6.866	7.958

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/020400INTL: *Intelligence Systems*	86.837	93.009	79.963	-	79.963	82.054	73.445	82.989	92.509	Continuing	Continuing

Remarks

D. Acquisition Strategy

• NSSS introduces and integrates national systems capabilities into the SOF force structure and operations. This is accomplished by partnering with existing IC programs of record to incorporate SOF mission requirements into current and developing technologies and assets. This leveraging of funding increases national and commercial systems awareness, demonstrates the tactical utility of national systems and commercial data, tests technologies and evaluates operational concepts in biennial Joint Staff Special Projects, and allows for the transition of promising concepts and technologies to other SOF program office for execution.

• JTWS employs an evolutionary strategy to provide upgraded next generation technology insertions and to address the changing threat environment for all air, ground, maritime and unmanned air system variants. Commercial and government agency sources will be leveraged for required certifications, functional and operational test and acceptance support. The contracting strategy uses a mixture of indefinite delivery/indefinite quantity contracts for Commercial off-the-shelf (COTS) procurement and new development only as necessary.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

• HF-TTL utilizes a commodity procurement acquisition strategy to provide highly sophisticated TTL and close target audio/video devices capable of operating in various environments as needed to meet SOF operational requirements. Commercial and government agency sources will be leveraged for required certifications, device level modifications, integration, functional, and operational testing and evaluations.

• TVS/RSTA employs an evolutionary strategy to incorporate the latest state of technology within its product line to provide upgraded next-generation technology insertion of commercial-off-the-shelf systems and address the changing threat environment to meet SOF reconnaissance and surveillance mission requirements. Commercial and government agency sources will be leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

• SOFPREP employs an evolutionary strategy to insert emerging technologies for processing, exploitation and dissemination capabilities tailored to SOF user-defined mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

• ISP employs an evolutionary strategy to insert emerging technologies for collection, processing, exploitation and dissemination capabilities tailored to SOF user-defined mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

• SSE uses a commodity procurement acquisition strategy to provide next-generation technologies for collection, processing, exploitation and dissemination capabilities supporting SOF exploitation mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
National Systems Support to SOF (NSSS)	MIPR	Various : Various	14.873	0.542	Dec 2014	0.532	Dec 2015	0.541	Dec 2016	-		0.541	Continuing	Continuing	-
Joint Threat Warning System (JTWS)-Air Increment 2	MIPR	SPAWAR : Charleston, SC	5.168	0.935	Nov 2014	1.000	Nov 2015	1.099	Nov 2016	-		1.099	Continuing	Continuing	-
JTWS-Ground Sigint Kit (GSK), Inc 2	C/CPFF	Various : Various	19.057	0.791	Nov 2014	0.795	Nov 2015	0.974	Nov 2016	-		0.974	Continuing	Continuing	-
JTWS-Maritime	C/CPFF	Various : Various	4.422	3.387	Nov 2014	0.452	Nov 2015	0.462	Nov 2016	-		0.462	Continuing	Continuing	-
JTWS-All Variants	MIPR	Various : Various	0.818	0.836	Oct 2014	0.637	Oct 2015	1.152	Oct 2016	-		1.152	Continuing	Continuing	-
Integrated Survey Program	C/FFP	Various : Various	-	0.278	Jan 2015	0.125	Jan 2016	0.127	Jan 2017	-		0.127	Continuing	Continuing	-
Hostile Forces-Tagging Tracking, and Locating (HF-TTL)	C/CPFF	Various : Various	-	0.731	Apr 2015	0.484	Nov 2015	0.516	Nov 2016	-		0.516	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	461.047	-		-		-		-		-	0.000	461.047	-
		Subtotal	505.385	7.500		4.025		4.871		-		4.871	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTWS Variant Analysis - Naval Post-Graduate School (NPS)	MIPR	NPS : Monterey, CA	0.515	0.135	Jan 2015	0.137	Jan 2016	0.169	Jan 2017	-		0.169	Continuing	Continuing	-
JTWS-NSA Intern Support	MIPR	NSA : Ft Meade, MD	0.400	0.103	Apr 2015	0.105	Apr 2016	0.127	Apr 2017	-		0.127	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	6.493	-		-		-		-		-	0.000	6.493	-
		Subtotal	7.408	0.238		0.242		0.296		-		0.296	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTWS	MIPR	JITC : FT Huachuca, AZ	4.680	1.114	Nov 2014	1.191	Nov 2015	1.250	Nov 2016	-		1.250	Continuing	Continuing	-
Tactical Video System/ Reconnaissance, Surveillance, & Target Acquisition	MIPR	ATEC : FT Huachuca, AZ	0.367	0.373	May 2015	0.377	Jun 2016	0.385	Jun 2017	-		0.385	Continuing	Continuing	-
HF-TTL	MIPR	ATEC : FT Huachuca, AZ	-	-		0.281	Nov 2015	0.285	Nov 2016	-		0.285	Continuing	Continuing	-
Sensitive Site Exploitation	MIPR	JITC : FT Huachuca, AZ	-	-		0.155	Dec 2015	0.157	Dec 2016	-		0.157	Continuing	Continuing	-
Special Operations Forces Planning, Rehearsal & Execution Preparation	C/FFP	Various : Various	-	-		0.325	Jan 2016	0.439	Jan 2017	-		0.439	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	0.549	-		-		-		-		-	0.000	0.549	-
		Subtotal	5.596	1.487		2.329		2.516		-		2.516	-	-	-

Management Services ($ in Millions)

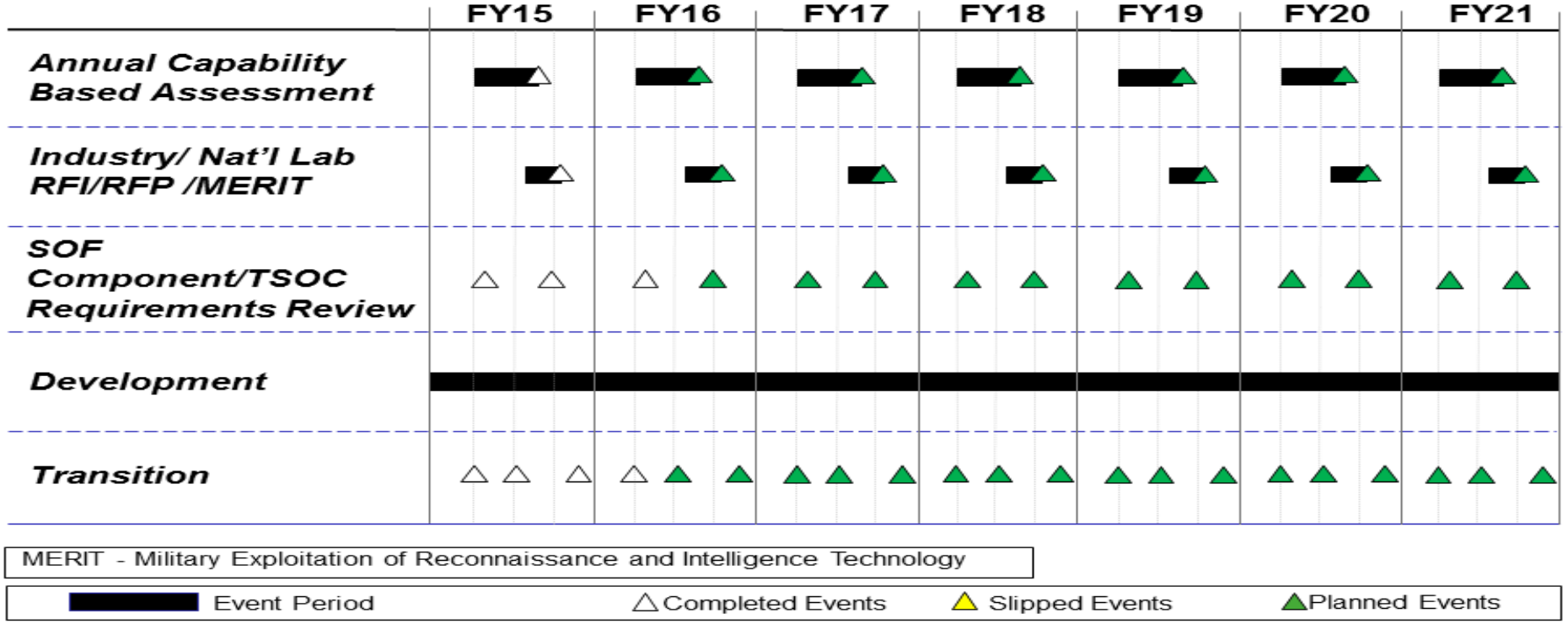
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NSSS Program Support	C/CPAF	Jacobs : Tampa, FL	5.218	0.265	May 2015	0.270	May 2016	0.275	May 2017	-		0.275	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	30.679	-		-		-		-		-	0.000	30.679	-
		Subtotal	35.897	0.265		0.270		0.275		-		0.275	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	554.286	9.490		6.866		7.958		-		7.958	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

NSSS/TENCAP Program Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

Joint Threat Warning System Schedule

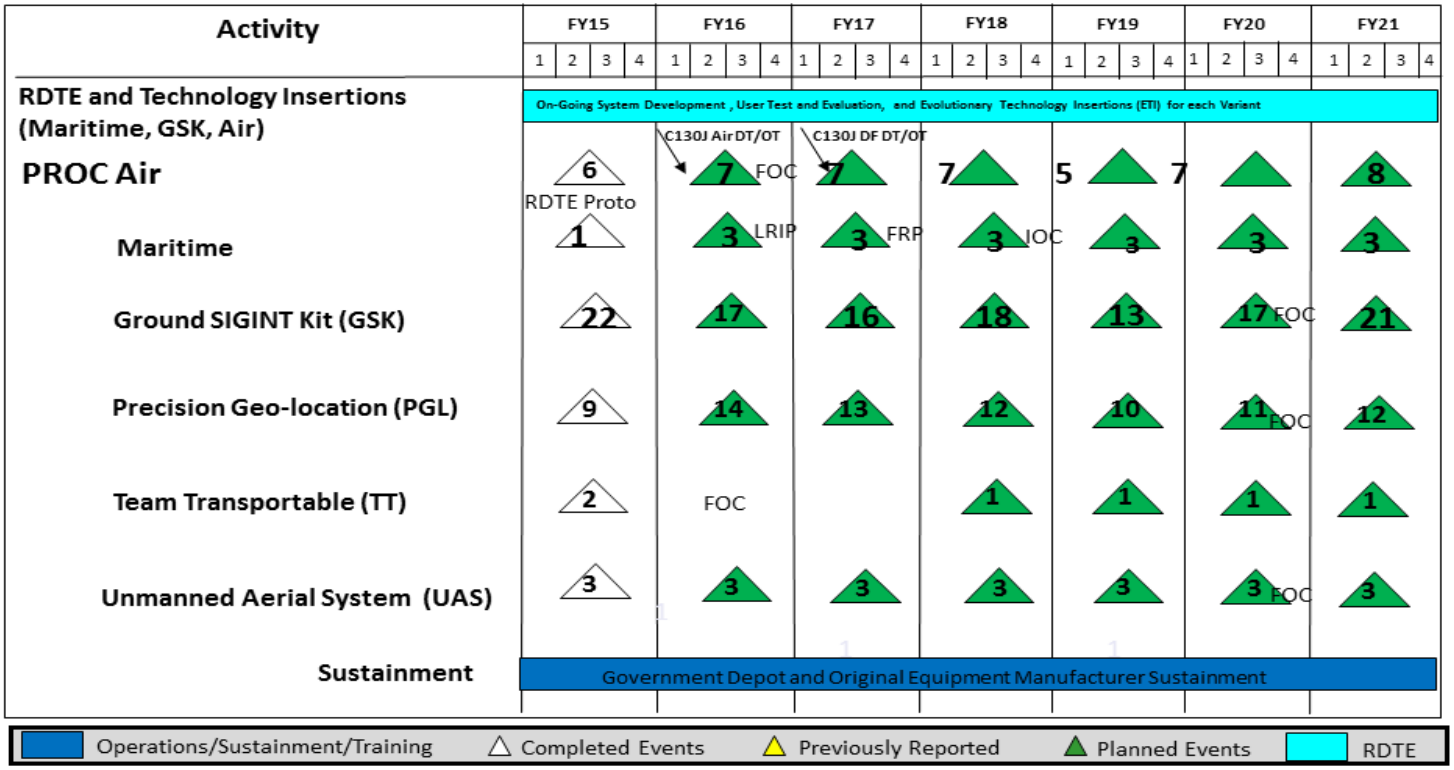


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

HF-TTL Schedule

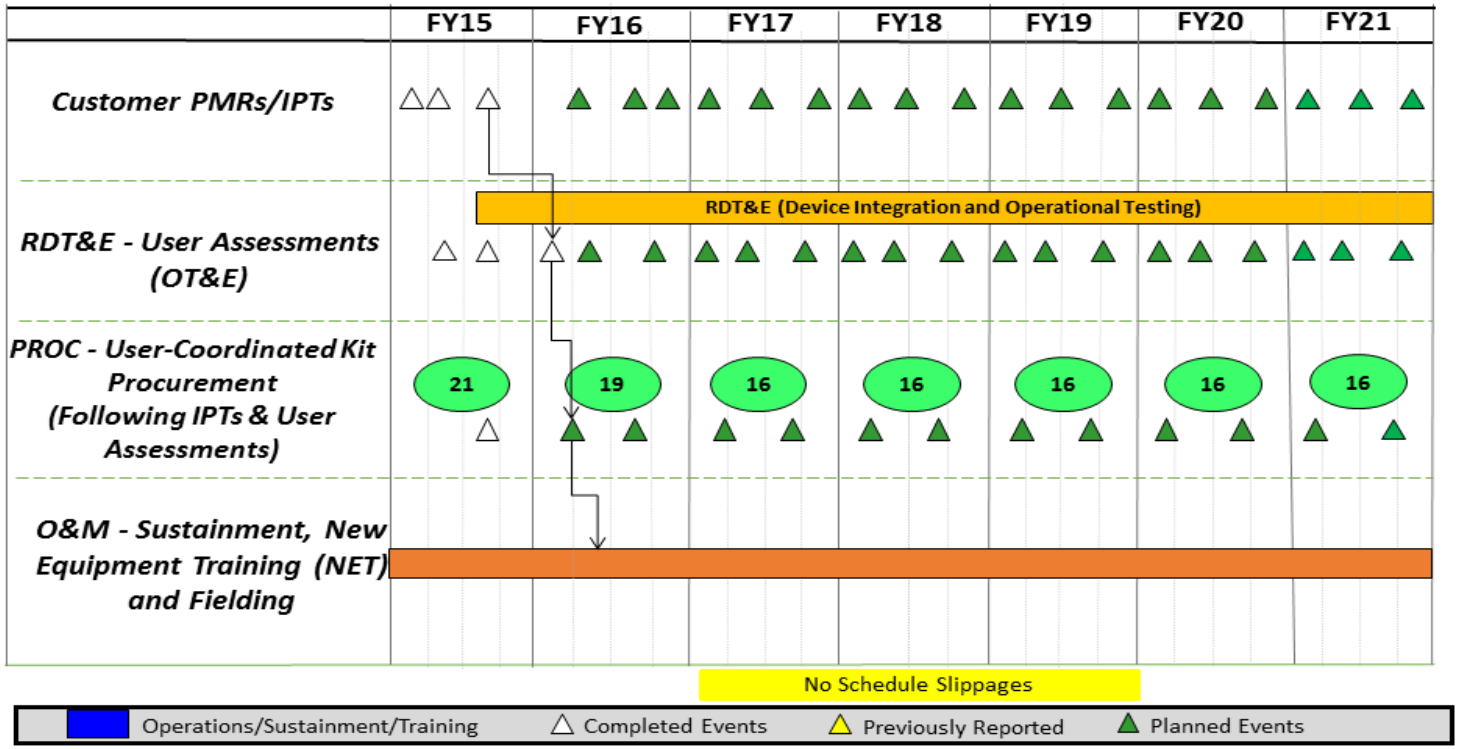


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

TVS/RSTA Schedule

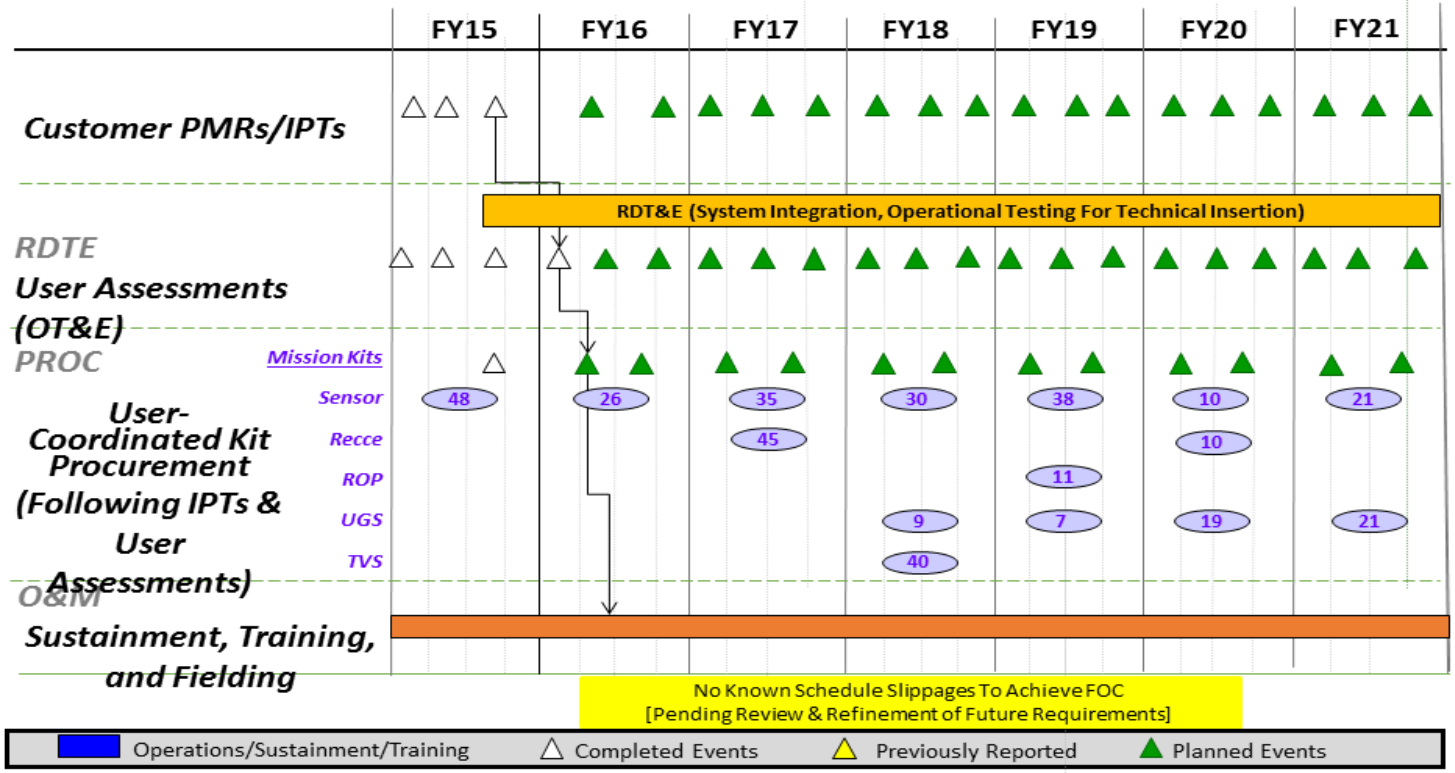


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

SOFPREP Schedule

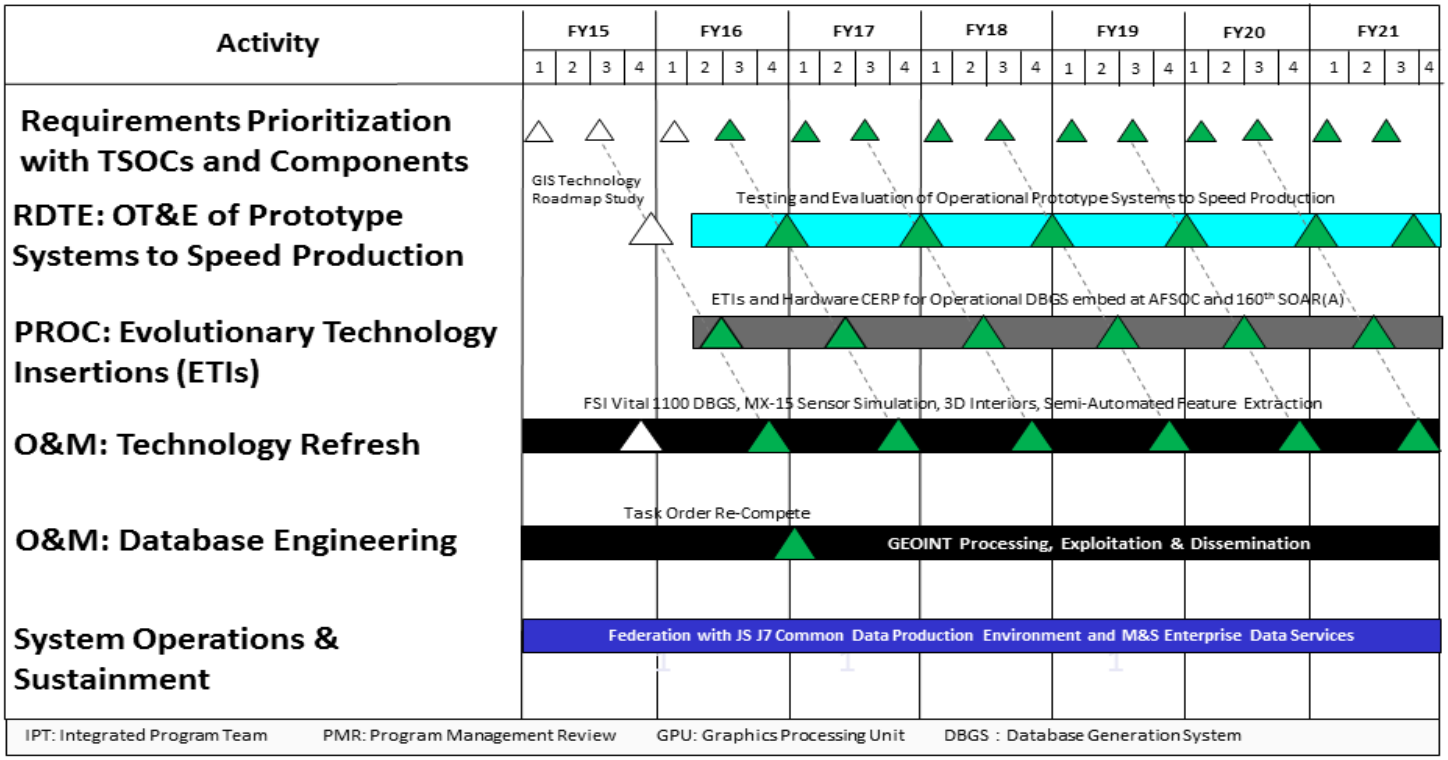


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

ISP Schedule

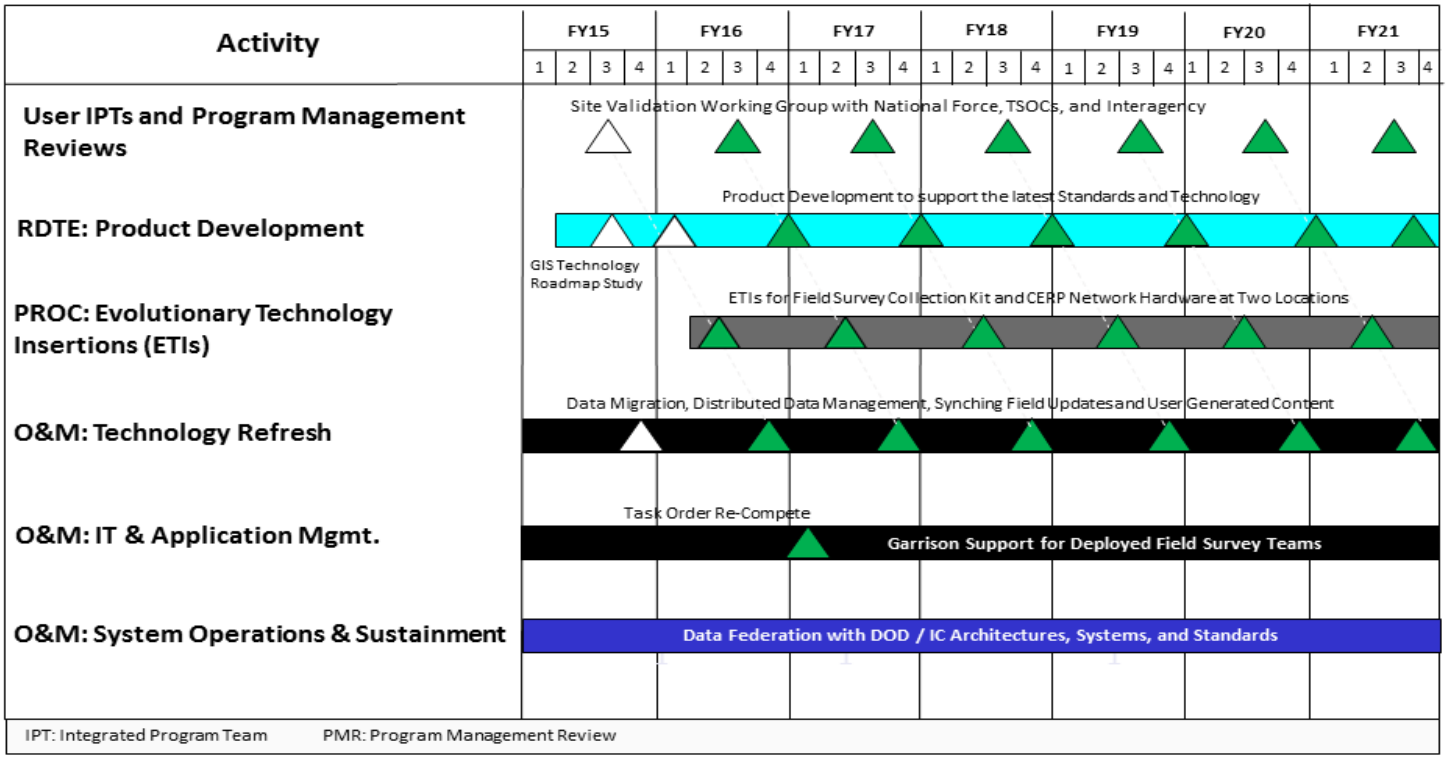


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

SSE Schedule

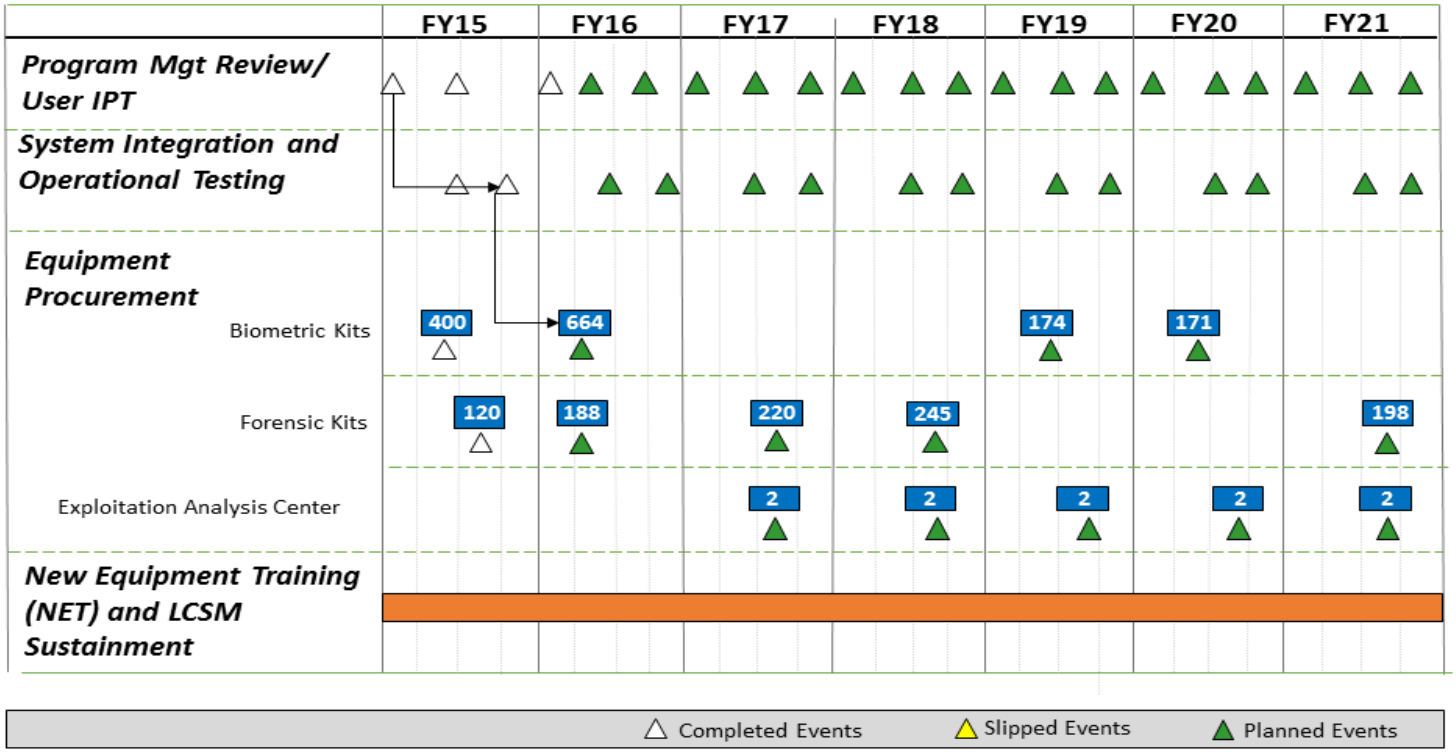


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
National Systems Support to SOF Participation in Space Technology Development and Integration				
National System Support to SOF Participation in Space Technology Development and Integration	1	2015	4	2021
Joint Threat Warning System				
Air Variant Development, Test and Evaluation	1	2015	4	2021
Ground Sigint Kit Variant Development, Test and Evaluation	1	2015	4	2021
Maritime Variant Development, Test and Evaluation	1	2015	4	2021
Hostile Forces - Tagging, Tracking, and Locating				
Device Integration and Operational Testing	3	2015	4	2021
Special Operations Tactical Video System				
System Integration and Operational Testing	3	2015	4	2021
Special Operations Forces Planning, Rehearsal & Execution Preparation				
Operational Test and Evaluation	2	2016	4	2021
Integrated Survey Program				
Product Development	2	2015	4	2021
Sensitive Site Exploitation				
System Integration and Operational Testing	1	2016	4	2021

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160408BB / *Operational Enhancements*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	1,174.948	78.627	63.008	64.895	-	64.895	69.973	70.457	75.400	79.150	Continuing	Continuing
S500A: *Operational Enhancements*	1,174.948	78.627	63.008	64.895	-	64.895	69.973	70.457	75.400	79.150	Continuing	Continuing

A. Mission Description and Budget Item Justification

Details are provided under separate cover.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	81.253	63.008	61.153	-	61.153
Current President's Budget	78.627	63.008	64.895	-	64.895
Total Adjustments	-2.626	0.000	3.742	-	3.742
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.626	-			
• Other Adjustments	-	-	3.742	-	3.742

Change Summary Explanation

Funding:

FY2015: Decrease of $2.626 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer program.

FY2016: None.

FY2017: Net Increase of $3.742 million is due to a Departmental economic assumption decrease (-$0.488M) and a programmatic increase of $4.230 million available under separate cover.

Schedule: None.

Technical: None.

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	15.391	19.906	33.842	44.885	-	44.885	29.581	24.200	46.735	48.759	Continuing	Continuing
D476: *Military Information Support Operations*	2.177	3.566	6.430	4.711	-	4.711	3.489	1.087	1.109	1.131	Continuing	Continuing
S375: *Weapons Systems*	0.565	0.000	1.494	1.481	-	1.481	1.480	1.474	1.475	1.505	Continuing	Continuing
S385: *Soldier Protection and Survival Systems*	2.195	2.471	2.649	2.577	-	2.577	2.352	2.849	22.668	27.676	Continuing	Continuing
S385A: *Body Armor and Associated Equipment*	1.750	1.909	1.354	1.339	-	1.339	1.289	1.289	1.636	1.669	Continuing	Continuing
S395: *Visual Augmentation, Lasers and Sensor Systems*	0.000	1.422	2.189	1.482	-	1.482	1.517	1.546	1.575	1.602	Continuing	Continuing
S700: *Communications Equipment and Electronics Systems*	3.264	4.098	5.740	9.373	-	9.373	7.864	8.003	9.484	9.664	Continuing	Continuing
S710: *Tactical Systems Development*	0.243	0.930	0.868	2.640	-	2.640	2.416	2.523	3.031	3.083	Continuing	Continuing
S725: *Tactical Radio Systems*	1.811	4.777	2.170	3.884	-	3.884	3.683	4.892	5.219	1.880	Continuing	Continuing
S800: *Munitions Advanced Development*	3.386	0.733	10.948	17.398	-	17.398	5.491	0.537	0.538	0.549	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for development, testing and integration of specialized equipment in the areas of automation, communication, radio, weapon, soldier protection and survival, visual augmentation, lasers and sensors, munition and military information support operations (MISO) systems. Warrior Systems specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success. The efforts within this PE improve SOF warfighting capabilities by continuing efforts to develop smaller, lighter, more efficient and more robust capabilities. The SOF mission mandates that SOF systems remain technologically superior to any threat to provide a maximum degree of survivability while, generally, being conducted in harsh environments for unspecified periods and in locations requiring small unit autonomy. Communications efforts will maintain a Command, Control, and Communications (C3) link between SOF Commanders and SOF Teams, and provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies and allied foreign forces. Efforts relating to soldier protection and survival requirements will improve survivability

and mobility of SOF while conducting varied missions. Specialized visual augmentation, lasers and sensors will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. Munition efforts include advanced engineering operational system development and qualification efforts related to SOF-peculiar munitions and equipment. Additionally, MISO efforts include planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups and individuals.

MISO:
This project provides for the development, test and integration of MISO equipment. MISO are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct the seven phase MISO process (planning, targeting audience analysis, series development, product development and design, approval, production/distribution/dissemination, and measures of effectiveness) in support of combatant commanders.

Weapons Systems:
This project provides for next generation system development and pre-planned product improvements (P3I), testing, and integration of specialized weapon systems and weapon accessories to meet the unique requirements of SOF. Efforts include muzzle brakes and suppressors, and P3I for assault, sniper, and crew served weapons leveraging the latest technological advances to achieve overmatch capability against emerging threats.

Soldier Protection and Survival Systems:
This project provides for development, testing, and integration of specialized equipment to meet the unique soldier protection and survival requirements of SOF. Specialized equipment will improve survivability and mobility of SOF while conducting varied missions. Current efforts include, but are not limited to counter-improvised explosive device system development and testing to meet continually emerging Counter RC-IED threats.

Body Armor and Associated Equipment:
This project provides specialized equipment with ballistic protection to meet the unique soldier protection and survival requirements of SOF. Specialized ballistic equipment improves survivability and load bearing equipment impacting the mobility of SOF while conducting varied missions. This project enhances the SOF Personal Equipment Advanced Requirements program by providing for the research, development, and testing of body armor plates, soft armor, helmets, eye protection, and other personal protective equipment to meet current ballistic threats that exist on the battlefield.

Visual Augmentation, Lasers and Sensor Systems:
This project provides for development, testing, and integration of specialized visual augmentation, laser and sensor systems equipment to meet the unique requirements of SOF. Programs in this area include binocular/monocular devices and visual augmentation to include next generation laser designation and geo-location systems.

Communications Equipment and Electronics Systems:
This project provides for communication systems to meet emergent requirements to support SOF. SOF units require communications equipment that improves their warfighting capability without degrading their mobility. Therefore, SOF Communications Equipment and Electronics is a continuing effort to develop smaller, lighter, more efficient and more robust SOF Command, Control, Communications, and Computer (C4) capabilities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*

Tactical Systems Development:
This project provides for development, testing, and integration of specialized automation equipment to meet the unique requirements of SOF. Tactical systems provide forward deployed forces with advanced networking, automated data processing, storage, and display capabilities to support situational awareness, mission planning and execution, and command and control (C2) of forces.

Tactical Radio Systems:
This project is for development of all SOF tactical radio programs. SOF units require radio communication equipment that improves their warfighting capability without degrading their mobility. United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Tactical Radio Systems continue to provide SOF with the required capabilities throughout the 21st century. SOF Tactical Radios provide the critical C3 link between SOF Commanders and SOF Teams involved in operational missions and training exercises. They also provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies, and allied/coalition forces. Tactical Radios rapidly and seamlessly establish and maintain mobile and fixed (C2) communications between infiltrated/operational elements and higher echelon headquarters, allowing SOF to operate with any force combination in multiple environments.

Munitions Development:
This project provides for the advanced engineering, operational system development, and qualification efforts related to SOF-peculiar and Foreign/Non-standard munitions and equipment. Funding supports development of Insensitive Munitions (IM) technology and evaluation, in accordance with statutory requirement set forth in U.S. Code, Title 10, Chapter 141, Section 2389 (December 2001). Testing is in accordance with the USSOCOM IM Strategic Plan. Funding also supports efforts to develop and improve Stand-Off Precision Guided Munitions (SOPGM), including the development and integration of improved warheads, seeker, guidance navigation and control systems, operational flight software and missile delivery to meet SOF requirements.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	20.573	25.342	20.243	-	20.243
Current President's Budget	19.906	33.842	44.885	-	44.885
Total Adjustments	-0.667	8.500	24.642	-	24.642
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.667	-			
• Other Adjustments	0.000	0.000	24.642	-	24.642

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2015	FY 2016
Project: S800: *Munitions Advanced Development*		
Congressional Add: *Stand-Off Precision Guided Munitions (SOPGM)*	-	10.500
Congressional Add Subtotals for Project: S800	-	10.500
Congressional Add Totals for all Projects	-	10.500

Change Summary Explanation

Funding:

FY 2015: Decrease of $0.667 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2016: Net Increase of $8.500 million is due to a congressional add that supports the integration and testing of service-common munitions on SOF-unique platforms within the Stand-Off Guided Munitions (SOPGM) program ($10.500 million) and Congressional Directed Reductions in Military Information Support Operations (-$0.180 million), Soldier Protection and Survival Systems (-$0.249 million), Body Armor and Associated Equipment (-$0.193 million), Visual Augmentation, Lasers and Sensor Systems (-$0.144 million), Communications Equipment and Electronics (-$0.612 million), Tactical Systems Development (-$0.100 million), Tactical Radio Systems (-$0.448 million), and Advanced Munitions Development (-$0.074 million).

FY 2017: Net Increase of $24.642 million supports SDBII Missile integration into the SOPGM program ($17.000 million), STC evolutionary technology insertions for radio equipment ($2.148 million), new civil affairs technologies in the CIM program ($1.847 million), advanced SDN encoding methods ($1.330 million), systems integration efforts in the TACLN program ($1.330 million), a realignment of $0.750 million to support testing of the VAS program, $0.500 million to support development of electronic warfare/electronic countermeasures for systems in the RC-CIED program, $0.073 million that continues development and testing of new capability in BFT equipment, and a program decrease for economic assumptions (-0.336 million).

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
D476: *Military Information Support Operations*	2.177	3.566	6.430	4.711	-	4.711	3.489	1.087	1.109	1.131	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development and acquisition of Military Information Support Operations (MISO) equipment. MISO are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct MISO in support of combatant commanders.

• Prior to FY 2015, the MISO Broadcast Systems (MISOB) consisted of the Media Production Center (MPC) Family of Systems (FoS); Product Distribution System (PDS); Fly Away Broadcast System (FABS); and the Long Range Broadcast System (LRBS). Starting in FY 2015 the MISO Broadcast System will be split into these individual programs of records. These systems provide fixed or deployable technologies that fulfill the requirements of the MISO seven phase processes in support to theater commanders. This project is comprised of several interfacing systems that can stand alone or inter-operate with other MISO systems as determined by mission requirements and includes:

• Media Production and Broadcast Systems support the MPC and FABS MISO missions. The MPC includes the fixed site MPC with light and medium media production capability. FABS is a transit case fly-away broadcast system that consists of a combination of amplitude modulation (AM), frequency modulation (FM), shortwave (SW), cellular, and television (TV) transmitters.

• LRBS is a family of broadcast systems intended to be integrated to multiple manned and unmanned, long-loiter aerial systems with the capability of broadcasting in AM, FM, SW, TV, Very High Frequency (VHF), TV Ultra High Frequency (UHF) and cellular (Short Message Service, Multi-Media Messaging Service, and Voice). This system provides the capability of broadcasting MISO messages via multiple mediums into permissive, semi-permissive, and denied foreign areas.

• PDS provides the satellite communications (SATCOM) transport path for the worldwide Military Information Support Operations (MISO) architecture. PDS consists of three variants that are used at different levels of command from the Media Operations Complex (MOC) to the Tactical MISO Teams in order to link MISO planners with review/approval authorities, production facilities, and dissemination elements.

• FABS (previously reported in Media Production and Broadcast Systems) is a transit case fly-away broadcast system that consists of a combination of AM, FM, SW, cellular, and TV transmitters.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Media Production and Broadcast System	2.185	1.894	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
FY 2015 Accomplishments: Continued primary hardware development, systems engineering, and test and evaluation on product distribution technologies to enhance MISO product. Integrated and disseminated new analytical software tools to enhance production supporting MISO target audience assessment and measures of effectiveness requirements. Specific focus on a light cellular broadcast capability reducing size and weight and FABS/SOF Deployable Node (SDN) interoperability. ***FY 2016 Plans:*** Test and evaluate new systems and components to enhance MISO product. Integrate and disseminate new analytical software tools to enhance production supporting MISO target audience assessment and measures of effectiveness requirements.					
Title: LRBS ***FY 2015 Accomplishments:*** Began primary hardware development, system engineering, and test and evaluation of pod-based FM and cellular broadcast, power, and antenna technologies. ***FY 2016 Plans:*** Continue with primary hardware development, systems engineering, and test and evaluation of pod-based FM and cellular broadcast, power, and antenna technologies. ***FY 2017 Base Plans:*** Continues with primary development, systems engineering, and test and evaluation of pod-based cellular and television broadcast, power, and antenna technologies.	1.326	4.536	2.894	-	2.894
Title: PDS ***FY 2015 Accomplishments:*** Completed advance technology, and test and evaluations of new PDS/SDN-P components integrating audio/ visual capabilities for enhanced distribution and delivery of MISO products.	0.055	-	-	-	-
Title: FABS ***FY 2017 Base Plans:***	-	-	1.817	-	1.817

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Tests and evaluates new systems and components to enhance MISO broadcasts. Continues with primary hardware development to reduce broadcast system weight and size while adding multi-mission capabilities.					
Accomplishments/Planned Programs Subtotals	3.566	6.430	4.711	-	4.711

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC1/0204OTHER: *OTHER ITEMS <$5M*	103.833	79.149	66.436	11.580	78.016	56.623	70.531	67.097	88.709	Continuing	Continuing

Remarks

D. Acquisition Strategy

• The Media Production and Broadcast system program has an evolutionary acquisition strategy. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

• The PDS program has an evolutionary acquisition strategy. Commercial and government agency sources will continue to be leveraged for required certifications, functional and operational tests, and acceptance support.

• The LRBS program has an evolutionary acquisition strategy. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

• The FABS program has an evolutionary acquisition strategy. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

E. Performance Metrics

N/A.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Media Production and Broadcast Systems	Reqn	JHU/APL : Laurel, MD	0.912	1.770	Jan 2015	1.694	Apr 2016	-		-		-	0.000	4.376	-
Long Range Broadcast System (LRBS)	MIPR	NSWC-Crane : Crane, IN : Crane, IN	-	1.326	Feb 2015	4.086	Jan 2016	2.684	Jan 2017	-		2.684	Continuing	Continuing	-
Product Distribution System	Reqn	CACI : Various	-	0.055	Apr 2015	-		-		-		-	0.000	0.055	-
Fly Away Broadcast Systems (FABS)	Reqn	JHU / APL : Laurel, MD	-	-		-		1.667	Feb 2017	-		1.667	Continuing	Continuing	-
FABS Cellular Broadcast Lite	Reqn	Digital Receiving Technologies (DRT) : Germantown, MD	1.265	0.340	Jun 2015	0.150	Apr 2016	-		-		-	0.000	1.755	-
		Subtotal	2.177	3.491		5.930		4.351		-		4.351	-	-	-

Test and Evaluation ($ in Millions)

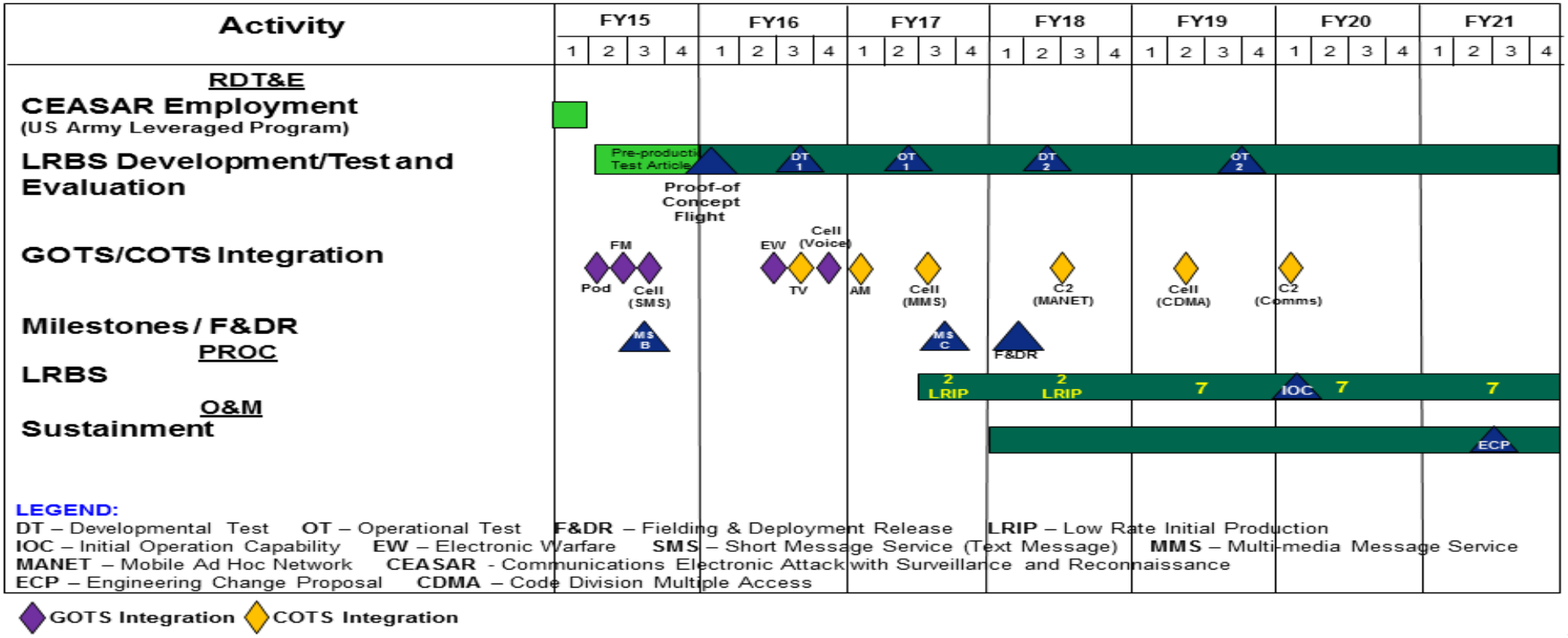
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LRBS	MIPR	NSWC-Crane : Crane, IN : Crane, IN	-	-		0.450	Jan 2016	0.210		-		0.210	Continuing	Continuing	-
FABS	Reqn	Various : Various	-	0.075	Feb 2015	0.050	Jan 2016	0.150	Feb 2017	-		0.150	Continuing	Continuing	-
		Subtotal	-	0.075		0.500		0.360		-		0.360	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.177	3.566		6.430		4.711		-		4.711	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

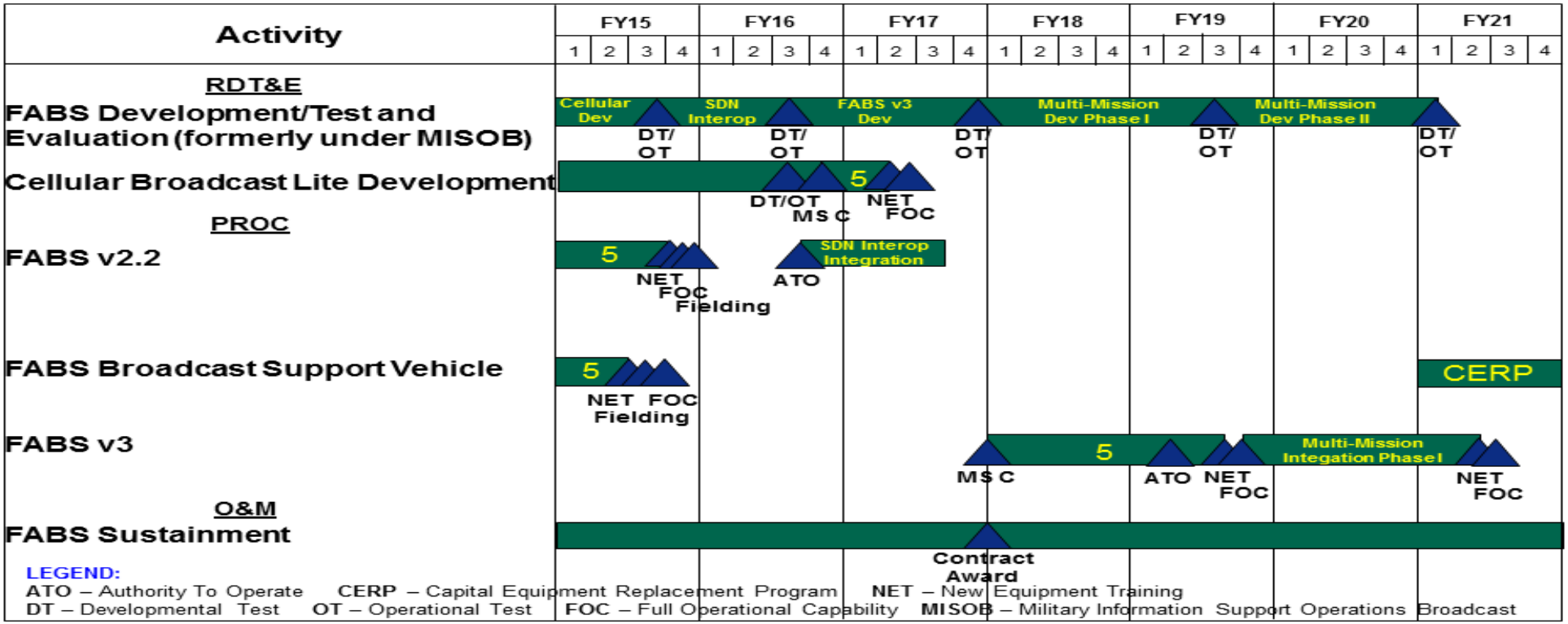
Long Range Broadcast System (LRBS) Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

Fly Away Broadcast System (FABS) Schedule



2

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Media Production and Broadcast Systems				
Hardware development and systems engineering	1	2015	4	2016
Long Range Broadcast System				
Material Research and Prototype	2	2015	2	2021
Test and Evaluation	1	2016	2	2021
Product Distribution System				
Hardware Development and Evaluation	3	2015	2	2016
Family of Broadcast Systems				
Hardware Development	2	2017	2	2021
Test and Evaluation	2	2015	1	2016

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S375 / *Weapons Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S375: *Weapons Systems*	0.565	0.000	1.494	1.481	-	1.481	1.480	1.474	1.475	1.505	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development and testing of specialized, common caliber, individual, sniper, machine gun, pistol, crew served weapons systems that enable SOF to accurately engage enemy personnel and material in all SOF environments at ranges up to 1500 meters. Weapons include common caliber modular assault rifles to engage out to 600 meters, Sniper Support Rifles to engage out to 800 meters, sniper rifles to engage out to 1500 meters, shoulder fired Grenade Launchers, vehicle and man-portable high velocity grenade launchers, pistols, machine guns to engage out to 1000 meters, multi-barreled mini-guns which can be mounted on boats, vehicles, aircraft, and ground mounted to engage out to 3,500 meters, and Weapon Accessories to be used on both service-common and SOF weapons, enabling the operator to tailor the configuration of the weapon to the assigned mission and operational environment, enhancing the overall effectiveness of the weapons, which enables mission accomplishment and operator survivability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Weapons Accessories (WPNAC)	-	1.494	1.481	-	1.481
FY 2016 Plans: Develop enhanced capabilities to improve performance of individual sniper, machine gun, and pistol weapons.					
FY 2017 Base Plans: Develops enhanced capabilities to improve performance of individual sniper, machine gun, and pistol weapons.					
Accomplishments/Planned Programs Subtotals	-	1.494	1.481	-	1.481

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems <$5M*	276.590	205.609	245.781	-	245.781	225.803	232.418	223.832	235.891	Continuing	Continuing

Remarks

D. Acquisition Strategy

Weapons accessory development will take place within government laboratories as well as industry depending on the weapons system.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S375 / *Weapons Systems*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Small Arms Signature Reduction	MIPR	Various : Various	0.565	0.000		-		0.000		-		0.000	0.000	0.565	-
Weapons Development, Test, & Evaluation	MIPR	Various : Various	-	0.000		1.494	Jan 2016	1.481	Feb 2017	-		1.481	-	-	-
		Subtotal	0.565	0.000		1.494		1.481		-		1.481	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.565	0.000		1.494		1.481		-		1.481	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S375 / *Weapons Systems*

Weapons Systems Schedule

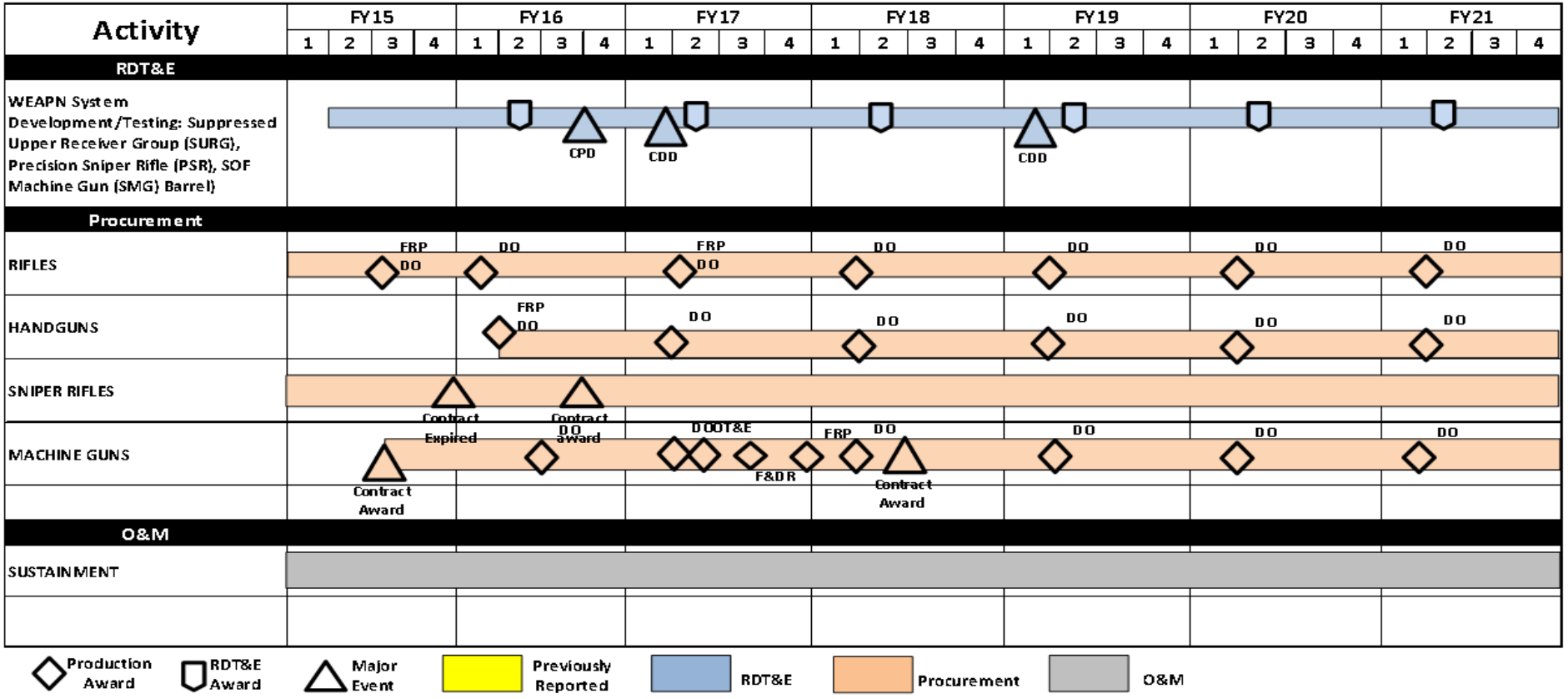


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S375 / *Weapons Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Weapons Systems				
Weapons Development, Test & Evaluation	2	2015	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S385: *Soldier Protection and Survival Systems*	2.195	2.471	2.649	2.577	-	2.577	2.352	2.849	22.668	27.676	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides specialized equipment to meet the unique operator protection and survival requirements of Special Operations Forces (SOF) to include: Army Rangers; Army Special Forces; Navy Sea, Air, Land (SEAL) teams; Navy Special Boat Units; Air Force Operators; and Marine Raiders. Specialized equipment improves survivability protection from the environment by providing the operator with hearing protection and clothing systems, as well load bearing equipment to improve the mobility of SOF while conducting varied missions and personnel safety equipment such as harnesses and safety retention devices. These missions are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy.

SOF Personal Equipment Advanced Requirements (SPEAR) provides for the research, development, testing and evaluation of a variety of individual and survival equipment to include: ballistic and environmental protective systems, combat uniforms, load carriage systems, communications headsets, and visual augmentation system mounts.

Tactical Combat Casualty Care (TCCC) provides medical devices, ancillary equipment and Casualty Evacuation (CASEVAC) sets for SOF. The CASEVAC procures a suite of Food and Drug Administration approved medical items including, but not limited, to intraosseous infusion devices, patient monitoring and assessment devices, emergency airway kits, as well as devices that provide SOF the capability to support extraction, extrication, mobility, transportation, and sustainment of casualties in forward areas. This program fields tactical medical and CASEVAC capabilities with the intention to transition capabilities developed under the National Mission Force Tactical Medical Programs. This capability provides significant ability to lessen battlefield losses by providing timely, critical lifesaving and evacuation capabilities to the forward-deployed SOF operators.

Counter Radio Controlled-Improvised Explosive Device (RC-IED) program provides SOF with the ability to counter current and future RC-IED threats used by terrorist networks.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: SPEAR	0.887	1.295	0.474	-	0.474
FY 2015 Accomplishments: Continued profile refinement to support signature management and material research for uniforms. Continued testing and development of lightweight, high performance textiles for enhanced material solutions that support SPEAR requirements. Continued on-going prototype testing. Addressed emerging SOF-unique requirements					

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
as SOF transitions from heavy deployments in Iraq and Afghanistan to a global focus. Continued maritime communication headset solicitation. ***FY 2016 Plans:*** Initiate research and development of a land communications material solution, safety belt and lanyard solicitations, arctic capability gap solutions, and subsurface operations equipment. Continue materials testing. ***FY 2017 Base Plans:*** Continues research and development of land communications material solutions, arctic uniform capability gap solutions, and initiates jungle uniform capability gap solutions. Continues materials testing and incorporation into commodity lines. Begins signature management evaluations.					
Title: TCCC ***FY 2015 Accomplishments:*** Provided test support to include program management, market surveys, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC. Continued evaluation, airworthiness certification and miniaturization of TCCC CASEVAC components. Supported system prototype development, testing and research on advanced tactical medical equipment to lessen battlefield losses, with the goal of transitioning these medical technology items to a program of record. ***FY 2016 Plans:*** Provide for test support to include program management, market surveys, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC. Support the evaluation of enhanced medical monitoring systems for incorporation into the CASEVAC. Develop and test water resistant solutions for maritime operations of components within the CASEVAC. ***FY 2017 Base Plans:*** Provides for test support to include program management, market surveys, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC program. Supports the evaluation of enhanced medical monitoring systems for incorporation into the CASEVAC program. Develops and tests water resistant solutions for maritime operations of components within the CASEVAC set. Supports the re-compete of the CASEVAC program.	0.542	0.389	0.396	-	0.396
Title: RC-IED ***FY 2015 Accomplishments:***	1.042	0.965	1.707	-	1.707

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Provided National Assessment Group (NAG) test support to the Counter RC-IED program. Supported system engineering, test and evaluation, test article acquisition, and market research of the RC-IED programs. Maintained test range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems. ***FY 2016 Plans:*** Provide for NAG test support to the Counter RC-IED program. Support system engineering, test and evaluation, test article acquisition, and market research of the RC-IED programs. Maintain test range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems. Initiate development and testing of ECM systems capability and advanced software technique countermeasures. ***FY 2017 Base Plans:*** Continues NAG test support to the Counter RC-IED program. Supports system engineering, test and evaluation, test article acquisition, and market research of the RC-IED programs. Maintains range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems. Continues development and testing of ECM systems capability to include advanced software technique countermeasures and loadsets for mounted and dismounted systems. Initiates open architecture development to increase efficiency of sharing software and firmware solutions across multiple industry original equipment manufacturer (OEM) vendors and government organizations.					
Accomplishments/Planned Programs Subtotals	2.471	2.649	2.577	-	2.577

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	276.590	205.609	245.781	-	245.781	225.803	232.418	223.832	235.891	Continuing	Continuing

Remarks

D. Acquisition Strategy

SPEAR primarily takes advantage of modified commercial-off-the-shelf (COTS) or non-developmental items (NDI) through open competition.

TCCCE-CASEVAC takes advantage of COTS equipment and/or NDI.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

RC-IED uses evolutionary development of hardware and software capabilities, leveraging collaborative development with Government Agencies and Industry partners.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Personal Equipment Advanced Requirements (SPEAR) - Protective Combat Uniform (PCU)	Various	PM-SSES : Natick, MA	0.100	0.092	Feb 2015	0.139	Jan 2016	0.083	Jan 2017	-		0.083	Continuing	Continuing	-
SPEAR - Modular Glove System (MGS)	Various	PM-SSES : Natick, MA	0.040	-		-		-		-		-	0	0.040	-
SPEAR - Modular Integrated Communications Helmet/Land Maritime Communication System	Various	PM-SSES : Natick, MA	0.220	0.230	Mar 2015	0.415	Jan 2016	0.129	Jan 2017	-		0.129	Continuing	Continuing	-
SPEAR - Load Carriage System (LCS) and Backpacks	Various	PM-SSES : Natick, MA	0.035	-		-		-		-		-	0	0.035	-
		Subtotal	0.395	0.322		0.554		0.212		-		0.212	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SPEAR - PCU testing/P3I	Various	PM/SSES : Natick, MA	0.135	0.051	Jan 2015	0.070	Mar 2016	0.040	Feb 2017	-		0.040	Continuing	Continuing	-
SPEAR - Signature Management Profile Characteristics	Various	PM-SSES : Natick, MA	0.065	0.063	Jan 2015	0.097	Feb 2016	0.064	Jan 2017	-		0.064	Continuing	Continuing	-
SPEAR - MGS Testing	Various	PM-SSES : Natick, MA	0.025	0.023	Feb 2015	0.043	Feb 2016	0.044	Jan 2017	-		0.044	Continuing	Continuing	-
SPEAR - Maritime Comms Testing	Various	PM-SSES : Natick, MA	0.440	0.414	Feb 2015	0.503	Jan 2016	0.089	Jan 2017	-		0.089	Continuing	Continuing	-
SPEAR - LCS/Body Armor Vest/Backpack Material and Prototype Testing	Various	PM-SSES : Natick, MA	0.020	0.014	Jan 2015	0.028	Feb 2016	0.025	Jan 2017	-		0.025	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tactical Combat Casualty Care CASEVAC Sets	Various	PM-SSES : Natick, Ma	0.087	0.542	Feb 2015	0.389	Mar 2016	0.396	Feb 2017	-		0.396	Continuing	Continuing	-
Counter Radio Controlled-Improvised Explosive Device Test Support	Various	National Assessment Group : Kirtland AFB, NM; Sierra Nevada Corp; Folsom, CA	1.028	1.042	Dec 2014	0.965	Jan 2016	1.707	Jan 2017	-		1.707	Continuing	Continuing	-
		Subtotal	1.800	2.149		2.095		2.365		-		2.365	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.195	2.471		2.649		2.577		-		2.577	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

SOF Personal Equipment Advanced Requirements (SPEAR) Schedule

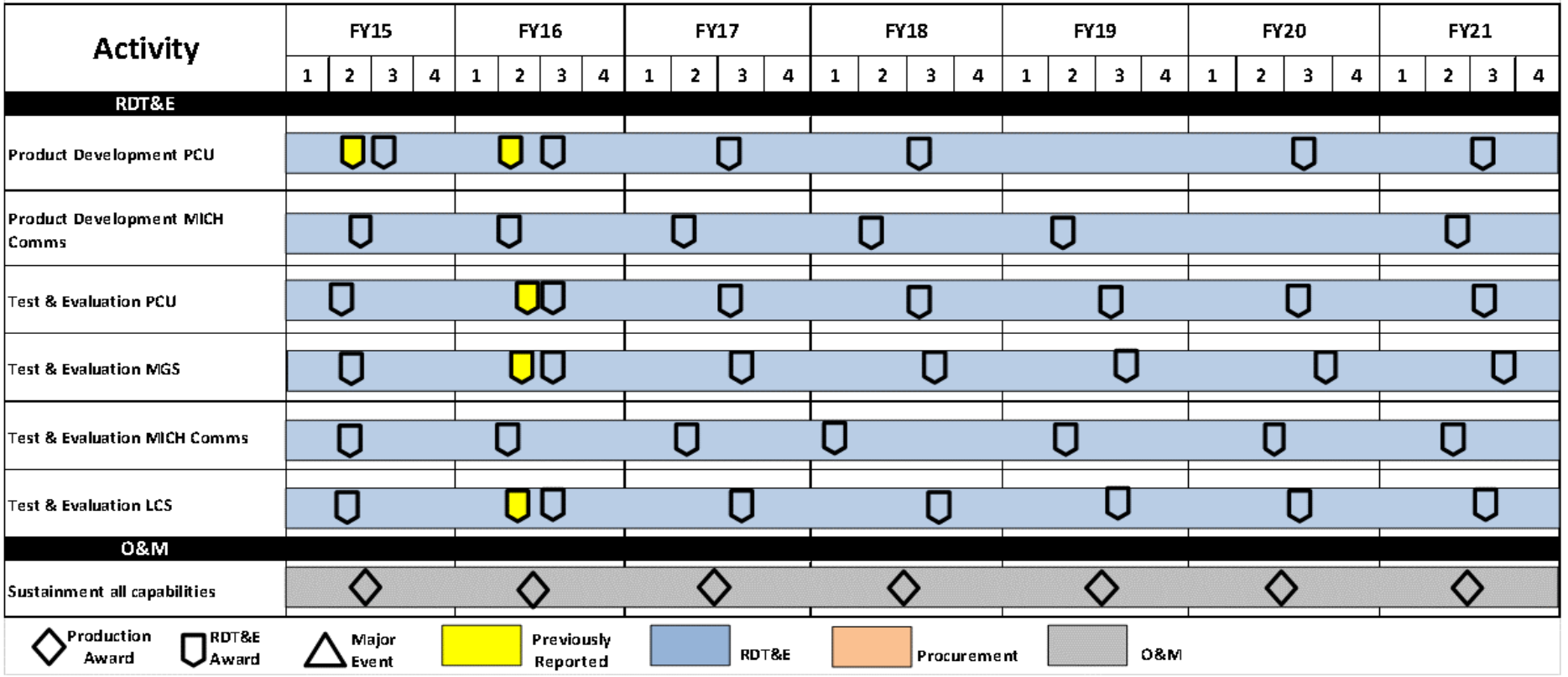


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Tactical Combat Casulaty Care (TCCC)

Schedule

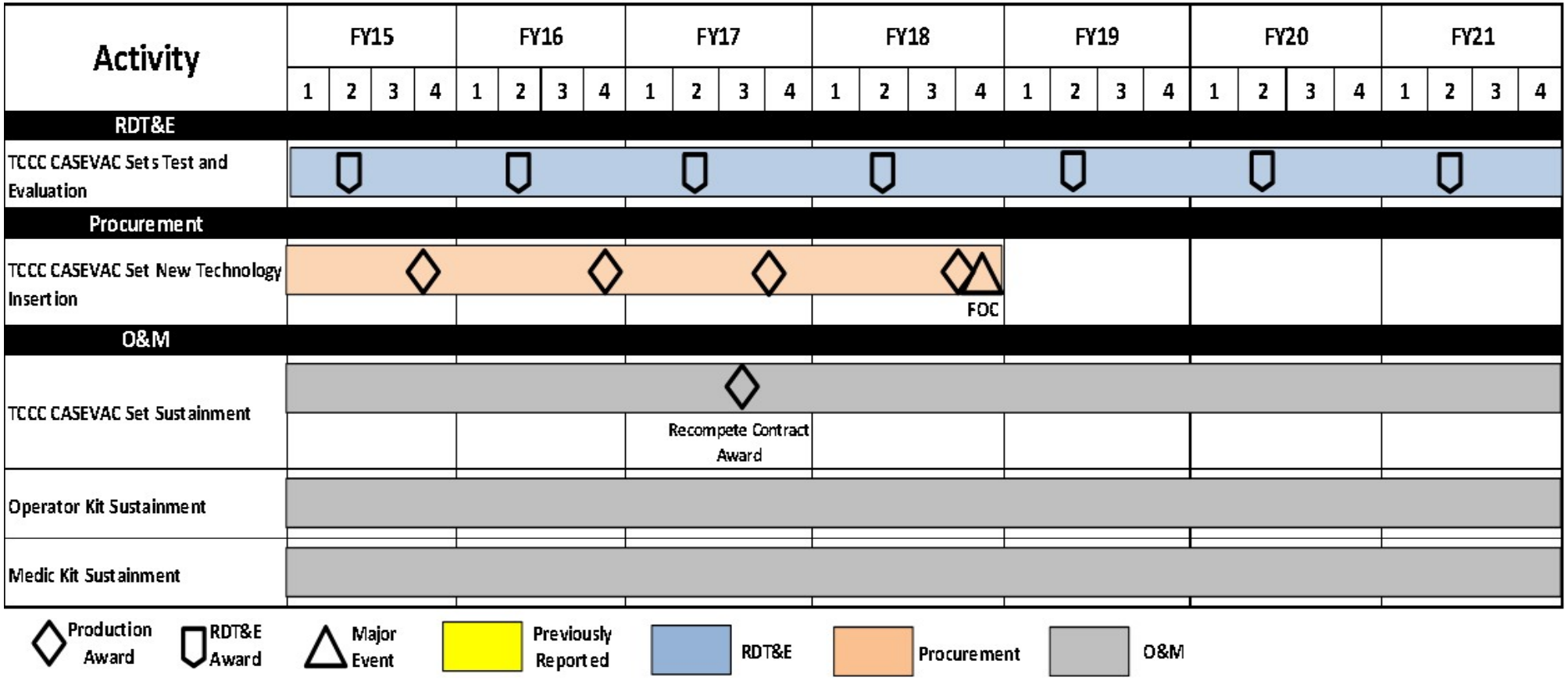


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Counter Radio Controlled – Improvised Explosive Device (RC-IED) Schedule

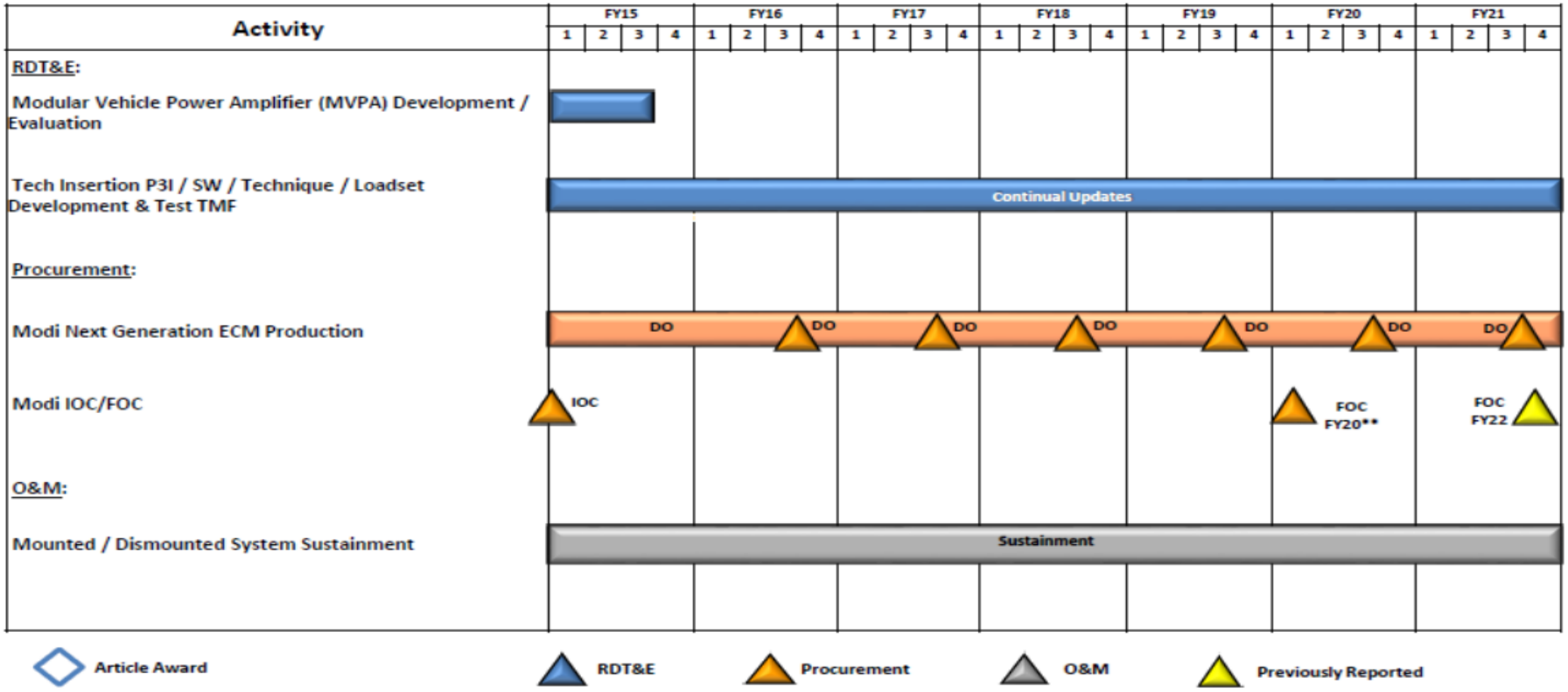


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SPEAR-Protective Combat Uniform (PCU)				
PCU Testing/Development	3	2015	4	2021
SPEAR-Signature Management				
Signature Management Profile Characterization	2	2015	4	2021
SPEAR-Modular Glove System				
Test	2	2015	2	2021
SPEAR-MICH Comms				
Market Research/Interoperability Assessment	2	2015	4	2021
SPEAR-Maritime Comms				
Various tests	2	2015	4	2021
SPEAR-Load Carriage System/Vests and Backpacks				
Material Research and Prototype testing	2	2015	4	2021
Tactical Combat Casualty Care Evacuation Kits -CASEVAC				
Prototype development testing and Airworthiness Certification	2	2015	4	2021
Radio Controlled-Improvised Explosive Device				
National Assessment Group Test Support	1	2015	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385A / *Body Armor and Associated Equipment*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S385A: *Body Armor and Associated Equipment*	1.750	1.909	1.354	1.339	-	1.339	1.289	1.289	1.636	1.669	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides specialized equipment to meet the unique operator protection and survival requirements of SOF, to include: Army Rangers; Army Special Forces; Navy Sea, Air, Land (SEAL) teams; Navy Special Boat Units; Air Force Operators; and Marine Raiders. Specialized ballistic equipment improves survivability impacting the mobility of SOF while conducting varied missions. These missions are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy.

This project enhances the SOF Personal Equipment Advanced Requirement (SPEAR) program by supporting body armor plates, soft armor, helmets, and eye protection. It also provides for the research, development, and testing of a variety of body armor and personal protective equipment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: SPEAR-Ballistic Protection	1.909	1.354	1.339	-	1.339
FY 2015 Accomplishments: Continued foreign ammunition testing and threat validation to assess armor effectiveness. Research and tested soldier worn sensors. Continued lightweight body armor material research and improved performance ballistic plates. Continued evaluation of transparent armor products which include ballistic and optical testing of photochromic, electrochromic and laser lenses. Continued work on anti-fogging technologies and testing. Addressed emerging SOF-unique requirements as SOF transitions from heavy deployments in Iraq and Afghanistan to a global focus.					
FY 2016 Plans: Continue foreign ammunition testing and threat validation to assess effectiveness of currently fielded personal protective equipment. Continue development and testing of lightweight body armor and helmets to upgrade systems that have been fielded. Continue evaluation of transparent armor products which include variable light transmission, anti-fogging, ballistic, and laser lenses to upgrade systems that have been fielded. Develop and test soldier worn sensors to upgrade armor systems that have been fielded and to refine SOF peculiar					

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385A / *Body Armor and Associated Equipment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
requirements. Address emerging SOF-unique requirements as SOF transitions from deployments in Iraq and Afghanistan to a global focus.					
FY 2017 Base Plans: Continues foreign ammunition testing and threat validation to assess effectiveness of currently fielded personal protective equipment. Continues development and testing of lightweight body armor and helmets to upgrade systems that have been fielded. Continues evaluation of transparent armor products which include variable light transmission and laser lenses to upgrade systems that have been fielded. Initiates selection of maritime crewman helmet.					
Accomplishments/Planned Programs Subtotals	1.909	1.354	1.339	-	1.339

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	276.590	205.609	245.781	-	245.781	225.803	232.418	223.832	235.891	Continuing	Continuing

Remarks

D. Acquisition Strategy

SPEAR ballistic protection equipment takes advantage of modified commercial-off-the-shelf or non-developmental items acquired through full and open competition. Currently these SPEAR purchases are made with the O&M appropriation. USSOCOM requirements are different from those of the Services, items leveraged from industry are often on the cutting edge of technology and require substantial testing in the SOF environments. Some SPEAR ballistic systems have transitioned to the U.S. Army, other services and other government agencies.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385A / *Body Armor and Associated Equipment*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Personal Equipment Advanced Requirement (SPEAR) - Body Armor	Various	PM-SSES : Natick, MA	0.350	0.290	Feb 2015	0.324	Jan 2016	0.370	Feb 2017	-		0.370	-	-	-
SPEAR - Lightweight Ballistic Helmets	Various	PM-SSES : Natick, MA	0.300	0.586	Jan 2015	0.269	Jan 2016	0.312	Jan 2017	-		0.312	-	-	-
SPEAR - Eye Protection	Various	PM-SSES : Natick, MA	0.030	0.030	Feb 2015	0.150	Mar 2016	0.119	Apr 2017	-		0.119	-	-	-
		Subtotal	0.680	0.906		0.743		0.801		-		0.801	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SPEAR - Body Armor	Various	PM-SSES : Natick, MA	0.735	0.240	Jan 2015	0.211	Feb 2016	0.180	Feb 2017	-		0.180	-	-	-
SPEAR - Lightweight Ballistic Helmet	Various	PM-SSES : Natick, MA	0.300	0.715	Jan 2015	0.350	Feb 2016	0.318	Jan 2017	-		0.318	-	-	-
SPEAR - Transparent Armor	Various	PM-SSES : Natick, MA	0.035	0.048	Mar 2015	0.050	Jan 2016	0.040	Feb 2017	-		0.040	-	-	-
		Subtotal	1.070	1.003		0.611		0.538		-		0.538	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.750	1.909		1.354		1.339		-		1.339	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385A / *Body Armor and Associated Equipment*

SOF Personal Equipment Advanced Requirements (SPEAR) - Body Armor Schedule

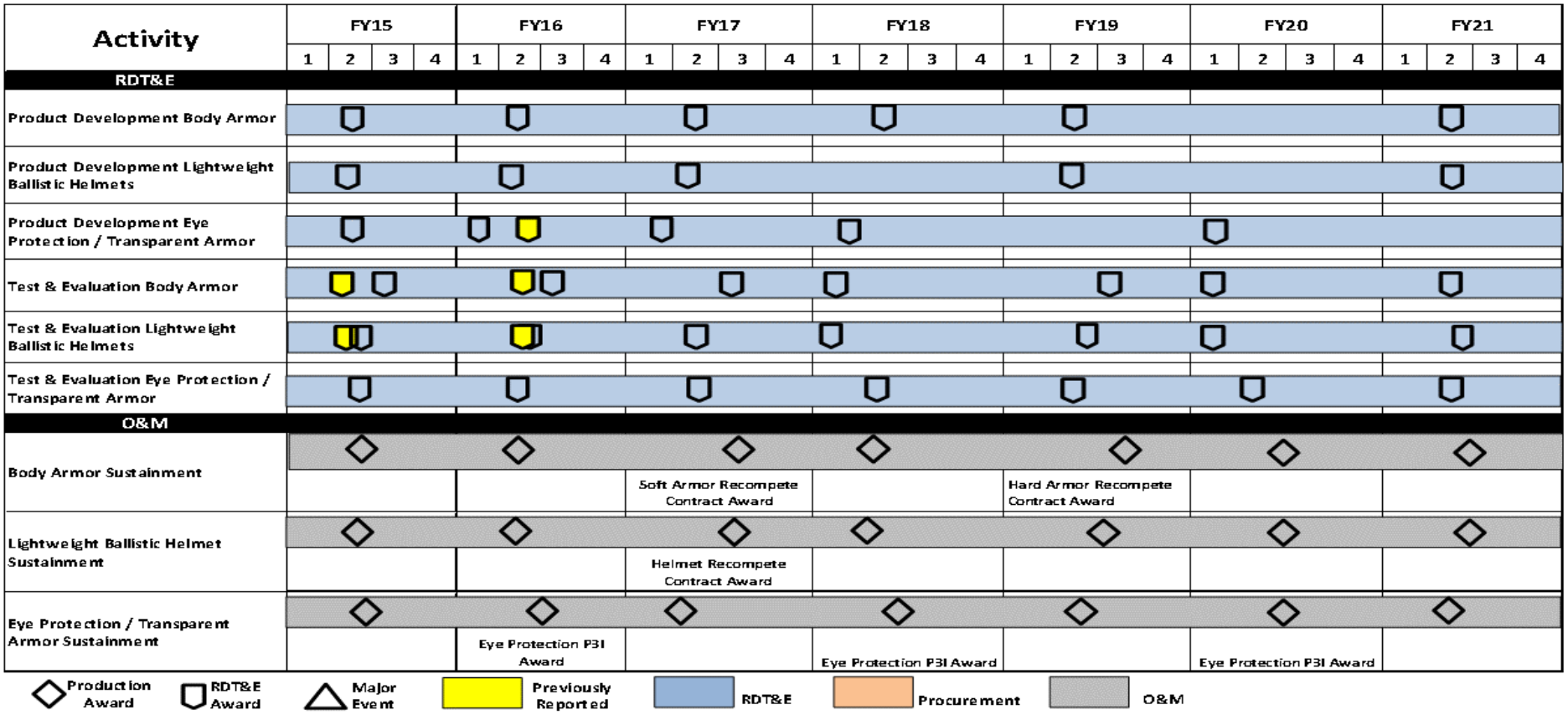


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385A / *Body Armor and Associated Equipment*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SOF Personal Equipment Advanced Requirements (SPEAR)-Body Armor				
Body Armor Development	2	2015	4	2021
Body Armor Material Testing	3	2015	4	2021
SPEAR-Helmet				
Lightweight Ballistic Helmet Development	2	2015	4	2021
Lightweight Ballistic Helmet Materials Testing	2	2015	4	2021
SPEAR Eye Protection				
Eye Protection Development	1	2015	4	2021
Transparent Armor Development	1	2015	4	2021
Transparent Armor Testing	2	2015	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S395 / *Visual Augmentation, Lasers and Sensor Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S395: *Visual Augmentation, Lasers and Sensor Systems*	0.000	1.422	2.189	1.482	-	1.482	1.517	1.546	1.575	1.602	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for development, testing and integration of specialized visual augmentation, binocular and monocular night vision devices, laser markers, laser designators, geo-location systems, weapon optics, weapon aiming lasers, sensor systems, visible lights, infrared imagers, clandestine pointers, and accessories to meet the unique requirements of SOF. Sensor technology being developed includes image intensification (I2) thermal imaging, short wave infrared (SWIR), multi-spectral, fusion, and other sensor types. Developments will decrease weight, increase range, increase situational awareness, provide data, image processing, image filtering, determine wind speed, observe bullet trace, and sensor fusion to be able to detect, identify, classify and engage targets at greater ranges. These projects ensure SOF systems shall remain technologically superior to enemy threats to ensure mission success.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Visual Augmentation Systems	1.422	2.189	1.482	-	1.482
FY 2015 Accomplishments: Continued the development of visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition.					
FY 2016 Plans: Continue to develop visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition.					
FY 2017 Base Plans: Completes development and begins testing of visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition.					
Accomplishments/Planned Programs Subtotals	1.422	2.189	1.482	-	1.482

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	276.590	205.609	245.781	-	245.781	225.803	232.418	223.832	235.891	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S395 / *Visual Augmentation, Lasers and Sensor Systems*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Develop prototypes for the next generation SOF operator borne visual augmentation devices. These developmental efforts will leverage Science and Technology projects to develop prototype systems for SOF to evaluate. VAS will award an Indefinite Delivery Indefinite Quantity production contract.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S395 / *Visual Augmentation, Lasers and Sensor Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Visual Augmentation Systems (VAS) Development	C/CPFF	USSOCOM : Tampa, FL	0.000	1.422	Jan 2015	2.189	Nov 2015	1.282	Jan 2017	-		1.282	0.000	4.893	-
		Subtotal	0.000	1.422		2.189		1.282		-		1.282	0.000	4.893	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
VAS Testing	C/CPFF	USSOCOM : Tampa, FL	0.000	0.000		0.000		0.200	Jul 2017	-		0.200	Continuing	Continuing	-
		Subtotal	0.000	0.000		0.000		0.200		-		0.200	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.422		2.189		1.482		-		1.482	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S395 / *Visual Augmentation, Lasers and Sensor Systems*

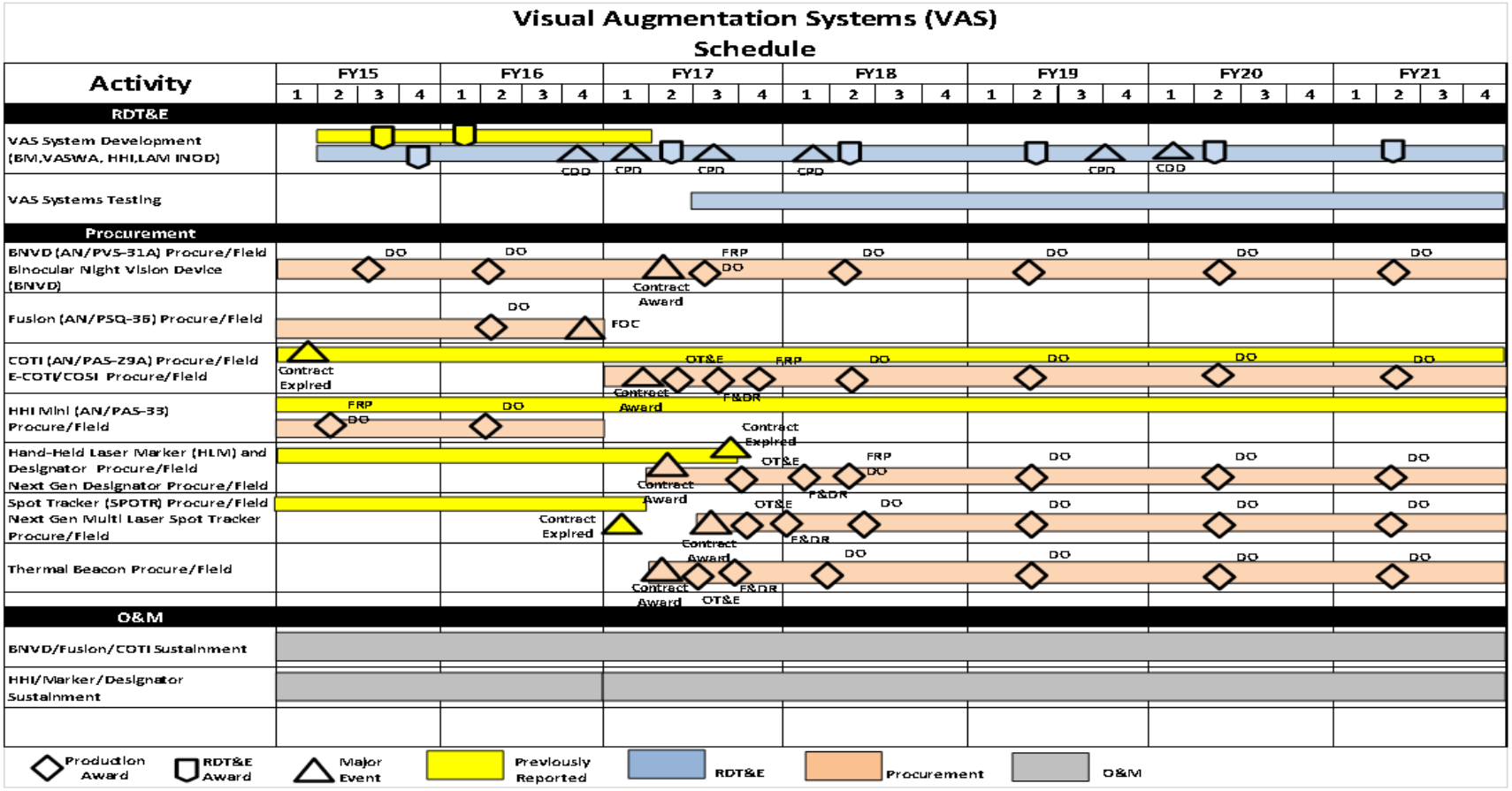


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S395 / *Visual Augmentation, Lasers and Sensor Systems*

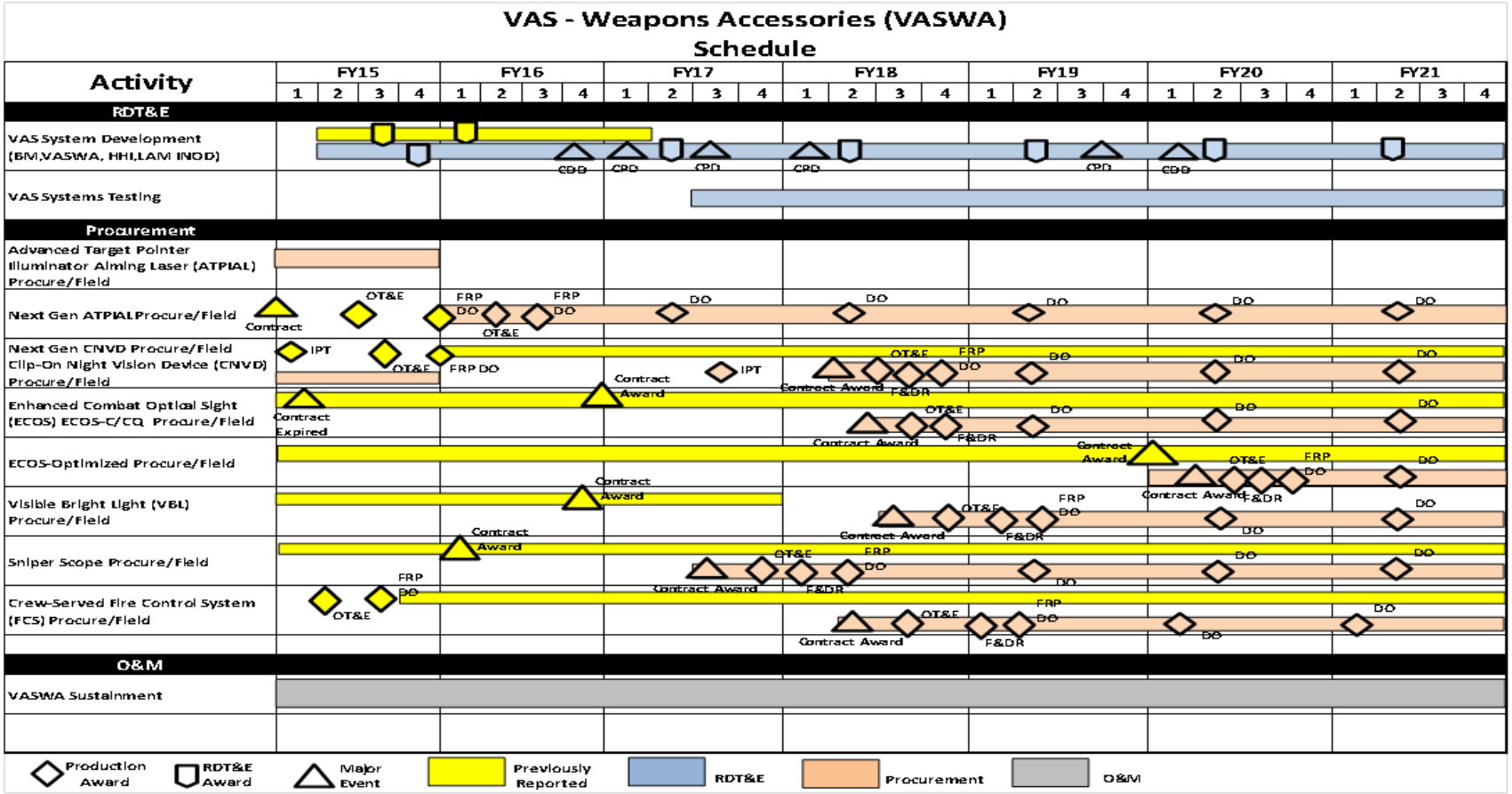


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S395 / *Visual Augmentation, Lasers and Sensor Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Visual Augmentation System (VAS)				
VAS Development	2	2015	1	2017
VAS Testing	4	2017	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S700: *Communications Equipment and Electronics Systems*	3.264	4.098	5.740	9.373	-	9.373	7.864	8.003	9.484	9.664	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for communication systems to meet emergent requirements to support Special Operations Forces (SOF). Communications Equipment and Electronics Systems is a continuing effort to develop smaller, lighter, more efficient and more robust SOF Command, Control, Communications, and Computer (C4) capabilities.

USSOCOM's C4 systems comprise an integrated network of systems providing positive command and control and the timely exchange of information to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration within the Global Information Grid (GIG). The GIG is a multitude of existing and projected national assets that allows SOF elements to operate with any force combination in multiple environments.

• SOF Deployable Node (SDN) is a family of deployable, super high frequency, multi-band, Satellite Communications (SATCOM) systems providing the transport path for high-capacity, voice, data, video tele-conferencing (VTC), and full motion video at all levels of classification. It consists of SDN subprograms, transport for intelligence variants, technology insertions and capital equipment replacement.

• Civil Information Management (CIM). The CIM Data Processing System (CIMDPS) is an automation system that assists active Civil Affairs and others engaged in civil-military operations to collect, process, analyze, maintain, mine, and deliver Civil Information and analysis products in support of military operations.

• The Special Communications (SPCOM) Enterprise program, formerly justified as the Special Communication Enterprise (SCE) includes organizations, practices, processes, services, networks, systems and subsystems that manage and provide clandestine exchange of information between elements (field-to-field, field-to-base, base-to-field) for worldwide deployed SOF units, often in austere environments with heavy adversarial monitoring.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: SDN	2.319	2.606	2.940	-	2.940
FY 2015 Accomplishments: Assessed, tested and evaluated advanced antenna design and performance with focus on wideband SATCOM for ground-mobile and integration into maritime platforms. Conducted market research on multi-level security					

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
solutions for SDN application. Conducted testing using wideband global SATCOM and Global Express. Assessed Advanced Extremely High Frequency band. Assessed wideband satellite-on-the-move for ground-mobile. Tested and modified SDN systems for maritime use and maritime integration. Optimized size, weight and performance for SDN systems. ***FY 2016 Plans:*** Assess, test and evaluate advance antenna design and performance. Continue to integrate Evolutionary Technology Insertions (ETIs). ***FY 2017 Base Plans:*** Assesses, tests, and evaluates advanced antenna design and performance. Continues ETI integration. Assesses, tests, and evaluates design and development of distributed cloud architecture to reduce complexity, improve resiliency, empower mobility, and increase security of the SOF Information Environment.					
Title: CIM ***FY 2017 Base Plans:*** Begins development and integration of new capability in support of Civil Affairs (CA) communities.	-	-	1.847	-	1.847
Title: SPCOM ***FY 2015 Accomplishments:*** Continued segment development for the SPCOM enterprise; developed means and methods to provide near-term impact to operators. Conducted independent verification and validation. ***FY 2016 Plans:*** Continue segment development for the SPCOM enterprise; develop means and methods to provide near-term impact to operators. Increase emphasis on developing anti-intrusion/anti-tamper capabilities. Conduct independent verification and validation. ***FY 2017 Base Plans:*** Continues segment development for the SPCOM enterprise; develops means and methods to provide near-term impact to operators. Continues development of anti-intrusion/anti-tamper capabilities. Conducts independent verification and validation.	1.779	3.134	4.586	-	4.586
Accomplishments/Planned Programs Subtotals	4.098	5.740	9.373	-	9.373

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	276.590	205.609	245.781	-	245.781	225.803	232.418	223.832	235.891	Continuing	Continuing
• PROC/0204OTHER: *OTHER ITEMS <$5M*	103.833	79.149	66.436	11.580	78.016	56.623	70.531	69.097	88.709	Continuing	Continuing

Remarks

D. Acquisition Strategy

• SDN is a fielded program with ETIs into all variants: heavy, medium, and light, wideband SATCOM-On-The-Move, Mobile SOF Strategic Entry Point, and airborne Intelligence Surveillance Reconnaissance transport variants. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

• CIM has an evolutionary acquisition strategy to enhance its capability to meet the CA communities emerging requirements.

• SPCOM is an ETI effort to provide and support multiple field segment kits. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Deployable Node (SDN) Development	MIPR	Various : Various	1.092	1.113	Mar 2015	1.396	Mar 2016	1.535	Mar 2017	-		1.535	Continuing	Continuing	-
Civil Information Management (CIM)	TBD	TBD : TBD	-	-		-		1.847	Mar 2017	-		1.847	Continuing	Continuing	-
Special Communications (SPCOM) Enterprise Capability Development	TBD	Various : Various	1.633	1.228	Jan 2015	2.566	Feb 2016	3.780	Mar 2017	-		3.780	Continuing	Continuing	-
SPCOM Technology Vulnerability Assessments	MIPR	MITRE : Bedford, MA	0.270	0.276	Dec 2014	0.284	Dec 2015	0.504	Dec 2016	-		0.504	Continuing	Continuing	-
		Subtotal	2.995	2.617		4.246		7.666		-		7.666	-	-	-

Test and Evaluation ($ in Millions)

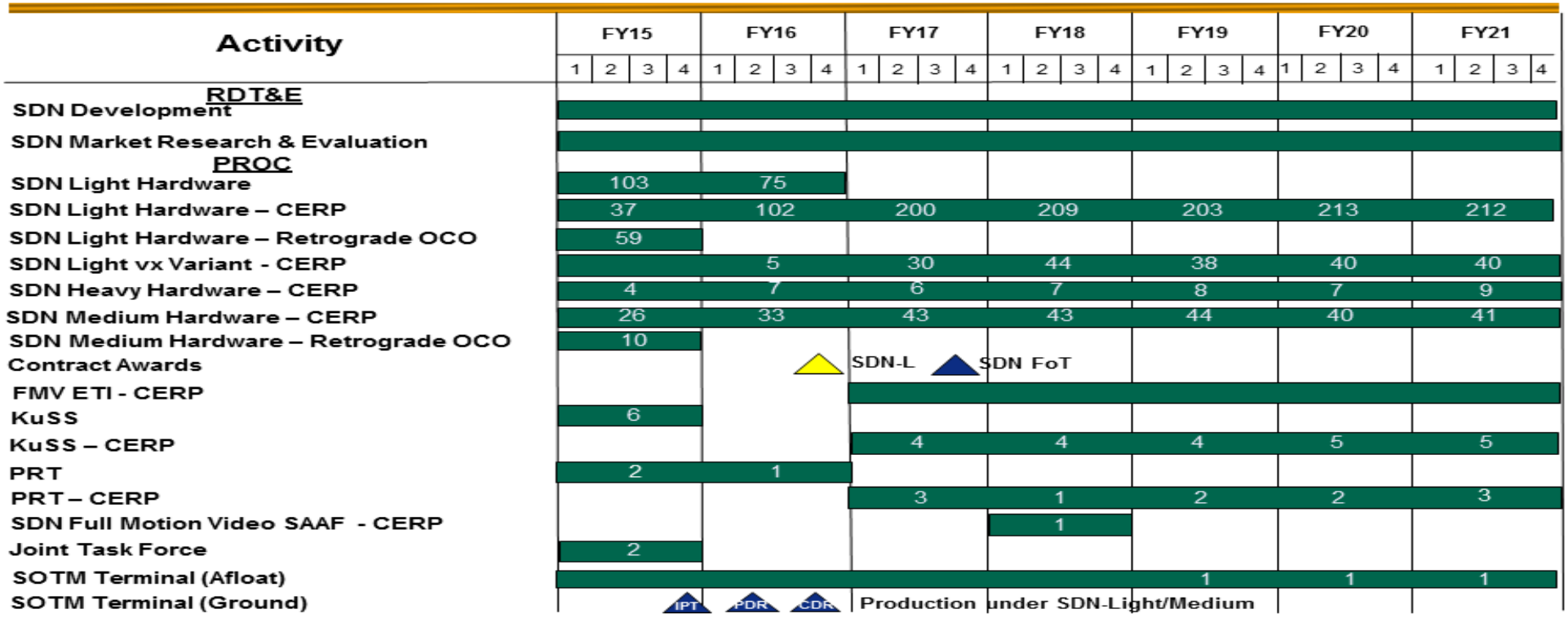
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SDN Market Research & Evaluation	MIPR	Naval Research Lab (NRL) : Washington, D.C.	0.000	1.206	Jan 2015	1.210	Dec 2015	1.405	Dec 2016	-		1.405	Continuing	Continuing	-
SPCOM Independent Verification and Validation	MIPR	MITRE : Bedford, MA	0.269	0.275	Mar 2015	0.284	Mar 2016	0.302	Mar 2016	-		0.302	Continuing	Continuing	-
		Subtotal	0.269	1.481		1.494		1.707		-		1.707	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.264	4.098		5.740		9.373		-		9.373	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

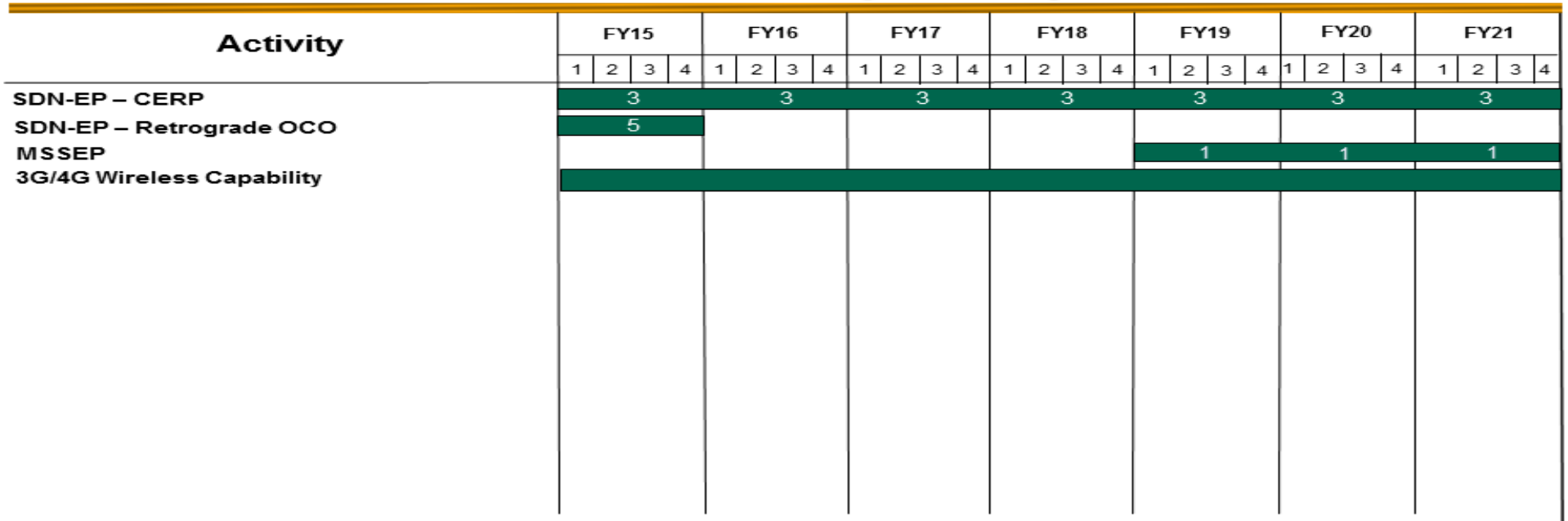
SOF Deployable Node (SDN) Schedule



3

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

SDN Schedule (cont.)

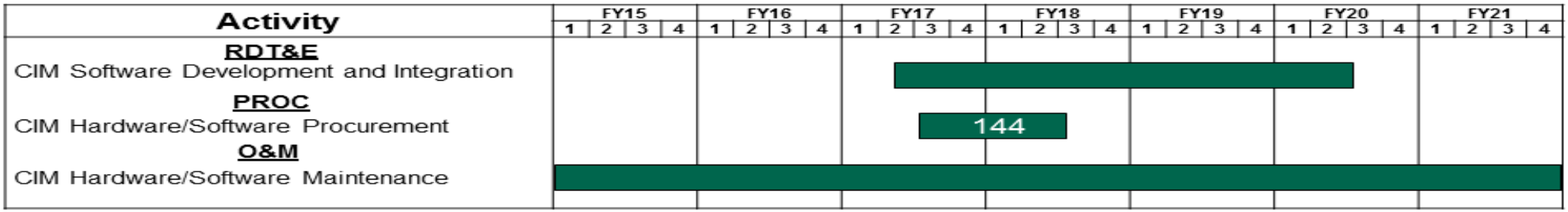


LEGEND:
CERP – Capital Equipment Replacement Program **OCO** – Other Contingency Operations **FMV** – Full Motion Video **FoT** – Family of Terminals
ETI – Evolutionary Technology Insertions **KuSS** – Ku Spread Spectrum **PRT** – Predator Reaper Terminal **SOTM** – Satellite on the Move

4

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Civil Information Management (CIM) Schedule

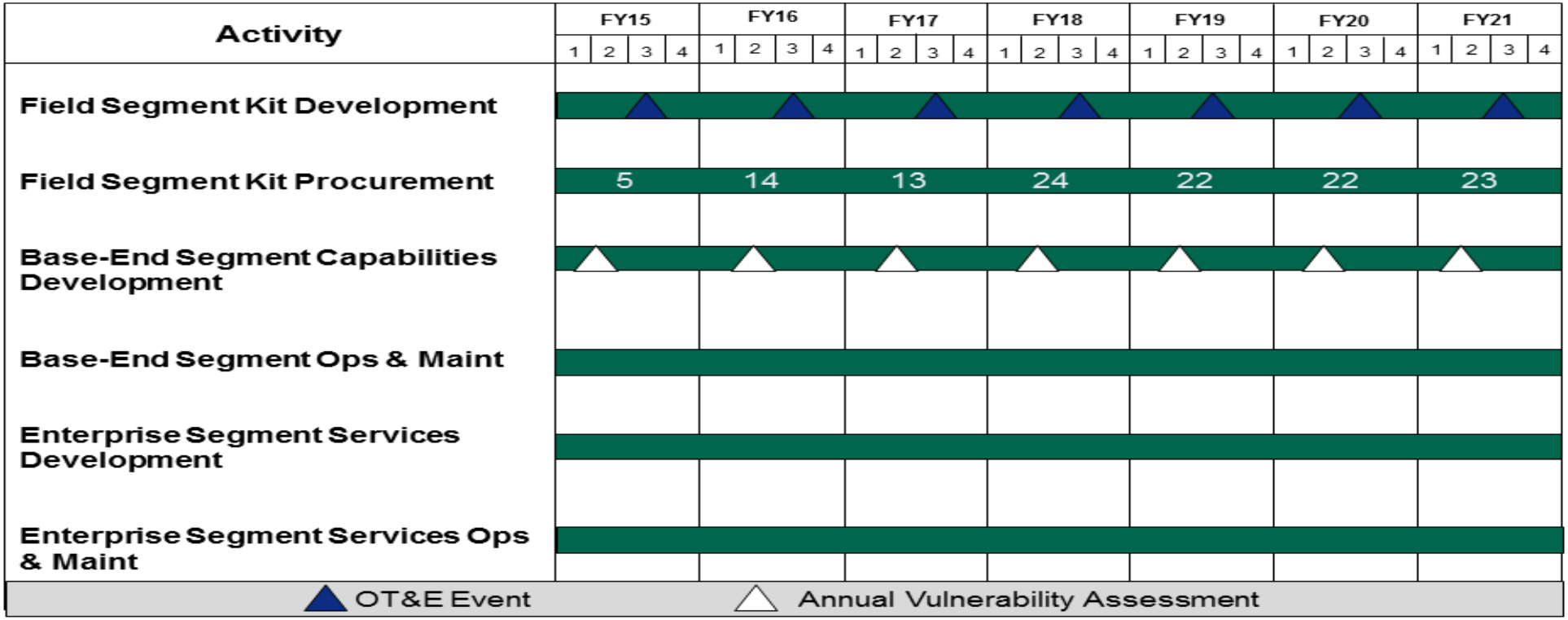


Previously Reported

5

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Special Communications Enterprise



1

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SOF Deployable Node				
SOF Deployable Node (SDN) Development	2	2015	4	2021
SDN Market Research and Testing	2	2015	4	2021
CIVIL INFORMATION MANAGEMENT (CIM)				
CIM Software Development	2	2017	2	2020
Special Communications (SPCOM) Enterprise Program				
Field Segment Kit Development	1	2015	4	2021
Base-End Segment Capabilities Development	1	2015	4	2021
Enterprise Segment Services Development	1	2015	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S710 / *Tactical Systems Development*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S710: *Tactical Systems Development*	0.243	0.930	0.868	2.640	-	2.640	2.416	2.523	3.031	3.083	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for development, testing, and integration of specialized automation equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized automation equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.

- The Tactical Local Area Network (TACLAN) provides SOF operational commanders and forward deployed forces advanced networking, automated data processing, storage, and display capabilities to support situational awareness, mission planning and execution, and command and control of forces. The TACLN consists of Suites, Mission Planning Kits and Field Computing Devices, Coalition Local Area Network, and Full Motion Video Kits.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: TACLAN Suites	0.930	0.868	2.640	-	2.640
FY 2015 Accomplishments: Began integration and testing of Evolutionary Technology Insertion (ETI) for Secure Data At Rest, secure wireless and cross domain solutions.					
FY 2016 Plans: Continue integration and testing of ETI for Secure Data At Rest, secure wireless and cross domain solutions.					
FY 2017 Base Plans: Continues integration and testing of ETI for Secure Data At Rest, secure wireless and cross domain solutions. Begins assessing, testing and evaluating the design and development of distributed cloud architecture to reduce complexity, improve resiliency, empower mobility, and increase security of the SOF Information Environment.					
Accomplishments/Planned Programs Subtotals	0.930	0.868	2.640	-	2.640

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S710 / *Tactical Systems Development*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204OTHER: *OTHER ITEMS <$5M*	103.833	79.149	66.436	11.580	78.016	56.623	70.531	67.097	88.709	Continuing	Continuing

Remarks

D. Acquisition Strategy

The TACLAN program has an evolutionary acquisition strategy. Commercial and government agency sources will be leveraged for required certifications, functional and operational test, and acceptance support.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S710 / *Tactical Systems Development*	

Test and Evaluation ($ in Millions)

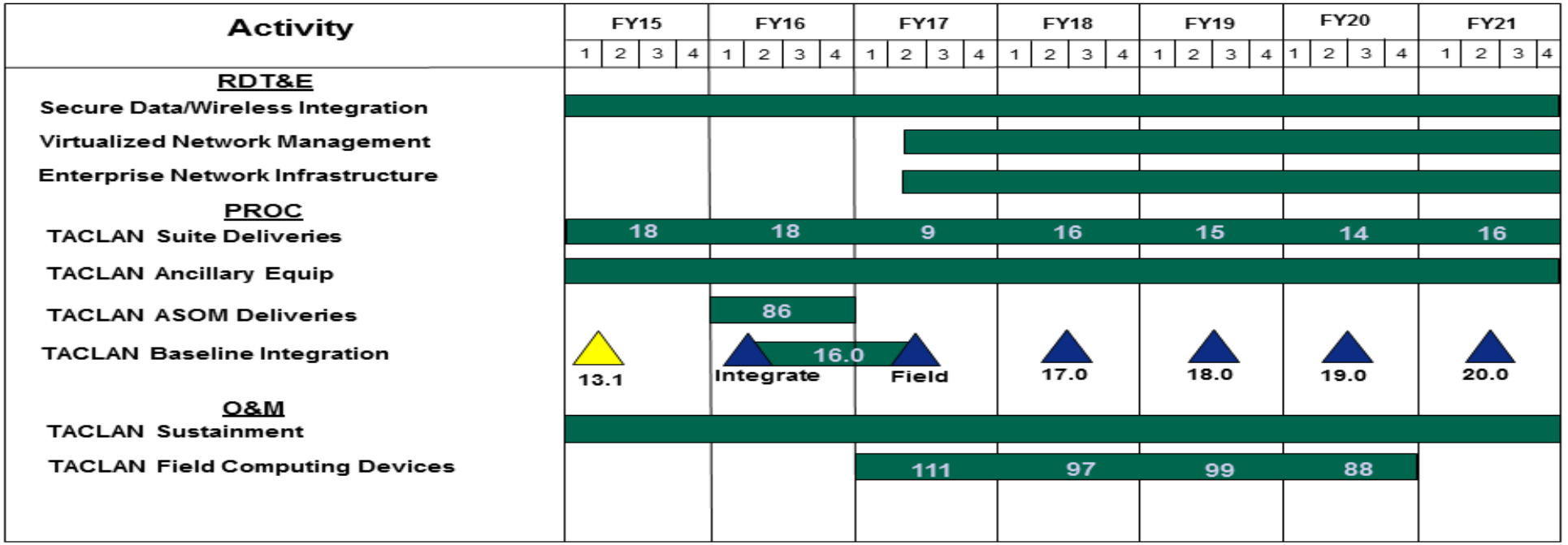
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Secure Data / Wireless Capability	Reqn	iGov : Tampa, FL	0.243	0.930	May 2015	0.868	Jan 2016	0.890	Jan 2017	-		0.890	Continuing	Continuing	-
Virtualized Network Management	MIPR	CERDEC : Aberdeen, MD	-	-		-		0.910	Mar 2017	-		0.910	Continuing	Continuing	-
Enterprise Network Infrastructure	MIPR	NAVAIR : Paxtuxant River, MD	-	-		-		0.840	Feb 2017	-		0.840	Continuing	Continuing	-
		Subtotal	0.243	0.930		0.868		2.640		-		2.640	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.243	0.930		0.868		2.640		-		2.640	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S710 / *Tactical Systems Development*

TACLAN Schedule



Previously Reported

5

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S710 / *Tactical Systems Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TACLAN SUITES				
Secure Data / Wireless Capability Test and Evaluation	3	2015	4	2021
Virtualized Network Management Test and Evaluation	2	2017	4	2021
Enterprise Network Infrastructure Test and Evaluation	2	2017	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S725: *Tactical Radio Systems*	1.811	4.777	2.170	3.884	-	3.884	3.683	4.892	5.219	1.880	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is for the development of all SOF tactical radio programs. Tactical Radios provide the critical Command, Control, Communications (C3) link between SOF Commanders and SOF Teams involved in operational missions and training exercises. They also provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies, and allied foreign forces. Tactical Radios, which includes SOF Tactical Communications, and Blue Force Tracking (BFT), rapidly and seamlessly establish and maintain mobile and fixed Command and Control (C2) communications between infiltrated/operational elements and higher echelon headquarters, allowing SOF to operate with any force combination in multiple environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: SOF Tactical Communications (STC) ***FY 2015 Accomplishments:*** Developed and tested new capability in tactical radio equipment. ***FY 2016 Plans:*** Develop and test new capability in tactical radio equipment. ***FY 2017 Base Plans:*** Continues to develop and test new capability in tactical radio equipment.	2.841	1.653	3.812	-	3.812
Title: BFT ***FY 2015 Accomplishments:*** Developed and tested new capability in BFT equipment. ***FY 2016 Plans:*** Continue to develop and test new capability in BFT equipment. ***FY 2017 Base Plans:*** Continues development of new capability in BFT equipment.	1.936	0.517	0.072	-	0.072
Accomplishments/Planned Programs Subtotals	4.777	2.170	3.884	-	3.884

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	276.590	205.609	245.781	-	245.781	225.803	232.418	223.832	235.891	Continuing	Continuing

Remarks

D. Acquisition Strategy

• STC is a Commercial-Off-The-Shelf/Non-Development Item program with evolutionary technology insertions (ETIs). Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

• BFT is a fielded program with ETIs leveraging commercial and other government agency sources for required certifications, functional and operational tests, and technology updates.

E. Performance Metrics

N/A.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S725 / *Tactical Radio Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Tactical Communications Radio Development	MIPR	Various : Various	1.811	2.841	Jan 2015	1.653	Jan 2016	3.812	Jan 2017	-		3.812	Continuing	Continuing	-
Blue Force Tracking Development	MIPR	Various : Various	0.000	1.936	Apr 2015	0.517	Nov 2015	0.072	Jan 2017	-		0.072	Continuing	Continuing	-
		Subtotal	1.811	4.777		2.170		3.884		-		3.884	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.811	4.777		2.170		3.884		-		3.884	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

A/MH-6M Block 3.0 Upgrade Schedule

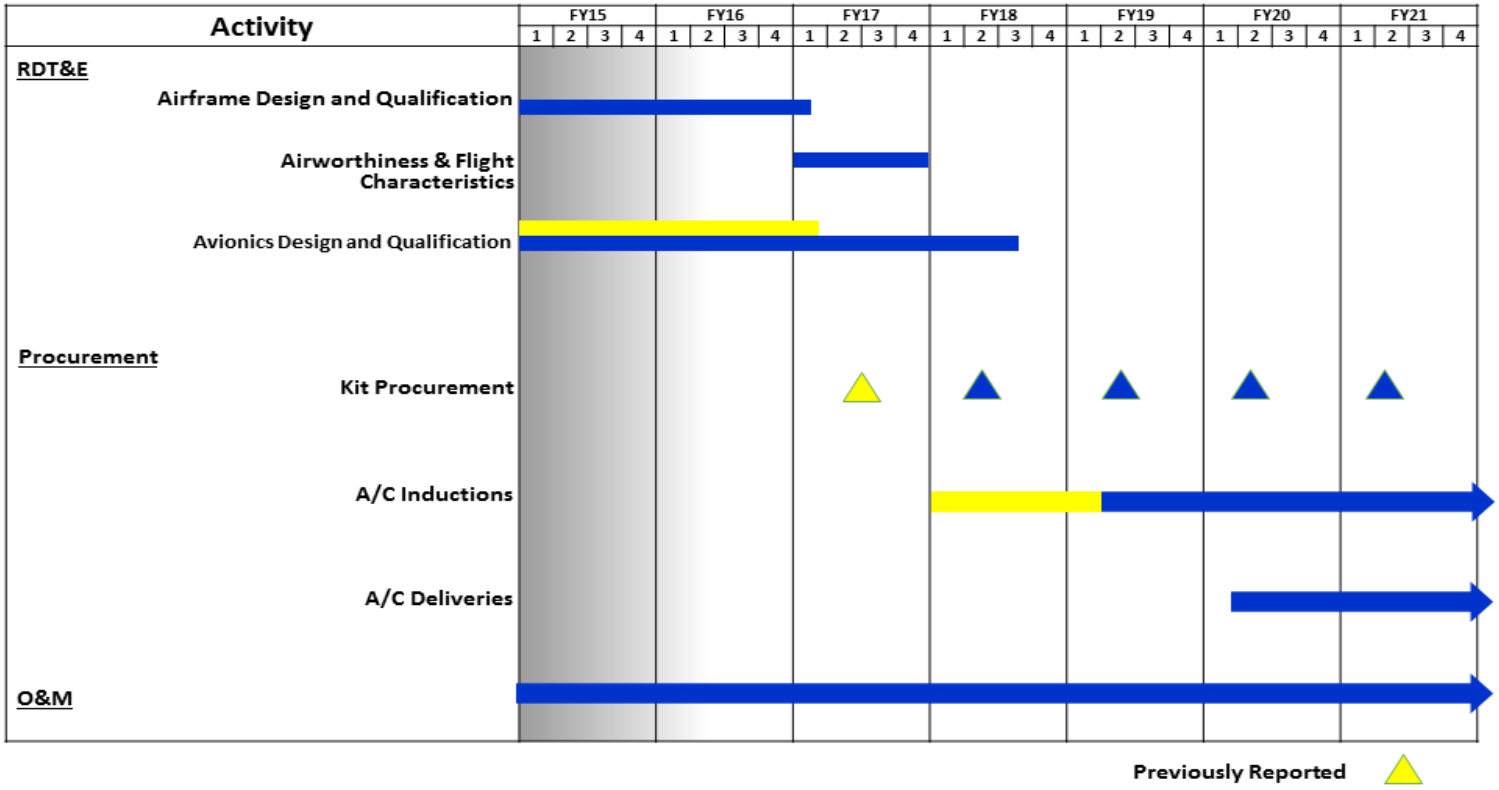


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

BFT Schedule

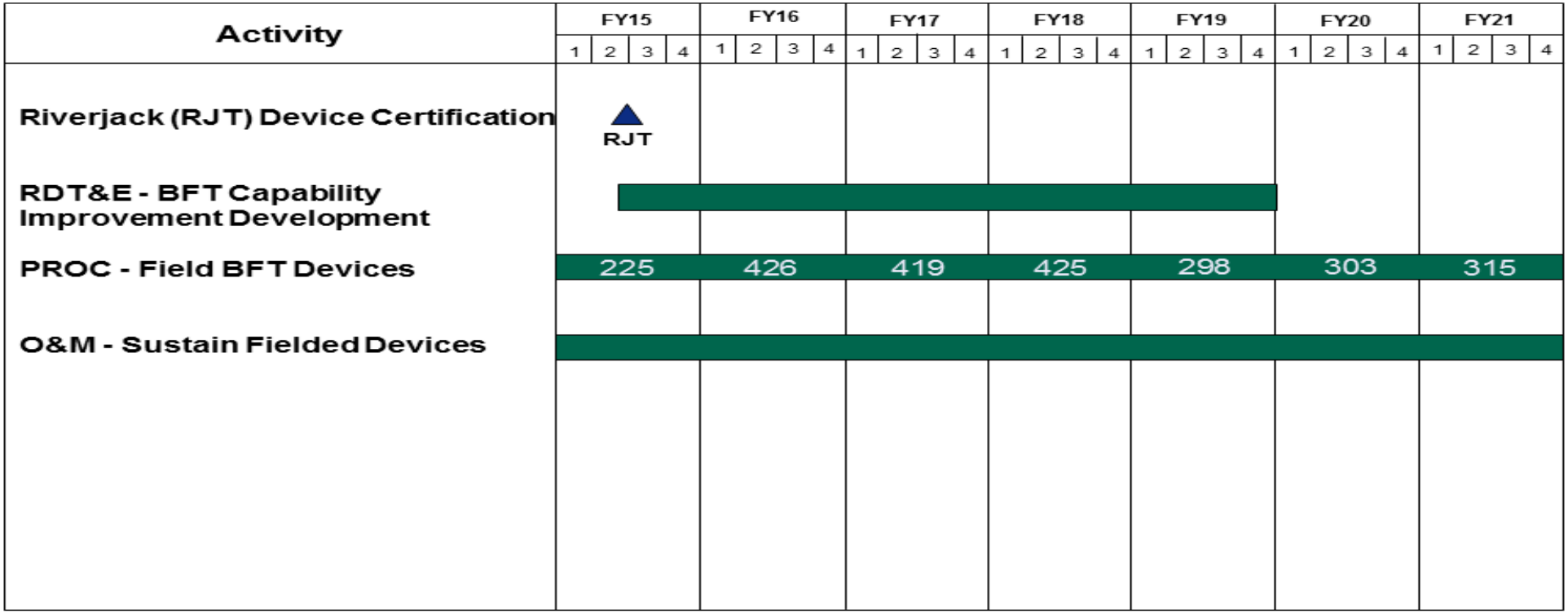


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SOF Tactical Communications (STC)				
STC Radio Development	2	2015	4	2021
Blue Force Tracking (BFT)				
BFT Capability Improvement Development	3	2015	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S800 / *Munitions Advanced Development*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S800: *Munitions Advanced Development*	3.386	0.733	10.948	17.398	-	17.398	5.491	0.537	0.538	0.549	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds advanced engineering, operational system development and qualification efforts related to specialized munitions and equipment to meet the unique requirements of SOF.

Munitions Advanced Development. This program provides for Insensitive Munitions (IM) technology development and evaluations that allow SOF munitions to pass testing which includes bullet impact, sympathetic detonation, fast cook off, slow cook off and shaped charge test. Testing is in accordance with the United States Special Operations IM Testing Plan. Munitions product improvements are tested in accordance with command priorities.

Stand-Off Precision Guided Munitions (SOPGM). Provides for the integration and testing of service-common munitions on SOF-unique platforms. This project received a congressional add in FY 2016.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Munitions Advanced Development	0.733	0.448	0.525	-	0.525
FY 2015 Accomplishments: Conducted proof of concept and IM testing on various munitions. Continued full scale testing to satisfy safety requirements in Military Standard 2105C (Department of Defense Test and Method Standard: Hazard Assessment Test for Non-Nuclear Munition, 26 Sep 2006).					
FY 2016 Plans: Conduct proof of concept and IM testing on various munitions. Continue full scale testing to satisfy safety requirements in Military Standard 2105C (Department of Defense Test and Method Standard: Hazard Assessment Test for Non-Nuclear Munition, 26 Sep 2006).					
FY 2017 Base Plans: Conducts proof of concept and IM testing on various munitions. Conduct SDB II flight test integration for SOF. Continues full scale testing to satisfy safety requirements in Military Standard 2105C (Department of Defense Test and Method Standard: Hazard Assessment Test for Non-Nuclear Munition, 26 Sep 2006).					
Title: Stand-Off Precision Guided Munitions (SOPGM)	-	-	16.873	-	16.873
FY 2017 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continues integration and testing of service-common precision guided munitions on SOF platforms.					
Accomplishments/Planned Programs Subtotals	0.733	0.448	17.398	-	17.398

	FY 2015	FY 2016
Congressional Add: Stand-Off Precision Guided Munitions (SOPGM)	-	10.500
FY 2016 Plans: Begins integration and testing of the Small Glide Munition (SGM) precision guided weapon on SOF platforms.		
Congressional Adds Subtotals	-	10.500

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0203ORDN: *Ordnance Items <$5M*	169.737	210.033	105.267	52.504	157.771	112.821	124.858	134.615	144.476	Continuing	Continuing

Remarks

D. Acquisition Strategy

Munitions Advanced Development: Munitions and packaging redesign shall take place within government laboratories, as well as in industry, depending on the munitions. IM solutions shall be tested on a small scale for proof of principle. Plan product improvements are tested at Army, Navy, and Air Force test centers.

SOPGM: Integration and developmental testing of service-common precision guided munitions will be conducted using government laboratories or industry partners depending on the munitions for various SOF platforms.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / *Warrior Systems*	Project (Number/Name) S800 / *Munitions Advanced Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Munitions - Insensitive Munitions (IM) Evaluation	C/FFP	US Air Force Air Armaments Center : Eglin, AFB, FL	0.050	0.073	Jan 2015	0.057	Oct 2015	0.065	Nov 2016	-		0.065	Continuing	Continuing	-
Munitions - IM Testing	Allot	ARDEC: : Picatinny Arsenal, NJ	0.278	0.463	Jan 2015	0.250	Oct 2015	0.325	Nov 2016	-		0.325	Continuing	Continuing	-
Munitions Advanced Development - Obtain Munitions Test Articles	C/FFP	General Dynamics: : Canada	0.125	0.197	Jan 2015	0.141	Oct 2015	0.135	Nov 2016	-		0.135	Continuing	Continuing	-
Stand-Off Precision Guided Munitions	Allot	Various : Various	2.933	-		-		16.873	Jan 2017	-		16.873	Continuing	Continuing	-
Stand-Off Precision Guided Munitions Congressional Add	Allot	Various : Various	-	-		10.500	Apr 2016	-		-		-	Continuing	Continuing	-
		Subtotal	3.386	0.733		10.948		17.398		-		17.398	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.386	0.733		10.948		17.398		-		17.398	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

Munitions Advanced Development Schedule

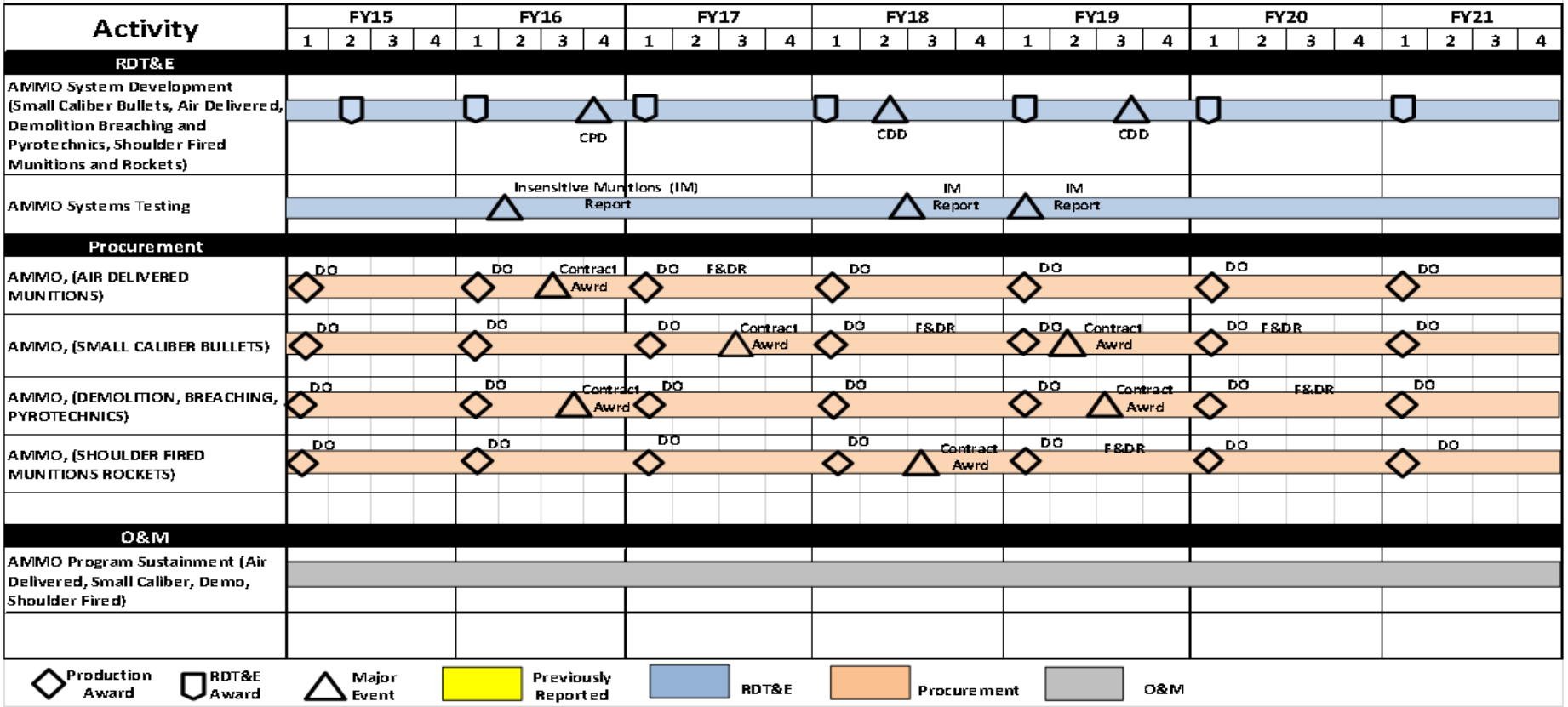
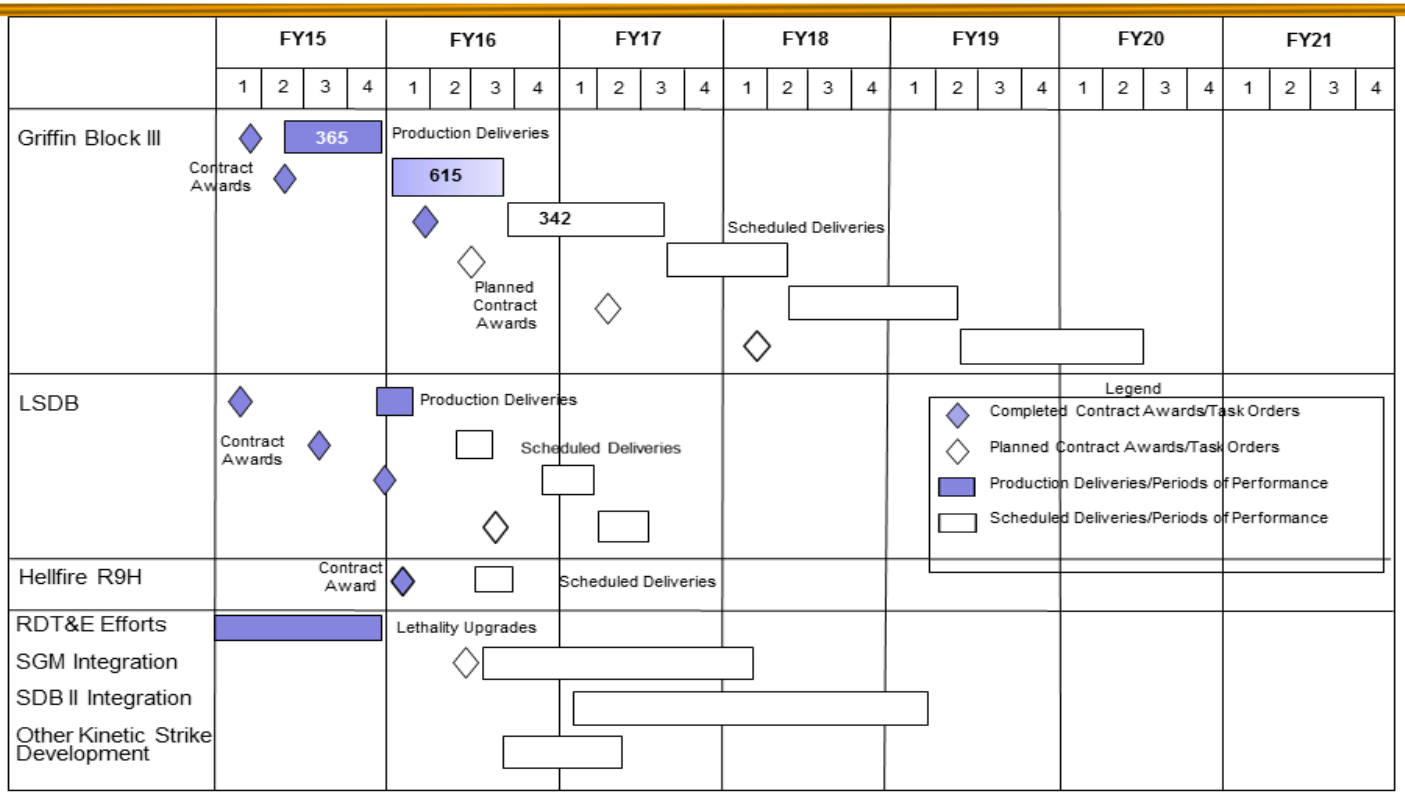


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

SOPGM Schedule



1

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Munitions				
Insensitive Munitions Evaluation	2	2015	4	2021
Munitions Testing	2	2015	4	2021
Purchase Test Articles	2	2015	4	2021
Stand-Off Precision Guided Munitions				
Evaluate Lethality Upgrades/Integration on SOF Platforms	2	2017	4	2018
Integration and Testing of the Small Glide Munition Precision Guided Weapon on SOF Platforms.	3	2016	3	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160432BB / *Special Programs*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	7.185	19.887	3.401	1.949	-	1.949	1.978	1.678	1.711	1.746	Continuing	Continuing
S500E: *Special Programs*	7.185	19.887	3.401	1.949	-	1.949	1.978	1.678	1.711	1.746	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119 (a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	20.908	3.401	1.964	-	1.964
Current President's Budget	19.887	3.401	1.949	-	1.949
Total Adjustments	-1.021	0.000	-0.015	-	-0.015
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.343	-			
• SBIR/STTR Transfer	-0.678	-			
• Other Adjustments	-	-	-0.015	-	-0.015

Change Summary Explanation

Funding:

FY2015: Decrease of $1.021 million is due to a decrease of $0.678 million for SBIR/STTR transfers, and a decrease of $0.343 million for higher command priorities.

FY2016: None.

FY2017: Details of $0.015 million decrease is available under separate cover.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command										Date: February 2016		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160432BB / *Special Programs*				Project (Number/Name) S500E / *Special Programs*			
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
S500E: *Special Programs*	7.185	19.887	3.401	1.949	-	1.949	1.978	1.678	1.711	1.746	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Other Classified Programs	19.887	3.401	1.949
Description: Program details available under separate cover document. ***FY 2015 Accomplishments:*** Program details available under separate cover document. ***FY 2016 Plans:*** Program details available under separate cover document. ***FY 2017 Plans:*** Program details available under separate cover document.			
Accomplishments/Planned Programs Subtotals	19.887	3.401	1.949

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Program acquisition strategy available under separate cover documents.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160432BB / *Special Programs*	Project (Number/Name) S500E / *Special Programs*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Classified Programs	TBD	Various : Various	7.185	19.887		3.401		1.949		-		1.949	Continuing	Continuing	-
		Subtotal	7.185	19.887		3.401		1.949		-		1.949	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.185	19.887		3.401		1.949		-		1.949	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160432BB / *Special Programs*	**Project (Number/Name)** S500E / *Special Programs*

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Other Classified Programs																												
Other Classified Programs																												

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160432BB / *Special Programs*	**Project (Number/Name)** S500E / *Special Programs*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Other Classified Programs				
Other Classified Programs	1	2015	4	2021

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	22.117	-	22.117	24.766	25.060	25.492	28.964	Continuing	Continuing
S855: *Unmanned ISR*	-	0.000	0.000	22.117	-	22.117	24.766	25.060	25.492	28.964	Continuing	Continuing

A. Mission Description and Budget Item Justification

NOTE: Beginning in FY 2017 Unmanned ISR represents the approved consolidation of Special Applications for Contingencies Program Element (PE) 0304210BB; MQ-1 Unmanned Aerial Vehicle (UAV), PE 0305219BB; MQ-8 PE 0305231BB; RQ-11 UAV PE 1105232BB; and RQ-7 UAV, PE 1105233BB.

This program element is part of the Military Intelligence Program (MIP). Develops and deploys special capabilities to perform Intelligence, Surveillance, and Reconnaissance (ISR) for deployed Special Operations Forces (SOF) using non-traditional means. USSOCOM has been designated as the DOD lead for planning, synchronizing, and as directed, executing global operations against terrorist networks and targets. USSOCOM requires the capability to find, fix, and finish time-sensitive high-value fixed and fleeting targets at the unit and team level without placing personnel and units in harm's way. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This PE addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) capabilities for SOF.

Group 1, 2, 3 and 4, Unmanned Aerial Systems (UAS) developmental efforts are to identify, develop, integrate, and test SOF-unique mission kits, mission payloads, air vehicle enhancements, and modifications on the related ground control stations. SAFC develops and integrates UAS payloads to advance ISR capabilities to address dynamic and emergent operational needs of the SOF user. Efforts include improving imagery/signals intelligence and electronic warfare payloads, capitalizing on developing technologies to reduce size, weight and power while addressing processing and data management challenges. It provides a mechanism for SOF user combat evaluation of emerging sensor technologies.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	22.117	-	22.117
Total Adjustments	0.000	0.000	22.117	-	22.117
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustment	-	-	22.117	-	22.117

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*

Change Summary Explanation

Funding:

FY 2015: None.

FY 2016: None.

FY 2017: The net increase of $22.117 million is due to the FY 2017 approved consolidation of the Unmanned ISR program element (PE) which includes Special Applications for Contingencies PE 0304210BB ($18.037 million); MQ-1 Unmanned Aerial Vehicle (UAV), PE 0305219BB; MQ-8 PE 0305231BB; RQ-11 UAV PE 1105232BB ($4.384 million); and RQ-7 UAV, PE 1105233BB, a reduction by the Department to account for prior year execution balances (-$0.142 million), and a Departmental economic assumption decrease (-$0.162 million).

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / *Unmanned ISR*	Project (Number/Name) S855 / *Unmanned ISR*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S855: *Unmanned ISR*	-	0.000	0.000	22.117	-	22.117	24.766	25.060	25.492	28.964	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

NOTE: Beginning in FY 2017, Unmanned ISR represents the approved consolidation of Special Applications for Contingencies Program Element (PE) 0304210BB; MQ-1 Unmanned Aerial Vehicle (UAV), PE 0305219BB; MQ-8 PE 0305231BB; RQ-11 UAV PE 1105232BB; and RQ-7 UAV, PE 1105233BB.

This project is part of the Military Intelligence Program (MIP). Develops and deploys special capabilities to perform intelligence, surveillance, and reconnaissance (ISR) for deployed Special Operations Forces (SOF) using non-traditional means.

Special Applications for Contingencies (SAFC). Provides for efforts to develop and integrate Unmanned Aerial Systems (UAS) payloads to advance ISR capabilities to address dynamic and emergent operational needs of the SOF user. Efforts include improving imagery/signals intelligence and electronic warfare payloads, capitalizing on developing technologies to reduce size, weight and power while addressing processing and data management challenges. It provides a mechanism for SOF user combat evaluation of emerging sensor technologies. SAFC applies focused Research & Development (R&D) for relatively low cost solutions to provide short lead-time contingency planning requirements where focused R&D will allow for test and evaluation of leading edge solutions to emergent problem sets.

Group 1 UAS. Group 1 UAS are small tactical systems, less than 20 pounds in weight. Provides for development efforts to identify, develop, integrate, and test Special Operations Forces (SOF) unique mission kits. The FY 2017 funding was reduced by $0.142 million to account for the availability of prior year execution balances.

Group 2 UAS. Group 2 UAS are medium tactical systems, between 21 pounds and 55 pounds in weight. Provides for development efforts to identify, develop, integrate, and test SOF-unique mission kits.

Group 3 UAS. Group 3 UAS are large tactical systems that weigh less than 1,320 pounds and fly less than flight level 180.

Group 4 UAS. Group 4 UAS are large systems that weigh greater than 1,320 pounds and fly higher than flight level 180. Provides for development efforts to identify, develop, integrate, and test SOF-unique mission kits.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: SAFC	-	-	17.875	-	17.875
FY 2017 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continues development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short-notice requirements. Continues to evaluate unique sensor technologies, persistent stare and quick reaction systems.					
Title: Group 1 UAS (Previously justified as Small Unmanned Aerial System) ***FY 2017 Base Plans:*** Continues to integrate, and test SOF-unique mission kits, mission payloads, and modifications to the small tactical UAS and ground control station, to include but not limited to; improved capabilities for geo-location, collection of push-to-talk, communications, specialized tagging, tracking, and locating, and enhanced communications relay and work to miniaturize previously developed payloads.	-	-	0.124	-	0.124
Title: Group 2 UAS (Previously justified as Multi-mission Tactical Unmanned Aerial System) ***FY 2017 Base Plans:*** Continues to integrate, and test SOF-unique mission capabilities to the medium tactical UAS, to include but not limited to; signals intelligence gathering, full motion video, and geo-location.	-	-	4.118	-	4.118
Accomplishments/Planned Programs Subtotals	-	-	22.117	-	22.117

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0201UMISR: *Unmanned ISR*	-	-	21.190	11.880	33.070	12.555	6.877	6.980	7.443	Continuing	Continuing
• PROC/0809RQ11: *RQ-11 Unmanned Aerial Vehicle*	6.397	15.587	-	-	-	-	-	-	-	0.000	21.984
• PROC/1108MQ1: *MQ-1 Unmanned Aerial Vehicle*	-	1.934	-	-	-	-	-	-	-	0.000	1.934
• PROC/1108STU: *Small Tactical Unmanned Aerial System*	1.500	1.514	-	-	-	-	-	-	-	0.000	3.014

Remarks

D. Acquisition Strategy

SAFC acquisition strategy utilizes existing competed contract vehicles for minor development and integration and modification of Government Off The Shelf/Contractor Off The Shelf (GOTS/COTS) equipment. It utilizes limited/full and open competition contracts for major developments.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

The Group 1 UAS are evolutionary acquisition programs that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, weapons, air vehicle enhancements, and ground control station upgrades. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some effort to the Original Equipment Manufacturer (OEM).

Group 2 UAS are evolutionary acquisition programs that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, weapons, air vehicle enhancements, and ground control station upgrades. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some effort to the OEM.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / *Unmanned ISR*	Project (Number/Name) S855 / *Unmanned ISR*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Platform/Payload Development and Integration	MIPR	Various : Various	-	-		-		8.911	Mar 2017	-		8.911	Continuing	Continuing	-
Group 1 Unmanned Aerial System (UAS) Payloads	C/IDIQ	Various : Various	-	-		-		0.124	Mar 2017	-		0.124	Continuing	Continuing	-
Group 2 UAS Platform/ Payloads Development	C/TBD	Various : Various	-	-		-		2.059	Mar 2017	-		2.059	-	-	-
		Subtotal	-	-		-		11.094		-		11.094	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Platform/Payload Integration	MIPR	Various : Various	-	-		-		0.600	Jan 2017	-		0.600	-	-	-
Group 2 UAS Platform/ Payload Support	C/TBD	Various : Various	-	-		-		0.617	Mar 2017	-		0.617	-	-	-
		Subtotal	-	-		-		1.217		-		1.217	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Sensor Testing, Evaluation and Demonstration	MIPR	Various : Various	-	-		-		7.291	Mar 2017	-		7.291	-	-	-
Group 2 UAS Platform/ Payload Test and Evaluation	C/TBD	Various : Various	-	-		-		0.825	Mar 2017	-		0.825	-	-	-
		Subtotal	-	-		-		8.116		-		8.116	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / *Unmanned ISR*	Project (Number/Name) S855 / *Unmanned ISR*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Sensor Testing, Evaluation and Demonstration Management	MIPR	Various : Various	-	-		-		1.073	Mar 2017	-		1.073	-	-	-
Group 2 UAS Platform/ Payload Mqnqgement	C/TBD	Various : Various	-	-		-		0.617	Mar 2017	-		0.617	-	-	-
		Subtotal	-	-		-		1.690		-		1.690	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		0.000		22.117		-		22.117	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

SAFC Schedule

Activity	FY15				FY16				FY17				FY18				FY19				FY20				FY21			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
RDT&E																												
Payload Development/Integration																												
Sensor Testing, Evaluation and Demonstration																												
Procurement																												
Puma II Unmanned Aerial System	3				3				3				3				3				3				2			
O&M																												
Flight Support/Program Management																												

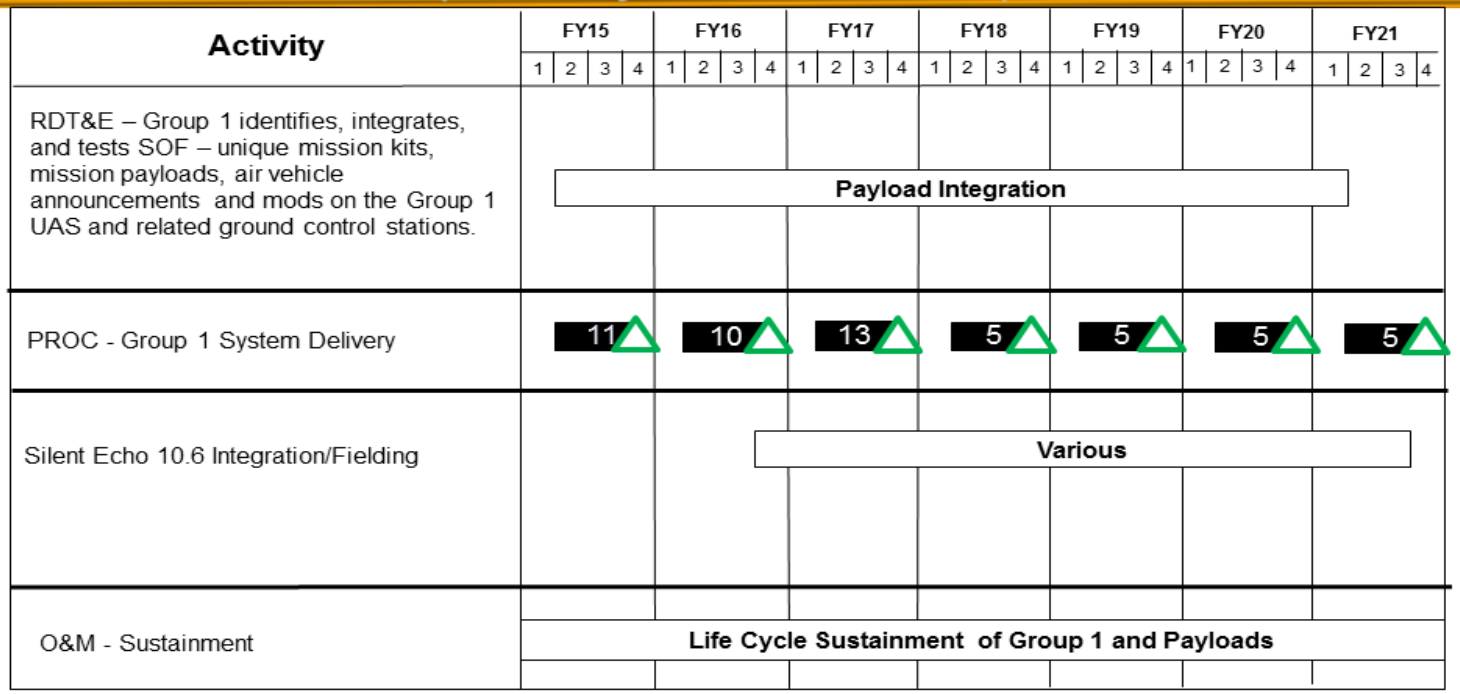
Previously Reported

1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group 1 Unmanned ISR Schedule

(Previously referred to as SUAS)

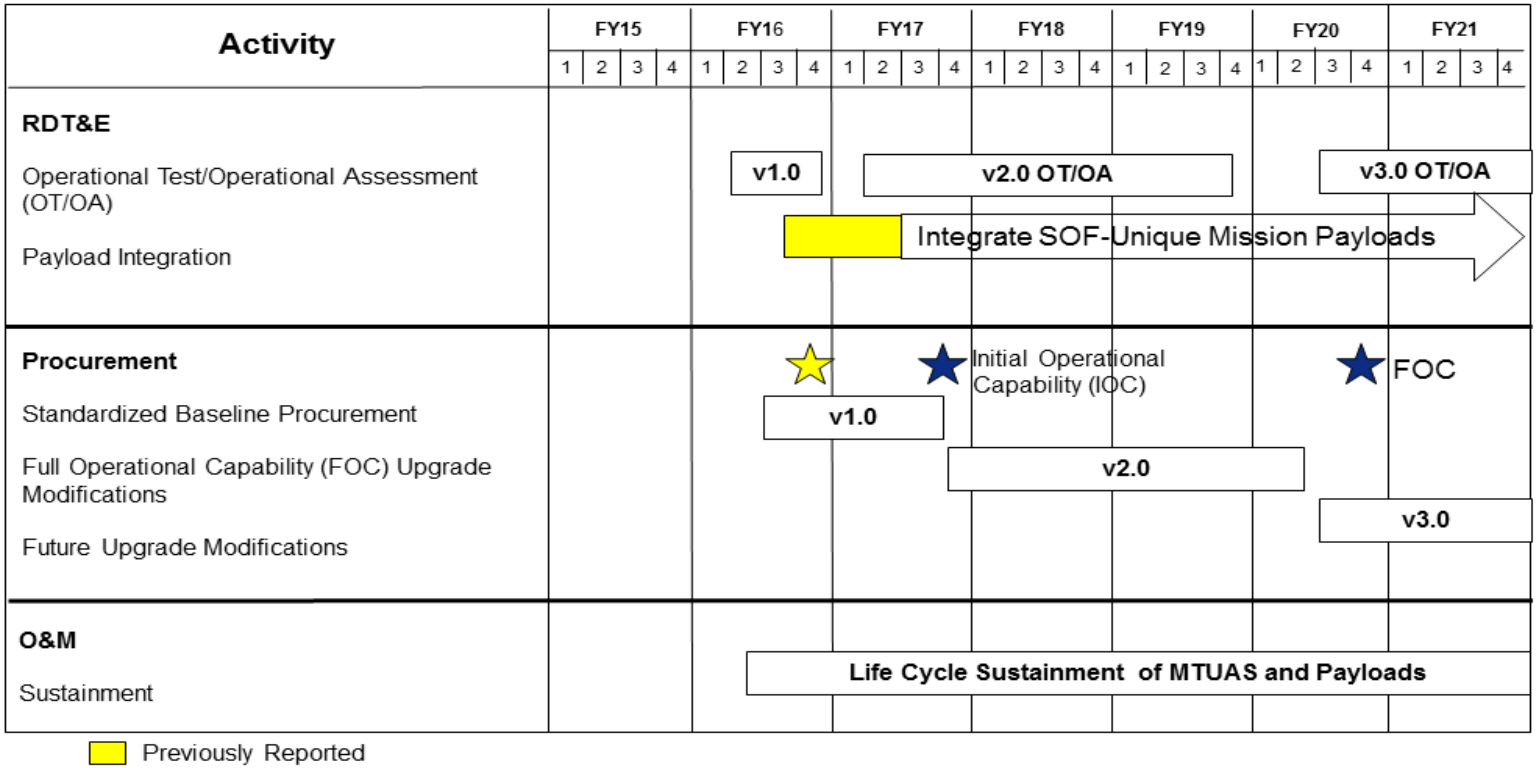


1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group 2 Unmanned Aerial System Schedule

(Previously referred to as MTUAS)



1

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SAFC				
Platform/Payload Development and Integration	1	2015	4	2021
Sensor Testing, Evaluation and Demonstration	1	2015	4	2021
Group 1 Unmanned Aerial System (UAS)				
Payload Integration, and Test	2	2015	4	2021
Group 2 UAS				
Operational Test/Operational Assessment (OT/OA)	2	2016	4	2021
Payload Integration	2	2017	4	2021

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	28.494	3.553	3.212	3.316	-	3.316	2.578	2.624	2.677	2.730	Continuing	Continuing
S910: *SOF Tactical Vehicles*	28.494	3.553	3.212	3.316	-	3.316	2.578	2.624	2.677	2.730	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for the development and testing of a variety of incremental upgrades to Special Operations Forces (SOF) Vehicles and ancillary equipment. Current SOF tactical vehicles include: Lightweight Tactical All Terrain Vehicles (Light), Ground Mobility Vehicles (Medium), Non-Standard Commercial Vehicles (Commercial) for use in tactical missions, and Mine Resistant Ambush Protected Vehicles (Heavy). The SOF mission mandates that SOF vehicles remain technologically superior, operate in multiple environments and be able to meet any threat to provide a maximum degree of survivability.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	3.672	3.212	3.341	-	3.341
Current President's Budget	3.553	3.212	3.316	-	3.316
Total Adjustments	-0.119	0.000	-0.025	-	-0.025
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.119	-			
• Other Adjustments	-	-	-0.025	-	-0.025

Change Summary Explanation

Funding:

FY 2015: Decrease of -$0.119 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Research Transfer programs.

FY 2016: None.

FY 2017: Decrease of -$0.025 million is due to Departmental economic assumption decrease.

Schedule: None.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / *SOF Tactical Vehicles*	Project (Number/Name) S910 / *SOF Tactical Vehicles*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S910: *SOF Tactical Vehicles*	28.494	3.553	3.212	3.316	-	3.316	2.578	2.624	2.677	2.730	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops, tests, and evaluates Special Operations vehicles and modifications. The Special Operations Forces (SOF) mission mandates that SOF vehicles remain technologically superior, operate in multiple environments and be able to meet any threat to provide a maximum degree of survivability. The current family of SOF tactical vehicles include: individual mobility vehicles, light mobility vehicles, medium mobility vehicles, non-standard commercial vehicles, and heavy mobility vehicles.

Family of Special Operations Vehicles (FSOV). This initiative provides for product improvements in the areas of suspension, power management, armor protection and unique vehicle design for all SOF tactical vehicle configurations. Designs must be standardized across all SOF Components that utilize a tactical vehicle. Improvements include, but are not limited to, new engineering change proposals (ECPs), field safety issues and theater endorsed requirements that make it essential to keep up with the increased weight and minimize the impact to mobility on the basic vehicle. FSOV develops, integrates and tests Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems in order to reduce space and power claim on vehicles and develop safety and engineering improvements that specifically address the enemy's changing tactics on the battlefield which typically focuses on survivability, force protection, or mobility. Specific efforts include but are not limited to: Ground Mobility Vehicle (GMV) Medium Version 1.1 effort which provides for a medium vehicle variant capable of meeting specific requirements of internal aircraft transport on the C/MH-47. The effort also provides for engineering costs related to performance, endurance, safety testing, integration and logistical analysis of product samples. Additionally, efforts include ECPs associated with the Non-Standard Commercial Vehicle (NSCV), the Lightweight Tactical All Terrain Vehicle (LTATV). These ECPs will address any identified safety, reliability, and performance concerns. Finally, funding will be used to support vehicle signature reduction efforts.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Family of Special Operations Vehicle	3.553	3.212	3.316	-	3.316
FY 2015 Accomplishments: Continued design/development and integration of ECPs that implement incremental upgrades and improve the design of the light and medium mobility vehicles to meet mission requirements. Funded Initial Operational Test and Evaluation (IOT&E) of the GMV 1.1 medium mobility vehicle which will be completed first quarter of FY16. Continued enhancements/modifications on the NSCV to improve reliability and survivability, with a focus on alternative rear axles and low visibility C4ISR antennas.					
FY 2016 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*	**Project (Number/Name)** S910 / *SOF Tactical Vehicles*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Continue integration of ECPs that implement incremental upgrades and improve the design of the light and ground mobility vehicles (medium). Continue enhancements/modifications on the NSCV to improve reliability and survivability and engineering design changes. ***FY 2017 Base Plans:*** Continues design/development and integration of ECPs that implement incremental upgrades and improve the design of the light tactical all-terrain vehicles (LTATV), Ground Mobility Vehicles (GMV - medium), and NSCV, to include a C4 effort to incorporate a Chairman of the Joint Chiefs of Staff directed Global Positioning System upgrade to M-Code. Continues enhancements/modifications on the NSCV to improve reliability and survivability.					
Accomplishments/Planned Programs Subtotals	3.553	3.212	3.316	-	3.316

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204TACVEH: *Tactical Vehicles*	63.134	73.520	67.849	3.200	71.049	62.956	39.303	17.923	17.092	Continuing	Continuing

Remarks

D. Acquisition Strategy

Vehicle improvements integrate emerging technology or commercial-off-the-shelf/non-developmental items. Materiel solutions will be procured via existing contracts or through a competitive procurement.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*	**Project (Number/Name)** S910 / *SOF Tactical Vehicles*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FSOV Ground Mobility Vehicles (GMV) 1.1 Medium and Non Standard Commercial Vehicle (NSCV) Engineering Change Proposal (ECP) Development	MIPR	Naval Air Systems Command : Patuxent River, MD	2.477	-		-		0.358	Nov 2016	-		0.358	0.000	2.835	-
FSOV GMV 1.1 Medium Enviro, simulation and modeling	WR	TARDEC : Warren, Michigan	0.090	0.050	Feb 2015	-		0.250	Nov 2016	-		0.250	Continuing	Continuing	-
FSOV GMV 1.1 Medium ECP Development & C4 Integration	C/FFP	General Dynamics - OTS : St. Petersburg, FL	6.558	1.305	Jul 2015	2.297	Jun 2016	0.250	Apr 2017	-		0.250	Continuing	Continuing	-
FSOV Lightweight Tactical All Terrain Vehicles (LTATV) ECP Development	C/FFP	Polaris Defense : MInneapolis, MN	0.381	-		0.312	Oct 2015	0.741	Mar 2017	-		0.741	Continuing	Continuing	-
FSOV Non-Standard Commercial Vehicles (NSCV) ECP Development/Signature Reduction	MIPR	TBD : TBD	0.807	-		0.603	Jun 2016	1.717	Mar 2017	-		1.717	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	0.383	-		-		-		-		-	0.000	0.383	-
		Subtotal	10.696	1.355		3.212		3.316		-		3.316	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FSOV GMV 1.1 Medium ECP Development & C4 Integration	C/FFP	General Dynamics - OTS : St. Petersburg, FL	-	0.952	Jun 2015	-		-		-		-	0.000	0.952	-
FSOV LTATV ECP Development	C/FFP	Polaris Defense : MInneapolis, MN	-	0.187	Aug 2015	-		-		-		-	0.000	0.187	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / *SOF Tactical Vehicles*	Project (Number/Name) S910 / *SOF Tactical Vehicles*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FSOV NSCV ECP	MIPR	HQ USSOCOM : Tampa, FL	-	0.500	Aug 2015	-		-		-		-	0.000	0.500	-
Prior Year Funding	Various	Various : Various	3.910	-		-		-		-		-	0.000	3.910	-
		Subtotal	3.910	1.639		-		-		-		-	0.000	5.549	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FSOV GMV 1.1 Medium Initial Operational Test and Evaluation (IOT&E)	MIPR	Nevada Automotive Test Center : Carson City, NV	-	0.447	Jul 2015	-		-		-		-	0.000	0.447	-
Prior Year Funding	Various	Various : Various	13.888	-		-		-		-		-	0.000	13.888	-
FSOV GMV 1.1 Medium test support	MIPR	Nevada Automotive Test Center : Carson City, NV	-	0.112	Jun 2015	-		-		-		-	0.000	0.112	-
		Subtotal	13.888	0.559		-		-		-		-	0.000	14.447	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.494	3.553		3.212		3.316		-		3.316	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*	**Project (Number/Name)** S910 / *SOF Tactical Vehicles*

Family of Special Operations Vehicles (FSOV) Schedule

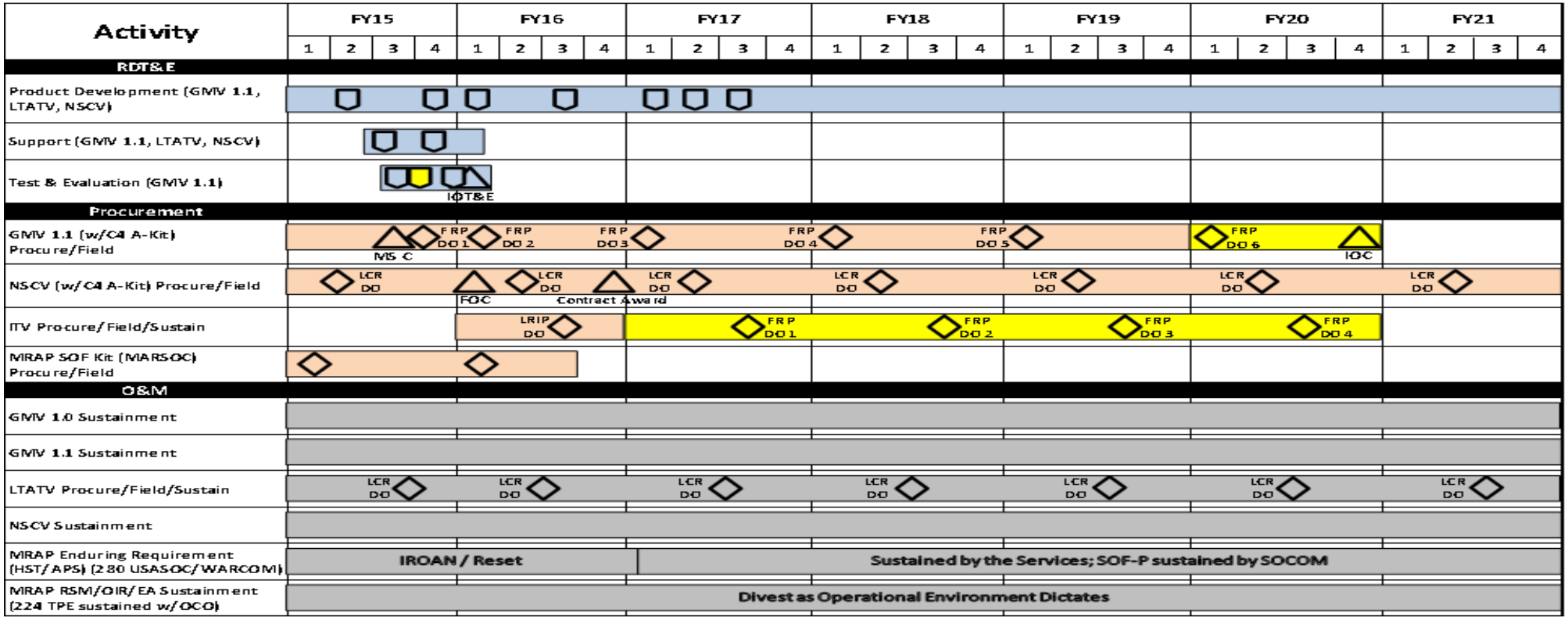


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160480BB / *SOF Tactical Vehicles*	**Project (Number/Name)** S910 / *SOF Tactical Vehicles*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
FSOV GMV 1.1 Medium				
FSOV GMV 1.1 Medium Enviro, Simulation and Modeling	1	2015	4	2021
FSOV Lightweight Tactical All Terrain Vehicles (LTATV)				
FSOV LTATV ECP Development	1	2015	4	2021
FSOV GMV 1.1 Medium ECP Development and Support	1	2015	4	2021
FSOV GMV 1.1 Medium Initial Operational Test & Evaluation	4	2015	4	2016
FSOV GMV 1.1 Medium Test Support	3	2015	3	2016
FSOV Non-Standard Commercial Vehicles (NSCV)				
FSOV NSCV ECP Development/Signature Reduction and Support	3	2015	4	2021

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	228.283	58.656	59.597	54.577	-	54.577	29.451	11.193	12.857	13.101	Continuing	Continuing
S0417: *Underwater Systems*	221.211	48.086	52.328	50.150	-	50.150	25.295	6.527	6.063	6.185	Continuing	Continuing
S1684: *Surface Craft*	7.072	10.570	7.269	4.427	-	4.427	4.156	4.666	6.794	6.916	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for engineering and manufacturing development of Special Operations Forces (SOF) Surface and Undersea Mobility platforms. This program element also provides for pre-acquisition activities to quickly respond to new requirements for SOF surface and undersea mobility, looking at multiple alternatives to include cross-platform technical solutions, service-common solutions, Commercial-Off-The-Shelf technologies, and new development efforts.

The Underwater Systems project provides for engineering and manufacturing development of combat submersibles, SOF operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component and prototype development) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

The Surface Craft project provides for engineering and manufacturing development of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement and technology insertion engineering changes to meet the unique requirements of SOF. This project element also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	56.746	63.597	52.590	-	52.590
Current President's Budget	58.656	59.597	54.577	-	54.577
Total Adjustments	1.910	-4.000	1.987	-	1.987
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-4.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.750	-			
• SBIR/STTR Transfer	-1.840	-			
• Other Adjustments	-	-	1.987	-	1.987

Change Summary Explanation

Funding:

FY 2015: Net increase of $ 1.910 million is for a reprogramming of $3.680 million to support engineering and testing for the Shallow Water Combat Submersible, $0.070 million to support the contract award for the Next Generation Combatant Craft Forward Looking Infrared Radar, and a decrease of $ 1.840 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2016: This program element was reduced due to a Congressional Directed Reduction of ($4.000) million to the Dry Combat Submersible program.

FY 2017: Net Increase of $1.987 million due to revised program strategy for the Combatant Craft Medium of $0.407 million increase, Combatant Craft Assault (previously High Speed Assault Craft) of $0.500 million increase, SOF Combat Diving of $1.490 million increase, and a decrease of ($0.410) million due to a Departmental economic assumption decrease.

Schedule: Due to delay in development and builder's trial of the DCS prototypes, further development and testing efforts were subsequently delayed into FY 2016 and FY 2017.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S0417 / *Underwater Systems*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S0417: *Underwater Systems*	221.211	48.086	52.328	50.150	-	50.150	25.295	6.527	6.063	6.185	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for engineering and manufacturing development of combat underwater submersibles, Special Operations Forces (SOF) operator diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/ extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions. Sub-projects include:

• Shallow Water Combat Submersible (SWCS): This sub-project provides for the engineering, manufacturing, testing, and development of one Engineering Developmental Model (EDM) to replace the SEAL Delivery Vehicle (SDV) system. The EDM is being developed due to obsolescence of the SDV system. This project will utilize mature technologies, which include electric propulsion along with upgraded navigation, communication, and sensor suites. It also provides for integration efforts with the current Dry Deck Shelter (DDS), development of engineering changes for SWCS production craft configuration, and integration of other diving technologies to meet SOF requirements.

• Dry Combat Submersible (DCS): This sub-project provides for the advanced engineering, manufacturing, testing, and development efforts for a surface-launched, dry, diver lock-in/lock-out vessel capable of inserting and extracting SOF and/or payloads into denied areas. USSOCOM will award an Engineering and Manufacturing Development contract in FY 2016 to produce one production representative vessel, with options to produce two additional vessels following testing. Current efforts leverage commercial practices to develop dry submersible prototypes to assess submersible capabilities and reduce risk in the DCS program. USSOCOM developed and is currently testing two submersible prototypes. USSOCOM has also conducted risk reduction efforts on a third leased vehicle to include validation of test processes, commercial classification processes, and development of the SOCOM safety certification process which permits SEALs to operate the vehicles. In addition, the prototypes are being and will continue to be used to evaluate capability enhancing technologies in a relevant environment. Technologies include, but are not limited to, safe Li-Ion batteries, silver zinc batteries, improved sonar systems, an advanced battery management system, and a three-dimensional Electro Optical Infrared (EO/ IR) sensor.

• DDS Modernization: This sub-project provides for the pre-planned product improvements, testing, and integration of specialized underwater systems to meet the unique requirements of SOF, and compatibility with the submarine fleet. The current DDS is a certified diving system which attaches to modified host submarines that provides for insertion of SOF forces and platforms. Funding supports product improvements to the current DDS, as well as associated diver equipment for in-service submarine support systems, unmanned underwater vehicles, and follow on development efforts for future SOF payloads.

• SOF Combat Diving: This sub-project provides for the engineering, manufacturing, testing, development, and transition of SOF peculiar diving equipment providing the SOF combat diver the ability to engage the enemy and conduct operations. SOF Combat Diving will provide capabilities to USSOCOM components and will support

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

the SDV, SWCS, and DCS in conduct of infiltration/extraction, material recovery, underwater ship attack, beach clearance, and other missions. Technologies include, but are not limited to, commercial and developmental life support, maneuverability, employment of weapons, diver navigational accuracy and situational awareness, thermal protection, and underwater communications.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: SWCS	19.981	7.596	0.950
FY 2015 Accomplishments: Completed EDM manufacturing and development and started developmental testing. Executed dry, pool, and open water testing. Obtained Milestone C approval.			
FY 2016 Plans: Continue EDM development testing, certification and government acceptance. Incorporate any necessary engineering design changes and modifications to meet key performance parameters.			
FY 2017 Plans: Completes EDM, including final logistics packages, develops and incorporates any engineering changes into SWCS production craft configuration as needed.			
Title: DCS	28.105	34.232	38.700
FY 2015 Accomplishments: Completed manufacturing, obtained commercial classification, and began testing of the two submersible prototypes. Achieved SOF Embarkation approval for leased vessel, validating process and enabling initial SOF pilot training and multiple lock-in/lock-out evolutions. Validated test plans and procedures for use with DCS. Completed testing of government-furnished EO/IR sensor, silver zinc battery, battery management system, and began initial testing of lithium ion battery. Battery development efforts have resulted in more than doubling the range of the leased vessel. Obtained Milestone B approval, conducted Industry Day, and released Request for Proposals for DCS program of record.			
FY 2016 Plans: Continue testing of lithium ion battery and begin characterization testing of the prototypes. Award an engineering and manufacturing development (EMD) contract for a production representative system.			
FY 2017 Plans: Continues EMD for DCS production representative system. Completes testing of the prototypes and initiates refit of one prototype submersible to be used as a training vessel.			
Title: DDS Modernization	-	10.000	8.500
FY 2016 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Begin development of the modernization necessary to extend useful life, transition from SSGN to Virginia Class host platform, and increase capacity to carry larger payloads. ***FY 2017 Plans:*** Continues development of the modernization necessary to extend useful life of the DDS, transitions from SSGN to Virginia Class host platform, and increases capacity to carry larger payloads.			
Title: SOF Combat Diving ***FY 2016 Plans:*** Begin development of SOF peculiar diving technologies for transition to the SOF combat diver for thermal protection to include free diver heating/cooling system, compact multi-diver heating system, and propulsion power interface. ***FY 2017 Plans:*** Continues thermal protection and man and unmanned testing. Begins development for situational awareness and underwater breathing apparatuses.	-	0.500	2.000
Accomplishments/Planned Programs Subtotals	48.086	52.328	50.150

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0210US: *Underwater Systems*	25.408	29.021	37.098	-	37.098	91.032	54.299	7.820	7.977	Continuing	Continuing

Remarks

D. Acquisition Strategy

• SWCS used full and open competition, with a down select to a single contractor. The full spectrum of contracting activities is being utilized for any integration and subsystem requirements, using existing contracts where appropriate, government agencies and new contracts as necessary.

• DCS performed risk reduction efforts on a leased vessel (S301i) to define future DCS program plans and procedures as well as used Broad Area Announcements for Research and Development contracts to design, build, and test prototypes (Button 5.60 and S351) to refine and validate key performance parameters and attributes for the future DCS, leveraging commercial technologies, practices, and safety classification standards. USSOCOM will solicit and award a competitive engineering and manufacturing development contract for a production representative system in FY16 and award two options for procurement vessels in FY18 and FY19.

• DDS Modernization will use existing DDS contracts to develop modernization efforts and execute configuration changes required to achieve performance requirements specified by the government.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

• SOF Combat Diving: The full spectrum of contracting activities is planned to be utilized, using existing contracts where appropriate, government agencies, and new contracts competitively selected as necessary.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S0417 / *Underwater Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Shallow Water Combat Submersible (SWCS)	C/CPIF	Teledyne Brown Engineering : Huntsville, AL	59.276	18.024	Aug 2015	7.000	Jan 2016	-		-		-	0.000	84.300	-
SWCS Engineering Changes	C/Various	Various : Various	-	-		-		0.950	Dec 2016	-		0.950	Continuing	Continuing	-
Dry Combat Submersibles (DCS) (Button 5.60 prototype)	C/Various	General Dynamic-Electric Boat : Groton, CT	25.403	0.635	Mar 2015	2.877	Jul 2016	-		-		-	0.000	28.915	-
DCS (S351 prototype)	C/Various	Submergence Group : Chester, CT	23.075	9.638	Sep 2015	0.953	Dec 2015	-		-		-	0.000	33.666	-
DCS Technologies (Government Furnished Equipment)	C/Various	Various : Various	19.552	7.907	Nov 2015	4.003	Feb 2016	7.377	Jun 2017	-		7.377	Continuing	Continuing	-
DCS (Engineering & Manufacturing Development)	C/Various	MacDill AFB : Tampa, FL	-	-		22.300	Jun 2016	25.723	Jun 2017	-		25.723	0.000	48.023	-
DCS Engineering Changes	C/Various	Various : Various	0.000	-		-		3.100	Jun 2017	-		3.100	Continuing	Continuing	-
Dry Deck Shelter (DDS) Modernization	SS/CPFF	Oceaneering International Inc. Marine Services Division : Chesapeake, VA	-	-		9.650	Nov 2015	8.197	Jan 2017	-		8.197	Continuing	Continuing	-
SOF-Peculiar Diving Technologies	Various	Various : Various	-	-		0.500	Mar 2016	1.500	Nov 2016	-		1.500	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	59.896	-		-		-		-		-	0.000	59.896	-
		Subtotal	187.202	36.204		47.283		46.847		-		46.847	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Funding	Various	Various : Various	9.094	-		-		-		-		-	0.000	9.094	-
		Subtotal	9.094	-		-		-		-		-	0.000	9.094	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S0417 / *Underwater Systems*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	Puget Sound Naval Shipyard : Seattle, Washington	0.240	0.368	Jan 2015	0.596	Jan 2016	-		-		-	0.000	1.204	-
DCS	C/Various	NAVSEA / CRANE : Panama City, FL	1.700	7.307	Nov 2014	1.299	Nov 2015	-		-		-	0.000	10.306	-
SOF Combat Diving	Various	Various : Various	-	-		-		0.500	Nov 2017	-		0.500	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	9.320	-		-		-		-		-	0.000	9.320	-
		Subtotal	11.260	7.675		1.895		0.500		-		0.500	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	John Hopkins University : Columbia, MD	-	1.589	Mar 2015	-		-		-		-	0.000	1.589	-
DCS	Various	SRA : Tampa, FL	6.698	2.618	Nov 2015	2.800	Jun 2016	2.500	Jun 2017	-		2.500	Continuing	Continuing	-
DDS	MIPR	NAVSEA : Washington, DC	0.757	-		0.350	Jan 2016	0.303	Jan 2017	-		0.303	0.700	2.110	-
Prior Year Funding	Various	John Hopkins University : Columbia, MD	6.200	-		-		-		-		-	0.000	6.200	-
		Subtotal	13.655	4.207		3.150		2.803		-		2.803	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	221.211	48.086		52.328		50.150		-		50.150	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

SWCS Schedule

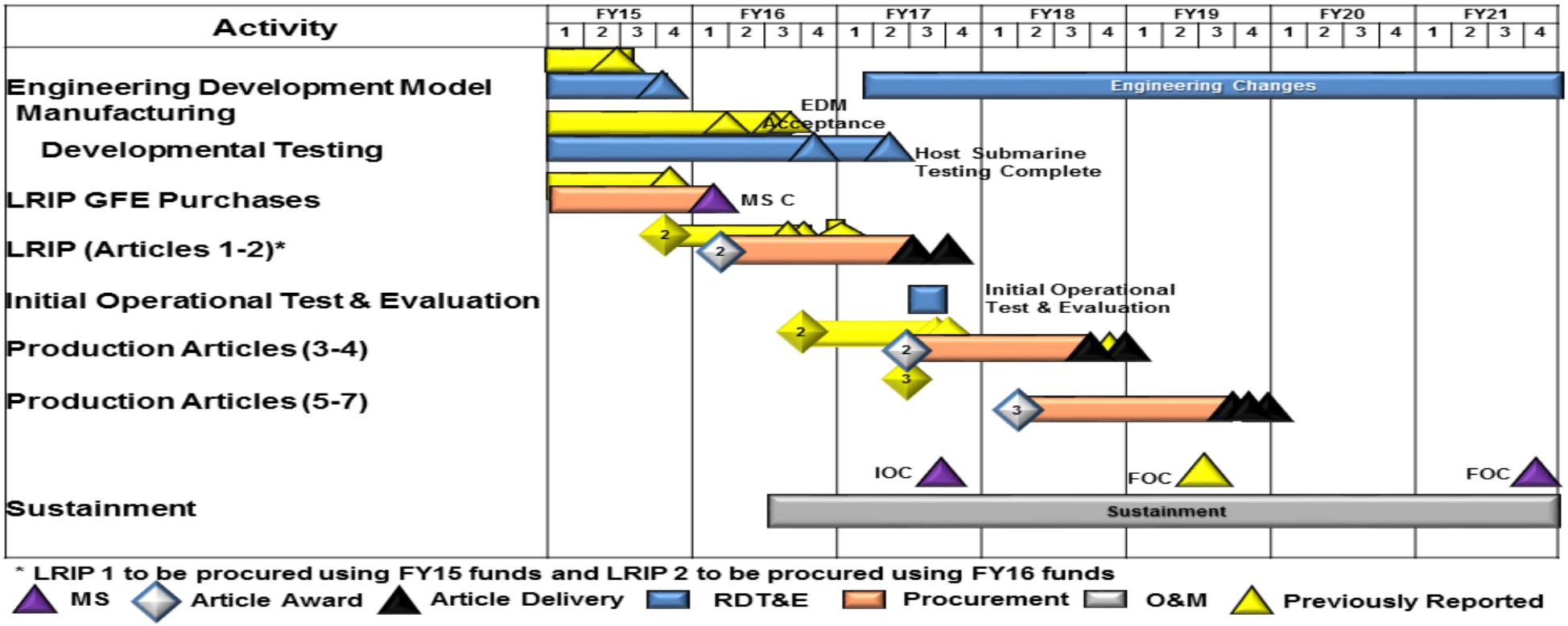


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Dry Combat Submersibles

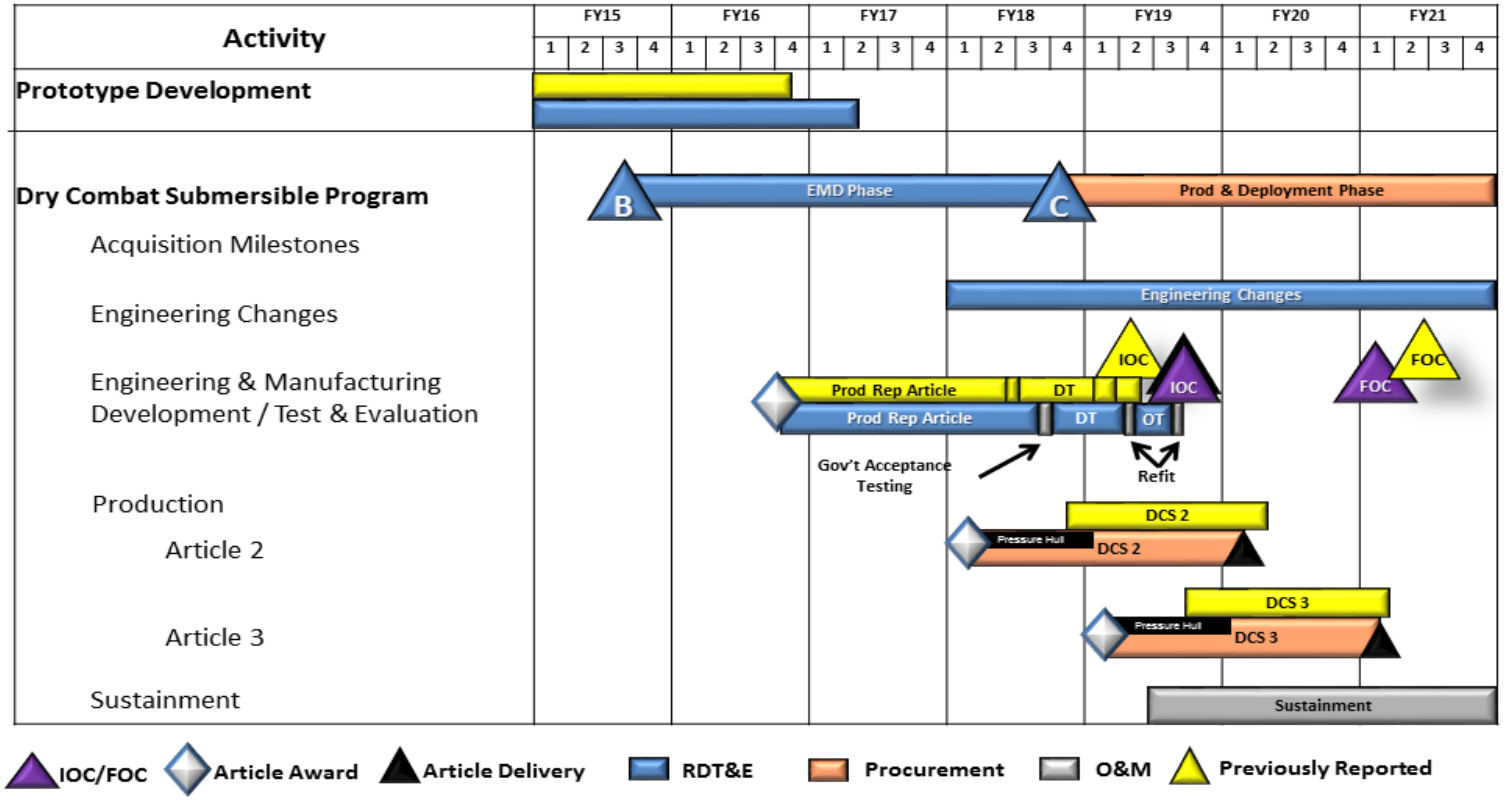
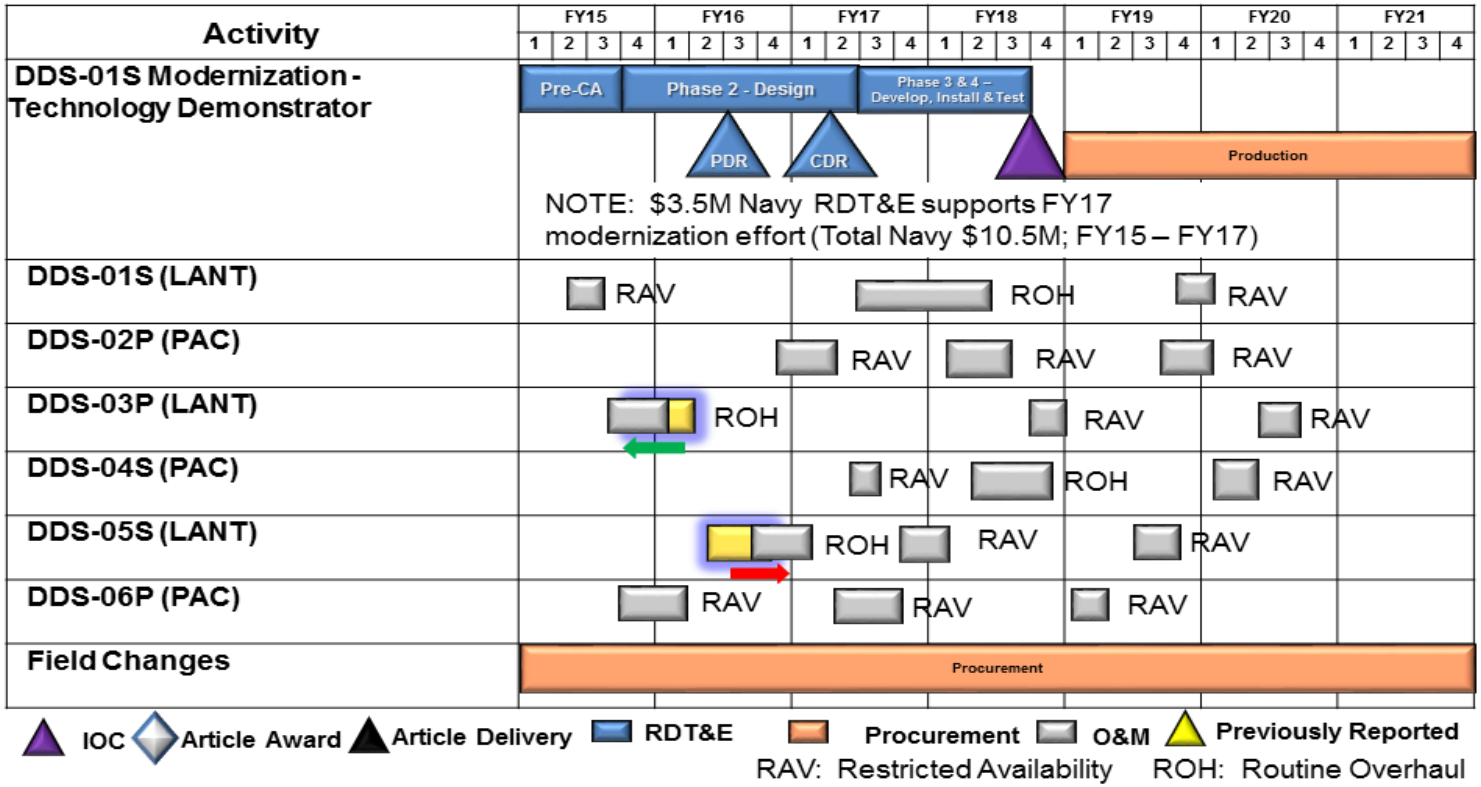


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

DDS Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

SOF Combat Diving

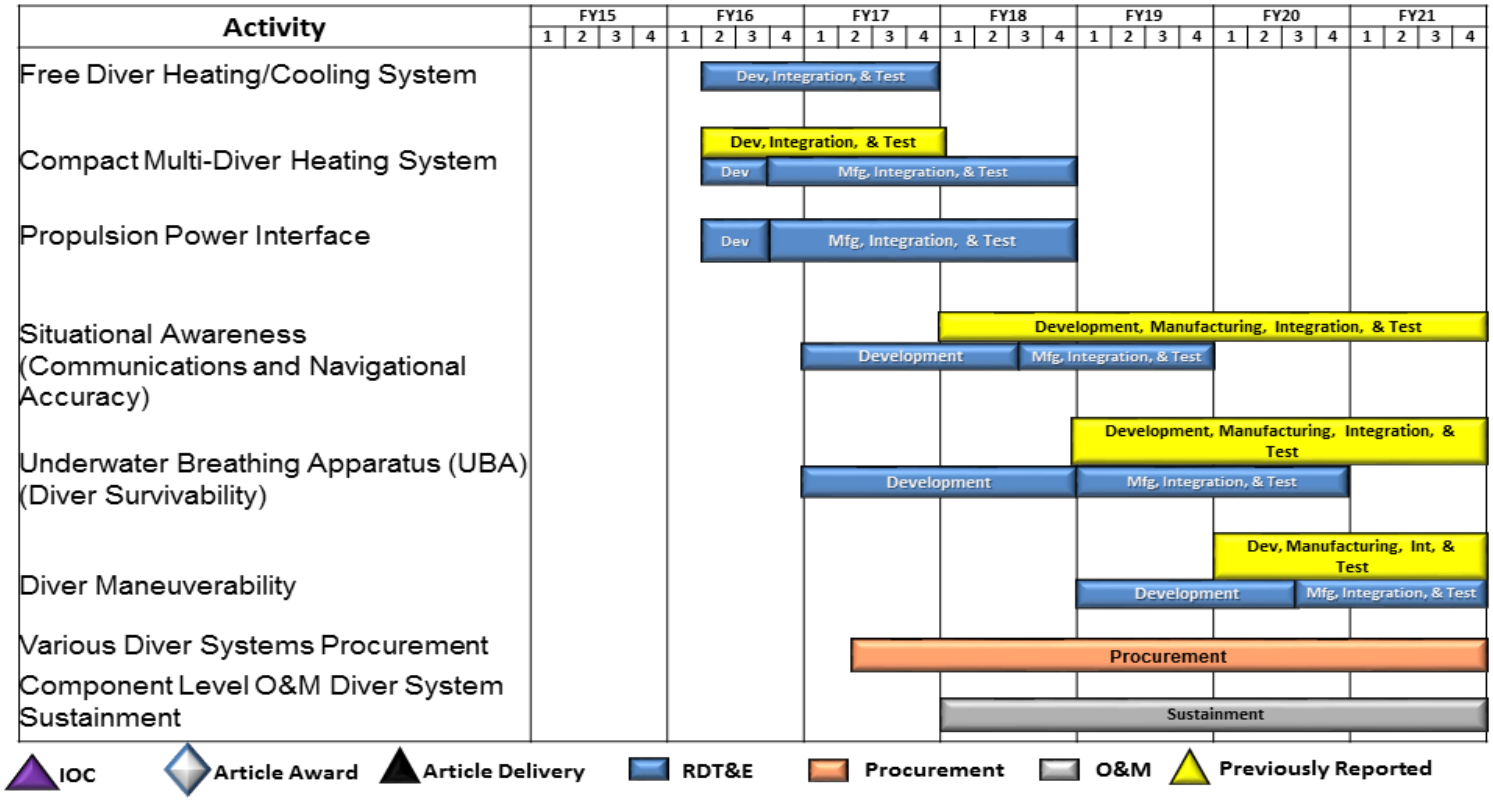


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Shallow Water Combat Submersible				
Engineering & Manufacturing Development	1	2015	4	2015
Developmental Test	1	2015	2	2017
Milestone C	1	2016	1	2016
Engineering Changes	1	2017	4	2021
Dry Combat Submersibles				
Analysis, Component and Prototype Development, and Testing	1	2015	2	2017
Training Vessel	2	2017	2	2018
Milestone B	3	2015	3	2015
Acquisition Planning, Request for Proposals, and Source Selection	3	2015	3	2016
Engineering and Manufacturing Development Phase	3	2015	4	2018
Engineering Changes	1	2018	4	2021
Milestone C	4	2018	4	2018
Developmental and Operational Test and Evaluation	4	2018	3	2019
Dry Deck Shelter Modernization				
Preliminary Design Review	2	2016	2	2016
Critical Design Review	2	2017	2	2017
SOF Combat Diving				
Free Diver Heating / Cooling System Development / Manufacturing / Test / Integration	2	2016	4	2017
Compact Multi-Diver Heating System Development / Manufacturing / Test / Integration	2	2016	4	2018
Propulsion Power Interface Development / Manufacturing / Test / Integration	2	2016	4	2018
Communications and Navigational Accuracy Development / Manufacturing / Test / Integration	1	2017	4	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Diver Survivability Development / Manufacturing / Test / Integration	1	2017	4	2020
Maneuverability Development / Manufacturing / Test / Integration	1	2019	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S1684 / *Surface Craft*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S1684: *Surface Craft*	7.072	10.570	7.269	4.427	-	4.427	4.156	4.666	6.794	6.916	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for engineering and manufacturing development of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement and technology insertion engineering changes to meet the unique requirements of Special Operations Forces (SOF). This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions. Sub-projects include:

• Combatant Craft Medium Mk 1 (CCM): This sub-project is a semi-enclosed, low-observable, multi-mission combatant craft for platoon-size maritime mobility in maritime denied environments. It is multi-mission capable, including Maritime Interdiction, Insert / Extract, and Visit, Board, Search, and Seizure (VBSS) Operations. CCM is Naval Special Warfare's (NSW) craft-of-choice for long-range, high-payload SOF mobility operations in denied environments up to high threat. CCM has NSW's best Iron Triangle: 40 knot (kt) speed; 4 crew + 19 passengers (pax) / 10,000 pound (lb) payload; and 600 nautical miles (nm) range. CCM Mk 1 payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 60 feet long CCM is C-17 / C5 transportable and can launch/recover by well deck or shore based trailer.

• Combatant Craft Heavy (CCH): This sub-project represents a family of solutions that provides platoon-size maritime surface mobility. The current CCH is the Sea, Air, Land Insertion, Observation, and Neutralization (SEALION) craft. SEALION is a fully-enclosed, climate-controlled, low-observable, semi-submersible craft that operates in denied environments up to high-threat. SEALION is NSW's most versatile and survivable combatant craft and the craft-of-choice for sensitive maritime intelligence, surveillance, and reconnaissance missions and those missions requiring a prolonged presence in denied environments. Its clandestine mobility capability is only exceeded by an undersea craft. Iron Triangle: 40 kt speed; 7 crew + 12 pax / 3,300 lb payload; and 400 nm range. SEALION payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 77+ feet long, SEALION is C-17/C-5 transportable and can launch/recover by well deck or shore based mobile travel lift or crane.

• Next Generation Combatant Craft Forward Looking Infrared Radar (NG CCFLIR): This sub-project consists of a legacy CCFLIR and the NG CCFLIR. The CCFLIR capability provides SOF with a multi-sensor, electro-optic system that enhances SOF effectiveness by improving their ability to detect, recognize, identify, range, track, and highlight objects of interest in a maritime environment. The legacy CCFLIR is under sustainment, it is currently used on all Naval Special Warfare Combatant Craft. The NG CCFLIR will use technological advancements to gain significant improvements in capability such as operational range, image fusion, net-centric data sharing, information assurance, and seamless craft and combat systems integration.

• Combatant Craft Mission Equipment (CCME) (previously Next Generation Surface Systems): This sub-project provides a rapid response capability to support SOF Combatant Craft Systems and subsystems. The CCME will explore and provide solutions to support emerging requirements in support of SOF missions. It provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies,

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

analyses of alternatives, pre-developmental risk reduction, and engineering analyses. Demonstrations and modifications may be made to support emerging capability enhancements such as but not limited to conformal antennas, identification Friend-or-Foe capabilities, enhanced communications, weapon integration, software efresh, and navigation subsystems in support of future missions. Solutions may be Commercial-Off-The-Shelf (COTS) solutions, leveraged from other agency solutions, or new solutions.

• Combatant Craft Assault (CCA) (previously High Speed Assault Craft): This sub-project is a National-to-Theater transition. The CCA is the theater version of the High Speed Assault Craft. The CCA is a low-observable combatant craft for squad-size maritime mobility operations in maritime denied environments. CCA is NSW's best craft for VBSS in maritime denied environments up to and including medium threat. It is the craft-of-choice for maritime interdiction and boarding operations because of the open deck space, maneuverability, and interoperability with an Afloat Forward Staging Base. Iron Triangle: 40 kt speed; 3 crew + 12 pax / 5,000 lb payload; and 300 nm range. At 41 feet long, CCA is air transportable by C-130 / C-17 / C-5 and can launch/recover by crane, davit, well deck, or shore based trailer.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: CCM	4.572	1.308	1.659
FY 2015 Accomplishments: Completed Operational Testing and continued development and integration of sub-systems including weapons and situational awareness systems. Refurbished test article to production craft configuration.			
FY 2016 Plans: Continue development and integration of advanced technologies including situational awareness, survivability, weapons, navigation, and communication.			
FY 2017 Plans: Develops conceptual, preliminary, and detail design drawings necessary to integrate and conduct initial testing of a remote weapon system on the CCM test article. Begins integration of NG CCFLIR and applicable CCME technology onto CCM crafts.			
Title: CCH	1.872	2.245	0.887
FY 2015 Accomplishments: Completed SEALION III design study and began tactical computer system upgrades. Installed dynamic positioning system.			
FY 2016 Plans: Continue development and integration of advanced technologies including situational awareness, survivability, weapons, navigation, and communication. Initiate studies and analysis for upgraded CCH craft.			
FY 2017 Plans: Completes tactical computer system upgrades. Continues pre-planned product improvement and technology insertion. Begins integration of NG CCFLIR and applicable CCME technology onto CCH crafts.			
Title: NG CCFLIR	2.247	1.500	-
FY 2015 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Completed source selection for prototype units for development testing. Began development and testing of NG CCFLIR. ***FY 2016 Plans:*** Complete testing and integration with combatant craft systems.			
Title: CCME ***FY 2015 Accomplishments:*** Tested and analyzed combatant crafts survivability characteristics. Performed analysis of alternatives tests for obsolete intercom system. Performed baseline test and assessment for a remote weapon system. ***FY 2016 Plans:*** Identify and evaluate candidate solutions for capability enhancements and insertion across Combatant Craft Systems. Technology development include, but not limited to, conformal antennas, communications, weapons integration, survivability, shock and vibration systems, and situational awareness. ***FY 2017 Plans:*** Evaluates candidate solutions for technology development to include, but not limited to, MK50 SOF improvements (i.e., accuracy and increased rounds), Vehicular Intercommunications-3 intercom control integration tests, active ride control integration tests, craft survivability painting studies and verification, and situational awareness studies.	1.879	2.216	1.381
Title: CCA ***FY 2017 Plans:*** Begins integration of NG CCFLIR and applicable CCME technology onto CCA crafts.	-	-	0.500
Accomplishments/Planned Programs Subtotals	10.570	7.269	4.427

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• PROC/0204SCCS: *Combatant Craft Systems*	50.337	63.362	55.820	-	55.820	27.110	13.149	38.342	38.081	Continuing	Continuing

Remarks

N/A

D. Acquisition Strategy

• CCM acquisition strategy was a competition using a two-phase source selection process. Phase I involved a Small Business Set-Aside competition for two vendors to design, build and deliver test articles. Phase II selected a single vendor to provide a fully integrated baseline craft system for test and evaluation with options for production, engineering support and contractor logistic support.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

• CCH: SEALION I & II were transitioned from United States Navy advanced technology demonstrator craft to USSOCOM. Sustainment for SEALION I & II is conducted via Special Operations Forces Support Activity (SOFSA). Based on market research completed in December 2015; currently pursuing a Sole Source award for SEALION III in order to take advantage of previous Government investments in manufacturing infrastructure for SEALION I & II.

• NG CCFLIR: Current fleet of legacy CCFLIR was procured via full and open competition. Procurement for legacy CCFLIR is complete. Legacy CCFLIR will continue to be utilized on the Rigid-hull Inflatable Boat (RIB) and Special Operations Craft Riverine (SOCR). The Combatant Craft Medium (CCM), Combatant Craft Heavy (CCH), and High Speed Assault Craft (HSAC) will transition from legacy CCFLIR to NG CCFLIR. NG CCFLIR completed a full and open competition in Sep 15. An Engineering Manufacturing Development contract was awarded to FLIR Systems Incorporated, which included production and sustainment options.

• CCME acquisition strategy plans include the full spectrum of contracting activities, using existing contracts where appropriate, and other Government agencies to leverage, marinize, commonize, and advance Technology Readiness Level 6 leap ahead technology from Services and USSOCOM SOF AT&L S&T. Procurement of items will be from the Combatant Craft Systems procurement program element.

• CCA originated as National-to-Theater transition. The CCA is the theater version of the High Speed Assault Craft and will use various contracting and better buying power practices to develop, test, and integrate capability enhancements required to increase the craft's current performance envelope.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / *Maritime Systems*	Project (Number/Name) S1684 / *Surface Craft*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Combatant Craft Medium (CCM)	C/Various	Vigor Works : Clackamas, OR	4.374	1.426	Jan 2015	1.308	Jan 2016	1.659	Jan 2017	-		1.659	Continuing	Continuing	-
Combatant Craft Heavy (CCH)	C/Various	Various : Various	0.225	1.872	Nov 2014	2.245	Apr 2016	0.887	Nov 2017	-		0.887	Continuing	Continuing	-
Next Generation Combatant Craft Forward Looking Infrared (NG CCFLIR)	C/Various	FLIR Systems : Billerica, MA	0.691	2.247	Sep 2015	0.600	Nov 2016	-		-		-	0.000	3.538	-
Combatant Craft Mission Equipment (CCME)	C/Various	Various : Various	0.311	1.642	Apr 2015	1.891	Jan 2016	1.156	Jan 2017	-		1.156	Continuing	Continuing	-
CCA	C/Various	Various : Various	-	-		-		0.280	Jan 2017	-		0.280	Continuing	Continuing	-
		Subtotal	5.601	7.187		6.044		3.982		-		3.982	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCM	MIPR	NSWC : Norfolk, VA	0.281	0.800	Dec 2014	-		-		-		-	0.000	1.081	-
NG CCFLIR	C/Various	NSWC : Crane, IN	-	-		0.900	Apr 2016	-		-		-	0.000	0.900	-
CCME	C/Various	Various : Various	-	0.237	Jan 2015	0.325	Apr 2016	0.225	Jan 2017	-		0.225	0.000	0.787	-
CCA	C/Various	Various : Various	-	-		-		0.220	Jan 2017	-		0.220	Continuing	Continuing	-
		Subtotal	0.281	1.037		1.225		0.445		-		0.445	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCM	C/Various	NSWC : Norfolk, VA; Crane, IN	-	0.937	Mar 2015	-		-		-		-	0.000	0.937	-
CCM	C/Various	SRA : Tampa, FL	0.625	1.409	May 2015	-		-		-		-	0.000	2.034	-
Prior Years	C/Various	NSWC : Crane, IN	0.565	-		-		-		-		-	0.000	0.565	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			1.190	2.346		-		-		-		-	0.000	3.536	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.072	10.570		7.269		4.427		-		4.427	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Combatant Craft Medium

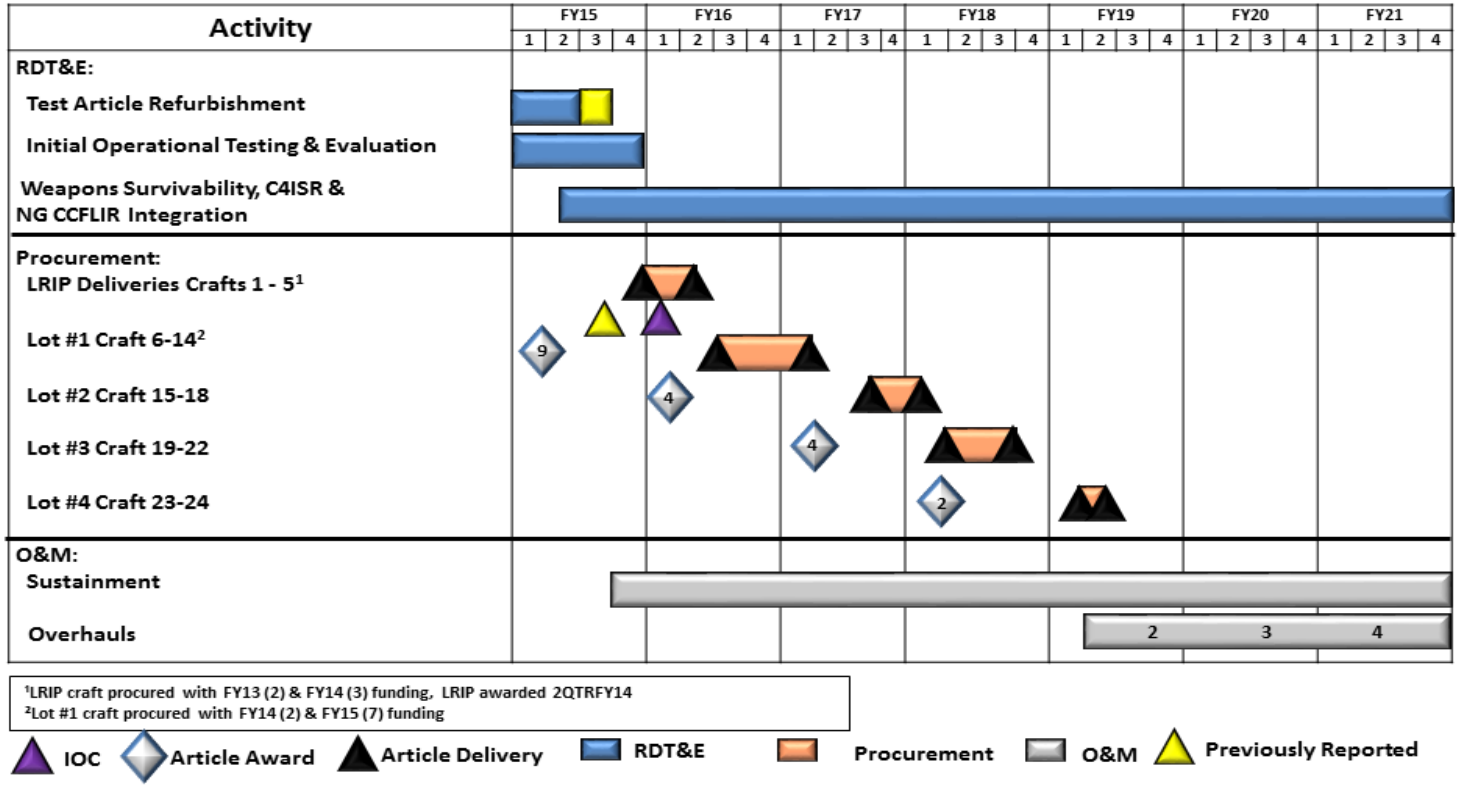


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Combatant Craft Heavy

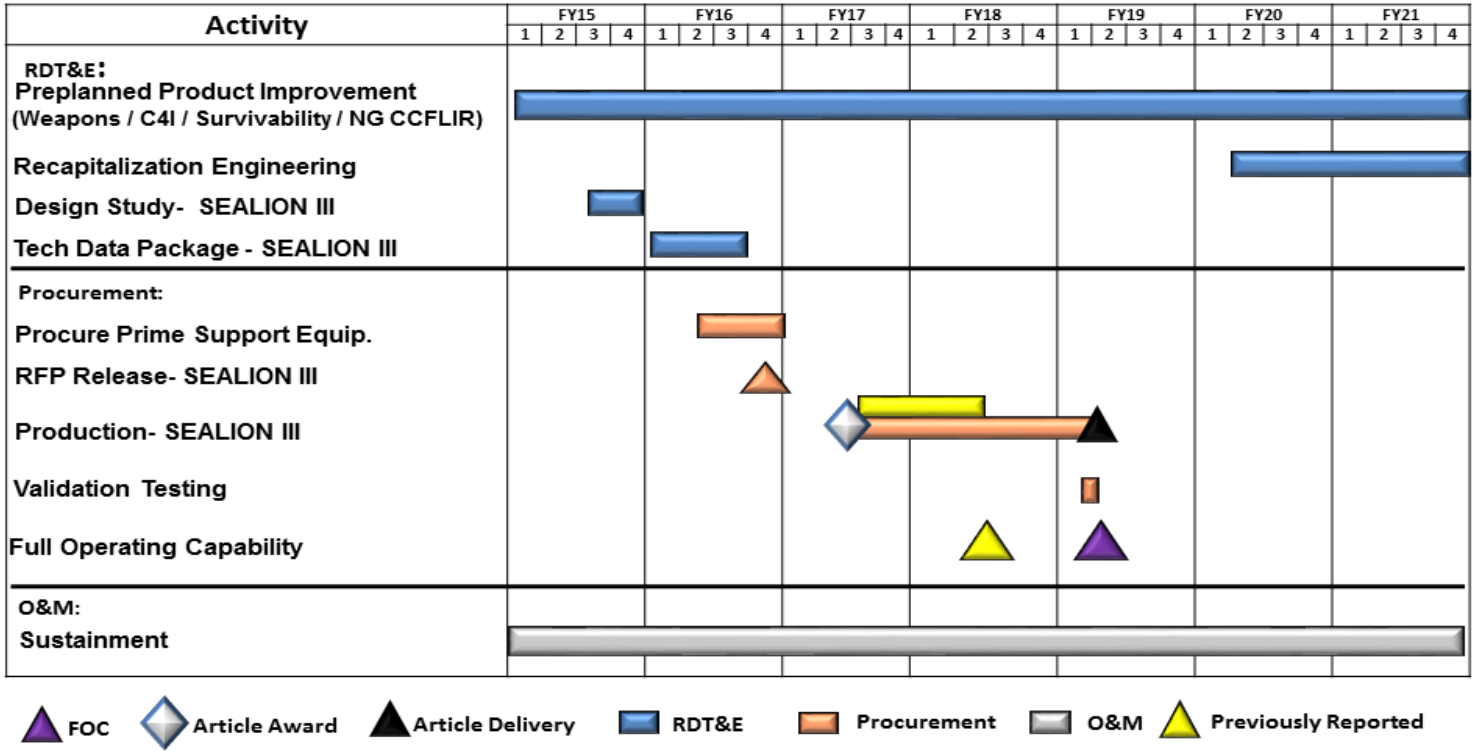


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Next Generation Combatant Craft
Forward Looking Infrared Radar

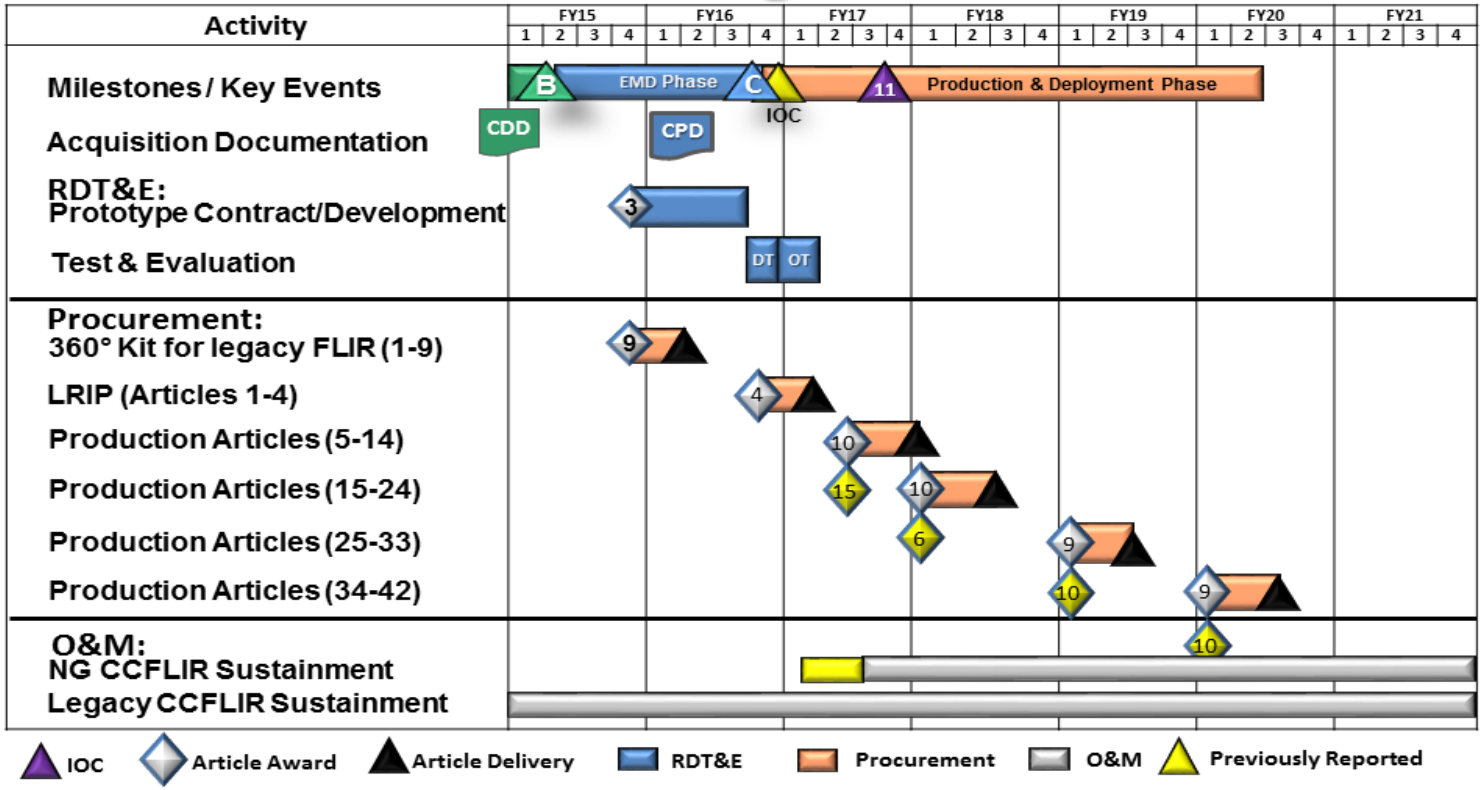
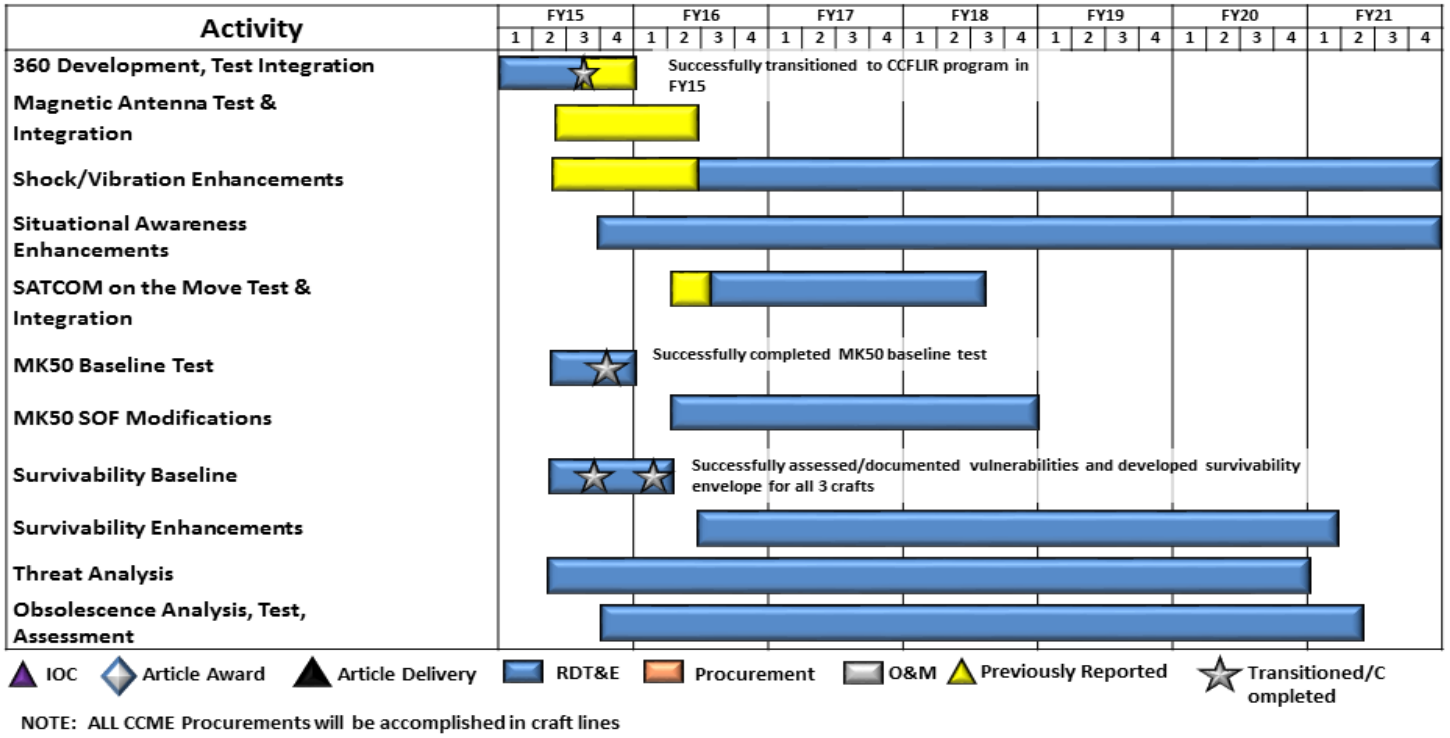


Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Combatant Craft Mission Equipment



NOTE: ALL CCME Procurements will be accomplished in craft lines

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Combatant Craft Assault

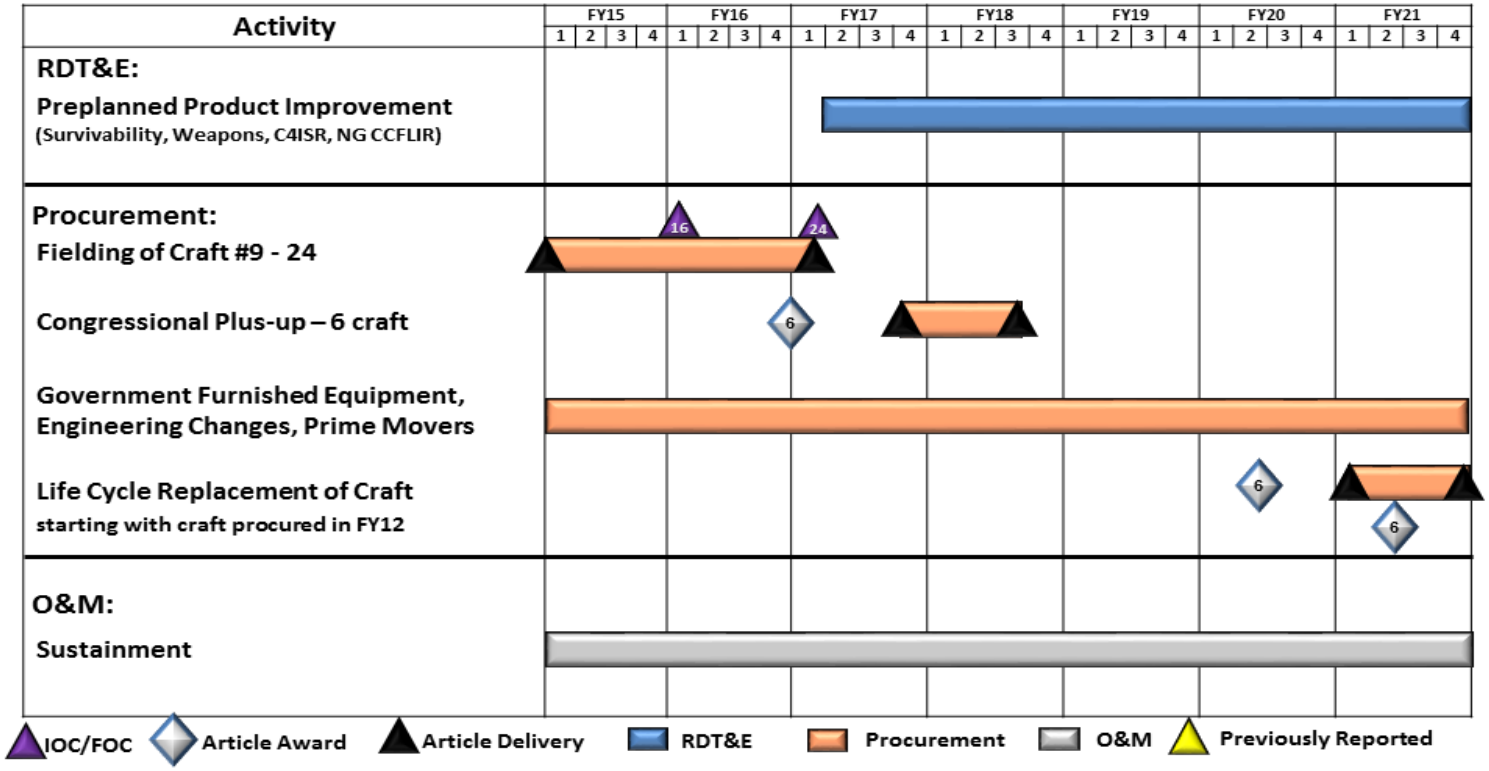


Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Combatant Craft Medium				
Test Article Refurbishment	1	2015	2	2015
Acceptance and Operational Testing	1	2015	4	2015
Weapons, Survivability, C4ISR Integration	2	2015	4	2021
Combatant Craft Heavy				
Preplanned Product Improvement (Weapons / C4I / Survivability)	1	2015	4	2021
Design Study - SEALION III	3	2015	4	2015
Tech Data Package - SEALION III	1	2016	3	2016
Next Generation Combatant Craft Forward Looking Infrared Radar				
Prototype Contract	4	2015	4	2015
Prototype Development	4	2015	3	2016
Developmental Test	3	2016	4	2016
Milestone C Decision	4	2016	4	2016
Operational Testing	4	2016	1	2017
Combatant Craft Mission Equipment				
360 Development, Test, Integration	1	2015	3	2015
Shock/Vibration	2	2016	4	2021
Situational Awareness	3	2015	4	2021
SATCOM on the Move Test, Integration	3	2016	3	2018
Weapons Integration	3	2015	4	2018
Survivability	2	2015	1	2021
Threat Analysis	2	2015	4	2020
Obsolescence Analysis, Test, Analysis	4	2015	2	2021

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Combatant Craft Assault				
Preplanned Product Improvement (Survivability, Weapons, C4ISR)	2	2017	4	2021

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160489BB / *Global Video Surveillance Activities*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	42.255	3.788	3.933	3.841	-	3.841	4.661	4.820	5.388	5.496	Continuing	Continuing
S500C: *Global Video Surveillance Activities*	42.255	3.788	3.933	3.841	-	3.841	4.661	4.820	5.388	5.496	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program. Details are provided under separate cover.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	3.788	3.933	3.870	-	3.870
Current President's Budget	3.788	3.933	3.841	-	3.841
Total Adjustments	0.000	0.000	-0.029	-	-0.029
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.029	-	-0.029

Change Summary Explanation

Funding:

FY2015: None.

FY2016: None.

FY2017: Decrease of $0.029 million is due to a Departmental economic assumption decrease.

Schedule: None.

Technical: None.

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 United States Special Operations Command	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160490BB / *Operational Enhancements Intelligence*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	59.245	16.125	10.623	11.834	-	11.834	12.049	12.279	13.693	13.967	Continuing	Continuing
S500D: *Operational Enhancements Intelligence*	59.245	16.125	10.623	11.834	-	11.834	12.049	12.279	13.693	13.967	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program. This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	15.225	10.623	11.923	-	11.923
Current President's Budget	16.125	10.623	11.834	-	11.834
Total Adjustments	0.900	0.000	-0.089	-	-0.089
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.900	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.089	-	-0.089

Change Summary Explanation

Funding:

FY2015: Realignment of $0.900 million increase available under separate cover document.

FY2016: None.

FY2017: Decrease of $0.089 million is due to a Departmental economic assumption decrease.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160490BB / *Operational Enhancements Intelligence*	**Project (Number/Name)** S500D / *Operational Enhancements Intelligence*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
S500D: *Operational Enhancements Intelligence*	59.245	16.125	10.623	11.834	-	11.834	12.049	12.279	13.693	13.967	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is part of the Military Intelligence Program. This project is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Details provided under separate cover.	16.125	10.623	11.834
Description: Details provided under separate cover. ***FY 2015 Accomplishments:*** Details provided under separate cover. ***FY 2016 Plans:*** Details provided under separate cover. ***FY 2017 Plans:*** Details provided under separate cover.			
Accomplishments/Planned Programs Subtotals	16.125	10.623	11.834

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Program acquisition strategy available under separate cover documents.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 United States Special Operations Command			Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160490BB / *Operational Enhancements Intelligence*	**Project (Number/Name)** S500D / *Operational Enhancements Intelligence*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Classified Program	TBD	Various : Various	59.245	16.125		10.623		11.834		-		11.834	Continuing	Continuing	-
		Subtotal	59.245	16.125		10.623		11.834		-		11.834	-	-	-

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	59.245	16.125		10.623		11.834		-		11.834	-	-	-

Remarks

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160490BB / *Operational Enhancements Intelligence*	**Project (Number/Name)** S500D / *Operational Enhancements Intelligence*

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Other Classified Program																												
Other Classified Program																												

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160490BB / *Operational Enhancements Intelligence*	**Project (Number/Name)** S500D / *Operational Enhancements Intelligence*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Other Classified Program				
Other Classified Program	1	2015	4	2021

THIS PAGE INTENTIONALLY LEFT BLANK