Department of Defense
Fiscal Year (FY) 2018 Budget Estimates

May 2017

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 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Appropriation	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Research, Development, Test & Eval, DW	554,145	497,174	529,874				
Total Research, Development, Test & Evaluation	554,145	497,174	529,874				

R-1C1F: FY 2018 President's Budget Request (Published Version), as of April 26, 2017 at 12:10:32

Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Appropriation	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Research, Development, Test & Eval, DW	497,174	529,874		529,874	639,325	4,920	644,245
Total Research, Development, Test & Evaluation	497,174	529,874		529,874	639,325	4,920	644,245

Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Summary Recap of Budget Activities	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Applied Research	37,084	37,820	37,820				
Advanced Technology Development	56,864	61,620	61,620				
Operational System Development	460,197	397,734	430,434				
Total Research, Development, Test & Evaluation	554,145	497,174	529,874				
Summary Recap of FYDP Programs							
Intelligence and Communications	70,722	5,415	5,415				
Special Operations Forces	483,423	491,759	524,459				
Total Research, Development, Test & Evaluation	554,145	497,174	529,874				

Department of Defense
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Summary Recap of Budget Activities	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Applied Research	37,820	37,820		37,820	34,493		34,493
Advanced Technology Development	61,620	61,620		61,620	72,605		72,605
Operational System Development	397,734	430,434		430,434	532,227	4,920	537,147
Total Research, Development, Test & Evaluation	497,174	529,874		529,874	639,325	4,920	644,245
Summary Recap of FYDP Programs							
Intelligence and Communications	5,415	5,415		5,415	5,496		5,496
Special Operations Forces	491,759	524,459		524,459	633,829	4,920	638,749
Total Research, Development, Test & Evaluation	497,174	529,874		529,874	639,325	4,920	644,245

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Summary Recap of Budget Activities	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Applied Research	37,084	37,820	37,820				
Advanced Technology Development	56,864	61,620	61,620				
Operational System Development	460,197	397,734	430,434				
Total Research, Development, Test & Evaluation	554,145	497,174	529,874				
Summary Recap of FYDP Programs							
Intelligence and Communications	70,722	5,415	5,415				
Special Operations Forces	483,423	491,759	524,459				
Total Research, Development, Test & Evaluation	554,145	497,174	529,874				

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Summary Recap of Budget Activities	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Applied Research	37,820	37,820		37,820	34,493		34,493
Advanced Technology Development	61,620	61,620		61,620	72,605		72,605
Operational System Development	397,734	430,434		430,434	532,227	4,920	537,147
Total Research, Development, Test & Evaluation	497,174	529,874		529,874	639,325	4,920	644,245
Summary Recap of FYDP Programs							
Intelligence and Communications	5,415	5,415		5,415	5,496		5,496
Special Operations Forces	491,759	524,459		524,459	633,829	4,920	638,749
Total Research, Development, Test & Evaluation	497,174	529,874		529,874	639,325	4,920	644,245

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Appropriation	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
U.S., Special Operations Command	554,145	497,174	529,874				
Total Research, Development, Test & Evaluation	554,145	497,174	529,874				

R-1C1F: FY 2018 President's Budget Request (Published Version), as of April 26, 2017 at 12:10:32

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

Appropriation	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
U.S., Special Operations Command	497,174	529,874		529,874	639,325	4,920	644,245
Total Research, Development, Test & Evaluation	497,174	529,874		529,874	639,325	4,920	644,245

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
22	1160401BB	SOF Technology Development	02	37,084	37,820	37,820					U
		Applied Research		37,084	37,820	37,820					
68	1160402BB	SOF Advanced Technology Development	03	56,864	61,620	61,620					U
		Advanced Technology Development		56,864	61,620	61,620					
218	0304210BB	Special Applications for Contingencies	07	65,420							U
230	0305208BB	Distributed Common Ground/Surface Systems	07	5,302	5,415	5,415					U
248	1105219BB	MQ-9 UAV	07	21,388	17,804	17,804					U
249	1105232BB	RQ-11 UAV	07	758							U
250	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07	15,897							U
251	1160403BB	Aviation Systems	07	172,965	159,143	163,543					U
252	1160405BB	Intelligence Systems Development	07	6,466	7,958	9,858					U
253	1160408BB	Operational Enhancements	07	61,463	64,895	90,895					U
254	1160431BB	Warrior Systems	07	32,677	44,885	45,285					U
255	1160432BB	Special Programs	07	3,284	1,949	1,949					U
256	1160434BB	Unmanned ISR	07		22,117	22,117					U
257	1160480BB	SOF Tactical Vehicles	07	2,477	3,316	3,316					U
258	1160483BB	Maritime Systems	07	57,544	54,577	54,577					U
259	1160489BB	Global Video Surveillance Activities	07	3,933	3,841	3,841					U

R-1C1F: FY 2018 President's Budget Request (Published Version), as of April 26, 2017 at 12:10:32

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
22	1160401BB	SOF Technology Development	02	37,820	37,820		37,820	34,493		34,493	U
		Applied Research		37,820	37,820		37,820	34,493		34,493	
68	1160402BB	SOF Advanced Technology Development	03	61,620	61,620		61,620	72,605		72,605	U
		Advanced Technology Development		61,620	61,620		61,620	72,605		72,605	
218	0304210BB	Special Applications for Contingencies	07								U
230	0305208BB	Distributed Common Ground/Surface Systems	07	5,415	5,415		5,415	5,496		5,496	U
248	1105219BB	MQ-9 UAV	07	17,804	17,804		17,804	37,863		37,863	U
249	1105232BB	RQ-11 UAV	07								U
250	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07								U
251	1160403BB	Aviation Systems	07	159,143	163,543		163,543	259,886		259,886	U
252	1160405BB	Intelligence Systems Development	07	7,958	9,858		9,858	8,245		8,245	U
253	1160408BB	Operational Enhancements	07	64,895	90,895		90,895	79,455	1,920	81,375	U
254	1160431BB	Warrior Systems	07	44,885	45,285		45,285	45,935		45,935	U
255	1160432BB	Special Programs	07	1,949	1,949		1,949	1,978		1,978	U
256	1160434BB	Unmanned ISR	07	22,117	22,117		22,117	31,766	3,000	34,766	U
257	1160480BB	SOF Tactical Vehicles	07	3,316	3,316		3,316	2,578		2,578	U
258	1160483BB	Maritime Systems	07	54,577	54,577		54,577	42,315		42,315	U
259	1160489BB	Global Video Surveillance Activities	07	3,841	3,841		3,841	4,661		4,661	U

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
260	1160490BB	Operational Enhancements Intelligence	07	10,623	11,834	11,834					U
		Operational System Development		460,197	397,734	430,434					
Total Research, Development, Test & Eval, DW				554,145	497,174	529,874					

R-1C1F: FY 2018 President's Budget Request (Published Version), as of April 26, 2017 at 12:10:32

Defense-Wide
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
260	1160490BB	Operational Enhancements Intelligence	07	11,834	11,834		11,834	12,049		12,049	U
		Operational System Development		397,734	430,434		430,434	532,227	4,920	537,147	
Total Research, Development, Test & Eval, DW				497,174	529,874		529,874	639,325	4,920	644,245	

U.S., Special Operations Command
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
22	1160401BB	SOF Technology Development	02	37,084	37,820	37,820					U
Applied Research				37,084	37,820	37,820					
68	1160402BB	SOF Advanced Technology Development	03	56,864	61,620	61,620					U
Advanced Technology Development				56,864	61,620	61,620					
218	0304210BB	Special Applications for Contingencies	07	65,420							U
230	0305208BB	Distributed Common Ground/Surface Systems	07	5,302	5,415	5,415					U
248	1105219BB	MQ-9 UAV	07	21,388	17,804	17,804					U
249	1105232BB	RQ-11 UAV	07	758							U
250	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07	15,897							U
251	1160403BB	Aviation Systems	07	172,965	159,143	163,543					U
252	1160405BB	Intelligence Systems Development	07	6,466	7,958	9,858					U
253	1160408BB	Operational Enhancements	07	61,463	64,895	90,895					U
254	1160431BB	Warrior Systems	07	32,677	44,885	45,285					U
255	1160432BB	Special Programs	07	3,284	1,949	1,949					U
256	1160434BB	Unmanned ISR	07		22,117	22,117					U
257	1160480BB	SOF Tactical Vehicles	07	2,477	3,316	3,316					U
258	1160483BB	Maritime Systems	07	57,544	54,577	54,577					U
259	1160489BB	Global Video Surveillance Activities	07	3,933	3,841	3,841					U

R-1C1F: FY 2018 President's Budget Request (Published Version), as of April 26, 2017 at 12:10:32

U.S., Special Operations Command
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
22	1160401BB	SOF Technology Development	02	37,820	37,820		37,820	34,493		34,493	U
Applied Research				37,820	37,820		37,820	34,493		34,493	
68	1160402BB	SOF Advanced Technology Development	03	61,620	61,620		61,620	72,605		72,605	U
Advanced Technology Development				61,620	61,620		61,620	72,605		72,605	
218	0304210BB	Special Applications for Contingencies	07								U
230	0305208BB	Distributed Common Ground/Surface Systems	07	5,415	5,415		5,415	5,496		5,496	U
248	1105219BB	MQ-9 UAV	07	17,804	17,804		17,804	37,863		37,863	U
249	1105232BB	RQ-11 UAV	07								U
250	1160279BB	Small Business Innovative Research/ Small Bus Tech Transfer Pilot Prog	07								U
251	1160403BB	Aviation Systems	07	159,143	163,543		163,543	259,886		259,886	U
252	1160405BB	Intelligence Systems Development	07	7,958	9,858		9,858	8,245		8,245	U
253	1160408BB	Operational Enhancements	07	64,895	90,895		90,895	79,455	1,920	81,375	U
254	1160431BB	Warrior Systems	07	44,885	45,285		45,285	45,935		45,935	U
255	1160432BB	Special Programs	07	1,949	1,949		1,949	1,978		1,978	U
256	1160434BB	Unmanned ISR	07	22,117	22,117		22,117	31,766	3,000	34,766	U
257	1160480BB	SOF Tactical Vehicles	07	3,316	3,316		3,316	2,578		2,578	U
258	1160483BB	Maritime Systems	07	54,577	54,577		54,577	42,315		42,315	U
259	1160489BB	Global Video Surveillance Activities	07	3,841	3,841		3,841	4,661		4,661	U

U.S., Special Operations Command
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec
260	1160490BB	Operational Enhancements Intelligence	07	10,623	11,834	11,834					U
		Operational System Development		460,197	397,734	430,434					
Total U.S., Special Operations Command				554,145	497,174	529,874					

R-1C1F: FY 2018 President's Budget Request (Published Version), as of April 26, 2017 at 12:10:32

U.S., Special Operations Command
FY 2018 President's Budget Request
Exhibit R-1 FY 2018 President's Budget Request
Total Obligational Authority
(Dollars in Thousands)

26 Apr 2017

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

Line No	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Sec
260	1160490BB	Operational Enhancements Intelligence	07	11,834	11,834		11,834	12,049		12,049	U
		Operational System Development		397,734	430,434		430,434	532,227	4,920	537,147	
Total U.S., Special Operations Command				497,174	529,874		529,874	639,325	4,920	644,245	

R-1C1F: FY 2018 President's Budget Request (Published Version), as of April 26, 2017 at 12:10:32

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: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	437.288	37.084	37.820	34.493	0.000	34.493	37.036	44.662	57.618	58.771	Continuing	Continuing
S100: *SOF Technology Development*	437.288	37.084	37.820	34.493	-	34.493	37.036	44.662	57.618	58.771	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	37.517	37.820	34.493	-	34.493
Current President's Budget	37.084	37.820	34.493	-	34.493
Total Adjustments	-0.433	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.860	-			
• SBIR/STTR Transfer	-1.293	-			

Change Summary Explanation

Funding:

FY 2016: Net decrease of -$0.433 million is due to a transfer of -$1.293 million for Small Business Innovative Research/Small Business Technology Transfer programs and reprogramming of $0.860 million to fund development of a radio enclosure common connector for TALOS communications.

FY 2017: None.

FY 2018: None.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S100: *SOF Technology Development*	437.288	37.084	37.820	34.493	-	34.493	37.036	44.662	57.618	58.771	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 2016	FY 2017	FY 2018
Title: SOF Technology Development	18.992	18.858	15.157
FY 2016 Accomplishments: Continued ongoing technology development sub-projects in areas such as, but not limited to: long duration small form factor power supplies, alternative fuel power systems, reduced signature technologies, advance lightweight armor and materials, and began studying high data-rate throughput. Continued advance technologies for combat medical equipment, tactics, human performance, 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			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
technologies focused on providing the dismounted special 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 2017 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, high data-rate throughput, and advance lightweight armor and materials. Advance technologies for combat medical equipment, tactics, human performance, 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 2018 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, tactics, human performance, 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 2016 Accomplishments:*** 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 2017 Plans:***	14.435	15.137	15.441

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
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 2018 Plans:*** 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 2016 Accomplishments:*** Details provided under separate cover. ***FY 2017 Plans:*** Details provided under separate cover. ***FY 2018 Plans:*** Details provided under separate cover.	3.657	3.825	3.895
Accomplishments/Planned Programs Subtotals	37.084	37.820	34.493

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: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	1,139.648	56.864	61.620	72.605	-	72.605	79.132	86.864	91.809	100.180	Continuing	Continuing
S200: *Advanced Technology Development*	1,122.265	45.512	48.097	53.362	-	53.362	57.062	64.413	68.971	76.867	Continuing	Continuing
SF101: *Engineering Analysis*	7.507	6.681	8.312	14.827	-	14.827	17.558	17.831	18.108	18.470	Continuing	Continuing
S225: *Information and Broadcast Systems Adv Tech*	9.876	4.671	5.211	4.416	-	4.416	4.512	4.620	4.730	4.843	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: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	59.741	61.620	73.505	-	73.505
Current President's Budget	56.864	61.620	72.605	-	72.605
Total Adjustments	-2.877	0.000	-0.900	-	-0.900
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.820	-			
• SBIR/STTR Transfer	-2.057	-			
• Other Adjustments	-	-	-0.900	-	-0.900

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2016	FY 2017
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 2016: Net decrease of -$2.877 million is due to a decrease for transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$2.057 million), and a decrease for higher command priorities (-$0.820 million).

FY 2017: None.

FY 2018: Decrease of -$0.900 million is due to a realignment to higher command priorities.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S200: *Advanced Technology Development*	1,122.265	45.512	48.097	53.362	-	53.362	57.062	64.413	68.971	76.867	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 Forces 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.

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: SOF Special Technology Sub-Project	22.688	26.212	30.003
FY 2016 Accomplishments: Continued to develop and insert technology into existing programs. Technologies included: 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. Continued effort for field prototype system incorporating technologies likely to transition			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
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 2017 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. Continue developing unique robotic systems to reduce the load of the operator and augment human performance. Continue to develop Command, Control, Computer, and Intelligence Technology to implement a robust, ultra-wideband communication capability. Continue 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 2018 Plans:*** Continues the development and insertion of 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	15.390	16.201	17.572
FY 2016 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
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. Increased focus on tactical sensors and enabling technologies in support of the special reconnaissance mission set. ***FY 2017 Plans:*** 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 2018 Plans:*** Continues to exploit and integrate 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. Continues to increase focus on tactical sensors and enabling technologies in support of the special reconnaissance mission set.			
Title: Classified Sub-Project ***FY 2016 Accomplishments:*** Details provided under separate cover. ***FY 2017 Plans:*** Details provided under separate cover. ***FY 2018 Plans:*** Details provided under separate cover.	5.434	5.684	5.787
Accomplishments/Planned Programs Subtotals	43.512	48.097	53.362

	FY 2016	FY 2017
Congressional Add: S200: Advanced Technology Development ***FY 2016 Accomplishments:*** Conduct rapid prototyping and advanced technology demonstrations.	2.000	-
Congressional Adds Subtotals	2.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 1160402BB / *SOF Advanced Technology Development*	**Project (Number/Name)** S200 / *Advanced Technology Development*

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
SF101: *Engineering Analysis*	7.507	6.681	8.312	14.827	-	14.827	17.558	17.831	18.108	18.470	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 2016	FY 2017	FY 2018
Title: Platform Engineering Analysis	4.177	4.928	10.649
FY 2016 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: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
increased responsive integration of new capabilities, and increased competition. In the area of common sensor suites, assessed and evaluated individual sensors and suites of sensors to optimize the commonality of sensors between manned ISR fleet and 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 Optics (EO)/Infra Red (IR) capabilities. Conducted combat diving thermal protection and electrical resistive suit design transition. Continued the use of Virtual Reality (VR) to aid definition of Pilot Vehicle Interface (PVI) requirements and design alternatives. ***FY 2017 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 2018 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 identifies 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	0.480	0.496	0.496
FY 2016 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. Reduced the number of eyewear lenses needed and to			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
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 displays for operability within soldier worn components and subsystems. Assessed technologies feasibility and integration readiness of next generation load carriage systems such as exoskeletons and load-assist devices. Assessed proof of concepts and technologies for next generation head borne communications systems that provided reliable and secure wireless transmission in all combat conditions, as well as provided 360 degree situational awareness and noise attenuation while increasing hearing protection. ***FY 2017 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 2018 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 2016 Accomplishments:*** Conducted additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, scalable offensive hand grenade and operator protection planned for transition to SOF Theater Forces. ***FY 2017 Plans:***	2.024	2.138	2.182

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
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 2018 Plans:*** 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 Mission Improved Survivability ***FY 2017 Plans:*** Begin 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. ***FY 2018 Plans:*** Continues 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	1.500
Accomplishments/Planned Programs Subtotals	6.681	8.312	14.827

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: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S225: *Information and Broadcast Systems Adv Tech*	9.876	4.671	5.211	4.416	-	4.416	4.512	4.620	4.730	4.843	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 2016	FY 2017	FY 2018
Title: Broadcast and Dissemination Modernization	4.671	5.211	4.416
FY 2016 Accomplishments: Continued to perform engineering studies, development, and demonstrations of distribution and broadcast systems. Developed advanced prototypes of MISO Functional Electronic Print leaflets and continued research on mass production techniques.			
FY 2017 Plans:			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
Continue to perform engineering studies, development, and demonstrations of planning, analysis, distribution, and broadcast capabilities. ***FY 2018 Plans:*** Continues performance of engineering studies, development, and demonstrations of planning, analysis, distribution, and broadcast capabilities.			
Accomplishments/Planned Programs Subtotals	4.671	5.211	4.416

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	244.715	65.420	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	310.135
9999: *Special Applications for Contingencies*	244.715	65.420	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	310.135

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). 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.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	65.060	0.000	0.000	-	0.000
Current President's Budget	65.420	0.000	0.000	-	0.000
Total Adjustments	0.360	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.360	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Funding:

FY 2016: Increase of $0.360 million supported development of an Open System Auto-Pilot integration of virtual and physical user interfaces.

FY 2017: None.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304210BB *I Special Applications for Contingencies*

FY 2018: None.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
9999: *Special Applications for Contingencies*	244.715	65.420	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	310.135
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. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SAFC ***FY 2016 Accomplishments:*** • Airborne Electronic Warfare (AEW) system providing unique situational awareness on signal sets are of great interest to SOF: Validated and updated kit configuration, moving the hardware out of the fuselage and into the transit bay. New AEW kit incorporates waterproofed hardware, multiple signal sets, and can be flown aboard a Puma I or Puma II UAS air vehicle. • Open System Auto-Pilot: Successfully replaced proprietary Puma I auto-pilot with low cost, commercial, non-proprietary device; aircraft flew well with no observed anomalous flight characteristics. Began effort to replace Scan Eagle auto-pilot with the same commercial auto-pilot used in Puma I; expected to fly in FY17. • Wi-Fi Exploitation Capability: Flew down-sized space, weight and power (SWAP) LANShark© hardware in Puma I UAS. Demonstrated initial capabilities including the ability to turn the payload off to conserve battery power.	19.820	-	-	-	-
Title: Classified Program ***FY 2016 Accomplishments:*** Additional details can be provided under separate cover.	45.600	-	-	-	-
Accomplishments/Planned Programs Subtotals	65.420	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/1108STU: *Small Tactical Unmanned Aerial Systems*	1.392	-	-	-	-	-	-	-	-	0.000	2.892
• PROC/0201UMNISR: *Unmanned ISR*	-	80.820	13.295	38.933	52.228	6.103	5.343	10.940	11.163	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-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	32.509	5.302	5.415	5.496	-	5.496	6.345	6.451	6.580	6.712	Continuing	Continuing
S400A: *Distributed Common Ground/Surface Systems*	32.509	5.302	5.415	5.496	-	5.496	6.345	6.451	6.580	6.712	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 (FMV) PED capabilities in garrison and deployed environments of manned and unmanned sensors. SILENT DAGGER provides Signals Intelligence exploitation capability in both garrison and deployed environments. The All Source Information Fusion (ASIF) will provide the intelligence analytical tools via a global and disconnected architecture.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	5.302	5.415	5.496	-	5.496
Current President's Budget	5.302	5.415	5.496	-	5.496
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Funding:

FY 2016: None.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2017: None.

FY 2018: None.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S400A: *Distributed Common Ground/Surface Systems*	32.509	5.302	5.415	5.496	-	5.496	6.345	6.451	6.580	6.712	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 deployed 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 2016	FY 2017	FY 2018
Title: DCGS	5.302	5.415	5.496
FY 2016 Accomplishments: Continued to integrate emerging technologies and capability 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 and capabilities such as: request for information tool and voice-to-text translation. Continued DCGS-SOF Limited Objective Events and exercise participation to test integration efforts. Began development of the DCGS-SOF next generation pipeline development.			
FY 2017 Plans: Continue integration of emerging technologies and capability for Enterprise and ASIF to include: Advanced analytics, user interface, cloud technologies, and disconnected operations into the DCGS-SOF baseline. Continue to refine and integrate FMV PED emerging technologies and capabilities such as: over-watch/compound monitoring, develop analyst trip wire tools, next generation imaging, coalition interoperability and video exploitation tools, patterns of movement characterization and detection			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
for single mission. Continue development of the DCGS-SOF next generation pipeline. Continue Defense Intelligence Information Environment and Joint Information environment coordination. ***FY 2018 Plans:*** Continues 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 refining and integration of FMV PED emerging technologies and capabilities such as: over-watch/compound monitoring, develop analyst trip wire tools, next generation analytics processing, upgrading imaging and video exploitation tools, patterns of movement characterization and detection for single mission. Continues DCGS-SOF Limited Objective Events and exercise participation to test integration efforts. Continues development of the interoperability with Coalition partners, Defense Intelligence Information Environment, and Joint Information Environment.			
Accomplishments/Planned Programs Subtotals	5.302	5.415	5.496

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/020401INTL: *Distributed Common Ground/Surface System*	16.333	15.232	11.042	-	11.042	15.676	16.995	15.248	12.684	Continuing	Continuing

Remarks

D. Acquisition Strategy

DCGS-SOF leverages SOF programs, DoD partners, National labs, 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 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 tactical ISR 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 evaluated 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-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	41.910	21.388	17.804	37.863	-	37.863	14.259	14.528	14.819	15.115	Continuing	Continuing
S851: *MQ-9 Unmanned Aerial Vehicle (UAV)*	41.910	21.388	17.804	37.863	-	37.863	14.259	14.528	14.819	15.115	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	22.151	17.804	17.863	-	17.863
Current President's Budget	21.388	17.804	37.863	-	37.863
Total Adjustments	-0.763	0.000	20.000	-	20.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.763	-			
• Other	-	-	20.000	-	20.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2016	FY 2017
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: FY 2018 United States Special Operations Command	Date: May 2017
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 2016: Decrease of -$0.763 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2017: None.

FY 2018: Increase of $20.000 million is to support MQ-9 capability enhancements for mission kits, mission payloads, weapons, and modifications.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S851: *MQ-9 Unmanned Aerial Vehicle (UAV)*	41.910	21.388	17.804	37.863	-	37.863	14.259	14.528	14.819	15.115	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 congressional add in FY 2016.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MQ-9 UAV	17.388	17.804	37.863	-	37.863
FY 2016 Accomplishments: Developed, tested, and integrated SOF-unique mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, ground control stations, and training systems.					
FY 2017 Plans: Develop, test, and integrate SOF-unique emerging technology mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, ground control stations, and training systems.					
FY 2018 Base 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	17.388	17.804	37.863	-	37.863

	FY 2016	FY 2017
Congressional Add: MQ-9 UAV	4.000	-
FY 2016 Accomplishments: Developed, tested, and integrated SOF-unique 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: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/1108MQ9: *MQ-9 Unmanned Aerial Vehicle*	17.226	54.033	21.660	19.780	41.440	24.835	5.411	5.519	5.629	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: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 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	16.033	10.350	Jun 2016	10.954	Jun 2017	30.669	Jun 2018	-		30.669	Continuing	Continuing	-
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	Raytheon : McKinney, TX	2.500	2.500	Jul 2016	2.500	Jul 2017	2.500	Jul 2018	-		2.500	Continuing	Continuing	-
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	-
Prior Years Completed Projects	Various	Various : Various	12.900	-		-		-		-		-	0.000	12.900	-
		Subtotal	31.433	15.850		13.454		33.169		-		33.169	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 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	6.177	4.538	Jun 2016	4.350	Jun 2017	4.694	Jun 2018	-		4.694	Continuing	Continuing	-
MQ-9 UAVs, Ground Control Stations, and Training Systems Overseas Contingency Operations (OCO)	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	4.300	-		-		-		-		-	0.000	4.300	-
MQ-9 UAVs, Ground Control Stations, and Training Systems (Congressional Add)	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	-	1.000	Jun 2016	-		-		-		-	0.000	1.000	-
		Subtotal	10.477	5.538		4.350		4.694		-		4.694	-	-	-

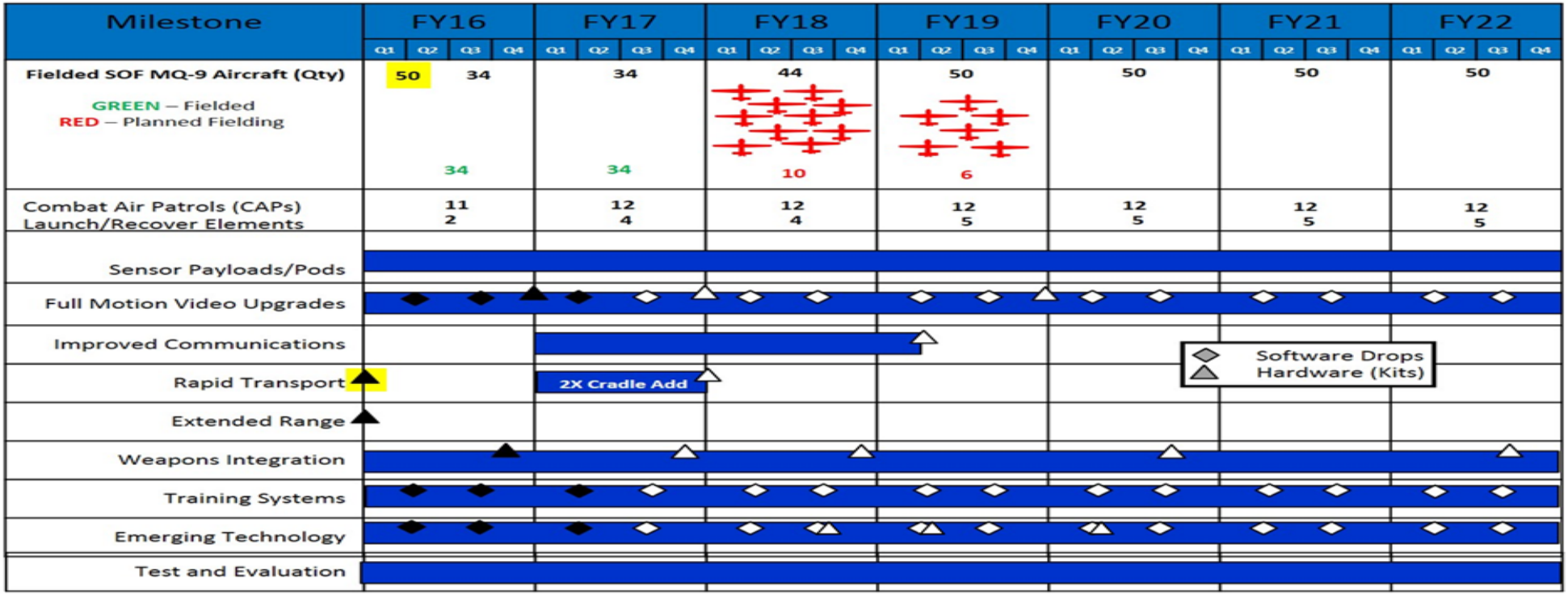
Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / *MQ-9 Unmanned Aerial Vehicle (UAV)*	Project (Number/Name) S851 / *MQ-9 Unmanned Aerial Vehicle (UAV)*	

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	41.910	21.388		17.804		37.863		-		37.863	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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



1

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
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	2016	4	2022
Full Motion Video Upgrades	1	2016	4	2022
Improved Communications	1	2017	2	2019
Rapid Transport	1	2016	2	2018
Extended Range	1	2016	4	2016
Weapons Integration	1	2016	4	2022
Training Systems	1	2016	4	2022
Emerging Technology	1	2016	4	2022
Test and Evaluation	1	2016	4	2022

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	1.639	0.758	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.397
S853: *RQ-11 UAV*	1.639	0.758	0.000	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.758	0.000	0.000	-	0.000
Current President's Budget	0.758	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Funding:

FY 2016: None.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2017: None.

FY 2018: None.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S853: *RQ-11 UAV*	1.639	0.758	0.000	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SUAS ***FY 2016 Accomplishments:*** Developed, integrated, and tested 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.	0.261	-	-	-	-
Title: MTUAS ***FY 2016 Accomplishments:*** Developed, integrated, and tested 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	0.758	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0809RQ11: *RQ-11 Unmanned Aerial Vehicle*	21.298	-	-	-	-	-	-	-	-	0.000	21.298
• PROC/0201UMNISR: *Unmanned ISR*	-	80.820	13.295	38.933	52.228	6.103	5.343	10.940	11.163	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-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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/Small Bus Tech Transfer*

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	187.371	15.897	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S050: *Small Business Innovative Research*	184.322	13.823	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S051: *Small Business Technology Transfer*	3.049	2.074	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	15.897	0.000	0.000	-	0.000
Total Adjustments	15.897	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	15.897	-			

Change Summary Explanation

Funding:

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160279BB *I Small Business Innovative Research/Small Bus Tech Transfer*

FY 2016: Increase of $15.897 million is due to reprogramming from various program elements for the congressionally mandated Small Business Innovative Research ($13.823 million) and Small Business Technology Transfer ($2.074 million) programs.

FY 2017: None.

FY 2018: None.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	Project (Number/Name) S050 / *Small Business Innovative Research*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S050: *Small Business Innovative Research*	184.322	13.823	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 2016	FY 2017	FY 2018
Title: Small Business Innovative Research (SBIR)	13.823	-	-
FY 2016 Accomplishments: Awarded numerous Phase I and Phase II contracts and contract options for SBIR topics: Alternative for Redundant Global Positioning System Navigation, Environmentally Stable Portable Point of Care Blood Analyzer, Next Generation Identity Management Technologies/Tools, and Optically Transparent Tapered Resistive Films.			
Accomplishments/Planned Programs Subtotals	13.823	-	-

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: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	**Project (Number/Name)** S050 / *Small Business Innovative Research*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / *Small Business Innovative Research/Small Bus Tech Transfer*	Project (Number/Name) S051 / *Small Business Technology Transfer*	

COST ($ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S051: *Small Business Technology Transfer*	3.049	2.074	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 2016	FY 2017	FY 2018
Title: Small Business Technology Transfer (STTR)	2.074	-	-
FY 2016 Accomplishments: A Science and Technology (STTR) Phase II contract was awarded to produce a prototype for the Hydraulic Based Actuator to support USSOCOM's Tactical Assault Light Operator Suite program.			
Accomplishments/Planned Programs Subtotals	2.074	-	-

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

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	730.470	172.965	163.543	259.886	-	259.886	177.606	124.157	108.961	94.514	Continuing	Continuing
SF100: *Aviation Systems Advanced Development*	603.132	106.358	91.659	175.543	-	175.543	105.713	44.226	24.273	15.860	Continuing	Continuing
SF200: *CV-22*	2.993	0.000	15.590	14.259	-	14.259	21.635	27.961	8.000	0.000	Continuing	Continuing
S750: *Mission Training and Preparation Systems*	12.837	6.810	7.890	8.181	-	8.181	8.252	8.309	9.408	9.596	Continuing	Continuing
S875: *AC/MC-130J*	22.763	7.143	7.964	9.351	-	9.351	17.236	24.127	53.408	54.908	Continuing	Continuing
D615: *Rotary Wing Aviation*	88.745	52.654	40.440	52.552	-	52.552	24.770	19.534	13.872	14.150	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 (TF/TA) radar; Defensive Countermeasures; Electronic Warfare (EW) - Radio Frequency Countermeasures (RFCM); Precision Strike Package (PSP); PSP High Energy Laser (HEL); AC-130H, AC-130W, and AC-130U Recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; Airborne Mission Networking (AbMN); 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 unmanned aircraft system (UAS) 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 funding in this project supports integration, design, development, and test to 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 SOF Common TF/TA (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.

Mission Training and Preparation Systems:

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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*

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 14 MC-130E Talon I, 23 MC-130P Combat Shadow, and 20 MC-130H Talon II airframes will be replaced by MC-130J Commando II aircraft with SOF mission modifications. 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. 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.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	179.134	159.143	155.919	-	155.919
Current President's Budget	172.965	163.543	259.886	-	259.886
Total Adjustments	-6.169	4.400	103.967	-	103.967
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-6.169	-			
• Other	-	-	103.967	-	103.967

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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*

• FY 2017 REQUEST FOR ADDITIONAL APPROPRIATIONS	-	4.400	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)

	FY 2016	FY 2017
Project: SF100: *Aviation Systems Advanced Development*		
Congressional Add: *C-130 SOF Common TF/TA (Silent Knight) Radar*	15.200	-
Congressional Add Subtotals for Project: SF100	15.200	-
Congressional Add Totals for all Projects	15.200	-

Change Summary Explanation

Funding:

FY 2016: Decrease of -$6.169 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2017: Increase of $4.400 million in Project D615, Rotary Wing Aviation is due to an FY 2017 Request for Additional Appropriations to continue research, development, test and evaluation of new and modified detection and defeat countermeasures systems to improve aircraft survivability capabilities and address emerging threats to SOF rotary wing aircraft.

FY 2018: Increase of $103.967 million is to complete flight testing efforts for A/MH-6M aircraft Block 3.0 upgrades ($11.839 million); research, develop and evaluate new and modified detection and defeat countermeasure systems and improve SOF rotary wing aircraft survivability ($13.700 million); development, integration and test to provide EW capability against RF threats on AC/MC-130J aircraft ($15.009 million); prepare for testing of the AbMN capability of near-real-time intelligence reporting to the SOF MC-130J fleet ($0.692 million); provides for risk reduction testing of the PSP HEL weapon onto AC-130J aircraft ($15.650 million); systems engineering, analysis, development, and enhancement of the baseline PSP integration and test on SOF platforms ($3.000 million); supports Engineering and Manufacturing Development, qualification, and operational flight testing of a SOF Common TF/TA (Silent Knight) radar on the MC-130J ($44.077 million).

Schedule: SOF Common TF/TA (Silent Knight) radar Initial Operational Test and Evaluation has been delayed until 2nd Quarter FY 2017, after an interoperability assessment revealed shortcomings in flight suitability and effectiveness. Another software version must be developed to address these shortcomings. EC-130J SOF-Unique 7.0/8.1 development slip was due to a delay in the 7.0/8.1 Air Force modification contract. C-130 SOF Common TF/TA (Silent Knight) radar trial kit installs were delayed due to subcontractor negotiations and resulted in a slip to contract award. No change in development start.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
SF100: *Aviation Systems Advanced Development*	603.132	106.358	91.659	175.543	-	175.543	105.713	44.226	24.273	15.860	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the investigation, evaluation, 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 (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; Airborne Mission Networking (AbMN); near-real-time intelligence to include data fusion, threat detection and avoidance; navigation, target detection and identification technologies; digital broadcast capability; aerial refueling; Survivability; and Intelligence, Surveillance, and Reconnaissance (ISR) payload technological improvements with size, weight, power and integration onto all SOF UAS 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.

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

• 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 and future aircraft defensive systems which provides situational awareness and threat response processing; this includes the RFCM system, and future defensive systems. RFCM program provides SOF-unique aircraft defensive capabilities required for SOF missions.

• PSP for SOF supports systems engineering, analysis, development, and enhancement of the baseline PSP and integration, installation, and test on 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, AC-130Js and AC-130Ws, 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 High Energy Laser (HEL) supports demonstration of HEL weapon onto AC-130 platforms. HEL efforts include system design and evaluation of mature laser, beam director, power, and thermal subsystems. The HEL components will be designed for modular upgrades and integrated with the PSP system.

• C-130 SOF Common TF/TA (Silent Knight) Radar supports 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 management and reduce

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

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.

• SOF Common TF/TA (Silent Knight) Radar supports Engineering and Manufacturing Development (EMD), 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 MH-47G heavy assault helicopters, MH-60M medium assault helicopters, MC-130J Commando II and CV-22 Osprey aircraft.

• ISR Payload Sensor Technology supports development, integration, and testing of sensor miniaturization efforts to adapt large (Group 4-5) unmanned aircraft system (UAS) ISR capabilities on all SOF UAS ISR platforms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: EC-130J Upgrades ***FY 2017 Plans:*** Continue development and testing of trial kit installation of C-130J block cycle upgrade.	-	1.144	-	-	-
Title: EC-130J Commando Solo ***FY 2016 Accomplishments:*** Completed integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft.	2.293	-	-	-	-
Title: EW – RFCM ***FY 2016 Accomplishments:*** Awarded two competitive EMD contracts for development. Completed preliminary design reviews, critical technology demonstrations, and critical design reviews for both candidate solutions to demonstrate technical maturity for EW capability against RF threats for SOF AC/MC-130J aircraft. ***FY 2017 Plans:*** Down selected to the best overall RF countermeasure system to support AC/MC-130J aircraft. Continue development to provide EW capability against RF threats for SOF AC/MC-130J aircraft. ***FY 2018 Base Plans:*** Continues development, integration and testing to provide EW capability against RF threats for SOF AC/MC-130J aircraft. Completes contactor hardware/software verification testing and begins government developmental ground and flight test activities.	47.708	39.759	57.248	-	57.248
Title: PSP for SOF ***FY 2016 Accomplishments:***	14.095	10.294	13.512	-	13.512

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continued development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft. ***FY 2017 Plans:*** Continue development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft. ***FY 2018 Base Plans:*** Continues development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft.					
Title: PSP High Energy Laser (HEL) ***FY 2018 Base Plans:*** Begins development of system architecture, design trades, interface control documentation, and risk reduction for AC-130J aircraft.	-	-	15.650	-	15.650
Title: C-130 SOF Common TF/TA (Silent Knight) Radar ***FY 2016 Accomplishments:*** Continued contracting efforts to integrate and test the SOF Common TF/TA (Silent Knight) radar system on MC-130J development testing aircraft and develop modifications to aircraft controls and displays to reduce aircrew workload. This included integrating the TF/TA radar system with the MC-130J Increment 3 special mission processors. ***FY 2017 Plans:*** Continue SOF Common TF/TA (Silent Knight) radar and aircraft control and display integration efforts. Prepare for flight test. ***FY 2018 Base Plans:*** Continues SOF Common TF/TA (Silent Knight) radar and aircraft control and display integration efforts. Installs TF radar system kits on two MC-130Js and begins MC-130J TF/TA developmental flight test. Begins training system development. Begins developing software for safety critical capabilities.	23.928	38.905	87.530	-	87.530
Title: SOF Common TF/TA (Silent Knight) Radar ***FY 2016 Accomplishments:***	1.846	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continued qualification flight testing on the MH-60M and MH-47G assault helicopters.					
Title: ISR Payload	1.288	1.557	1.603	-	1.603
FY 2016 Accomplishments: Began development, integration, and testing of sensor miniaturization effort to place large ISR platform capabilities, such as Group 4-5 UASs and fixed wing systems onto all SOF ISR platforms (e.g. such as Group 2-3 UASs).					
FY 2017 Plans: Continue spiral development to increase the smaller SOF ISR platforms' capabilities through incremental development, integration, and testing.					
FY 2018 Base Plans: Continues spiral development to increase the smaller SOF ISR platforms' capabilities through incremental development, integration, and testing.					
Accomplishments/Planned Programs Subtotals	91.158	91.659	175.543	-	175.543

	FY 2016	FY 2017
Congressional Add: C-130 SOF Common TF/TA (Silent Knight) Radar	15.200	-
FY 2016 Accomplishments: Began contracting efforts to integrate and test the SOF Common TF/TA (Silent Knight) radar system on MC-130J development testing aircraft and develop modifications to aircraft controls and displays to reduce aircrew workload. This included integrating the TF/TA radar with the MC-130J Increment 3 special mission processors.		
Congressional Adds Subtotals	15.200	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/5000C13000: *C-130 Modifications*	25.940	32.970	28.059	3.750	31.809	24.696	20.739	20.632	16.307	Continuing	Continuing
• PROC/2012C130J: *AC/MC-130J*	49.669	80.048	179.934	0.000	179.934	182.288	203.006	192.047	188.916	Continuing	Continuing
• PROC/1202PSP: *Precision Strike Package*	217.779	243.622	229.728	-	229.728	236.937	240.043	244.477	203.249	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC0201RWUPGR: *Rotary Wing Upgrades and Sustainment*	124.520	154.396	158.988	-	158.988	146.705	138.578	143.338	147.415	Continuing	Continuing

Remarks

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.

• 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.

• EW – RFCM: Awarded competitive EMD contract for development. Down selected to the best overall solution to integrate and test 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 HEL: AC-130 HEL program utilizes Naval Surface Warfare Center Dahlgren Division as the government integrator of HEL components. HEL system components purchased under Defense Ordinance Technology Consortium broad area announcement using incremental Cost Plus Fixed Fee contracts and cost sharing agreements.

• C-130 SOF Common TF/TA (Silent Knight) Radar: Awarded delivery order on Cost Plus Incentive Fee contract to integrate and test the SOF Common TF/TA (Silent Knight) radar on MC-130J aircraft and develop modifications to aircraft displays and controls. Government developmental 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). Low Rate Initial Production Contract II was awarded to Raytheon in May 2016. Follow-on platform A Kit aircraft install kits 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.

• 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 usable 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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: FY 2018 United States Special Operations Command		Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EC-130J Upgrades	C/CPIF	Lockheed Martin : Marietta, GA	5.811	-		1.144	Aug 2017	-		-		-	0.000	6.955	-
EC-130J Commando Solo	C/CPFF	Johns Hopkins University APL : Baltimore, MD	1.366	2.030	Feb 2016	-		-		-		-	0.000	3.396	-
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)	C/Various	Robins AFB : Warner Robins, GA	15.932	39.993	Nov 2015	27.009	Jan 2017	41.133	Jan 2018	-		41.133	Continuing	Continuing	-
Precision Strike Package (PSP) for SOF	TBD	Various : Various	90.399	10.782	Jan 2016	8.807	Jan 2017	11.607	Jan 2018	-		11.607	Continuing	Continuing	-
PSP High Energy Laser (HEL)	C/CPFF	Naval Surface Warfare Center : Dahlgren, VA	-	-		-		15.650	Feb 2018	-		15.650	Continuing	Continuing	-
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Lockheed Martin Aero : Marietta, GA	60.699	15.800	Apr 2016	28.609	Jan 2017	71.821	Jan 2018	-		71.821	Continuing	Continuing	-
C-130 SOF Common TF/ TA (Silent Knight) Radar (Congressional Add)	C/CPIF	Lockheed Martin Aero : Marietta, GA	-	15.200	Apr 2016	-		-		-		-	0.000	15.200	-
Intelligence, Surveillance, and Reconnaissance Payload	TBD	Various : Various	-	1.288	Mar 2016	1.557	Mar 2017	1.603	Mar 2018	-		1.603	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	197.421	-		-		-		-		-	0.000	197.421	-
		Subtotal	371.628	85.093		67.126		141.814		-		141.814	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Various : Various	4.556	2.393	Apr 2016	4.788	Dec 2016	7.305	Dec 2017	-		7.305	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command		Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EW-RFCM	C/Various	Robins AFB : Warner Robins, GA	10.614	3.550	Nov 2015	3.950	Jan 2017	3.820	Jan 2018	-		3.820	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	28.802	-		-		-		-		-	0.000	28.802	-
		Subtotal	43.972	5.943		8.738		11.125		-		11.125	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EW-RFCM	C/Various	Robins AFB : Warner Robins, GA	-	4.165	Nov 2015	8.800	Jan 2017	12.295	Jan 2018	-		12.295	Continuing	Continuing	-
EC-130J Commando Solo - EMI/EMC	MIPR	Naval Weapons Center, China Lake (NAWCWD) : Ridgecrest, CA	-	0.107	Feb 2016	-		-		-		-	Continuing	Continuing	-
Ec-130J Commando Solo - DT/OT&E Test	C/CPFF	Johns Hopkins University APL : Baltimore, MD	-	0.156	Apr 2017	-		-		-		-	Continuing	Continuing	-
PSP for SOF	C/Various	Various : Various	15.427	3.313	Jan 2016	1.487	Dec 2016	1.905	Dec 2017	-		1.905	Continuing	Continuing	-
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Various : Various	9.459	3.972	Apr 2016	3.645	Dec 2016	6.441	Dec 2017	-		6.441	Continuing	Continuing	-
SOF Common TF/TA (Silent Knight) Radar	C/CPIF	Various : Various	117.719	1.846	Jan 2016	-		-		-		-	0.000	119.565	-
Prior Year Funding - Completed Efforts	Various	Various : Various	8.640	-		-		-		-		-	0.000	8.640	-
		Subtotal	151.245	13.559		13.932		20.641		-		20.641	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command		Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 SOF Common TF/ TA (Silent Knight) Radar	C/CPIF	Various : Various	5.271	1.763	Dec 2015	1.863	Dec 2016	1.963	Dec 2017	-		1.963	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	31.016	-		-		-		-		-	0.000	31.016	-
		Subtotal	36.287	1.763		1.863		1.963		-		1.963	-	-	-

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	603.132	106.358		91.659		175.543		-		175.543	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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 Upgrade Schedule

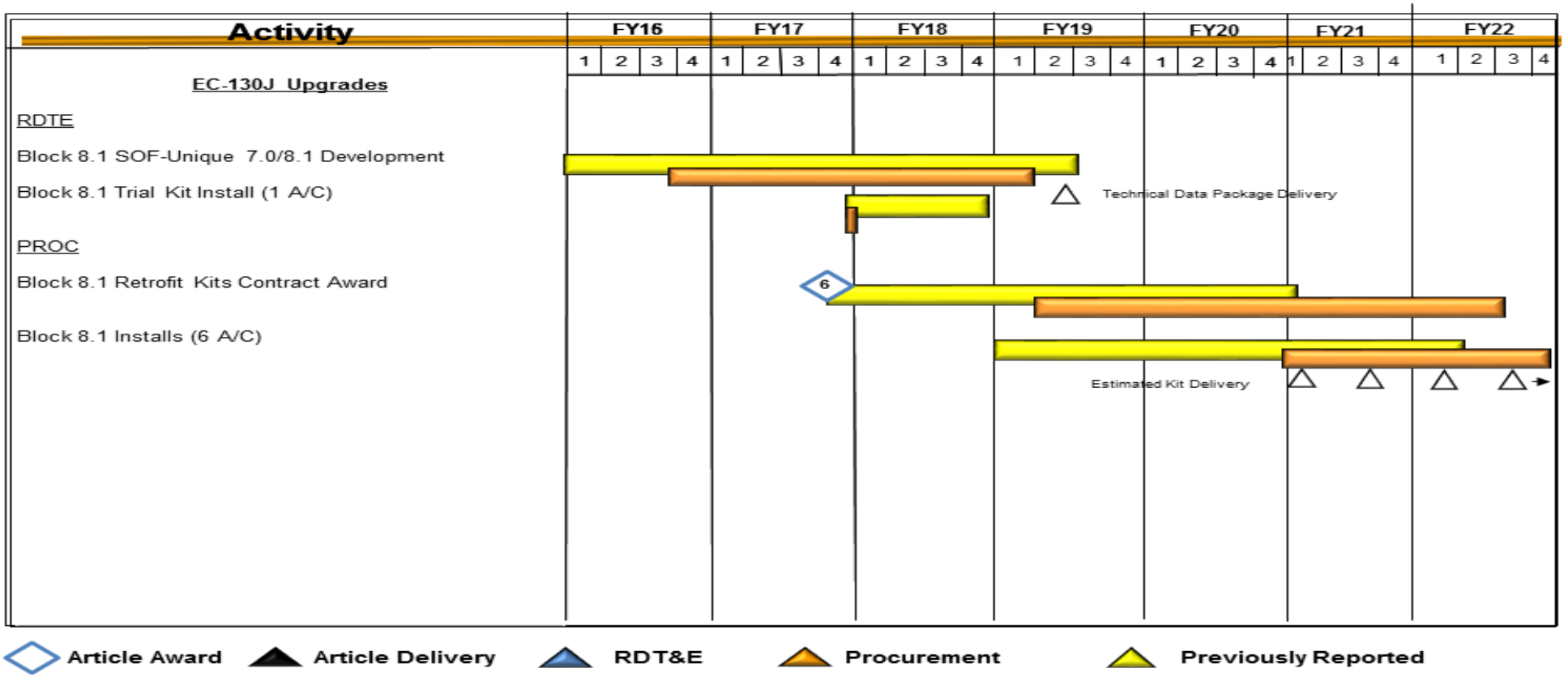


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

EC-130J CSOLO
RAMS and De-Mod Schedule

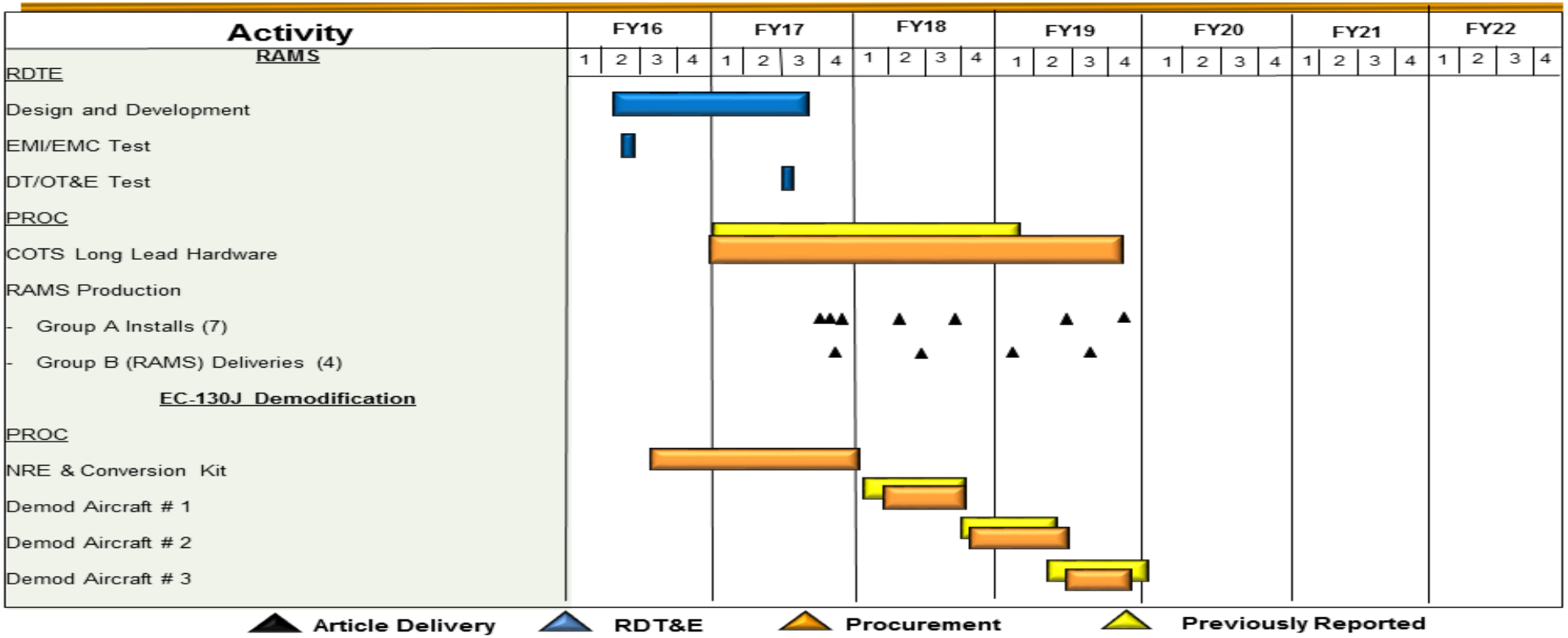


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

EW RFCM Schedule

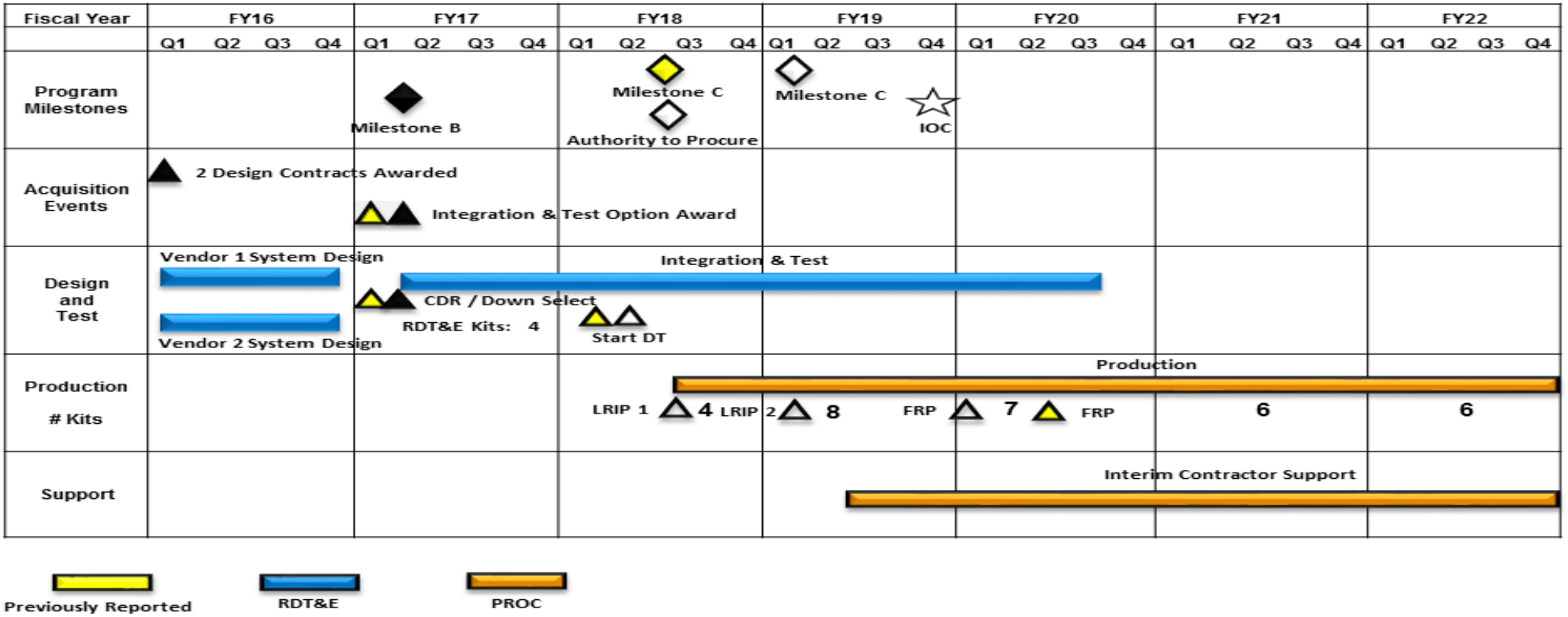


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

AC-130J/PSP Integrated Schedule

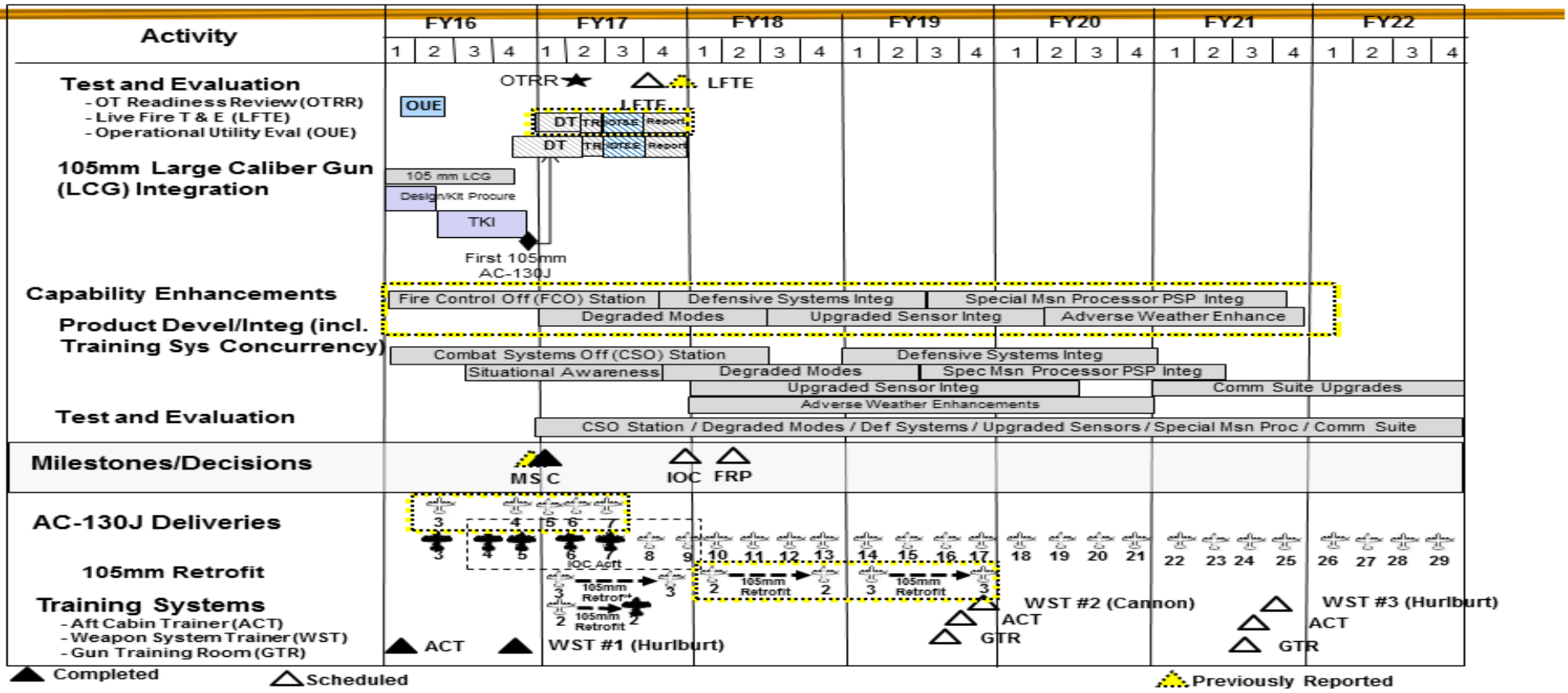
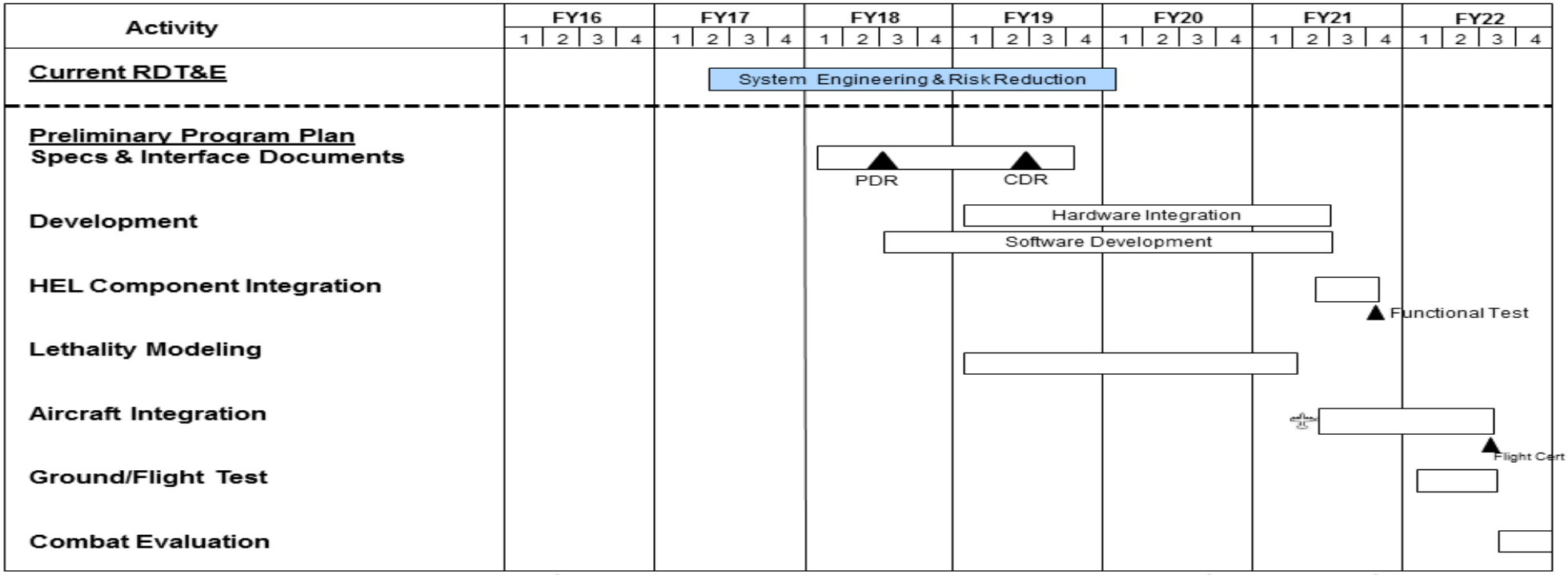


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

AC-130 High Energy Laser Schedule*



* Subject to change pending OSD (JCTD) FY17 funding request

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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 SOF Common TF/TA Radar Schedule

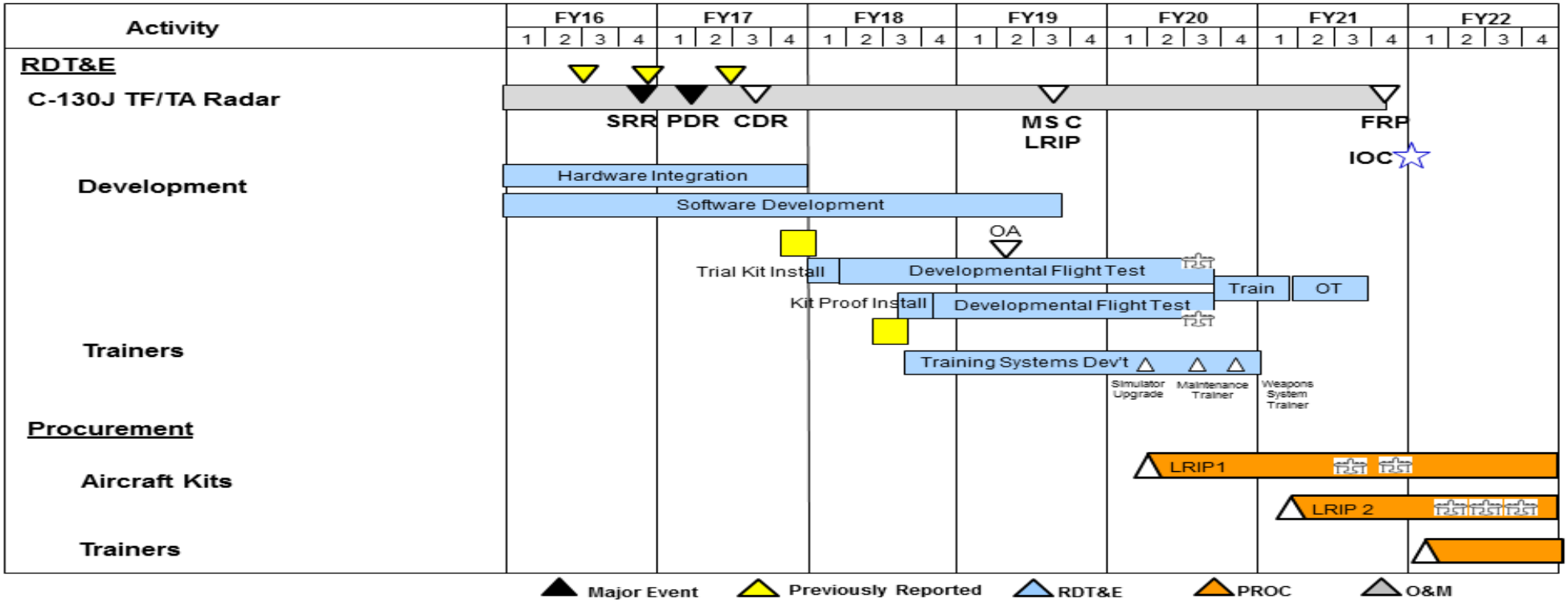


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

SOF Common TF/TA (Silent Knight) Radar Schedule

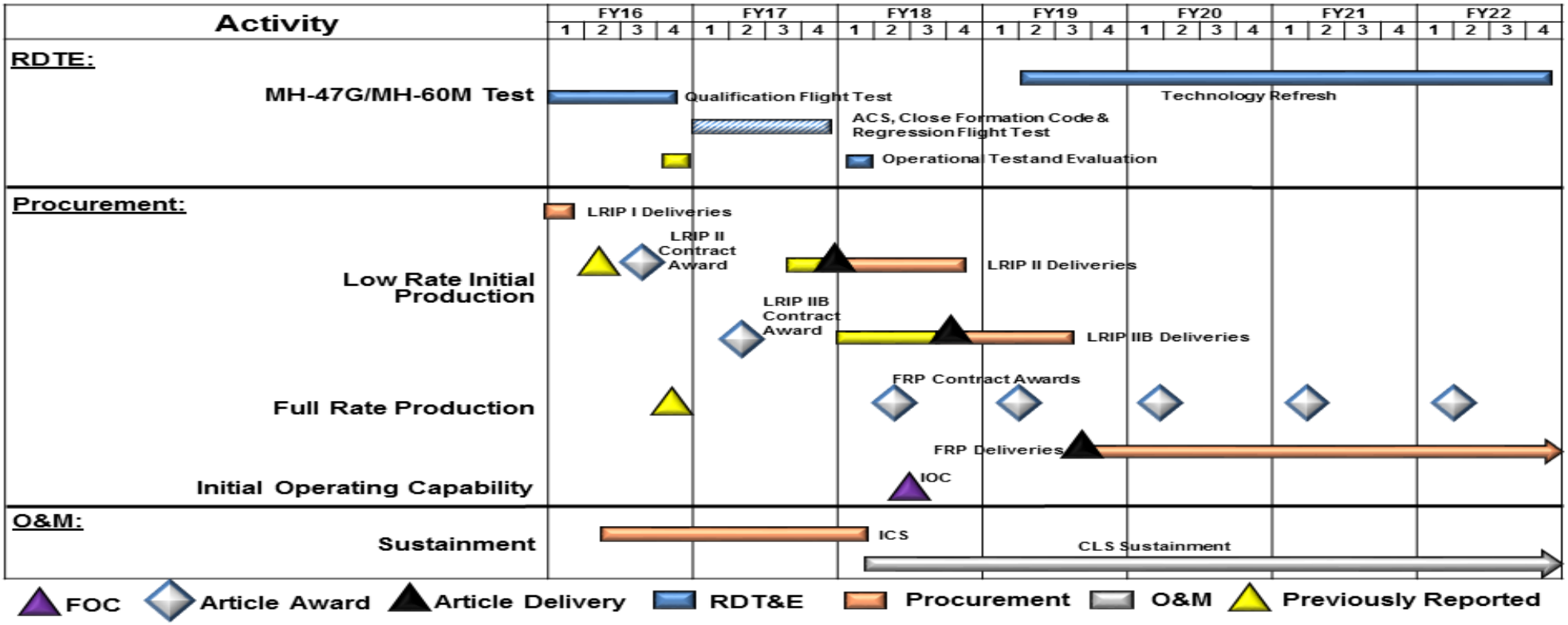


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Intelligence, Surveillance, and Reconnaissance Payload Sub-Project Schedule

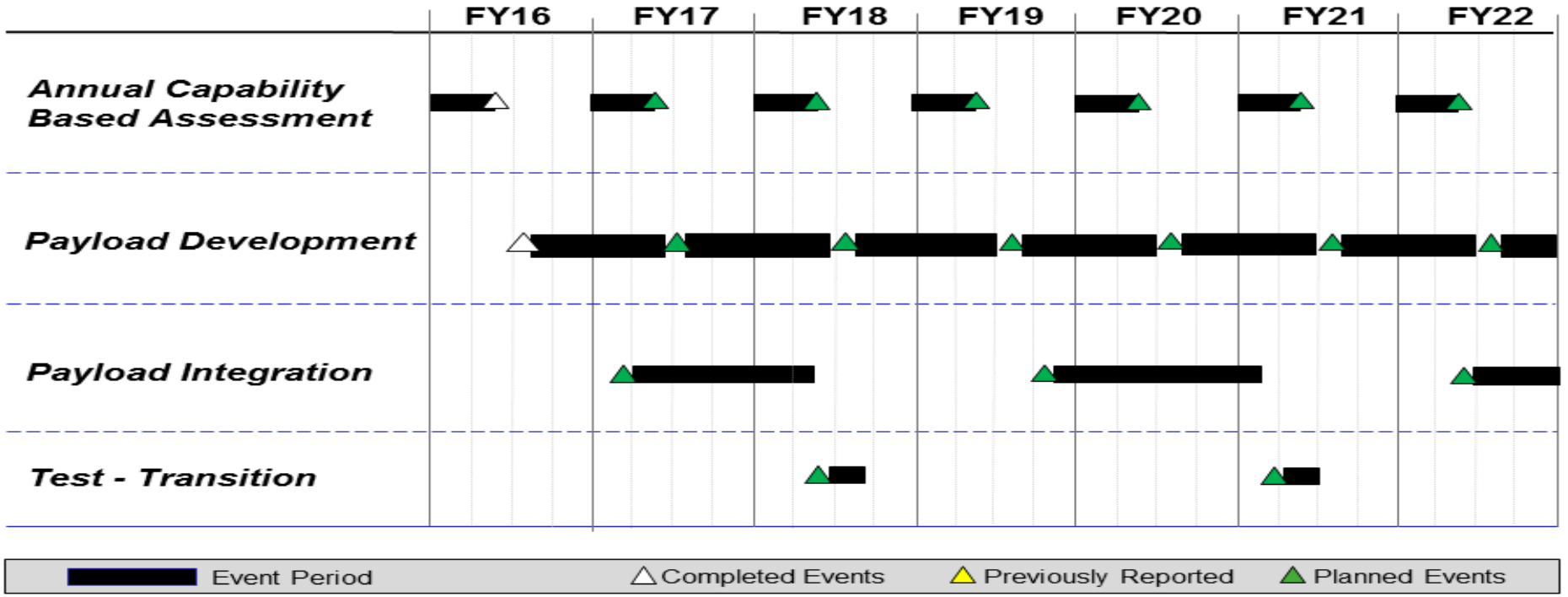


Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
EC-130J Upgrades				
Development and Testing	3	2016	2	2019
EC-130J Commando Solo				
Development and Design	2	2016	3	2017
EMI/EMC and DT/OT&E Testing	2	2016	3	2017
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)				
Vendor 1 and 2 System Design	1	2016	4	2016
Integration and Testing	2	2017	3	2020
Precision Strike Package (PSP) for SOF				
PSP for SOF Development, Integration, and Testing	2	2016	4	2022
PSP High Energy Laser (HEL)				
PSP HEL Development	2	2018	3	2021
C-130 SOF Common Terrain Following/Terrain Avoidance (TF/TA) (Silent Knight) Radar				
Software Development	1	2016	3	2019
Development/Flight Testing	2	2018	3	2020
Operational Testing	2	2021	3	2021
Training System Development	3	2018	1	2021
SOF Common (TF/TA) (Silent Knight) Radar				
Qualification Testing	1	2016	4	2016
Operational Testing	3	2017	3	2017
Intelligence, Surveillance, and Reconnaissance (ISR) Payload				

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Payload Development	3	2016	4	2022
Payload Integration (Phase 1)	1	2017	2	2018
Payload Integration (Phase 2)	4	2019	1	2021
Payload Testing (Phase 1)	2	2018	3	2018
Payload Testing (Phase 2)	1	2021	2	2021

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
SF200: *CV-22*	2.993	0.000	15.590	14.259	-	14.259	21.635	27.961	8.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 212

A. Mission Description and Budget Item Justification

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 funding in this program supports integration, design, development, and test to 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 SOF Common TF/TA (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.

• 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 SOF Common TF/TA (Silent Knight) 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SOF Common TF/TA (Silent Knight) Radar	-	15.590	14.259	-	14.259
FY 2017 Plans: Conduct System Readiness Review. Begin integration/design of TF/TA radar replacement using SOF Common TF/TA (Silent Knight) Radar.					
FY 2018 Base Plans: Continues integration/testing of SOF Common TF/TA (Silent Knight) Radar.					
Accomplishments/Planned Programs Subtotals	-	15.590	14.259	-	14.259

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/1000CV22: *CV-22 SOF Modification*	33.582	24.708	42.178	-	42.178	22.724	27.736	31.563	47.210	Continuing	Continuing
• PROC/V022A0: *Aircraft Procurement CV-22 (MYP)*	64.500	-	-	-	-	-	-	-	-	0.000	4,318.234
• RDT&E1/0401318F: *RDT&E, USAF*	27.776	16.702	17.455	-	17.455	16.634	14.724	14.984	15.254	64.350	225.577
• RDT&E/0604262N: *V-22 RDT&E, N BA-05*	76.366	174.423	173.742	-	173.742	137.519	167.116	94.629	118.777	184.398	10,252.729

Remarks

D. Acquisition Strategy

The SOF Common TF/TA (Silent Knight) radar was developed by USSOCOM to replace the existing, obsolescing APQ-186 TF/TA multimode radar on the CV-22. The acquisition strategy for the CV-22 SKR program is to procure APQ-187 radar units and software modifications through the USSOCOM SKR Program Management Office. Contracts will be awarded to integrate SKR into the V-22 platform and buy aircraft modification kits, using a mixture of both sole source and competitive contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Common TF/TA (Silent Knight) Radar	TBD	Various : Various	-	-		15.590	Apr 2017	12.720	Jan 2018	-		12.720	Continuing	Continuing	-
Block 20	Various	Various : Various	1.057	-		-		-		-		-	0.000	1.057	-
		Subtotal	1.057	-		15.590		12.720		-		12.720	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Common TF/TA (Silent Knight) Radar	TBD	Various : Various	-	-		-		1.539	Jan 2018	-		1.539	Continuing	Continuing	-
Block 20 Flight Test and Evaluation	Various	Various : Various	1.936	-		-		-		-		-	0.000	1.936	-
		Subtotal	1.936	-		-		1.539		-		1.539	-	-	-

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.993	-		15.590		14.259		-		14.259	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

CV-22 Schedule

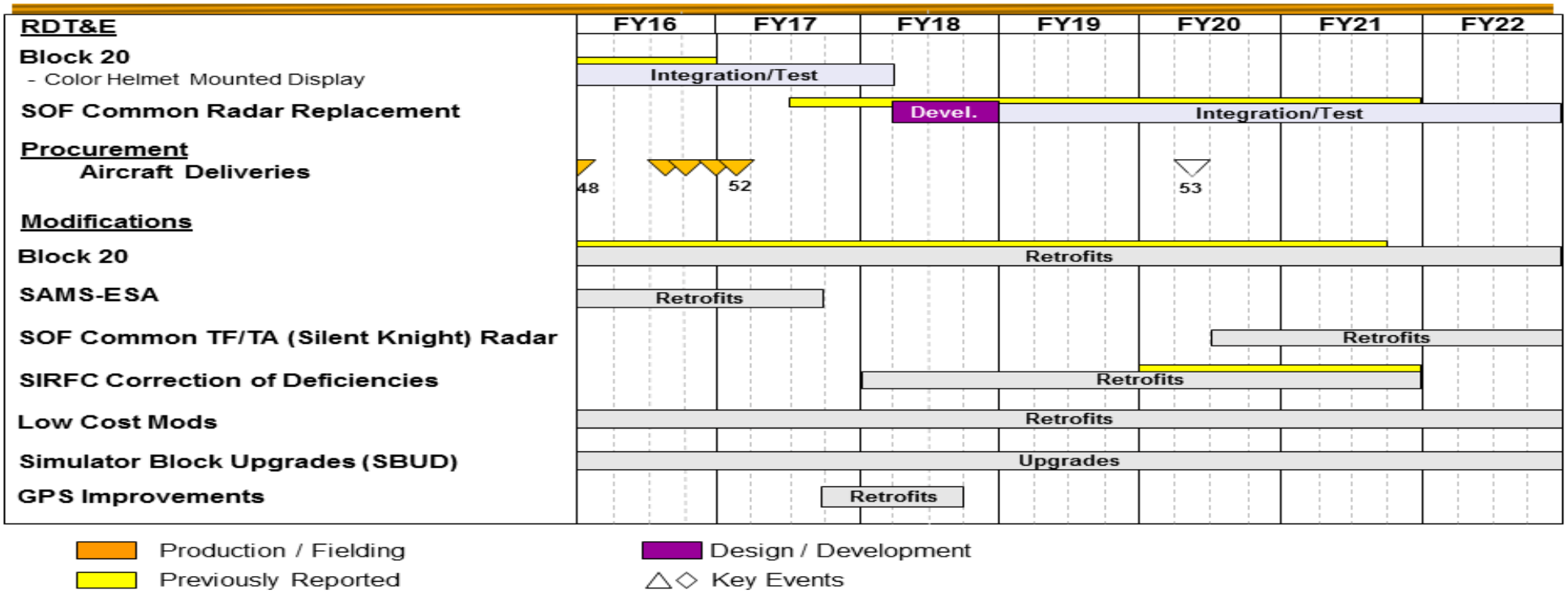


Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CV-22				
Block 20 Development/Test	1	2016	3	2017
Design, Integration and Test SOF Common TF/TA (Silent Knight) Radar	2	2018	4	2022

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S750: *Mission Training and Preparation Systems*	12.837	6.810	7.890	8.181	-	8.181	8.252	8.309	9.408	9.596	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SOMPE	6.810	7.890	8.181	-	8.181
FY 2016 Accomplishments: Continued 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. Continued updating of mission planning, data transfer and performance software. Continued development of software applications for smaller mobile computer devices (tablets, smart phones, etc).					
FY 2017 Plans: Continue 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.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continue updating of mission planning, data transfer and performance software. Continue development of software applications for smaller mobile computer devices (tablets, smart phones, etc). ***FY 2018 Base Plans:*** Continues 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 updating 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	6.810	7.890	8.181	-	8.181

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

SOMPE comprises multiple mission planning software development contracts awarded 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-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S875: *AC/MC-130J*	22.763	7.143	7.964	9.351	-	9.351	17.236	24.127	53.408	54.908	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 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 Precision Strike Package (PSP) to achieve the AC-130J Gunship configuration. The AC-130J aircraft perform close air support (CAS), air interdiction, and armed reconnaissance missions. The MC-130J 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 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.

Aviation Systems funds develop, integrate, and test aircraft enhancements to meet SOF-unique mission requirements. Enhancements include, but are not limited to, SOF communications, mission processors, aircraft performance enhancements, Airborne Mission Networking (AbMN), electronic warfare and survivability systems, and other SOF mission kits. Provides PSP aircraft infrastructure development.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MC-130J Airborne Mission Networking (AbMN)	6.588	7.556	8.927	-	8.927
FY 2016 Accomplishments: Achieved Milestone B (Engineering and Manufacturing Development) approval to develop hardware and software and flight test an airborne mission system on the MC-130J. Awarded contract for aircraft antenna co-site analysis, system processor study, and initial software development. ***FY 2017 Plans:*** Complete aircraft antenna co-site analysis, system processor study, and initial software development. Design and integrate Group A and B hardware, complete software development, and conduct hardware and software testing in the systems integration laboratory. ***FY 2018 Base Plans:*** Completes Trial Kit Installation and prepares for ground and flight testing.					
Title: AC-130J	0.555	0.408	0.424	-	0.424
FY 2016 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continued development and tested aircraft modification designs for PSP kit installation. ***FY 2017 Plans:*** Continue development and test aircraft modification design for PSP kit installation. ***FY 2018 Base Plans:*** Continues development and tests aircraft modification designs for PSP kit installation.					
Accomplishments/Planned Programs Subtotals	7.143	7.964	9.351	-	9.351

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/2012C130J: *AC/MC-130J*	46.669	80.048	179.934	-	179.934	182.288	203.006	192.047	188.916	Continuing	Continuing
• PROC/1202PSP: *Precision Strike Package*	217.779	243.622	229.728	-	229.728	236.937	240.043	244.477	203.249	Continuing	Continuing

Remarks

D. Acquisition Strategy

MC-130J AbMN: Award sole source Firm-Fixed Price contract to develop a battlespace information exchange system for the MC-130J consisting of Government/ Commercial-off-the-shelf communications and computing hardware and Government/developmental software. This approach leverages portions of the AC-130J gunship infrastructure design applicable to the MC-130J. After completing developmental and operational flight testing, award a competitive Firm-Fixed Price contract for production, aircraft integration, and fielding.

The basic AC-130J aircraft will be acquired under the U.S. 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.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
D615: *Rotary Wing Aviation*	88.745	52.654	40.440	52.552	-	52.552	24.770	19.534	13.872	14.150	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 will replace obsolescent components to the extent possible 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.

• 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 self-protection.

• 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 aircrew. 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 Degraded Visual Environments. 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 existing sensors on SOF aircraft to the maximum extent possible.

• 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-unique 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 integrate and test a complete lightweight IRCM system to include a missile warning system and 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-47 Modifications and Upgrades program develops technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include, but are not limited to, the Active Parallel Actuator System (APAS) and Engine Barrier Filter. This sub-project also includes modifications to ASE and weapons systems to counter rapidly emerging threats and enhance aircraft self-protection.

• 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. This MPU provides the processing and memory resources required to incorporate the following functions into the General Purpose Processing Unit: (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.

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

• The Aircraft Survivability Equipment (ASE) Upgrades program develops, integrates, and tests critical active and passive SOF-unique aircraft survivability equipment to counter the acknowledged high proliferation of advanced Surface-to-Air (SA) threat systems for the A/MH-6, MH-60, and MH-47. Additionally, these threat systems are technically evolving at an unprecedented rate, requiring rapid counter system development and immediate spiraled improvements that will reduce the probability of successful engagement, increase the probability of detecting and countering threat systems, and improve the aircraft's ability to continue operating after sustained battle damage. This program includes development and testing of both new systems and pre-planned product improvements/upgrades of fielded survivability equipment, flares, and associated qualification testing.

• Secure Real Time Video (SRTV) ensures that while en route to an objective, SOF aircrews and operators have access to the latest data collected on the objective enabling them to maintain situational awareness and improve survivability. This project will integrate and test software and hardware improvements to provide SOF helicopters with access to rapidly evolving, real-time full motion video intelligence.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: A/MH-6M Block 3.0 Upgrade ***FY 2016 Accomplishments:*** Continued system level qualification of improved rotor system, avionics upgrade software development, qualifications and initiated Airworthiness and Flight Characteristics testing efforts. ***FY 2017 Plans:*** Continue avionics software qualification and Airworthiness and Flight Characteristics testing efforts. ***FY 2018 Base Plans:*** Completes software qualification, Airworthiness and Flight Characteristics testing efforts.	20.254	12.890	13.384	-	13.384
Title: MH-60M Modifications and Upgrades ***FY 2017 Plans:*** Begin integration and testing of technologies to improve safety and decrease operational costs to include aircraft survivability equipment, weapons systems improvement and munitions during testing. ***FY 2018 Base Plans:*** Continues 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	3.479	-	3.479
Title: MH-60M Block Upgrades ***FY 2016 Accomplishments:*** Completed integration and flight qualification for the MH-60M Block Upgrades.	7.152	-	-	-	-
Title: DVE ***FY 2016 Accomplishments:*** Continued development and integration of the selected DVE technical solution. ***FY 2017 Plans:*** Complete the development and integration of the DVE technical solution.	8.965	9.462	-	-	-
Title: FVL ***FY 2016 Accomplishments:*** Continued 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:***	0.029	0.938	1.123	-	1.123

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 2018 Base Plans:*** Continues to participate 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 2016 Accomplishments:*** Continued development, integration, and qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft. ***FY 2017 Plans:*** Continue qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft. ***FY 2018 Base Plans:*** Continues qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft.	4.940	6.898	2.277	-	2.277
Title: MH-47 Modifications and Upgrades ***FY 2016 Accomplishments:*** Continued development of APAS and the Engine Barrier Filter for MH-47G. ***FY 2017 Plans:*** Continue APAS development and completes the development of the Engine Barrier Filter for MH-47G. ***FY 2018 Base Plans:*** Continues APAS development, including integration with MH-47G subsystems.	11.053	8.501	10.721	-	10.721
Title: MPU ***FY 2016 Accomplishments:*** Began development of replacement mission and video processors for the ARSOA platforms. ***FY 2017 Plans:*** Continue testing of replacement mission and video processors for the ARSOA platforms. ***FY 2018 Base Plans:***	0.232	1.074	5.087	-	5.087

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continues testing of replacement mission and video processors for ARSOA platforms and begin exploration of the next generation ARSOA cockpit.					
Title: NGFLIR ***FY 2016 Accomplishments:*** Completed integration and testing of a life-cycle replacement for the Q2V2 Electro-Optical Sensor Systems (EOSS) on the MH-60M Defensive Armed Penetrator (DAP).	0.029	-	-	-	-
Title: ASE Upgrades ***FY 2018 Base Plans:*** Begins development of new systems, pre-planned product improvements/upgrades of fielded survivability equipment, and continued development of flare countermeasures.	-	-	15.889	-	15.889
Title: SRTV ***FY 2018 Base Plans:*** Begins development of lighter, smaller, and more capable Full Motion Video Transceiver.	-	-	0.592	-	0.592
Accomplishments/Planned Programs Subtotals	52.654	40.440	52.552	-	52.552

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0201RWUPGR: *Rotary Wing Upgrades and Sustainment*	124.520	154.396	158.988	-	158.988	146.705	138.578	143.338	147.415	Continuing	Continuing
• 0201MH60: *MH-60 Blackhawk*	-	18.600	-	-	-	-	-	-	-	925.813	925.813
• 0601MH47: *MH-47 Chinook*	-	25.022	87.345	10.270	97.615	131.033	174.617	175.266	178.771	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, owner of 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 Non Developmental Item (NDI)/Commercial-Off-The-Shelf (COTS) to the extent possible 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

• MH-60M Modifications and Upgrades supports 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 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-unique 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 was 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 DOD vertical lift aviation capabilities over the next forty years.

• IRCM integrates a mission configurable Missile Warning System and IRCM capability 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 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.

• 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.

• The ASE Upgrades program develops and tests both new systems and pre-planned product improvements/upgrades of fielded survivability equipment and flares. For new systems, other services’ development and testing contracts are leveraged to the maximum extent possible. Upgrades of fielded equipment are typically accomplished by the original equipment manufacturer.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

• The SRTV project integrates and tests software and hardware improvements to provide SOF helicopters with access to rapidly evolving, real-time full motion video intelligence. A variety of contracting methods will be used for acquiring test assets, accomplishing SOF-unique modifications and testing to include use of other services' contracts, competition, sole source awards, and directed efforts of government organizations.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A/MH-6M Block 3.0 Upgrades	C/Various	PM MELB : Fort Eustis, VA	31.808	20.254	Nov 2015	-		-		-		-	0.000	52.062	-
Degraded Visual Environment (DVE)	C/Various	PM TAPO : Fort Eustis, VA	28.336	8.965	Nov 2015	9.462	Dec 2016	-		-		-	0.000	46.763	-
Infrared Countermeasure (IRCM) Integration	C/Various	PM TAPO : Fort Eustis, VA	2.586	4.940	Jun 2016	-		-		-		-	0.000	7.526	-
MH-47 Modifications and Upgrades	C/Various	PM TAPO : Fort Eustis, VA	6.773	11.053	Feb 2016	8.501	Nov 2016	10.721	Nov 2017	-		10.721	Continuing	Continuing	-
Mission Processor Upgrade (MPU)	C/Various	PM TAPO : Fort Eustis, VA	-	0.232	Jul 2016	-		-		-		-	0.000	0.232	-
Aircraft Survivability Equipment (ASE) Upgrades	C/Various	PM TAPO : Fort Eustis, VA	-	-		-		15.889	Mar 2018	-		15.889	Continuing	Continuing	-
Secure Real Time Video	C/Various	PM TAPO : Fort Eustis, VA	-	-		-		0.592	Mar 2018	-		0.592	Continuing	Continuing	-
		Subtotal	69.503	45.444		17.963		27.202		-		27.202	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A/MH-6M Block 3.0 Upgrades	C/Various	PM MELB : Fort Eustis, VA	-	-		12.890	Nov 2016	13.384	Nov 2017	-		13.384	Continuing	Continuing	-
MH-60M Modification and Upgrades	C/Various	Various : Various	-	-		0.677	Jan 2017	3.479	Jun 2018	-		3.479	Continuing	Continuing	-
MH-60M Block Upgrades Flight Qualification Testing	C/Various	Various : Various	12.443	7.152	Mar 2016	-		-		-		-	0.000	19.595	-
IRCM Testing	C/Various	PM TAPO : Fort Eustis, VA	-	-		6.898	Jan 2017	2.277	Jan 2018	-		2.277	Continuing	Continuing	-
MPU	C/Various	PM TAPO : Fort Eustis, VA	-	-		1.074	Apr 2017	5.087	Apr 2018	-		5.087	Continuing	Continuing	-
Next Generation Forward Looking Infrared	C/Various	PM TAPO : Fort Eustis, VA	2.570	0.029	Aug 2016	-		-		-		-	0.000	2.599	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / *Aviation Systems*	Project (Number/Name) D615 / *Rotary Wing Aviation*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Funding	C/Various	Various : Various	2.653	-		-		-		-		-	0.000	2.653	-
		Subtotal	17.666	7.181		21.539		24.227		-		24.227	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Future Vertical Lift	C/Various	PEO-RW : MacDill AFB, FL	1.576	0.029	Feb 2016	0.938	Feb 2017	1.123	Feb 2018	-		1.123	Continuing	Continuing	-
		Subtotal	1.576	0.029		0.938		1.123		-		1.123	-	-	-

	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	88.745	52.654		40.440		52.552		-		52.552	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

A/MH-6 Block 3.0 Upgrade Schedule

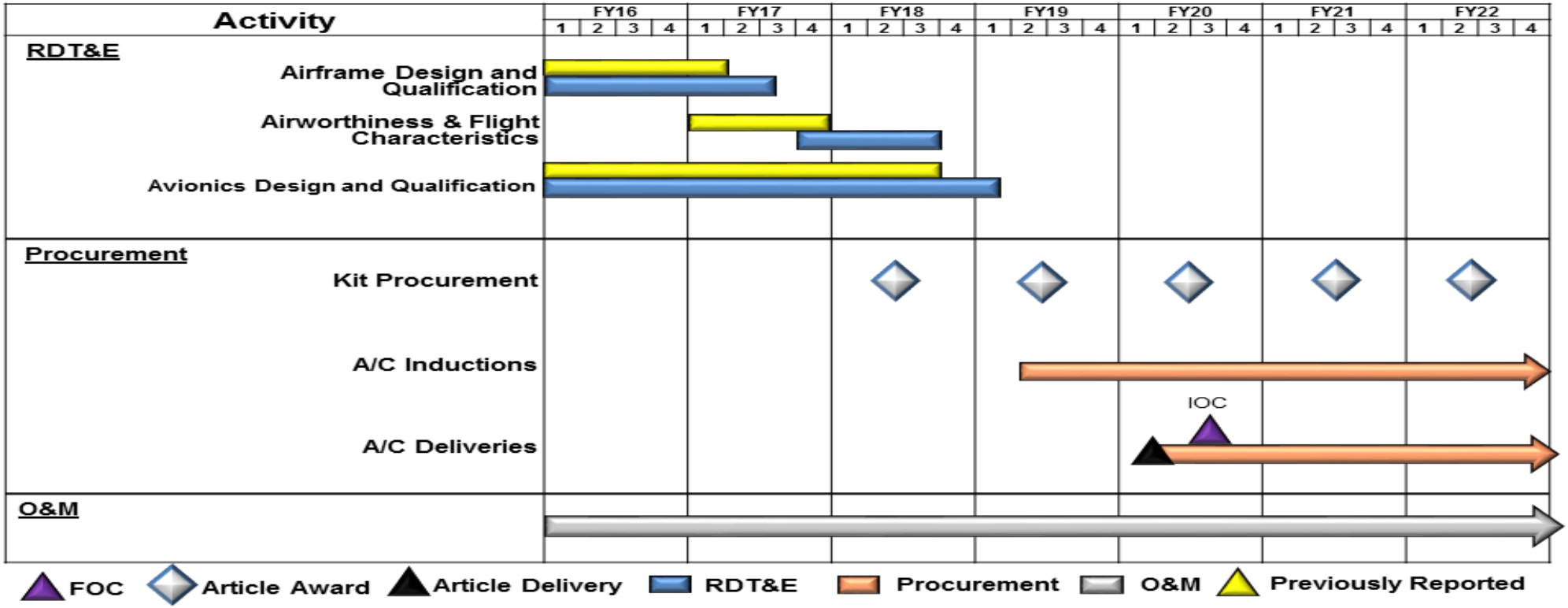


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

MH-60M Mods & Block Upgrades Schedule

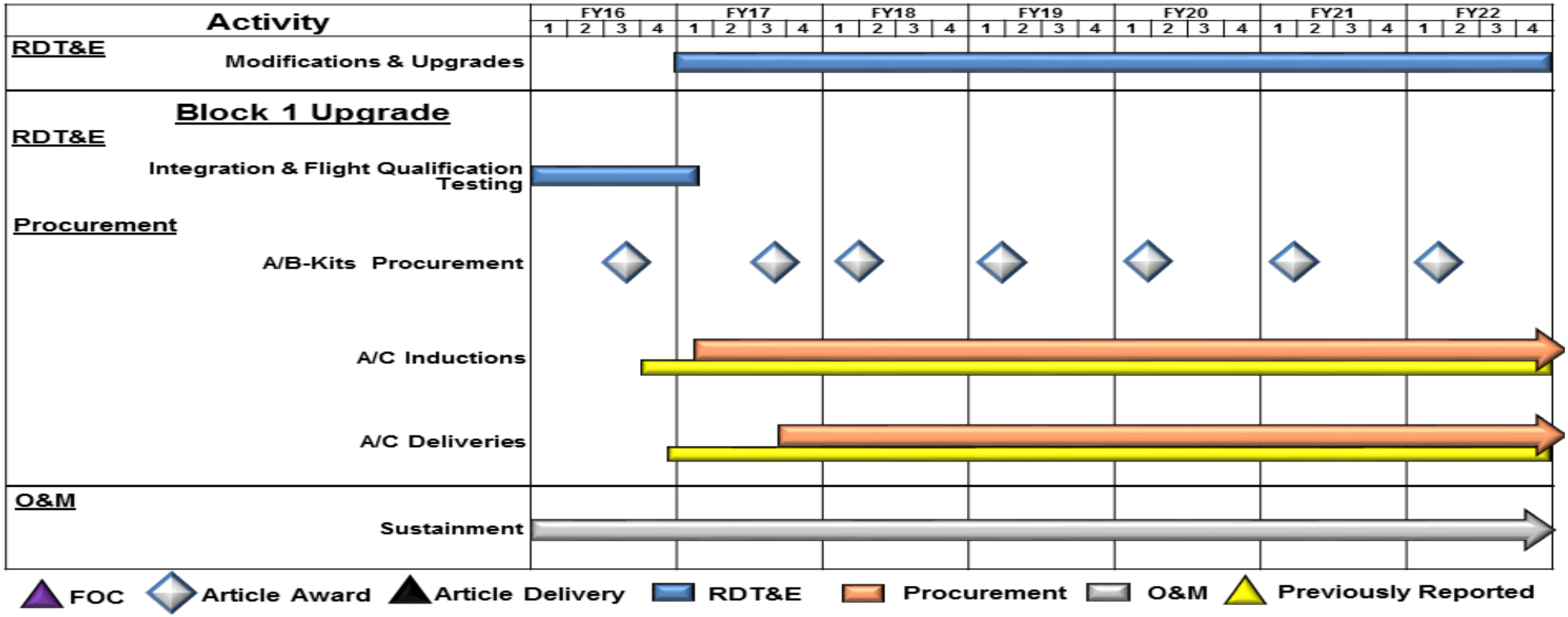


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Degraded Visual Environment Schedule

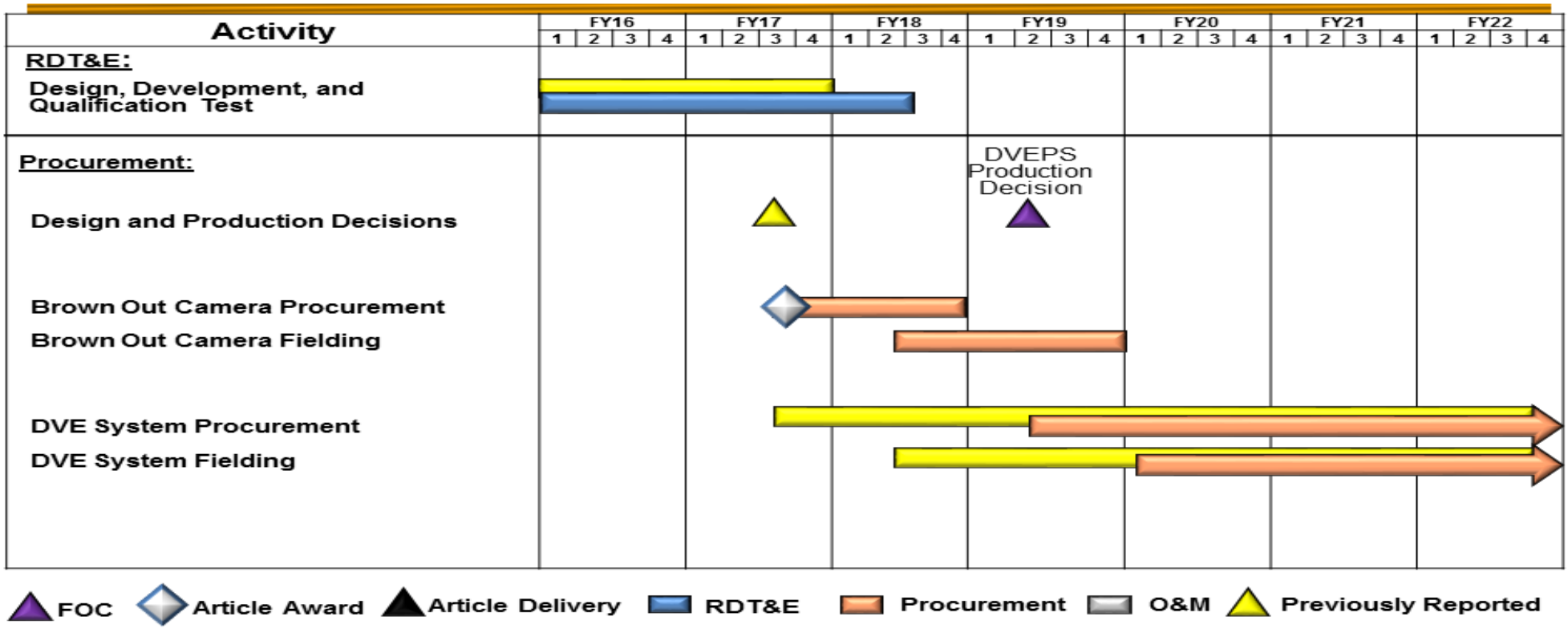


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Future Vertical Lift Schedule

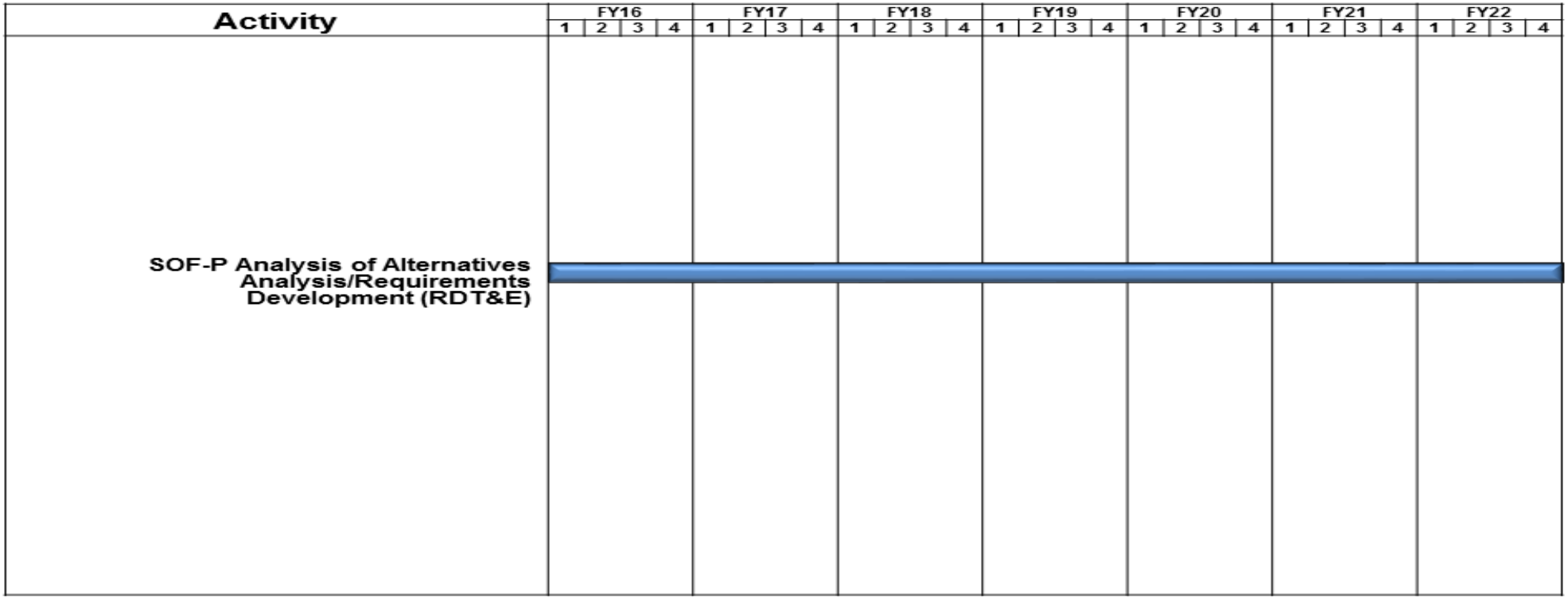


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

MH-47 Mods & Block Upgrades Schedule

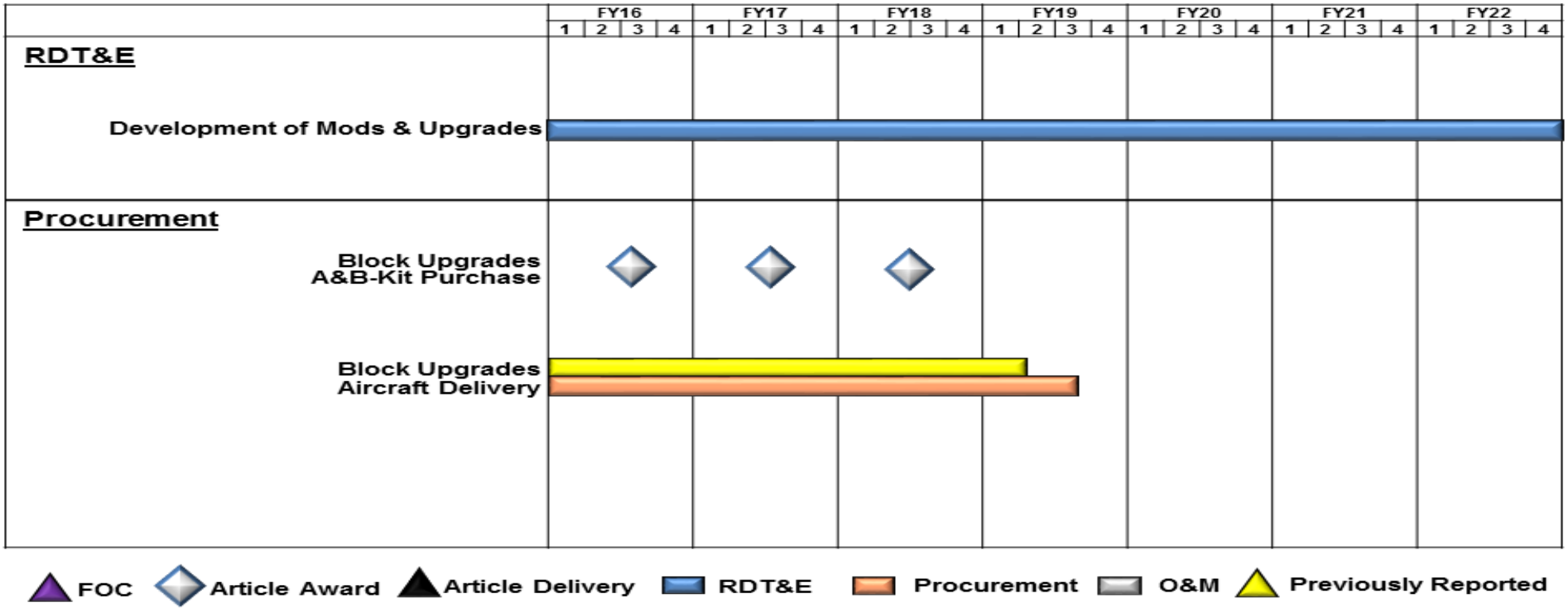


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Mission Processor Upgrades Schedule

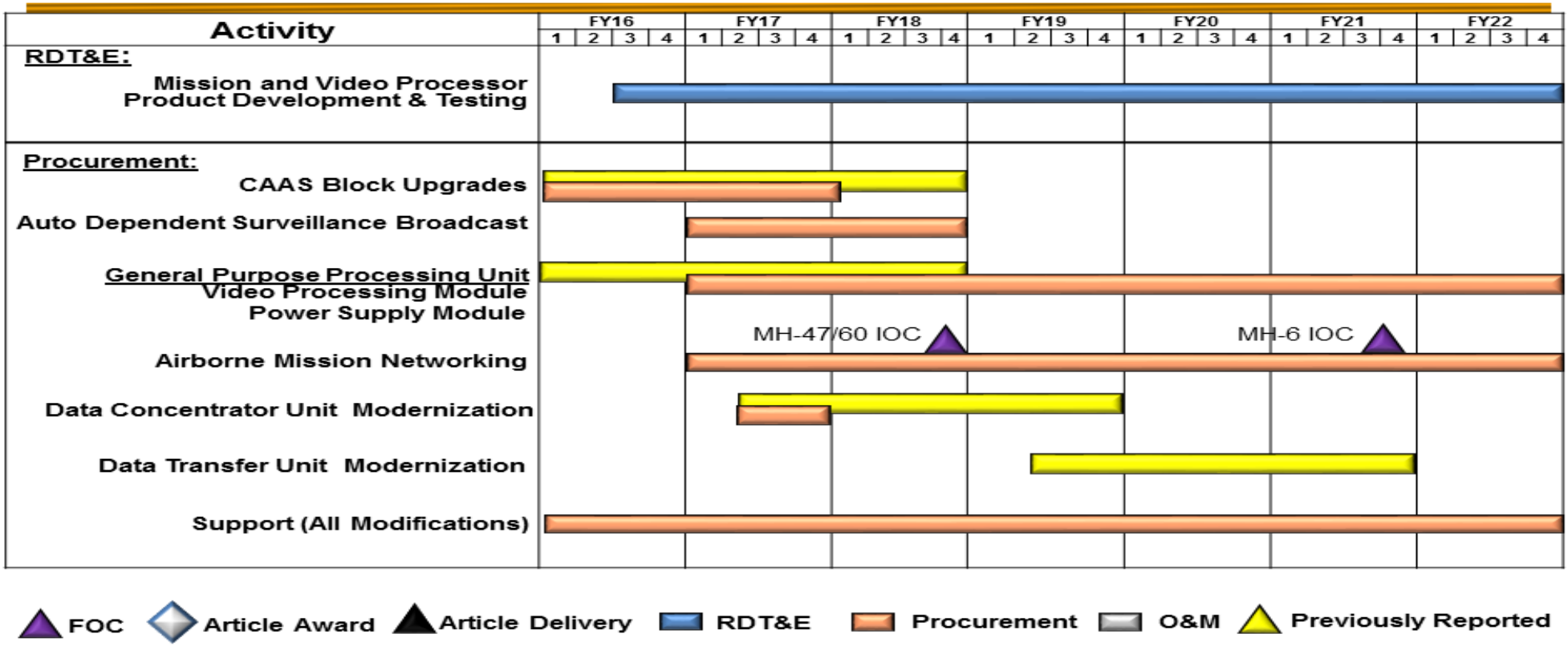


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Next Generation FLIR Schedule

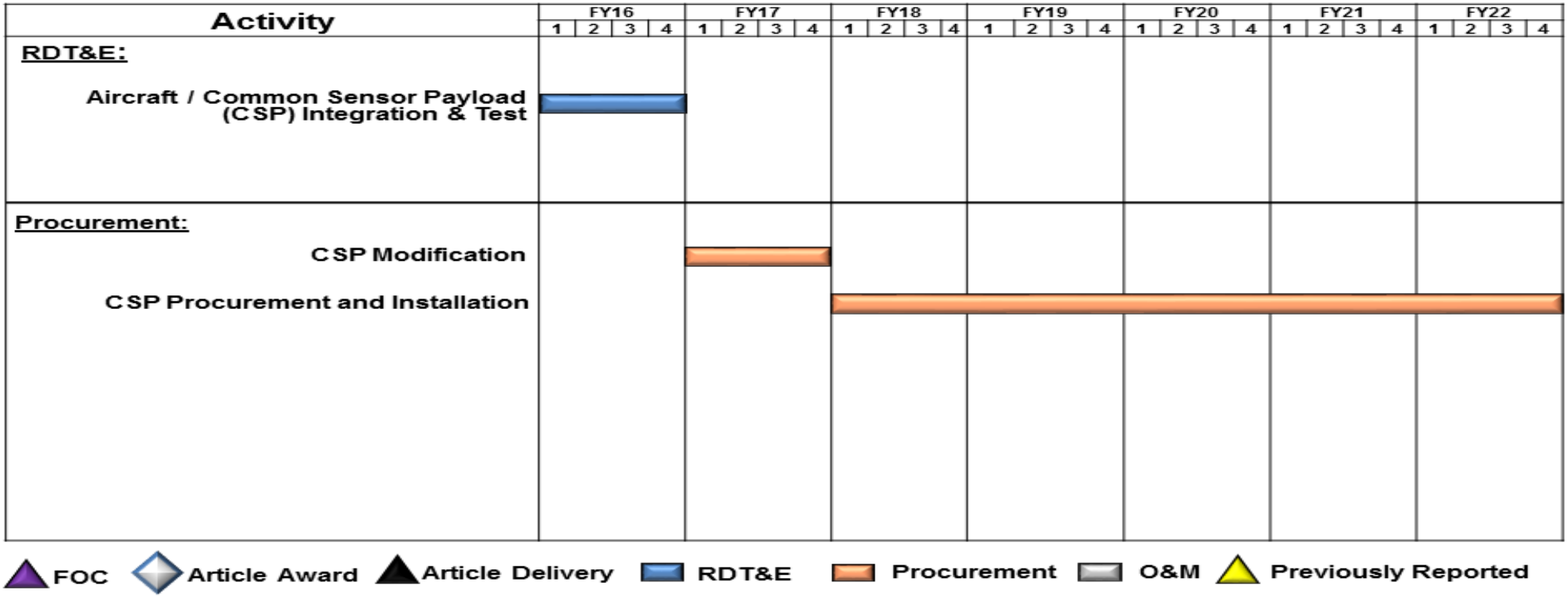


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Aircraft Survivability Equipment Schedule

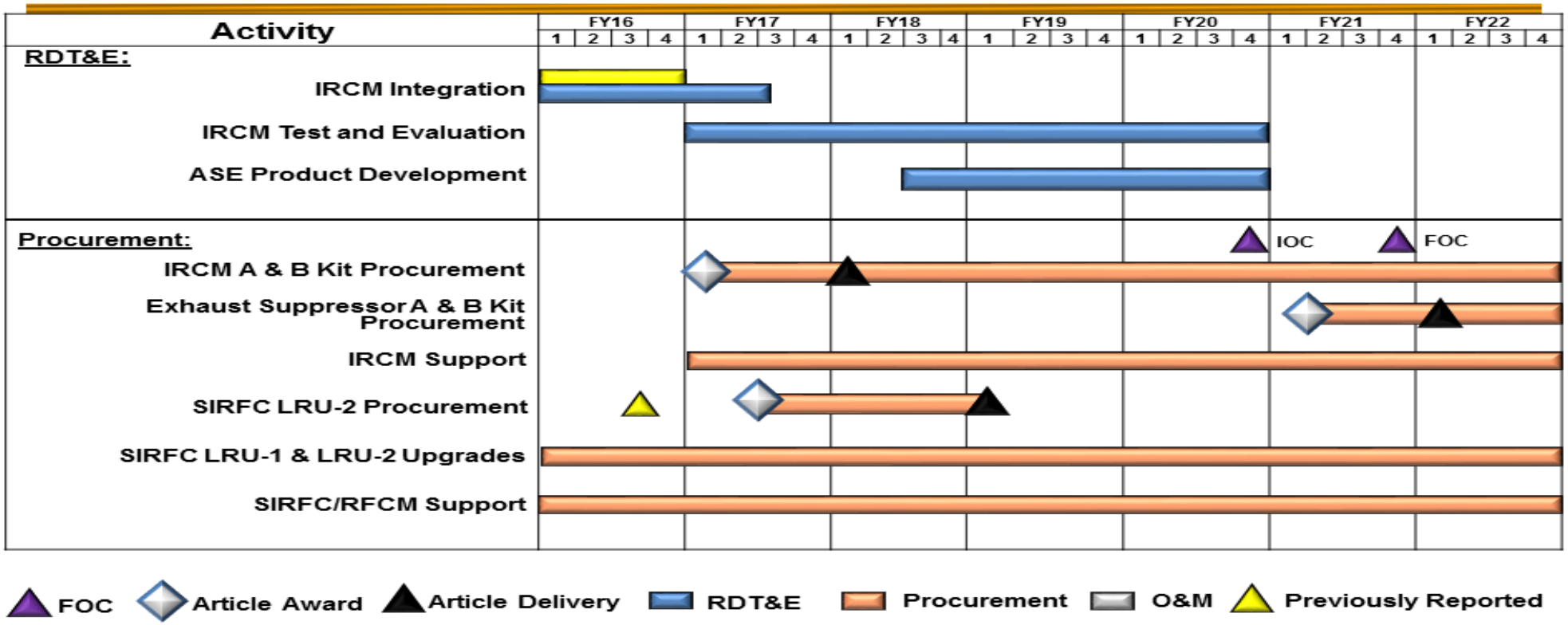


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Secure Real Time Video Schedule

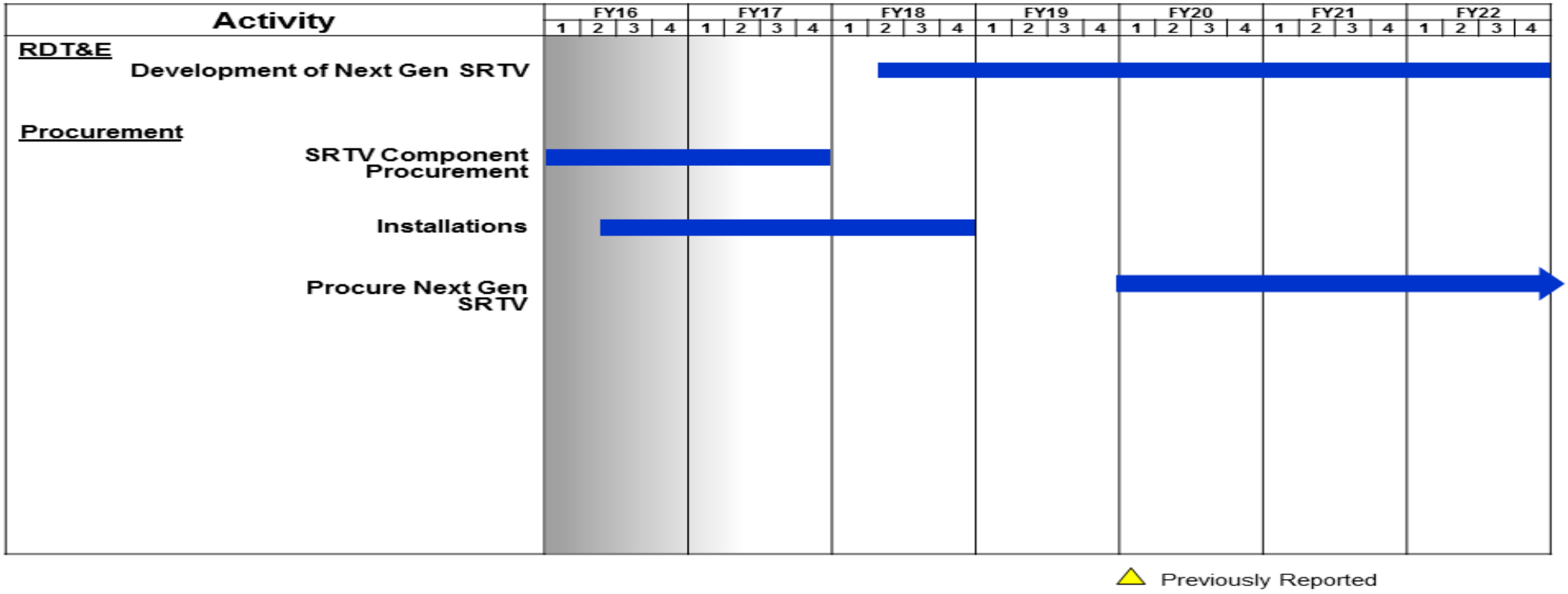


Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
A/MH-6M Block 3.0				
Airframe Design and Qualification	1	2016	3	2017
Airworthiness and Flight Characteristics	4	2017	3	2018
Avionics Design, Test, and Qualification	1	2016	1	2019
MH-60M Modifications and Block Upgrades				
Modifications and Upgrades	1	2017	4	2022
Integration and Flight Test Qualification	1	2016	4	2017
Degraded Visual Environment				
Design, Development, and Qualification	1	2016	4	2018
Future Vertical Lift				
SOF-P Analysis of Alternatives/Requirements Development	1	2016	4	2022
MH-47 Block Upgrades				
Development of Modifications and Upgrades	1	2016	4	2022
Mission Processor Upgrades				
Mission and Video Processor Development and Testing	3	2016	4	2022
Next Generation Forward Looking Infrared Radar				
Aircraft/Common Sensor Payload Integration and Testing	1	2016	3	2017
Aviation Survivability Equipment				
IRCM Integration	1	2016	3	2017
IRCM Test and Evaluation	1	2017	4	2020
ASE Product Development	1	2018	4	2020
Secure Real Time Video				
Development of Next Generation SRTV	2	2018	4	2022

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	563.776	6.466	9.858	8.245	-	8.245	8.113	8.259	8.411	8.713	Continuing	Continuing
S400: *SO Intelligence Systems*	563.776	6.466	9.858	8.245	-	8.245	8.113	8.259	8.411	8.713	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	6.866	7.958	7.952	-	7.952
Current President's Budget	6.466	9.858	8.245	-	8.245
Total Adjustments	-0.400	1.900	0.293	-	0.293
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other	-0.400	-	0.293	-	0.293
• FY 2017 REQUEST FOR ADDITIONAL APPROPRIATIONS	-	1.900	-	-	-

Change Summary Explanation

Funding:

FY 2016: Decrease of $0.400 million is due to reprogramming to higher command priorities.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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: Increase of $1.900 million is due to an FY 2017 Request for Additional Appropriations for National Support to SOF (NSSS) program to develop and integrate Signal Intelligence Geolocation National Security Agency network and classified network cross-domain reporting system ($1.400 million) and the NSSS program to develop, integrate and test Infrared Electronics Optical precision targeting software for electronic optical imagery ($0.500 million).

FY 2018: Increase of $0.293 million is due to reprogramming to the JTWS program to provide additional test and evaluation funding.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command											Date: May 2017	
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
S400: *SO Intelligence Systems*	563.776	6.466	9.858	8.245	-	8.245	8.113	8.259	8.411	8.713	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 research and development and rapid prototyping as the HQ SOCOM Tactical Exploitation of National Capabilities (TENCAP) program. NSSS improves the combat effectiveness of USSOCOM, its components, and the Theater Special Operations Commands (TSOC) by leveraging National Geospatial-Intelligence (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 (GEOINT), Signals Intelligence (SIGINT), 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 (POR). These developmental efforts usually support SOCOM's existing Military Intelligence Programs. Focus items include: Small Unmanned Aircraft System Multi-Intelligence geo-location and targeting capabilities with a Rapid Reliable Targeting system that supports NGA CAT1 level targeting, enhanced 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 SIGINT capabilities by pursuing Joint Interface Control Document 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/Low Probability of Detection signals, and automate radar characterizations that enhance tactical SOF capabilities to find, fix, monitor, and target assets using NTM.

• JTWS. The JTWS System of Systems (SoS) enables the SOF Cryptologic Operator 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: Ground SIGINT Kit; Maritime; Air; and Unmanned Aerial Systems. Each variant has additional requirements for Communications Intelligence, Electronic Intelligence, and Precision Geo-location.

• 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 (GCC) 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 comprise 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 TSOC 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 an adversary's movement, construct, identification, location; and associated things and activities. TVS/RSTA provides GCC 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 manages the authoritative database of SOF-specific GEOINT terrain data. 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 domestically 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. Biometric kits allow 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 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 mobile forensic capabilities for more in-depth exploitation of captured evidence.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: NSSS	0.802	2.716	0.832	-	0.832
FY 2016 Accomplishments: Continued 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. Emphasized areas to include ISR support for Tagging, Tracking, and higher-accuracy geo-locating of hostile and friendly forces, especially in low sensor density environments.					
FY 2017 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 of hostile and friendly forces, especially in low sensor density environments. Develop and integrate a signals intelligence Geolocation National Security Agency network and classified network cross-domain reporting system. Develop, integrate and test an infrared precision targeting software variant for electronic optical imagery.					
FY 2018 Base Plans: Continues development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets in the Intelligence Community (IC), while coordinating with 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 of hostile and friendly forces, especially in low sensor density environments.					
Title: JTWS	3.717	5.233	5.335	-	5.335
FY 2016 Accomplishments: Continued development and testing of increased capabilities for JTWS variants in order to improve technologies to address emerging threats. The following test events were completed in FY2016: Three Precision Geo-location; Five Air Variant, and Four Ground SIGINT Variant. Continued development of Maritime prototype through the use of seven technology demonstrations.					
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Evaluate interoperability of technologies on JTWS variants as well as continue testing of the various system of systems. Continue technical evaluation of evolving technologies for all variants in order to provide additional capabilities required to address emerging threats. ***FY 2018 Base Plans:*** Continues evaluating interoperability of technologies on JTWS variants as well as continue testing of the various system of systems. Continues technical evaluation of evolving technologies for all variants in order to provide additional capabilities to address emerging threats.					
Title: HF-TTL ***FY 2016 Accomplishments:*** Continued specialized device modifications, integration and operational testing and evaluation. ***FY 2017 Plans:*** Continue specialized device modifications, integration and operational testing and evaluation. ***FY 2018 Base Plans:*** Continues specialized device modifications, integration and operational testing and evaluation.	0.765	0.801	0.811	-	0.811
Title: TVS/RSTA ***FY 2016 Accomplishments:*** Continued integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/ downsized hardware/software configuration on all systems. ***FY 2017 Plans:*** Continue integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/ downsized hardware/software configuration on all systems, to include camera systems, Falcon 6 sensor control hardware, and related software. ***FY 2018 Base Plans:*** Continues integration/operational testing within the TVS/RSTA FoS for technology insertions of improved/ downsized hardware/software configuration on all systems, to include camera systems, Falcon 6 sensor control hardware, and related software.	0.177	0.385	0.393	-	0.393
Title: SOFPREP ***FY 2016 Accomplishments:***	0.525	0.439	0.291	-	0.291

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Began 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:*** Continue testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D geospatial databases in a GPU accelerated high performance computing architecture. ***FY 2018 Base Plans:*** Continues testing and evaluation of operational prototype systems to speed production of correlated high resolution 3D geospatial databases.					
Title: ISP ***FY 2016 Accomplishments:*** Continued development for the modernization of the ISP system to integrate with enterprise architecture and support the latest standards and technology. ***FY 2017 Plans:*** Continue development for the modernization of the ISP system to integrate with enterprise architecture and support the latest standards and technology. ***FY 2018 Base Plans:*** Continues development of ISP system and products to integrate with enterprise architecture and support the latest standards and technology.	0.325	0.127	0.402	-	0.402
Title: SSE ***FY 2016 Accomplishments:*** Initiated specialized device integration and operational testing and evaluation. ***FY 2017 Plans:*** Continue technical evaluation of new technologies, and when applicable, formal testing (limited user evaluations) to confirm operational effectiveness and suitability prior to fielding. ***FY 2018 Base Plans:*** Continues technical evaluation of new technologies.	0.155	0.157	0.181	-	0.181
Accomplishments/Planned Programs Subtotals	6.466	9.858	8.245	-	8.245

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/020400INTL: *Intelligence Systems*	105.554	104.163	82.538	12.000	94.538	76.856	88.864	93.498	95.303	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 POR to incorporate SOF mission requirements into current and developing technologies and assets. This leveraging of funds 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 offices for execution.

• JTWS is a SoS leveraging commercial technologies and partnerships with other government agencies. The POR will identify Commercial Off The Shelf (COTS)/ Government Off The Shelf capabilities requiring minimal modifications and only use new development when necessary. JTWS will address the continuously evolving threat environments on the Ground, Air, Maritime, and Unmanned Aircraft System variants, leverage existing partnerships with the National Security Agency and other government partners to integrate and sustain systems based on prioritized need from the Components and as emerging threats require technology modernizations. Additionally, the POR will work to find common solutions across the variants and increase interoperability in order to reduce duplication of efforts. The contracting strategy is a mixture of full and open competition for prime integrators and leveraging existing Indefinite Delivery/Indefinite Quantity (IDIQ) contracts for COTS procurement.

• 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 COTS 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160405BB / *Intelligence Systems Development*	**Project (Number/Name)** S400 / *SO Intelligence Systems*

• 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

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	1,253.575	61.463	90.895	79.455	1.920	81.375	80.328	96.447	99.907	106.045	Continuing	Continuing
S500A: *Operational Enhancements*	1,253.575	61.463	90.895	79.455	1.920	81.375	80.328	96.447	99.907	106.045	Continuing	Continuing

A. Mission Description and Budget Item Justification

Details are provided under separate cover.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	63.008	64.895	69.973	0.000	69.973
Current President's Budget	61.463	90.895	79.455	1.920	81.375
Total Adjustments	-1.545	26.000	9.482	1.920	11.402
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.625	-			
• SBIR/STTR Transfer	-2.170	-			
• Other Adjustments	-	-	9.482	1.920	11.402
• FY 2017 REQUEST FOR ADDITIONAL APPROPRIATIONS	-	26.000	-	-	-

Change Summary Explanation

Funding:

FY2016: Net decrease of -$1.545 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer program (-$2.170 million) and a programmatic increase of $0.625 million. Details available under separate cover.

FY2017: None.

FY2017 REQUEST FOR ADDITIONAL APPROPRIATIONS: $26.000 million is required to address emergency warfighting readiness requirements. Details available under separate cover.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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*

FY2018: Net increase of $11.402 million due to increase in Overseas Contingency Operations ($1.920 million) and a programmatic increase of $9.482 million available under separate cover.

Schedule: None.

Technical: None.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	35.231	32.677	45.285	45.935	-	45.935	32.761	40.879	37.950	25.359	Continuing	Continuing
D476: *Military Information Support Operations*	5.508	6.144	4.711	4.843	-	4.843	2.848	2.883	2.922	1.808	Continuing	Continuing
S375: *Weapons Systems*	0.565	1.417	1.481	1.480	-	1.480	1.474	1.475	1.505	1.535	Continuing	Continuing
S385: *Soldier Protection and Survival Systems*	4.663	2.516	2.977	2.852	-	2.852	2.849	2.668	2.676	2.819	Continuing	Continuing
S385A: *Body Armor and Associated Equipment*	3.659	1.286	1.339	1.289	-	1.289	1.289	1.636	1.669	1.716	Continuing	Continuing
S395: *Visual Augmentation, Lasers and Sensor Systems*	1.422	2.075	1.482	1.517	-	1.517	1.546	1.575	1.602	0.000	Continuing	Continuing
S700: *Communications Equipment and Electronics Systems*	7.241	5.466	9.373	12.864	-	12.864	14.803	16.354	16.664	11.858	Continuing	Continuing
S710: *Tactical Systems Development*	1.172	0.804	2.640	2.416	-	2.416	2.523	3.031	3.083	3.145	Continuing	Continuing
S725: *Tactical Radio Systems*	6.882	2.036	3.884	13.183	-	13.183	4.892	10.719	7.280	1.918	Continuing	Continuing
S800: *Munitions Advanced Development*	4.119	10.933	17.398	5.491	-	5.491	0.537	0.538	0.549	0.560	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. 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: FY 2018 United States Special Operations Command	Date: May 2017
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 the 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	33.842	44.885	29.581	-	29.581
Current President's Budget	32.677	45.285	45.935	-	45.935
Total Adjustments	-1.165	0.400	16.354	-	16.354
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.165	-			
• Other Adjustments	-	-	16.354	-	16.354
• FY 2017 REQUEST FOR ADDITIONAL APPROPRIATIONS	-	0.400	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017
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 2016: Decrease of -$1.165 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2017: Increase of $0.400 million is due to an increase in the FY 2017 Request for Additional Appropriations required to address emergency warfighting readiness requirements. This effort continues to ensure the ability to defeat current and emerging threat systems. Project S385 Soldier Protection and Survival Systems funding provides for development and testing of new capability in electronic counter measure equipment.

FY 2018: Net increase of $16.354 million is due to an increase in MISO ($1.352 million), an increase in SOF Deployable Nodes Communications-on-the-Move development ($5.121 million), an increase in SOF Tactical Communications radio development integration and testing ($9.331 million), and an increase in Counter-Improvised Explosive Devise for Modi future technology integration ($0.550 million).

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
D476: *Military Information Support Operations*	5.508	6.144	4.711	4.843	-	4.843	2.848	2.883	2.922	1.808	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 and includes:

• Media Production and Broadcast Systems support the Media Production Center (MPC) and the Fly Away Broadcast System (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.

• Long Range Broadcast System (LRBS) is a family of broadcast systems intended to be integrated into 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.

• FABS is a transit case fly-away broadcast system that consists of a combination of AM, FM, SW, cellular, and TV transmitters.

• Family Of Loudspeakers (FOL) is a portable loudspeaker system that is capable of disseminating high quality recorded and live audio messages by MISO Forces in varied geographical areas and climate conditions. The new variant of the FOL is the Next Generation Loudspeaker System (NGLS). The NGLS consists of a Dismounted and Mounted variants that are lighter, smaller, and louder than legacy speaker systems, with added clarity and durability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Media Production and Broadcast Systems	1.789	-	-	-	-
FY 2016 Accomplishments: Tested and evaluated new systems and components to enhance MISO product. Integrated and disseminated new analytical software tools to enhance production supporting MISO target audience assessment and measures of effectiveness requirements.					
Title: LRBS	4.355	2.894	1.632	-	1.632

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
FY 2016 Accomplishments: Continued with primary hardware development, systems engineering, and test and evaluation of pod-based FM and cellular broadcast, power, and antenna technologies. ***FY 2017 Plans:*** Continue with primary development, systems engineering, and test and evaluation of pod-based cellular and television broadcast, power, and antenna technologies. ***FY 2018 Base Plans:*** Continues with primary development, systems engineering, and test and evaluation of pod-based cellular and television broadcast, power, and antenna technologies.					
Title: FABS ***FY 2017 Plans:*** Continue to test and evaluate new systems and components to enhance MISO broadcasts. Continue with primary hardware development to reduce broadcast system weight and size while adding multi-mission capabilities. ***FY 2018 Base Plans:*** Continues testing and evaluation of 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.	-	1.817	2.757	-	2.757
Title: FOL ***FY 2018 Base Plans:*** Begins testing and evaluation of new systems and components to enhance MISO broadcasts. Focuses on wireless, Common Operating Picture, and Mobile Ad Hoc Network development to reduce broadcast system weight and size while adding multi-mission capabilities.	-	-	0.454	-	0.454
Accomplishments/Planned Programs Subtotals	6.144	4.711	4.843	-	4.843

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** D476 / *Military Information Support Operations*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC1/0204OTHER: *OTHER ITEMS <$5M*	76.709	78.016	54.592	-	54.592	90.958	77.732	92.076	58.694	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 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.

• The FOL 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-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S375: *Weapons Systems*	0.565	1.417	1.481	1.480	-	1.480	1.474	1.475	1.505	1.535	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 (WPNAC) 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Weapons Accessories	1.417	1.481	1.480	-	1.480
FY 2016 Accomplishments: Developed enhanced capabilities to improve performance of individual sniper and machine gun weapons.					
FY 2017 Plans: Develop enhanced capabilities to improve performance of individual sniper and machine gun weapons.					
FY 2018 Base Plans: Develops enhanced capabilities to improve performance of individual sniper and machine gun weapons.					
Accomplishments/Planned Programs Subtotals	1.417	1.481	1.480	-	1.480

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems <$5M*	233.629	246.381	252.070	20.215	272.285	258.375	251.203	264.258	257.103	Continuing	Continuing

Remarks

D. Acquisition Strategy

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

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S375 / *Weapons Systems*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S385: *Soldier Protection and Survival Systems*	4.663	2.516	2.977	2.852	-	2.852	2.849	2.668	2.676	2.819	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. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SPEAR	1.230	0.474	0.493	-	0.493
FY 2016 Accomplishments: Continued research and development of a Maritime communications material solution, safety belt and lanyard test standardization and arctic capability gap solutions. Continued materials testing. Completed user evaluations, developmental testing (I.e., weight measurements, volume, drop-testing, and environmental					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
exposure) and initiated fielding of hot weather rucks, softshell jackets and pants, updated glove suites and overwhites. Completed initial downselects of rucksack suite and maritime Body Armor Vests and Load Carriage Systems. ***FY 2017 Plans:*** Continue research and development of land communications material solutions, arctic uniform capability gap solutions, and initiates jungle uniform capability gap solutions. Continue materials testing and incorporation into commodity lines. Begin signature management evaluations. ***FY 2018 Base Plans:*** Continues research and development of land communications material solutions and protective combat uniforms. Continues materials testing and incorporation into commodity lines. Begins wireless headset evaluations. Completes interoperability of headsets with SOCOM handheld radios.					
Title: TCCC ***FY 2016 Accomplishments:*** Provided for test support to include program management, market surveys, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC. Completed laboratory airworthiness testing of enhanced electronic medical systems, including patient ventilation and fluid warming capabilities for use while aboard SOCOM air platforms. Initiated evaluations for the integration of these systems into the CASEVAC program. ***FY 2017 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 program. Support the evaluation of enhanced medical monitoring systems for incorporation into the CASEVAC program. Develop and test water resistant solutions for maritime operations of components within the CASEVAC set. Support the re-compete of the CASEVAC program. ***FY 2018 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.	0.369	0.396	0.199	-	0.199
Title: RC-IED	0.917	2.107	2.160	-	2.160

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
FY 2016 Accomplishments: Provided for 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. Initiated development and testing of ECM systems capability and advanced software technique countermeasures. ***FY 2017 Plans:*** Continue 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 range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems. Continue development and testing of ECM systems capability to include advanced software technique countermeasures and loadsets for mounted and dismounted systems. Continue open architecture development to increase efficiency of sharing software and firmware solutions across multiple industry original equipment manufacturer (OEM) vendors and government organizations. ***FY 2018 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. Implements Modi software refactoring, improving stability and future technology integration.					
Accomplishments/Planned Programs Subtotals	2.516	2.977	2.852	-	2.852

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	233.629	246.381	252.070	20.215	272.285	258.375	251.203	264.258	257.103	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S385 / *Soldier Protection and Survival Systems*

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.

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-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S385A: *Body Armor and Associated Equipment*	3.659	1.286	1.339	1.289	-	1.289	1.289	1.636	1.669	1.716	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SPEAR-Ballistic Protection	1.286	1.339	1.289	-	1.289
FY 2016 Accomplishments: Continued foreign ammunition testing and threat validation to assess effectiveness of currently fielded personal protective equipment. Continued development and testing of lightweight body armor and helmets to upgrade systems that have been fielded. Continued evaluation of transparent armor products which include variable light transmission, anti-fogging, ballistic, and laser lenses to upgrade systems that have been fielded. Addressed emerging SOF-unique requirements as SOF transitions from deployments in Iraq and Afghanistan to a global focus.					
FY 2017 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 and laser lenses to upgrade systems that have been fielded. Initiate selection of maritime crewman helmet.					
FY 2018 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
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 development and testing of technologies to upgrade the maritime crewman helmet.					
Accomplishments/Planned Programs Subtotals	1.286	1.339	1.289	-	1.289

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	233.629	246.381	252.070	20.215	272.285	258.375	251.203	264.258	257.103	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-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S395: *Visual Augmentation, Lasers and Sensor Systems*	1.422	2.075	1.482	1.517	-	1.517	1.546	1.575	1.602	0.000	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 thermal imaging, short wave infrared, 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Visual Augmentation Systems	2.075	1.482	1.517	-	1.517
FY 2016 Accomplishments: Continued to develop visual augmentation and laser devices to improve situational awareness, sharing of data/ images and target acquisition.					
FY 2017 Plans: Continue development and begin testing of visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition.					
FY 2018 Base Plans: Continues development and testing of visual augmentation and laser devices to improve situational awareness, sharing of data/images and target acquisition.					
Accomplishments/Planned Programs Subtotals	2.075	1.482	1.517	-	1.517

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	233.629	246.381	252.070	20.215	272.285	258.375	251.203	264.258	257.103	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

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-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S700: *Communications Equipment and Electronics Systems*	7.241	5.466	9.373	12.864	-	12.864	14.803	16.354	16.664	11.858	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 (CA) 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SDN	2.461	2.940	7.982	-	7.982
FY 2016 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Assessed, tested and evaluated advance antenna design and performance. Continued to integrate Evolutionary Technology Insertions (ETIs). ***FY 2017 Plans:*** Assess, test, and evaluate advanced antenna design and performance. Continue ETI integration. Assess, test, and evaluate design and development of distributed cloud architecture to reduce complexity, improve resiliency, empower mobility, and increase security of the SOF Information Environment. ***FY 2018 Base Plans:*** Assesses, tests and evaluates wide-band Communications-on-the-Move (COTM) airborne technologies. Continues ETI integration. Evaluates new SATCOM constellations.					
Title: CIM ***FY 2017 Plans:*** Begin development and integration of new capabilities in support of CA communities. ***FY 2018 Base Plans:*** Continues development and integration of new capabilities in support of CA communities.	-	1.847	0.207	-	0.207
Title: SPCOM ***FY 2016 Accomplishments:*** Continued segment development for the SPCOM enterprise; developed means and methods to provide near-term impact to operators. Increased emphasis on developing anti-intrusion/anti-tamper capabilities. Conducted extensive vulnerability assessments plus independent verification and validation. ***FY 2017 Plans:*** Continue segment development for the SPCOM enterprise; develop means and methods to provide near-term impact to operators. Continue development of anti-intrusion/anti-tamper capabilities. Conduct extensive vulnerability assessments plus independent verification and validation. ***FY 2018 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 extensive vulnerability assessments plus independent verification and validation.	3.005	4.586	4.675	-	4.675
Accomplishments/Planned Programs Subtotals	5.466	9.373	12.864	-	12.864

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	233.629	246.381	252.070	20.215	272.285	258.375	251.203	264.258	257.103	Continuing	Continuing
• PROC/0204OTHER: *OTHER ITEMS <$5M*	76.709	78.016	54.592	-	54.592	90.958	77.732	92.076	58.694	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: FY 2018 United States Special Operations Command		Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Deployable Node (SDN) Development Assessment	MIPR	Various : Various	2.205	1.251	Jun 2016	1.535	Mar 2017	2.110	Feb 2018	-		2.110	Continuing	Continuing	-
Civil Information Management Data Processing System (CIMDPS) Development	TBD	TBD : TBD	-	-		1.847	Mar 2017	0.207	Mar 2018	-		0.207	0.211	2.265	2.265
Special Communications (SPCOM) Enterprise Capability Development	TBD	Various : Various	2.699	2.118	Feb 2016	3.780	Mar 2017	3.845	Feb 2018	-		3.845	Continuing	Continuing	-
SPCOM Technology Vulnerability Assessments	MIPR	MITRE : Bedford, MA	0.567	0.603	Dec 2015	0.504	Dec 2016	0.530	Dec 2017	-		0.530	Continuing	Continuing	-
		Subtotal	5.471	3.972		7.666		6.692		-		6.692	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SDN Market Research Evaluation and Testing	MIPR	Naval Research Lab (NRL) : Washington, D.C.	1.206	1.210	Dec 2015	1.405	Mar 2017	5.872	Jan 2018	-		5.872	Continuing	Continuing	-
SPCOM Operational Testing and Evaluation Independent Verification and Validation	MIPR	MITRE : Bedford, MA	0.564	0.284	Mar 2016	0.302	Mar 2016	0.300	Dec 2017	-		0.300	Continuing	Continuing	-
		Subtotal	1.770	1.494		1.707		6.172		-		6.172	-	-	-

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.241	5.466		9.373		12.864		-		12.864	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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

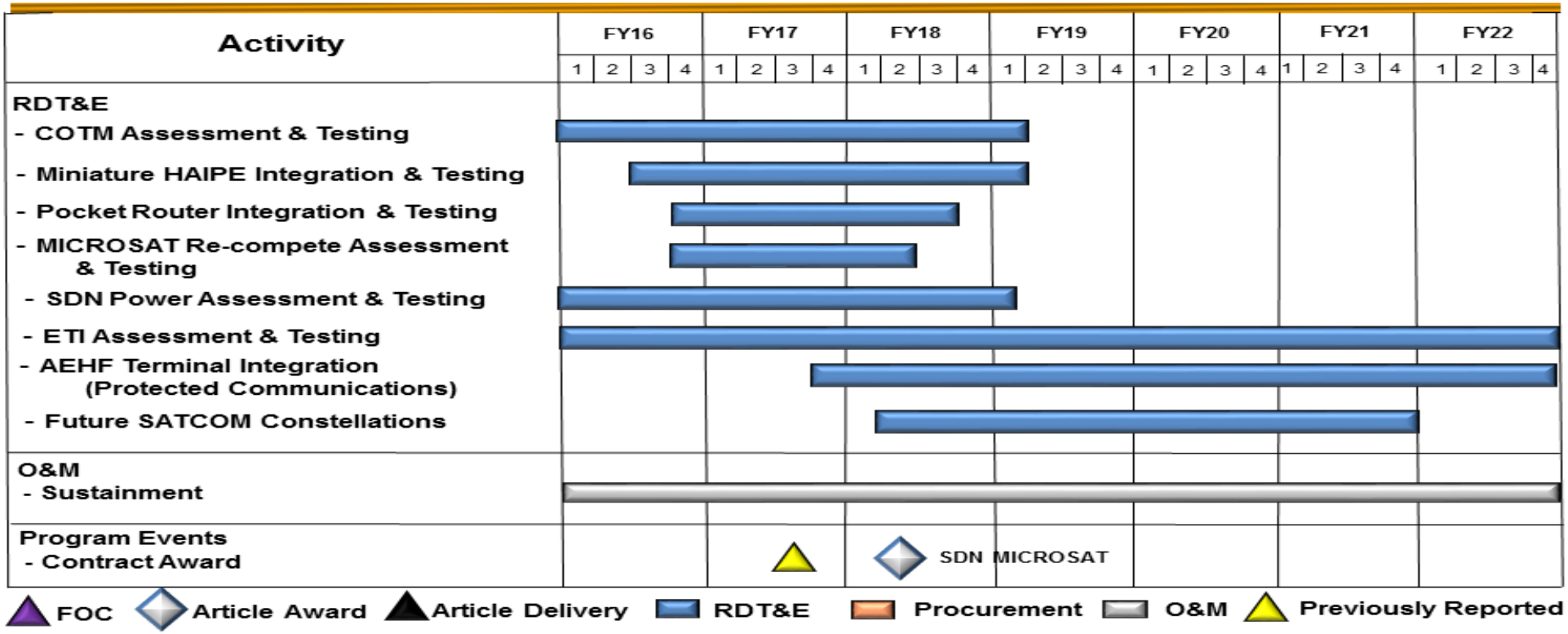


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

SOF Deployable Node (SDN) Schedule (con't)

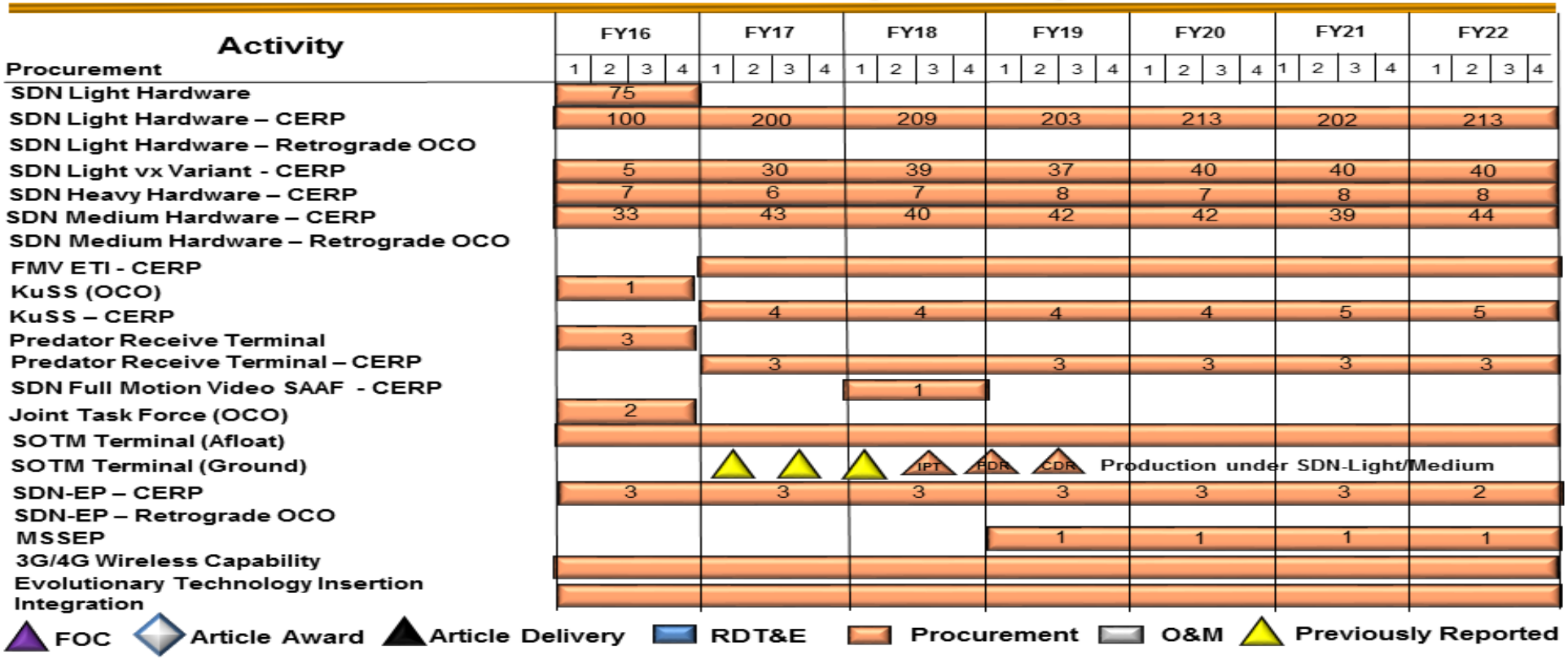


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Civil Information Management System Schedule

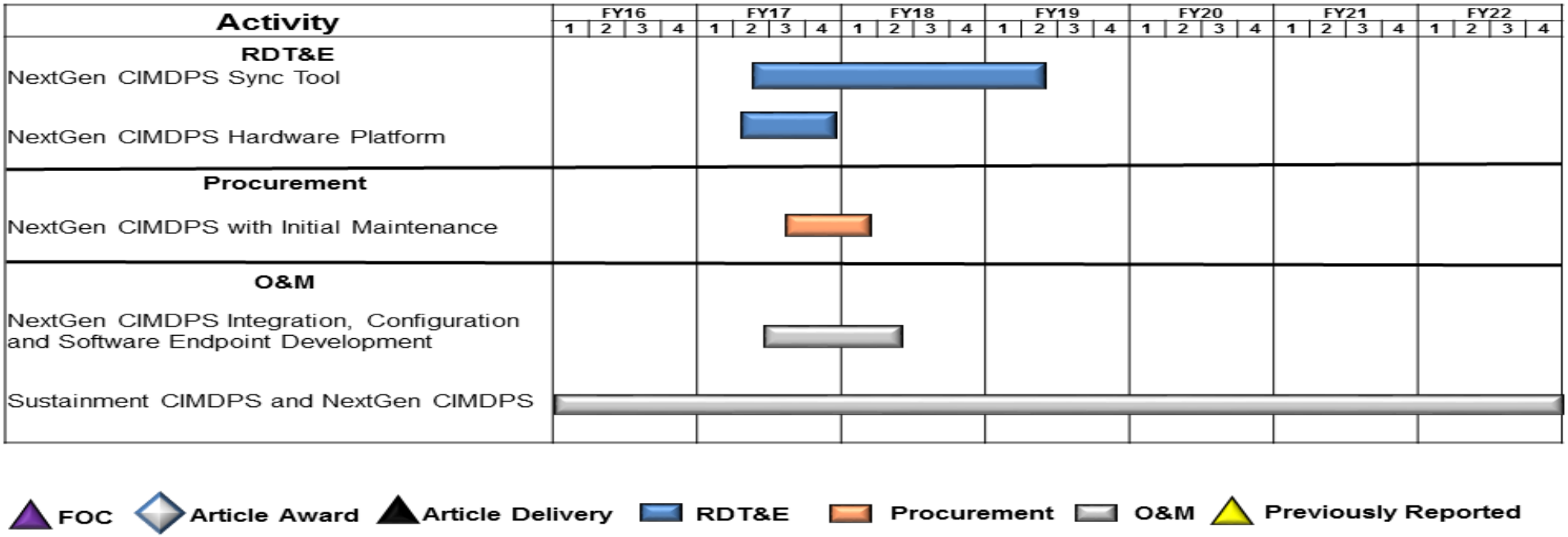


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Special Communications Enterprise Schedule

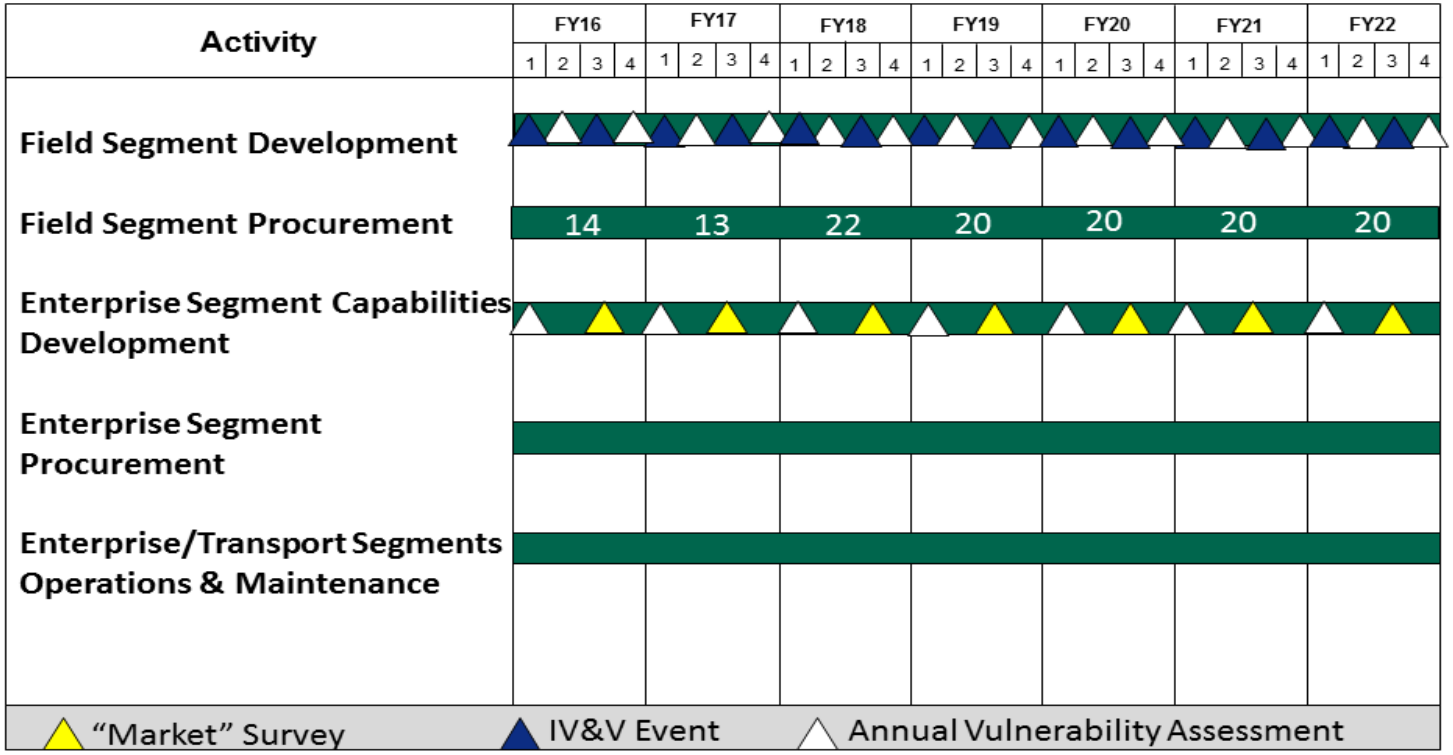


Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S700 / *Communications Equipment and Electronics Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SOF Deployable Node				
SOF Deployable Node (SDN) Development	1	2016	4	2022
SDN Market Research and Testing	1	2016	4	2022
CIVIL INFORMATION MANAGEMENT (CIM)				
CIMDPS Sync Tool Development	2	2017	2	2019
Special Communications (SPCOM) Enterprise Program				
Field Segment Kit Development	1	2016	4	2022
Enterprise Segment Services Development	1	2016	4	2022

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S710: *Tactical Systems Development*	1.172	0.804	2.640	2.416	-	2.416	2.523	3.031	3.083	3.145	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 TACLAN 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: TACLAN Suites	0.804	2.640	2.416	-	2.416
FY 2016 Accomplishments: Continued integration and testing of evolutionary technology insertions (ETI) for Secure Data At Rest, secure wireless and cross domain solutions.					
FY 2017 Plans: Continue integration and testing of ETI for Secure Data At Rest, secure wireless and cross domain solutions. Begin assessment, test and evaluation of the design and development of distributed cloud architecture to reduce complexity, improve resiliency, empower mobility, and increase security of the SOF Information Environment (SIE).					
FY 2018 Base Plans: Continues integration and testing of ETI for Secure Data At Rest, secure wireless and cross domain solutions. Continues assessment, test and evaluation of the design and development of distributed cloud architecture to reduce complexity, improve resiliency, empower mobility, and increase security of the SIE.					
Accomplishments/Planned Programs Subtotals	0.804	2.640	2.416	-	2.416

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204OTHER: *OTHER ITEMS <$5M*	76.709	78.016	54.592	-	54.592	90.958	77.732	92.076	58.694	Continuing	Continuing

Remarks

D. Acquisition Strategy

The TACLAN evolutionary acquisition strategy includes the use of commercial and government agency sources, that will be leveraged for required certifications, functional and operational test, and acceptance support.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S725: *Tactical Radio Systems*	6.882	2.036	3.884	13.183	-	13.183	4.892	10.719	7.280	1.918	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 (STC), 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: STC	1.571	3.812	13.112	-	13.112
FY 2016 Accomplishments: Developed and tested new capabilities in tactical radio equipment.					
FY 2017 Plans: Continue to develop and test new capabilities in tactical radio equipment.					
FY 2018 Base Plans: Continues development, integration and testing of new capabilities in tactical radio equipment. Enables modernization and testing of Cryptography and Global Positioning System (GPS) technology in accordance with Department of Defense modernization directives for a fleet of more than 33,000 tactical radios. Enables integration and testing of emerging High Frequency (HF) waveform, the Mobile User Objective Waveform, emerging Mobile Ad-hoc Networking (MANET) waveforms, and the Link-16 Tactical Data Link (TDL) waveform.					
Title: BFT	0.465	0.072	0.071	-	0.071
FY 2016 Accomplishments: Continued to develop and test new capabilities in BFT equipment.					
FY 2017 Plans: Continue development and testing of new capabilities in BFT equipment.					
FY 2018 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continues development of new capabilities in BFT equipment.					
Accomplishments/Planned Programs Subtotals	2.036	3.884	13.183	-	13.183

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204WARRIOR: *Warrior Systems<$5M*	233.629	246.381	252.070	20.215	272.285	258.375	251.203	264.258	257.103	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: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Tactical Communications Radio Development and Integration	MIPR	Various : Various	4.954	1.351	Apr 2016	3.276	Jan 2017	11.276	Jan 2018	-		11.276	Continuing	Continuing	-
Blue Force Tracking Development	MIPR	Various : Various	1.928	0.465	Nov 2015	0.072	Oct 2016	0.071	Jan 2018	-		0.071	Continuing	Continuing	-
		Subtotal	6.882	1.816		3.348		11.347		-		11.347	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STC Testing	Option/ TBD	Various : Various	-	0.220	Apr 2016	0.536	Jan 2017	1.836	Jan 2018	-		1.836	Continuing	Continuing	-
		Subtotal	-	0.220		0.536		1.836		-		1.836	-	-	-

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.882	2.036		3.884		13.183		-		13.183	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

SOF Tactical Communications (STC) Schedule

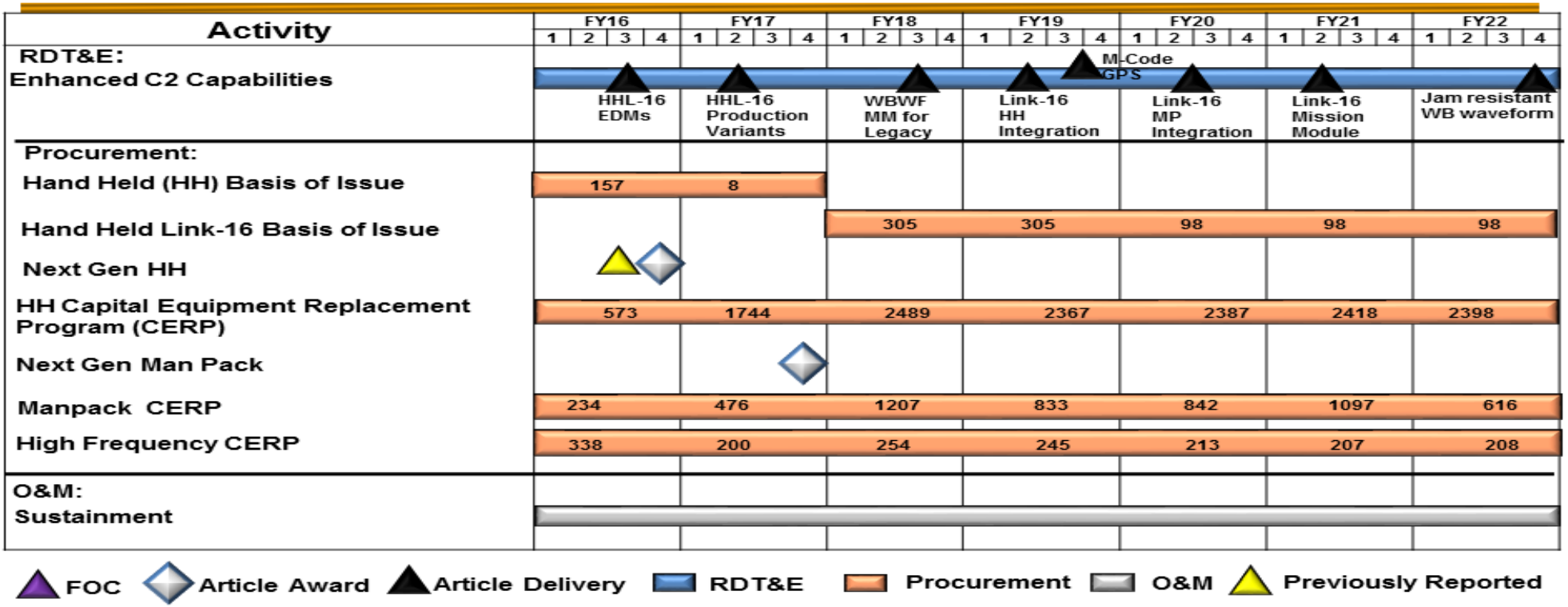
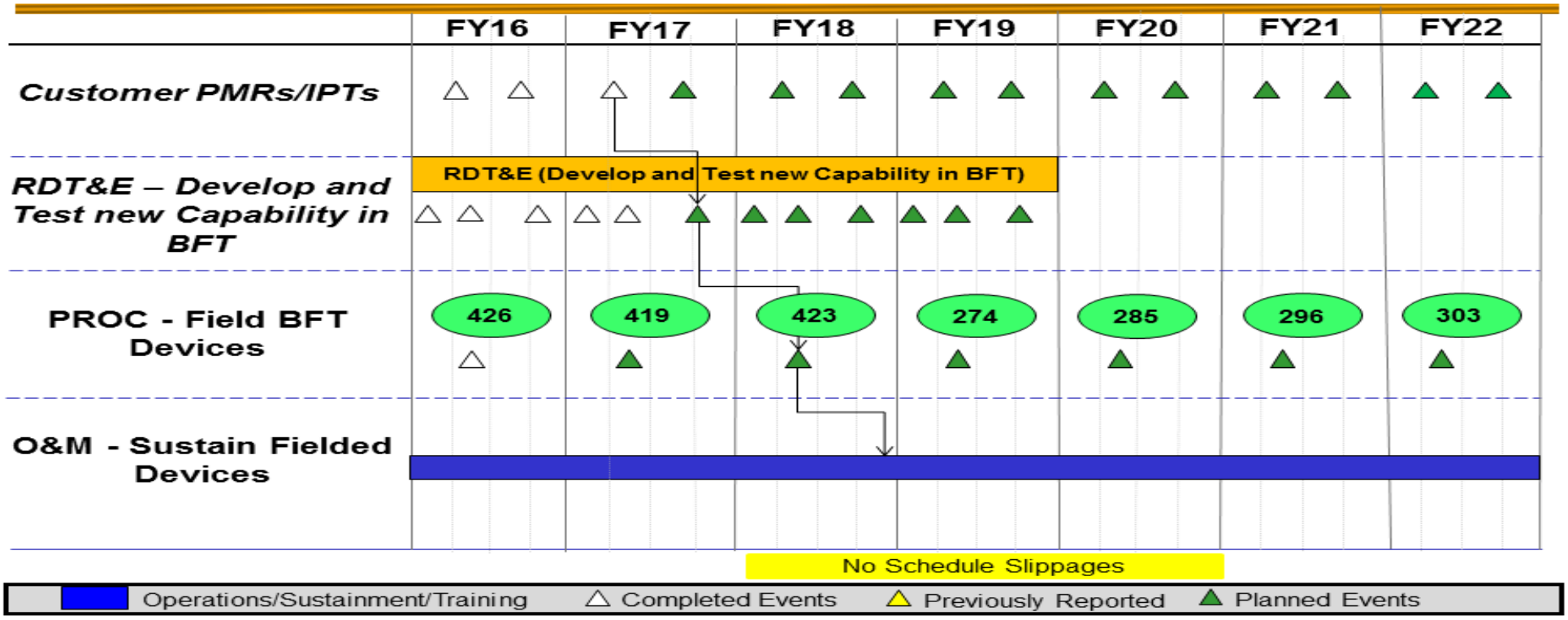


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S725 / *Tactical Radio Systems*

BFT Schedule



1

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
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	1	2016	4	2022
STC Radio Testing	1	2016	4	2022
Blue Force Tracking (BFT)				
BFT Capability Improvement Development	1	2016	4	2019

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S800: *Munitions Advanced Development*	4.119	10.933	17.398	5.491	-	5.491	0.537	0.538	0.549	0.560	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.

Aircraft Survivability Equipment (ASE). This program includes development of new systems, pre-planned product improvements/upgrades of fielded survivability equipment, and continue development of flare countermeasures.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Munitions Advanced Development	0.433	0.525	0.531	-	0.531
FY 2016 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 2017 Plans: Conduct proof of concept and IM testing on various munitions. Conduct SDB II flight test integration for SOF. 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 2018 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Conducts 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 Munitions, 26 Sep 2006).					
Title: Stand-Off Precision Guided Munitions (SOPGM) ***FY 2017 Plans:*** Continue integration and testing of service-common precision guided munitions on SOF platforms. ***FY 2018 Base Plans:*** Continues integration and testing of service-common precision guided munitions on SOF platforms.	-	16.873	2.460	-	2.460
Title: Aircraft Survivability Equipment ***FY 2018 Base Plans:*** Begin development of flare countermeasures to increase effectiveness against evolving threats.	-	-	2.500	-	2.500
Accomplishments/Planned Programs Subtotals	0.433	17.398	5.491	-	5.491

	FY 2016	FY 2017
Congressional Add: Stand-Off Precision Guided Munitions (SOPGM) ***FY 2016 Accomplishments:*** Begin integration and testing of the Small Glide Munition (SGM) precision guided weapon on SOF platforms.	10.500	-
Congressional Adds Subtotals	10.500	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0203ORDN: *Ordnance Items <$5M*	195.079	166.771	112.331	62.643	174.974	124.450	146.751	156.857	158.945	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. Planned product improvements are tested at Army, Navy, and Air Force test centers.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160431BB / *Warrior Systems*	**Project (Number/Name)** S800 / *Munitions Advanced Development*

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.

ASE: Development of new systems, pre-planned product improvements/upgrades of fielded survivability equipment, and continue development of flare countermeasures.

E. Performance Metrics

N/A

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	23.912	3.284	1.949	1.978	-	1.978	1.678	1.711	1.746	1.781	Continuing	Continuing
S500E: *Special Programs*	23.912	3.284	1.949	1.978	-	1.978	1.678	1.711	1.746	1.781	Continuing	Continuing

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. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	3.401	1.949	1.978	-	1.978
Current President's Budget	3.284	1.949	1.978	-	1.978
Total Adjustments	-0.117	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.117	-			

Change Summary Explanation

Funding:

FY2016: Decrease of -$0.117 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Research Transfer programs.

FY2017: None.

FY2018: None.

Schedule: None.

Technical: None.

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	22.117	31.766	3.000	34.766	28.060	28.552	28.964	29.534	Continuing	Continuing
S855: *Unmanned ISR*	0.000	0.000	22.117	31.766	3.000	34.766	28.060	28.552	28.964	29.534	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 to ground control stations. SAFC develops and integrates UAS payloads to advance ISR capabilities that address dynamic and emergent operational needs of the SOF user. Efforts include improving imagery intelligence and electronic warfare payloads, capitalizing on developing technologies to reduce size, weight and power while addressing processing and data management challenges. This program provides a mechanism for SOF user combat evaluation of emerging sensor technologies.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	22.117	24.766	0.000	24.766
Current President's Budget	0.000	22.117	31.766	3.000	34.766
Total Adjustments	0.000	0.000	7.000	3.000	10.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other	-	-	7.000	3.000	10.000

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016: None.

FY 2017: None.

FY 2018: Increase of $10.000 million is for SOF user combat evaluation of emerging sensor technologies ($4.000 million), sensor testing and evaluation ($3.000 million), and an increase for Overseas Contingency Operations for SOF Peculiar Payloads ($3.000 million).

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S855: *Unmanned ISR*	0.000	0.000	22.117	31.766	3.000	34.766	28.060	28.552	28.964	29.534	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 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 SOF-unique mission kits.

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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: SAFC	-	17.875	26.499	3.000	29.499
FY 2017 Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Continue development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short-notice requirements. Continue to evaluate unique sensor technologies, persistent stare and quick reaction systems. ***FY 2018 Base Plans:*** 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. ***FY 2018 OCO Plans:*** Develops various advanced payloads to support ISR payload requirements in deployed OCO theaters and in support of counterterrorism execution order missions. Service payloads insufficient for precision application of SOF mission sets.					
Title: Group 1 UAS (Previously justified as Small Unmanned Aerial System) ***FY 2017 Plans:*** Continue 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. ***FY 2018 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	0.355	-	0.355
Title: Group 2 UAS (Previously justified as Multi-mission Tactical Unmanned Aerial System) ***FY 2017 Plans:*** Continue 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. ***FY 2018 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	4.912	-	4.912
Accomplishments/Planned Programs Subtotals	-	22.117	31.766	3.000	34.766

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0201UMNISR: *Unmanned ISR*	-	80.820	13.295	38.933	52.228	6.103	5.343	10.940	11.163	Continuing	Continuing
• PROC/0809RQ11: *RQ-11 Unmanned Aerial Vehicle*	21.298	-	-	-	-	-	-	-	-	0.000	21.984
• PROC/1108MQ1: *MQ-1 Unmanned Aerial Vehicle*	1.934	-	-	-	-	-	-	-	-	0.000	1.934
• PROC/1108STU: *Small Tactical Unmanned Aerial System*	1.392	-	-	-	-	-	-	-	-	0.000	3.014

Remarks

D. Acquisition Strategy

SAFC acquisition strategy is evolutionary and spiral-based for technology insertion and low volume procurement. Utilizes existing competed contract vehicles for minor development and integration and modification of Government-Off-The-Shelf/Commercial-Off-The-Shelf equipment. It utilizes limited/full and open competition contracts for major developments.

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: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Platform/Payload Development and Integration	MIPR	Various : Various	-	-		8.911	Mar 2017	10.790	Mar 2018	3.000	Mar 2018	13.790	Continuing	Continuing	-
Group 1 Unmanned Aerial System (UAS) Payloads	C/IDIQ	Various : Various	-	-		0.124	Mar 2017	0.355	Mar 2018	-		0.355	Continuing	Continuing	-
Group 2 UAS Platform/ Payloads Development	C/TBD	Various : Various	-	-		2.059	Mar 2017	2.456	Mar 2018	-		2.456	Continuing	Continuing	-
		Subtotal	-	-		11.094		13.601		3.000		16.601	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Platform/Payload Integration	MIPR	Various : Various	-	-		0.600	Jan 2017	0.682	Jan 2018	-		0.682	-	-	-
Group 2 UAS Platform/ Payload Support	C/TBD	Various : Various	-	-		0.617	Mar 2017	0.736	Mar 2018	-		0.736	-	-	-
		Subtotal	-	-		1.217		1.418		-		1.418	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Sensor Testing, Evaluation and Demonstration	MIPR	Various : Various	-	-		7.291	Mar 2017	12.978	Mar 2018	-		12.978	-	-	-
Group 2 UAS Platform/ Payload Test and Evaluation	C/TBD	Various : Various	-	-		0.825	Mar 2017	0.984	Mar 2018	-		0.984	-	-	-
		Subtotal	-	-		8.116		13.962		-		13.962	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 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	2.049	Mar 2018	-		2.049	-	-	-
Group 2 UAS Platform/ Payload Management	C/TBD	Various : Various	-	-		0.617	Mar 2017	0.736	Mar 2018	-		0.736	-	-	-
		Subtotal	-	-		1.690		2.785		-		2.785	-	-	-

	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		22.117		31.766		3.000		34.766	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

SAFC Schedule

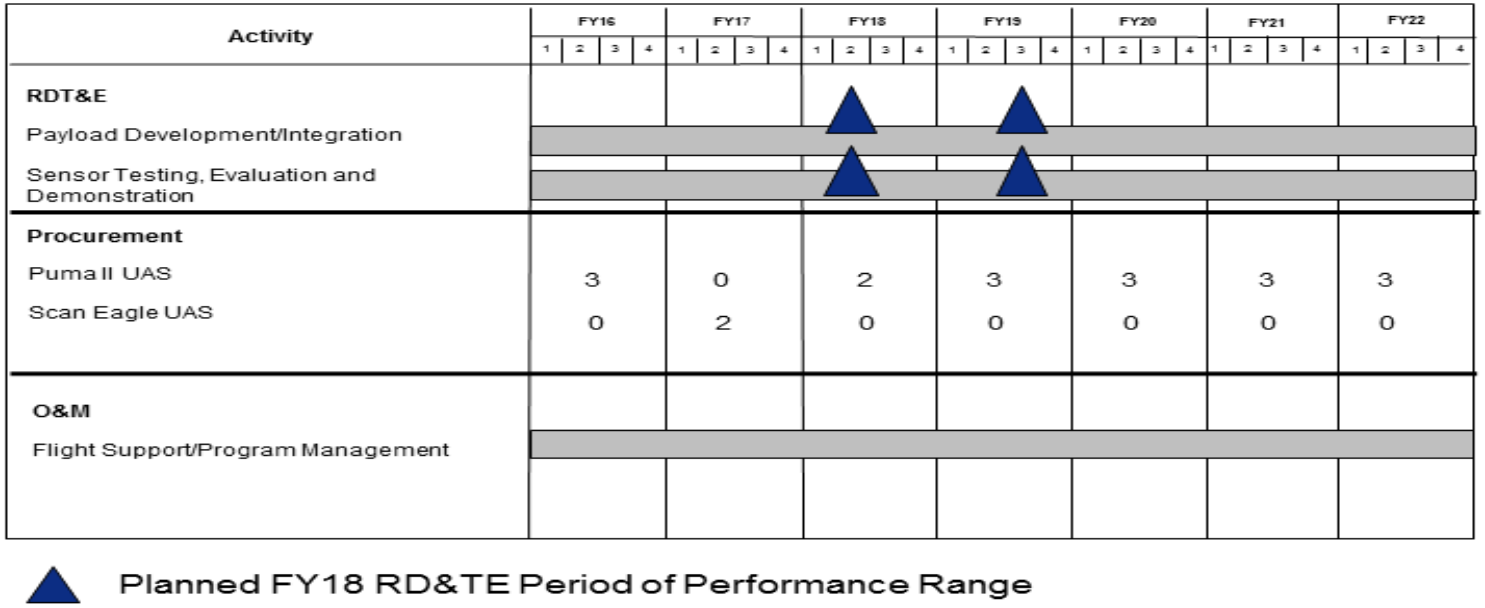


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group 1 Unmanned ISR Schedule

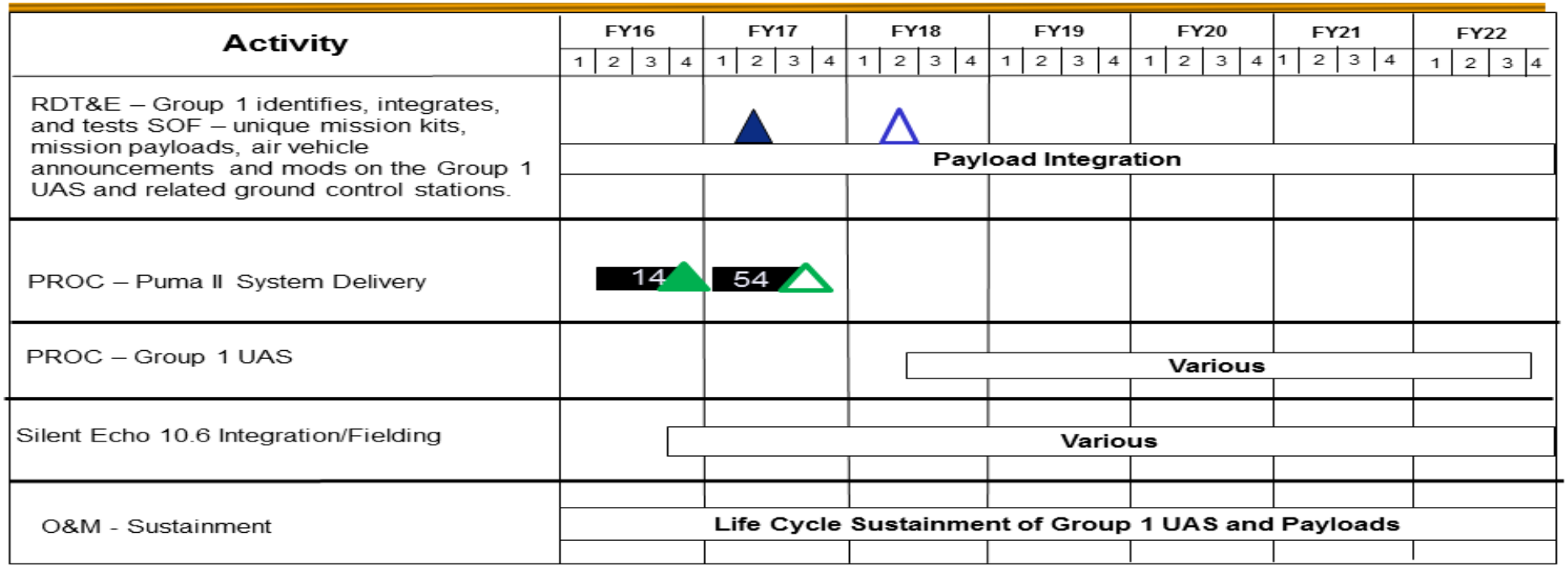
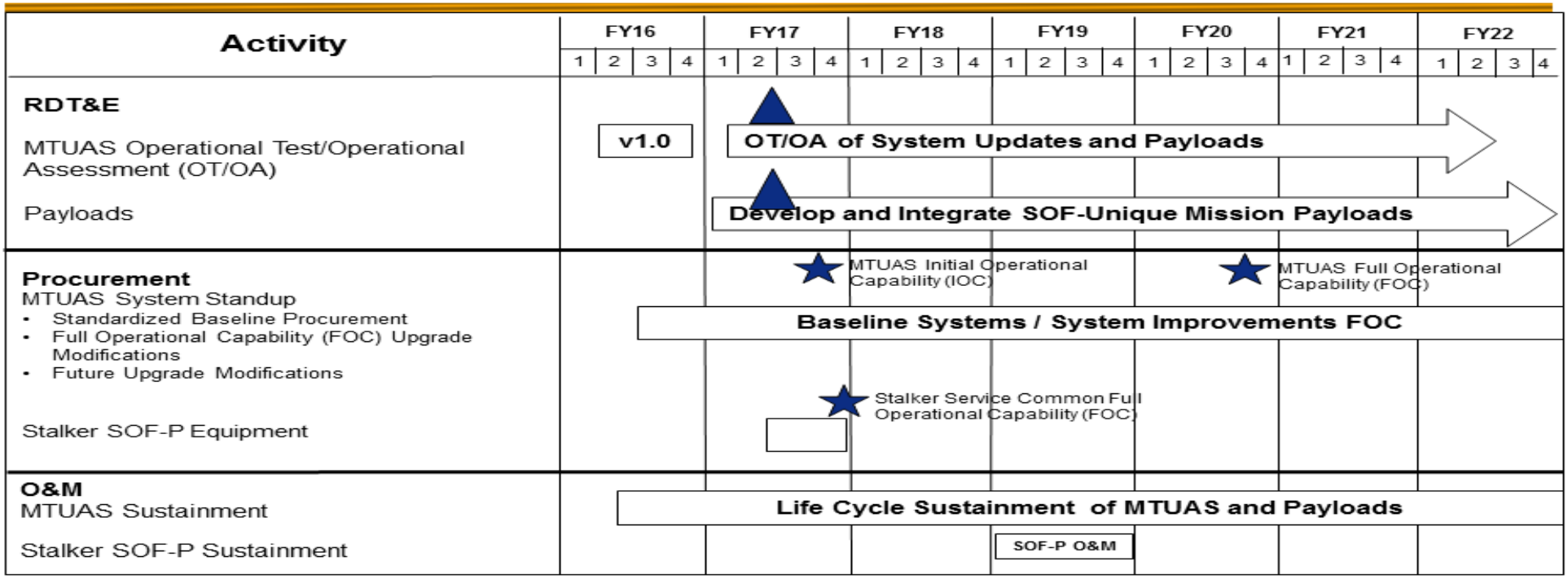


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160434BB / *Unmanned ISR*	**Project (Number/Name)** S855 / *Unmanned ISR*

Group 2 Unmanned ISR Schedule



Previously Reported

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
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	2016	4	2022
Sensor Testing, Evaluation and Demonstration	1	2016	4	2022
Group 1 Unmanned Aerial System (UAS)				
Payload Integration	2	2016	4	2022
Group 2 UAS				
Operational Test/Operational Assessment (OT/OA)	2	2016	2	2022
Payload Integration	1	2017	4	2022

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	32.047	2.477	3.316	2.578	-	2.578	2.624	2.677	2.730	2.807	Continuing	Continuing
S910: *SOF Tactical Vehicles*	32.047	2.477	3.316	2.578	-	2.578	2.624	2.677	2.730	2.807	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	3.212	3.316	2.578	-	2.578
Current President's Budget	2.477	3.316	2.578	-	2.578
Total Adjustments	-0.735	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.625	-			
• SBIR/STTR Transfer	-0.110	-			

Change Summary Explanation

Funding:

FY 2016: Decrease of -$0.735 million is due to reprogramming to higher command priorities (-$0.625 million) and a transfer of funds to Small Business Innovative Research/Small Business Technology Research Transfer programs (-$0.110 million).

FY 2017: None.

FY 2018: None.

Schedule: None.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1160480BB *I SOF Tactical Vehicles*

Technical: None.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S910: *SOF Tactical Vehicles*	32.047	2.477	3.316	2.578	-	2.578	2.624	2.677	2.730	2.807	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 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: FSOV	2.477	3.316	2.578	-	2.578
FY 2016 Accomplishments: Completed GMV 1.1 Initial, Operational, Test and Evaluation. Continued integration of ECPs that implement incremental upgrades and improve the design of the LTATV and GMV 1.1. Continued enhancements/ modifications on the NSCV to improve reliability and survivability and engineering design changes.					
FY 2017 Plans: Continue design/development and integration of ECPs that implement incremental upgrades and improve the design of the LTATV, GMV 1.1, and NSCV, to include a C4 effort to incorporate a Chairman of the Joint Chiefs of Staff directed Global Positioning System (GPS) upgrade to M-Code. Continue GMV 1.1 product development					

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
to include an air drop certification for vehicle reliability. Continue enhancements/modifications on the NSCV to improve reliability and survivability. ***FY 2018 Base Plans:*** Continues design/development and integration of ECPs that implement incremental upgrades and improve the design of the LTATV, GMV 1.1, and NSCV, to include a C4 effort to incorporate a Chairman of the Joint Chiefs of Staff directed GPS upgrade to M-Code. Continues safety, reliability, performance, and operational testing of multiple variants of NSCV from the new contract.					
Accomplishments/Planned Programs Subtotals	2.477	3.316	2.578	-	2.578

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204TACVEH: *Tactical Vehicles*	74.145	71.049	63.304	38.527	101.831	60.631	77.864	37.870	28.951	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-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	288.199	57.544	54.577	42.315	-	42.315	20.457	15.275	13.455	8.351	Continuing	Continuing
S0417: *Underwater Systems*	270.558	50.442	50.150	35.114	-	35.114	16.109	8.746	6.809	4.694	Continuing	Continuing
S1684: *Surface Craft*	17.641	7.102	4.427	7.201	-	7.201	4.348	6.529	6.646	3.657	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for engineering and manufacturing development (EMD) 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 EMD 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 provide 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 EMD 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.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	59.597	54.577	29.451	-	29.451
Current President's Budget	57.544	54.577	42.315	-	42.315
Total Adjustments	-2.053	0.000	12.864	-	12.864
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.053	-			
• Other	-	-	12.864	-	12.864

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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*

Change Summary Explanation

Funding:

FY 2016: Decrease of $2.053 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs.

FY 2017: None.

FY 2018: Net Increase of $12.864 million is due to an increase of $0.441 million to support Independent Operational Test and Evaluation of the Shallow Water Combat Submersible, an increase of $5.200 million for Dry Deck Shelter Modernization efforts, an increase of $3.045 million for development and test of the Threat Awareness System (TAS), $6.000 million for the Dry Combat Submersible developmental and acceptance testing, and a decrease of $1.822 million to support higher command priorities.

Schedule: None.

Technical: Added TAS.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
S0417: *Underwater Systems*	270.558	50.442	50.150	35.114	-	35.114	16.109	8.746	6.809	4.694	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 awarded an Engineering and Manufacturing Development (EMD) contract in FY 2016 to produce one production representative vessel, with options to produce two additional vessels. USSOCOM is testing one submersible prototype to validate test, commercial classification, and SOCOM safety certification processes and will continue to use the prototype to evaluate capability enhancing technologies and reduce risk in the DCS program.

• 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 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
Title: SWCS ***FY 2016 Accomplishments:*** Continued EDM development testing. Completed successful Dry Deck Shelter (DDS) fit checks. Received certification approval for government divers and for contractor maintenance under NAVSEA NOTE5000. Completed a successful Milestone C and awarded the initial production contract. ***FY 2017 Plans:*** Complete EDM, including final logistics packages, develop and incorporate any engineering changes into SWCS production craft configuration as needed. ***FY 2018 Plans:*** Completes Initial Operational Test and Evaluation. Delivers first articles to the fleet.	5.750	0.950	1.378
Title: DCS ***FY 2016 Accomplishments:*** Continued testing of safe Li-Ion batteries, completed government acceptance testing on two prototypes and began characterization testing on one prototype. Achieved SOF embarkation on one prototype. Awarded an EMD contract for a production representative system and completed contract kick-off, Integrated Baseline Review, System Requirements Review, and Preliminary Design Reviews, and Pressure Vessel Critical Design Review. ***FY 2017 Plans:*** Continue EMD for DCS production representative system. Complete testing of the prototypes and initiate refit of one prototype submersible to be used as a training vessel. ***FY 2018 Plans:*** Continues to evaluate capability enhancing technologies and reduce risk in the DCS program. Completes EMD for DCS production representatives system. Completes government acceptance testing and initiates developmental testing. Achieves Milestone C.	35.299	38.700	21.497
Title: DDS Modernization ***FY 2016 Accomplishments:*** Began development of the modernization necessary to extend useful life, transition from SSGN to Virginia Class host platform, and increase capacity to carry larger payloads. Completed Preliminary Design Review (PDR) for field changes. ***FY 2017 Plans:***	8.893	8.500	10.200

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
Continue development of the modernization necessary to extend useful life of the DDS, transition from SSGN to Virginia Class host platform, and increase capacity to carry larger payloads. ***FY 2018 Plans:*** Continues development of the modernization necessary to extend useful life of the DDS, transition from SSGN to Virginia Class host platform, and increase capacity to carry larger payloads.			
Title: SOF Combat Diving ***FY 2016 Accomplishments:*** Transitioned Free-Swimming Diver Heating and Cooling System from Science and Technology to Program of Record. ***FY 2017 Plans:*** Continue thermal protection testing. Begin development for situational awareness and underwater breathing apparatuses. ***FY 2018 Plans:*** Continues development for environmental protection, navigation, communication, and propulsion.	0.500	2.000	2.039
Accomplishments/Planned Programs Subtotals	50.442	50.150	35.114

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0210US: *Underwater Systems*	29.021	37.098	92.606	-	92.606	88.541	42.097	9.523	9.714	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 acquisition strategy was a full and open competitive source selection process resulting in award for an EMD contract. This Fixed Price Incentive Firm Target contract is for a production representative system in FY 2016 with options to procure one vessel in FY 2018 and one in FY 2019.

• The DDS modernization and engineering/change efforts for the six DDS in inventory are executed utilizing existing services contracts awarded for a five year period.

• SOF Combat Diving utilizes a full spectrum of contracting activities, using existing contracts where appropriate, government agencies, and new contracts competitively selected as necessary.

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Shallow Water Combat Submersible (SWCS)	C/CPIF	Teledyne Brown Engineering : Huntsville, AL	78.594	3.918	Jan 2016	-		-		-		-	0.000	82.512	-
Dry Combat Submersibles (DCS) (Button 5.60 prototype)	C/Various	General Dynamic-Electric Boat : Groton, CT	27.299	0.261	May 2016	-		-		-		-	0.000	27.560	-
DCS Technologies Government Furnished Equipment	C/Various	Various : Various	26.199	4.093	Jun 2016	7.377	Jun 2017	3.000	Jun 2018	-		3.000	Continuing	Continuing	-
DCS Engineering & Manufacturing Development	C/FPIF	Lockheed Martin : Riviera Beach, FL	-	26.846	Jul 2016	25.723	Jun 2017	12.997	Jun 2018	-		12.997	9.772	75.338	75.338
DCS Engineering Changes	C/Various	Various : Various	-	-		3.100	Jun 2017	1.571	Jun 2018	-		1.571	Continuing	Continuing	-
Dry Deck Shelter (DDS) Modernization	SS/CPFF	Oceaneering International Inc. Marine Services Division : Chesapeake, VA	-	8.543	Nov 2015	8.197	Jan 2017	9.850	Jan 2018	-		9.850	Continuing	Continuing	-
SOF-Unique Diving Technologies	Various	Various : Various	-	0.370	Mar 2016	1.500	Nov 2016	1.369	Nov 2017	-		1.369	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	92.609	-		-		-		-		-	0.000	92.609	-
		Subtotal	224.701	44.031		45.897		28.787		-		28.787	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 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: FY 2018 United States Special Operations Command			Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	Puget Sound Naval Shipyard : Seattle, Washington	0.599	0.615	Jan 2016	0.950	Dec 2016	1.378	Dec 2017	-		1.378	0.000	3.542	-
DCS	C/Various	NAVSEA / CRANE : Panama City, FL	9.007	1.299	Jul 2016	-		2.144	Jun 2018	-		2.144	0.000	12.450	-
SOF Combat Diving	Various	Various : Various	-	0.130	Mar 2016	0.500	Jun 2017	0.500	Jun 2018	-		0.500	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	9.320	-		-		-		-		-	0.000	9.320	-
		Subtotal	18.926	2.044		1.450		4.022		-		4.022	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SWCS	Various	John Hopkins University : Columbia, MD	1.564	1.217		-		-		-		-	0.000	2.781	-
DCS	Various	SRA : Tampa, FL	9.316	2.800	Jun 2016	2.500	Jun 2017	1.785	Jun 2018	-		1.785	Continuing	Continuing	-
DDS	MIPR	NAVSEA : Washington, DC	0.757	0.350	Jan 2016	0.303	Jan 2017	0.350	Jan 2018	-		0.350	Continuing	Continuing	-
SOF Combat Diving	C/Various	SRA : Tampa, FL	-	-		-		0.170	Dec 2017	-		0.170	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	6.200	-		-		-		-		-	0.000	6.200	-
		Subtotal	17.837	4.367		2.803		2.305		-		2.305	-	-	-

	Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	270.558	50.442		50.150		35.114		-		35.114	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Shallow Water Combat Submersible Schedule

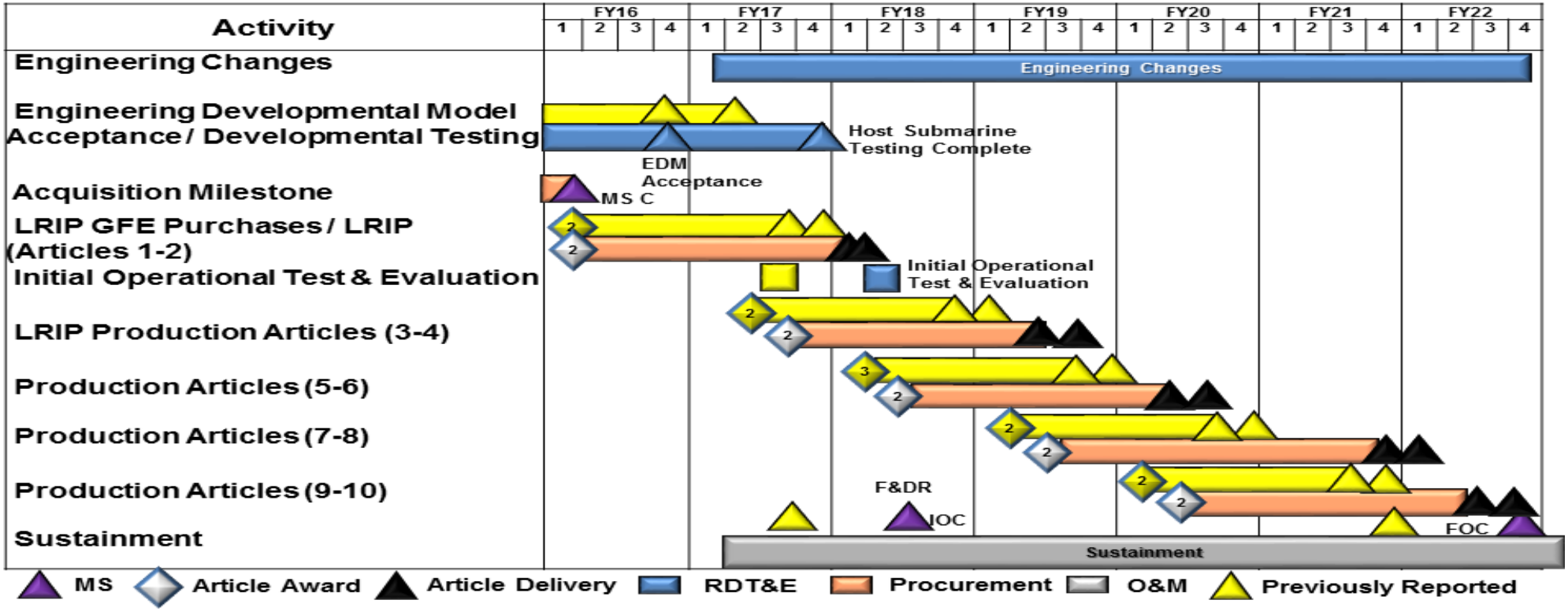


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Dry Combat Submersible Schedule

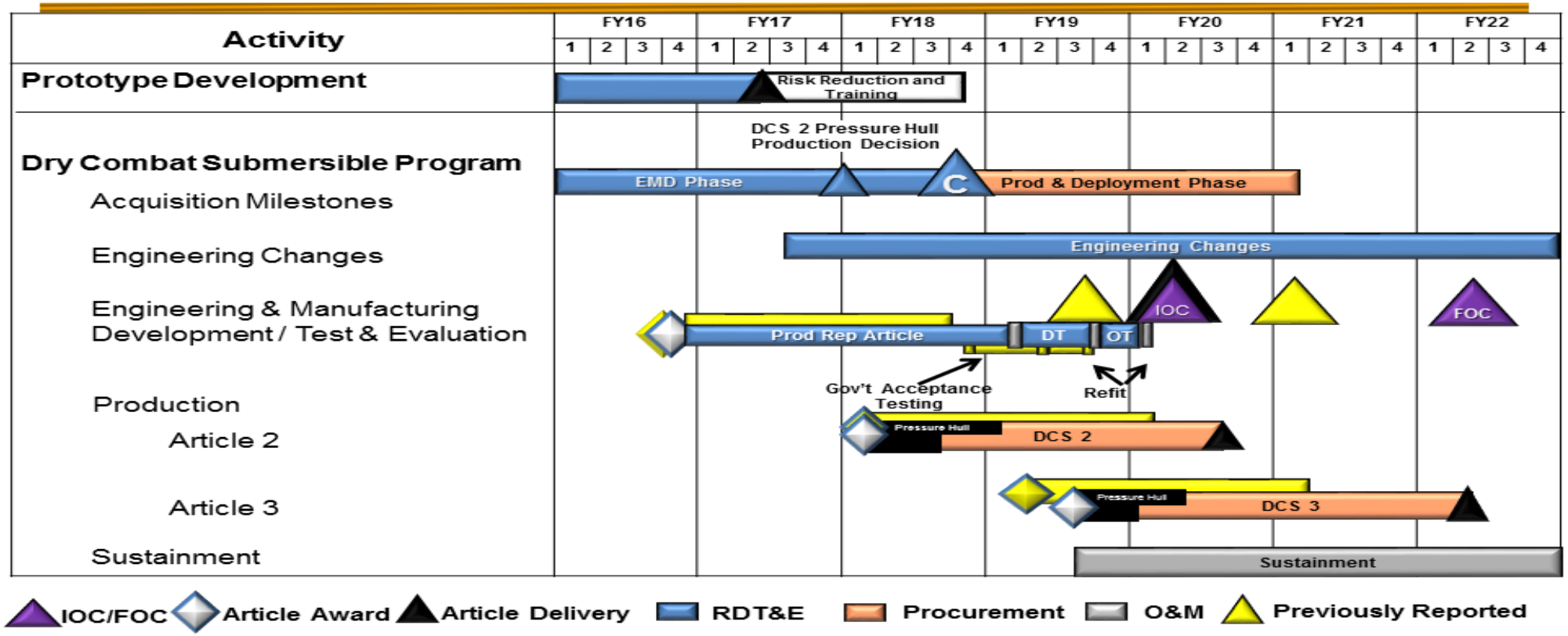


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Dry Deck Shelter Schedule

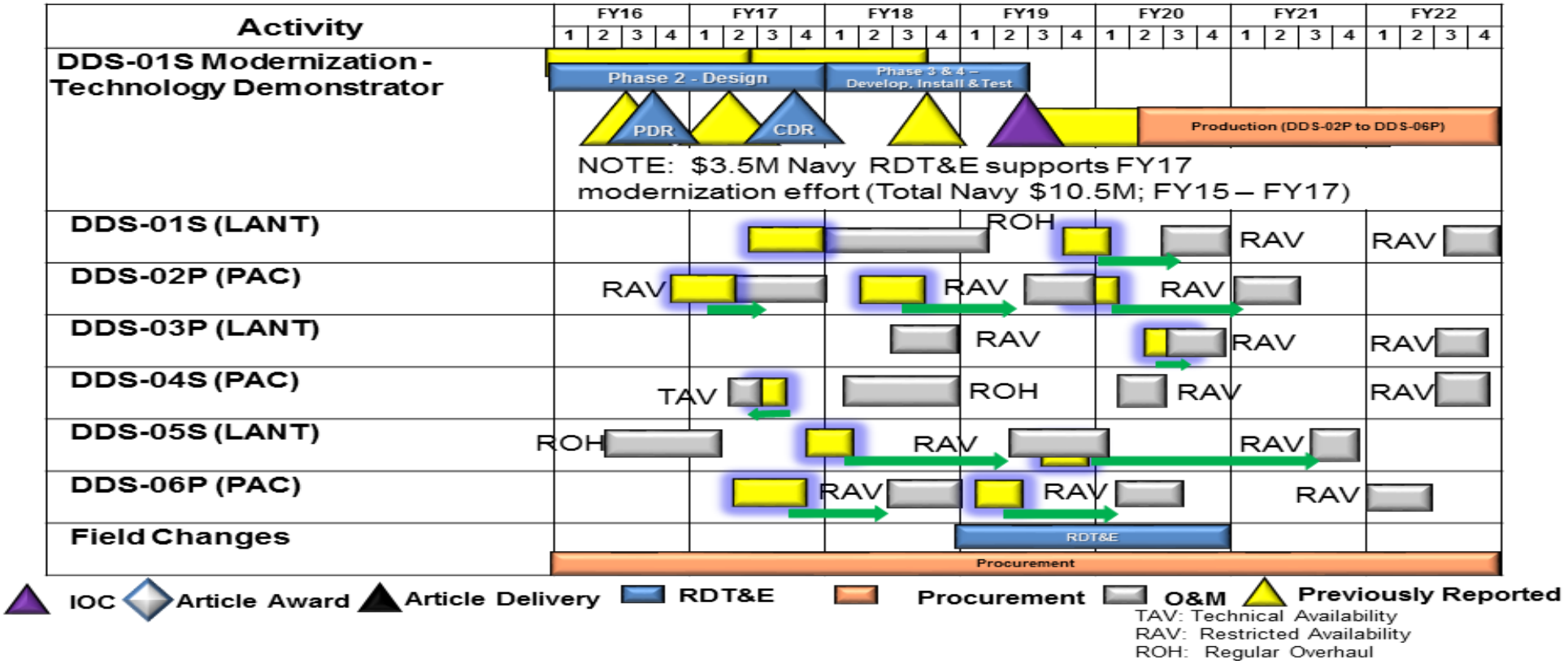


Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

SOF Combat Diving Schedule

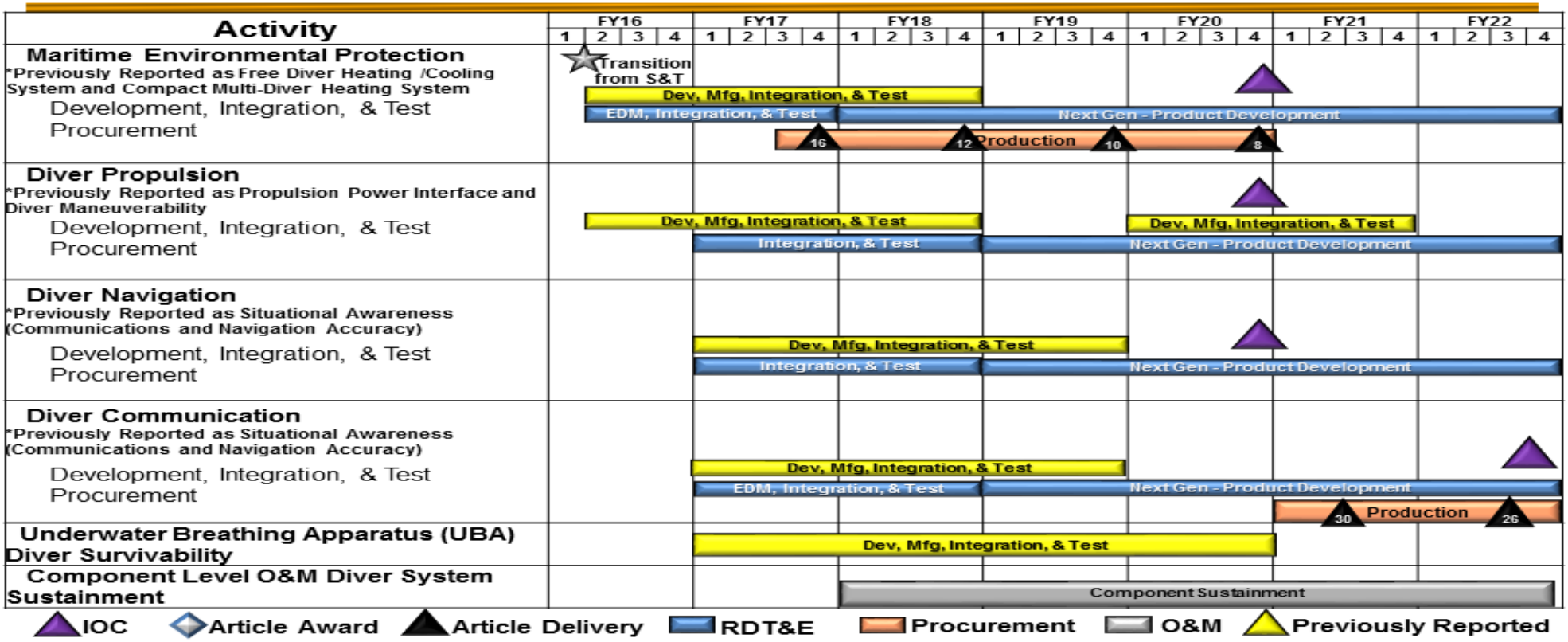


Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S0417 / *Underwater Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Shallow Water Combat Submersible				
Engineering Changes	1	2017	4	2022
Engineering Development Model Acceptance	4	2016	4	2016
Developmental Test	1	2016	4	2017
Milestone C	1	2016	1	2016
Dry Combat Submersibles				
Prototype Development	1	2016	2	2017
Engineering and Manufacturing Development Phase	1	2016	4	2018
Engineering Changes	3	2017	4	2022
Milestone C	4	2018	4	2018
Developmental Test and Evaluation	1	2019	3	2019
Operational Test and Evaluation	3	2019	1	2020
Dry Deck Shelter Modernization				
Phase 2 Design	1	2016	4	2017
Phase 3 & 4 Development	1	2018	2	2019
Preliminary Design Review	3	2016	3	2016
Critical Design Review	4	2017	4	2017
SOF Combat Diving				
Maritime Environmental Protection Development, Integration, and Test	2	2016	4	2022
Propulsion Development / Manufacturing / Test / Integration	1	2017	4	2022
Navigation Development / Manufacturing / Test / Integration	1	2017	4	2022
Communications Development / Manufacturing / Test / Integration	1	2017	4	2022

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command											Date: May 2017	
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
S1684: *Surface Craft*	17.641	7.102	4.427	7.201	-	7.201	4.348	6.529	6.646	3.657	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 (P3I) 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): 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 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): This sub-project (previously Next Generation Surface Systems) provides a rapid response capability to support SOF combatant craft systems, subsystems, and their emerging requirements. CCME provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability. 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 refresh, and navigation subsystems in support of future missions. Solutions to these emerging requirements may be commercial-off-the-shelf (COTS), leveraged from other Government agencies , or new solutions.

• Combatant Craft Assault (CCA): 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.

• Threat Awareness System (TAS): This sub-project provides SOF with an Electronic Intelligence capability for enhanced force protection of SOF in Maritime denied environments by allowing them to identify and avoid enemy detection capabilities. TAS will utilize technological advancements to gain significant improvements in capability such as miniaturization and marinization to enable seamless craft integration.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: CCM	1.256	1.659	1.662
FY 2016 Accomplishments: Completed craft Initial Operational Test and Evaluation. Began design for integration of MK50 remote weapon system.			
FY 2017 Plans: Develop conceptual, preliminary, and detail design drawings necessary to integrate and conduct initial testing of MK50 remote weapon system on the CCM test article. Begin integration of NG CCFLIR.			
FY 2018 Plans: Continues integration of NG CCFLIR and begins integration of Tactical Operations Center (TOCNET) Intercommunications System.			
Title: CCH	2.156	0.887	0.877
FY 2016 Accomplishments: Continued development and integration of enhanced communication equipment and windows. Initiated studies and analysis for upgraded CCH craft.			
FY 2017 Plans: Complete tactical computer system upgrades. Continue P3I and technology insertion. Begin integration of NG CCFLIR and applicable CCME technology onto CCH crafts.			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
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 2016	FY 2017	FY 2018
Completes NG CCFLIR integration and continues development and integration of upgraded Satellite Communications (SATCOM) antennas.			
Title: NG CCFLIR ***FY 2016 Accomplishments:*** Completed testing and integration with combatant craft systems. Began Developmental and Operational Testing.	1.650	-	-
Title: CCME ***FY 2016 Accomplishments:*** Analyzed Magnetic Antenna technology for Combatant Craft Assault. Completed Combatant Craft threat vulnerabilities study to address capability gaps. Conducted Maritime Intercom System (TOCNET) at-sea operational test and user assessment to address VIC3 obsolescence. ***FY 2017 Plans:*** Evaluate 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, craft survivability painting studies and verification, and situational awareness studies. ***FY 2018 Plans:*** Evaluates candidate solutions for technology development to include, but not limited to, Maritime Precision Engagement, family of antennas testing, Airborne Mission Networking Marinization, and situational awareness.	2.040	1.381	1.107
Title: CCA ***FY 2017 Plans:*** Begin integration of NG CCFLIR and applicable CCME technology onto CCA crafts. ***FY 2018 Plans:*** Completes integration and testing of CCFLIR mast design and SSN-8 Tactical Computer System.	-	0.500	0.510
Title: TAS ***FY 2018 Plans:*** Begins development and testing of TAS.	-	-	3.045
Accomplishments/Planned Programs Subtotals	7.102	4.427	7.201

Exhibit R-2A, RDT&E Project Justification: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160483BB / *Maritime Systems*	**Project (Number/Name)** S1684 / *Surface Craft*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• PROC/0204SCCS: *Combatant Craft Systems*	63.287	55.820	23.272	-	23.272	11.619	36.751	30.403	38.191	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.

• CCH: SEALION I & II were transitioned from U.S. Navy advanced technology demonstrator craft to USSOCOM. Sustainment for SEALION I & II is conducted via Special Operations Forces Support Activity. 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: Completed a full and open competition in September 2015. An Engineering Manufacturing Development contract was awarded to FLIR Systems Incorporated, which included production and sustainment options. The NG CCFLIR will be installed on the CCM, CCH, and CCA.

• CCME acquisition strategy emphasizes on spearheading Technology Readiness Level (TRL) 6 technology for successful transition into SOF Combatant Crafts. CCME accomplishes this by using the full spectrum of contracting services, using existing contracts where appropriate, and leveraging from other Government agencies including the Services and USSOCOM SOF AT&L Science & Technology. CCME focuses on developing the technology for maturity, marinization and compatibility, to then transition to the craft. The integration and procurement piece is managed by the individual Combatant Craft Program.

• CCA 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.

• TAS will conduct market research to determine feasibility and appropriateness of conducting a full and open competition. TAS will pursue existing Government-Off-The-Shelf technology in order to reduce acquisition timeline.

E. Performance Metrics

N/A

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	46.043	3.933	3.841	4.661	-	4.661	4.820	5.388	5.496	5.606	Continuing	Continuing
S500C: *Global Video Surveillance Activities*	46.043	3.933	3.841	4.661	-	4.661	4.820	5.388	5.496	5.606	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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	3.933	3.841	4.661	-	4.661
Current President's Budget	3.933	3.841	4.661	-	4.661
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Funding:

FY2016: None.

FY2017: None.

FY2018: None.

Schedule: None.

Technical: None.

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 United States Special Operations Command	Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	75.370	10.623	11.834	12.049	-	12.049	12.279	13.693	13.967	14.246	Continuing	Continuing
S500D: *Operational Enhancements Intelligence*	75.370	10.623	11.834	12.049	-	12.049	12.279	13.693	13.967	14.246	Continuing	Continuing

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. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	10.623	11.834	12.049	0.000	12.049
Current President's Budget	10.623	11.834	12.049	0.000	12.049
Total Adjustments	0.000	0.000	0.000	0.000	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Funding:

FY2016: None.

FY2017: None.

FY2018: None.

Schedule: None.

Technical: None.

THIS PAGE INTENTIONALLY LEFT BLANK