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:

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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
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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
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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
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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 ***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.	1.288	1.557	1.603	-	1.603
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
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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.

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E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 United States Special Operations Command			Date: May 2017
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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
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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

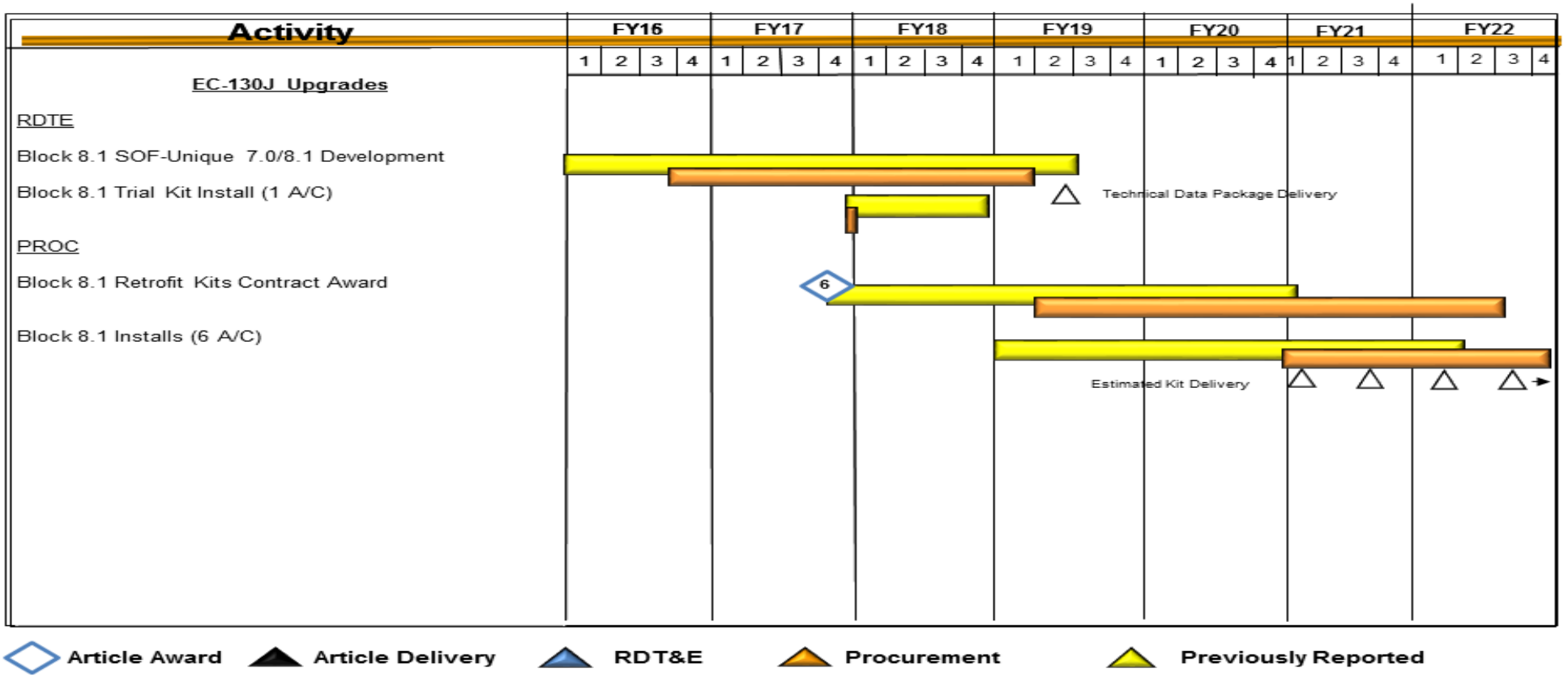

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

EC-130J CSOLO
RAMS and De-Mod Schedule

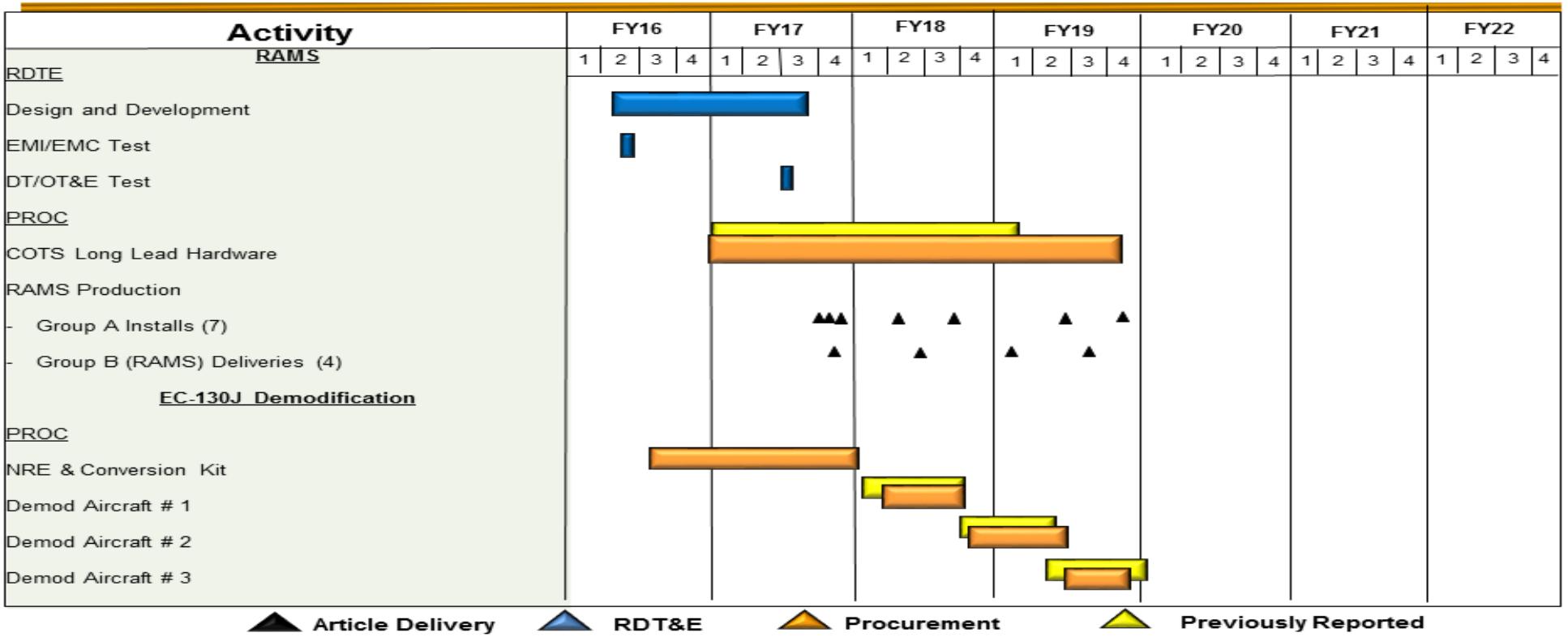

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

EW RFCM Schedule

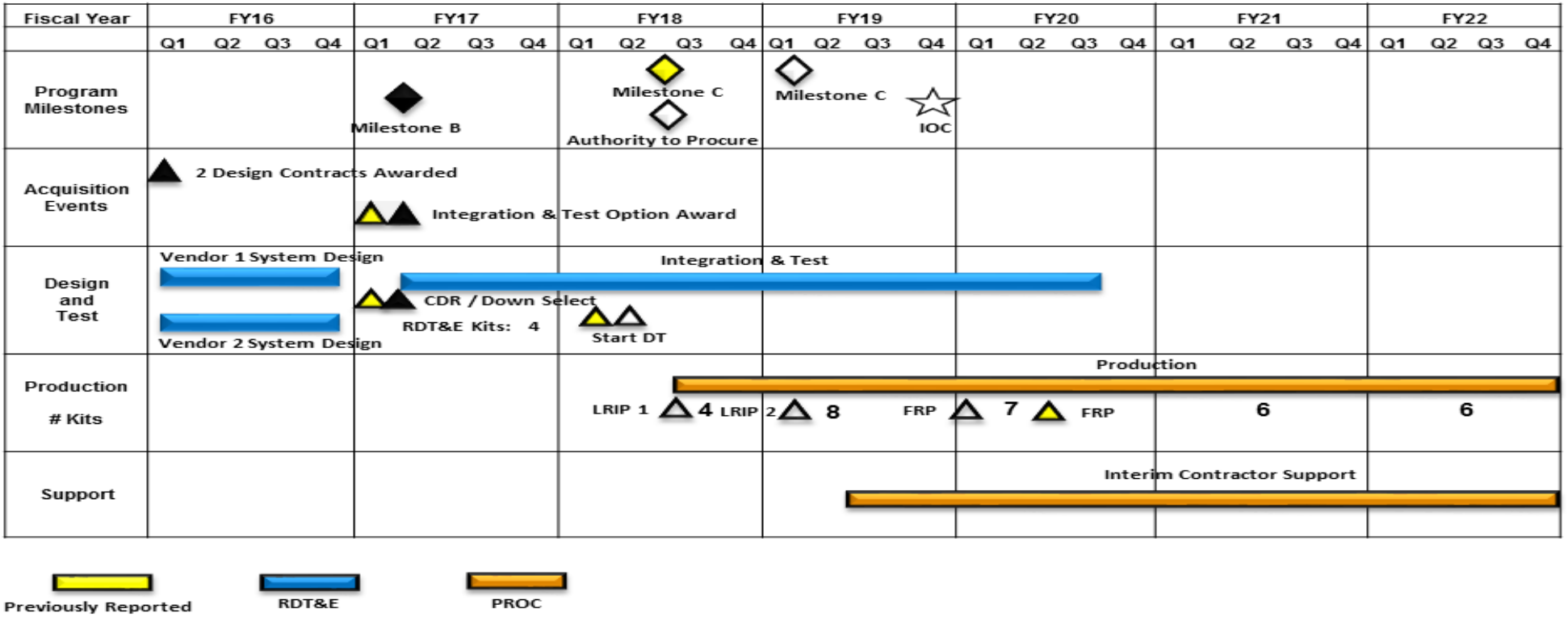

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

AC-130J/PSP Integrated Schedule

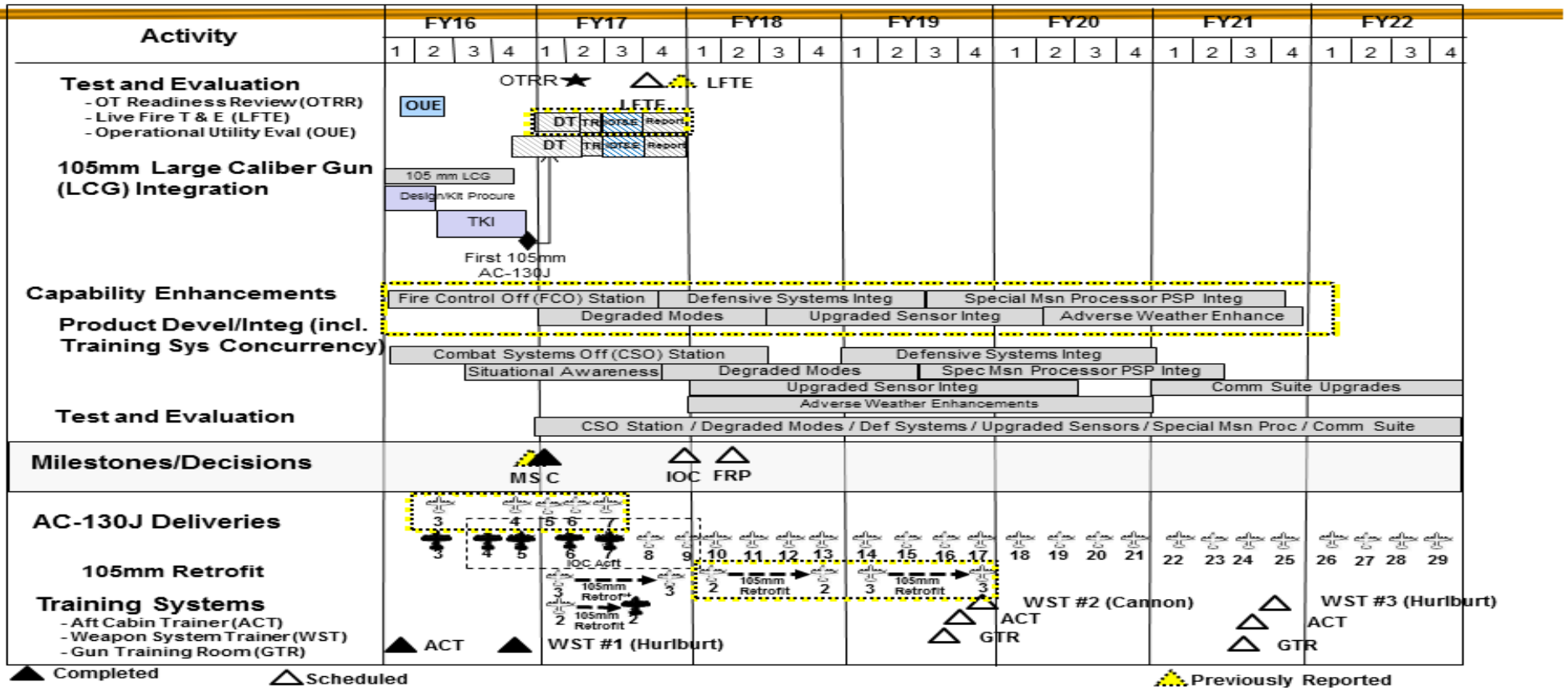

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

AC-130 High Energy Laser Schedule*

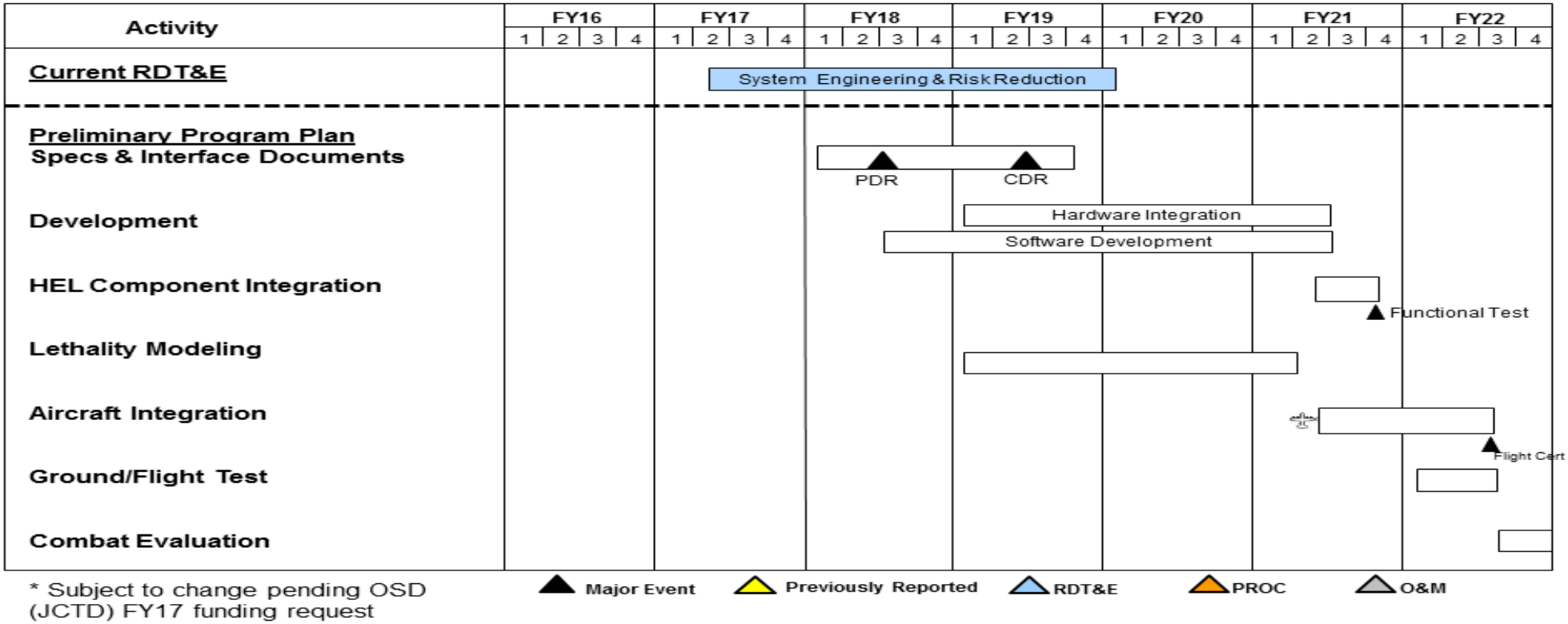

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

C-130 SOF Common TF/TA Radar Schedule

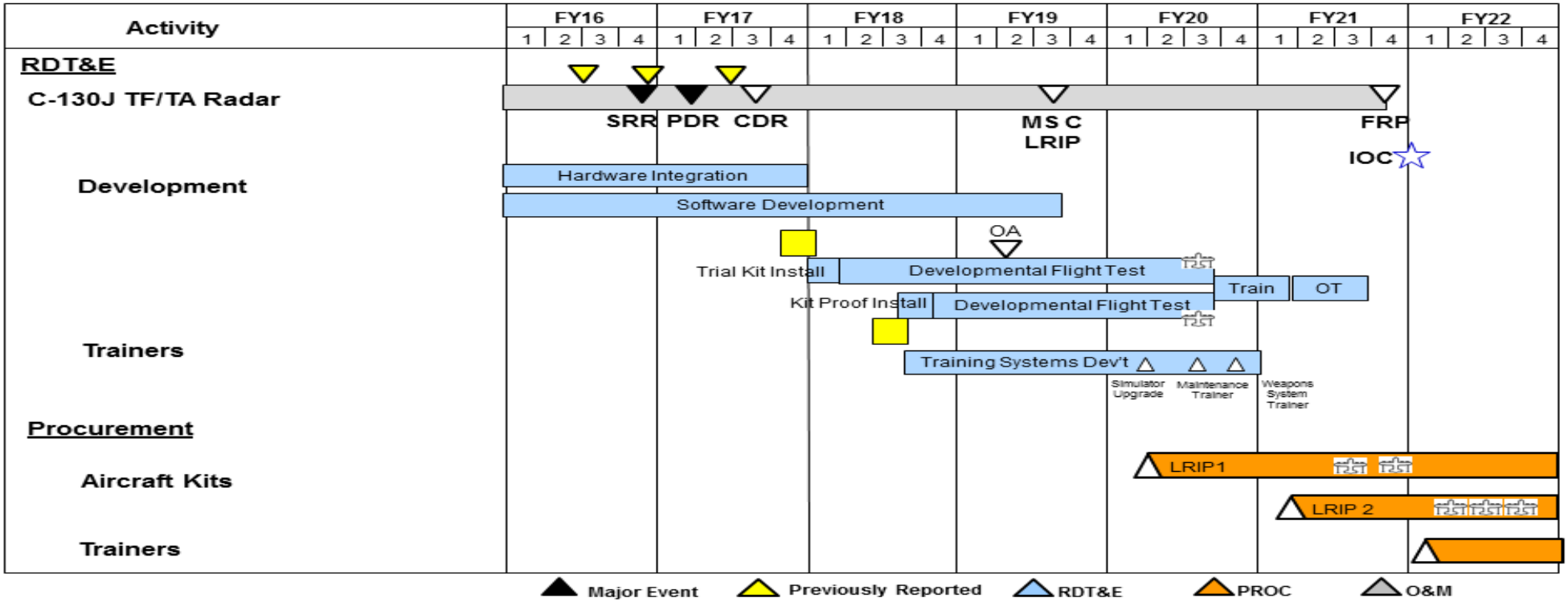

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

SOF Common TF/TA (Silent Knight) Radar Schedule

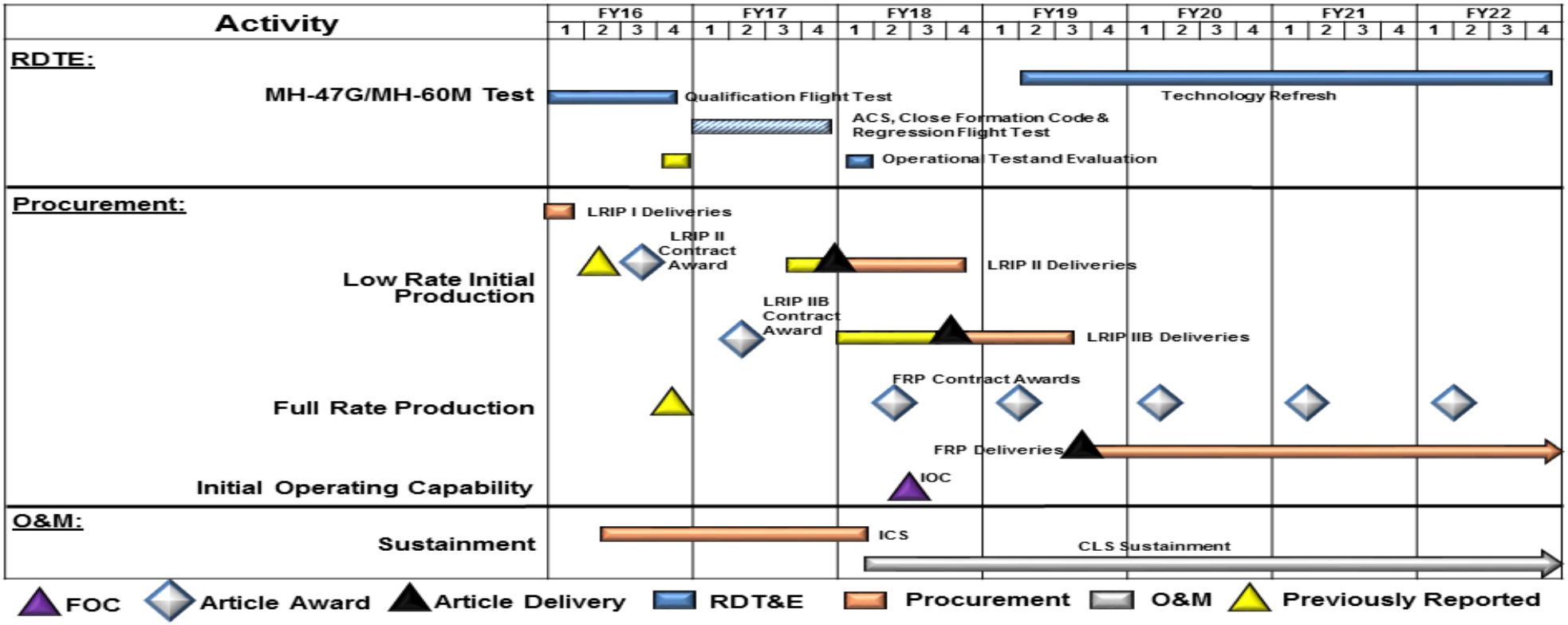

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Intelligence, Surveillance, and Reconnaissance Payload Sub-Project Schedule

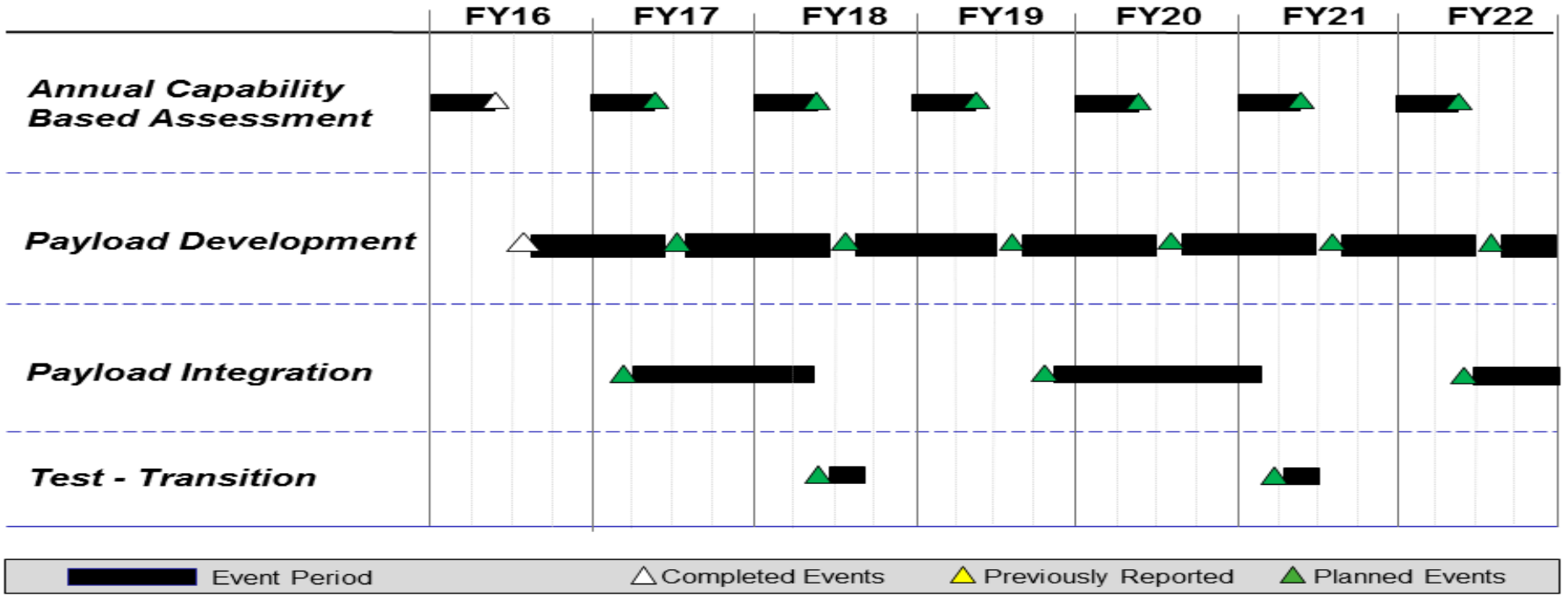

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

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

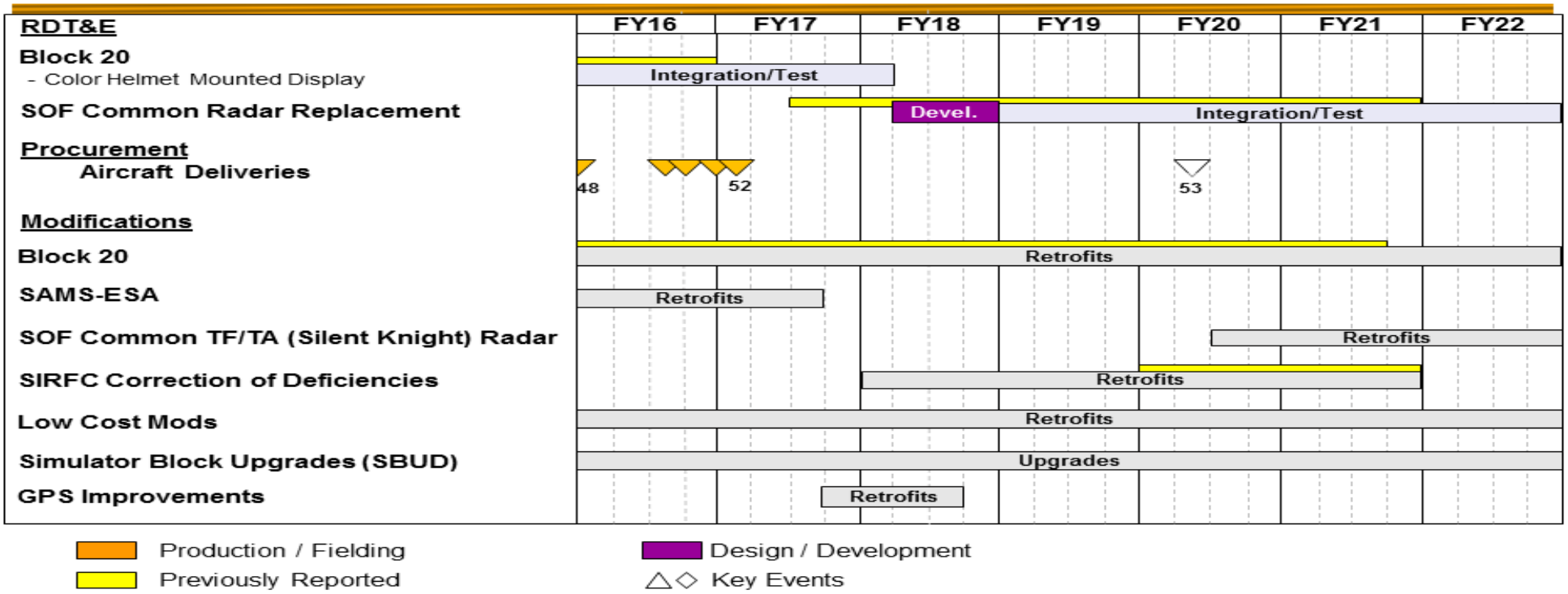

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

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
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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
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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
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• 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
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• 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
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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
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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		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	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
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A/MH-6 Block 3.0 Upgrade Schedule

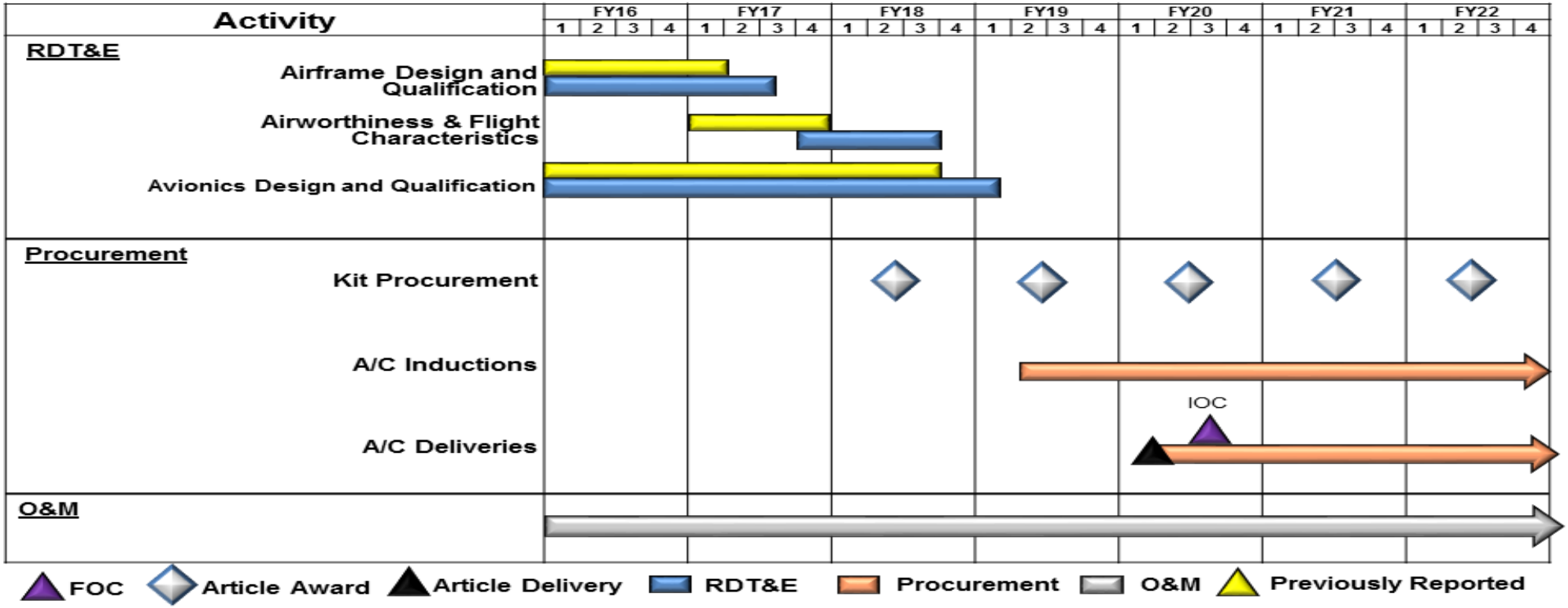

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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MH-60M Mods & Block Upgrades Schedule

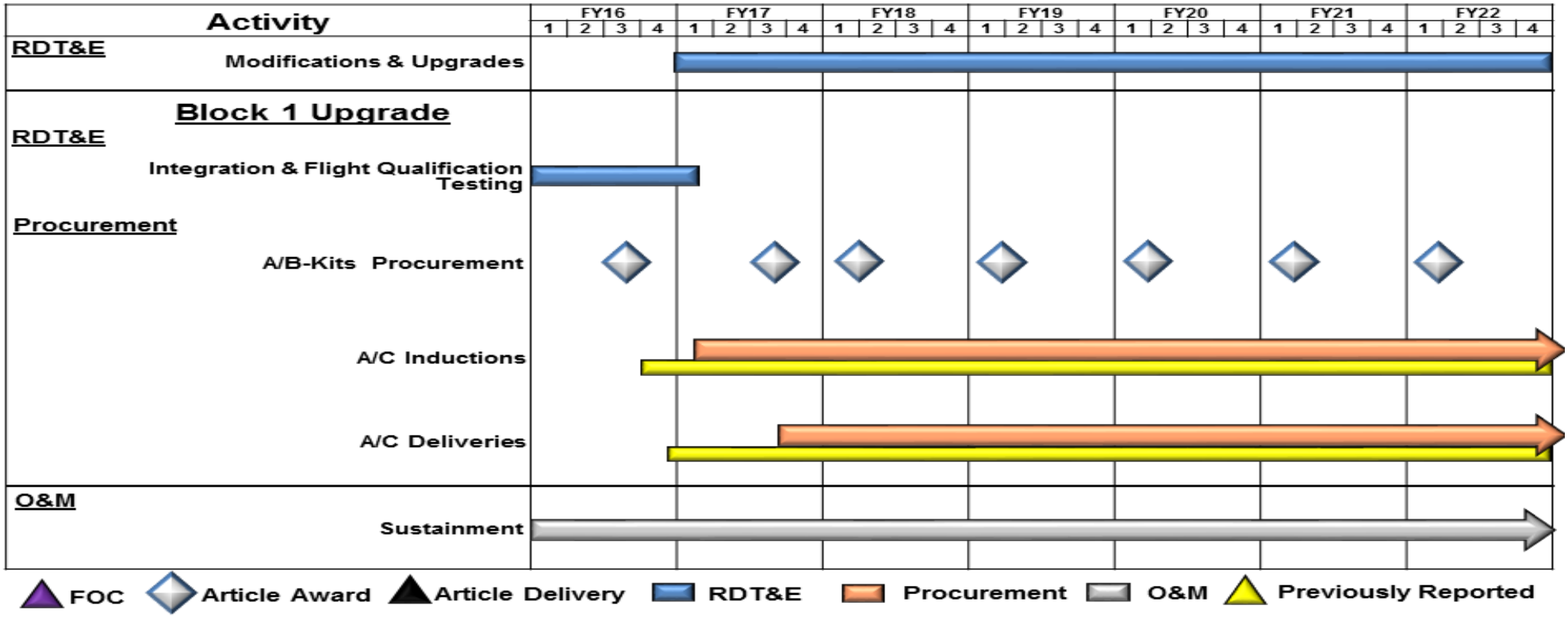

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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Degraded Visual Environment Schedule

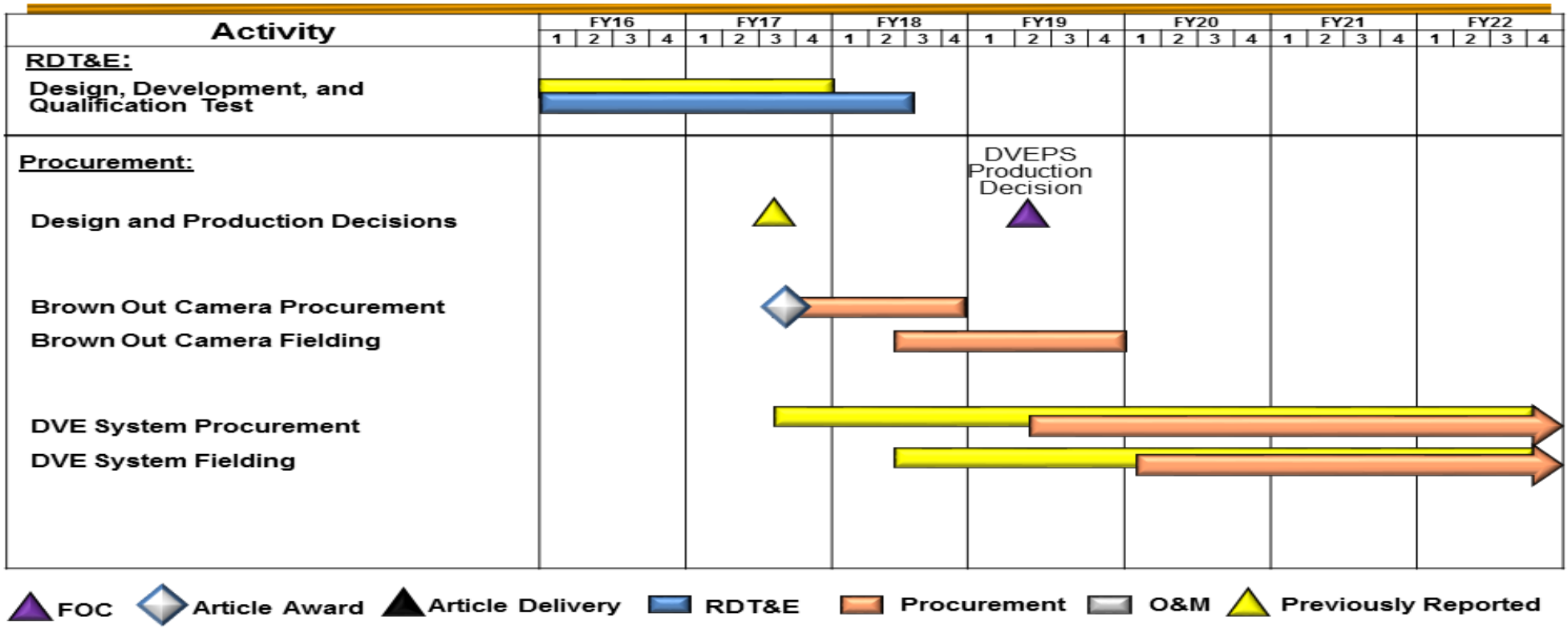

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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Future Vertical Lift Schedule

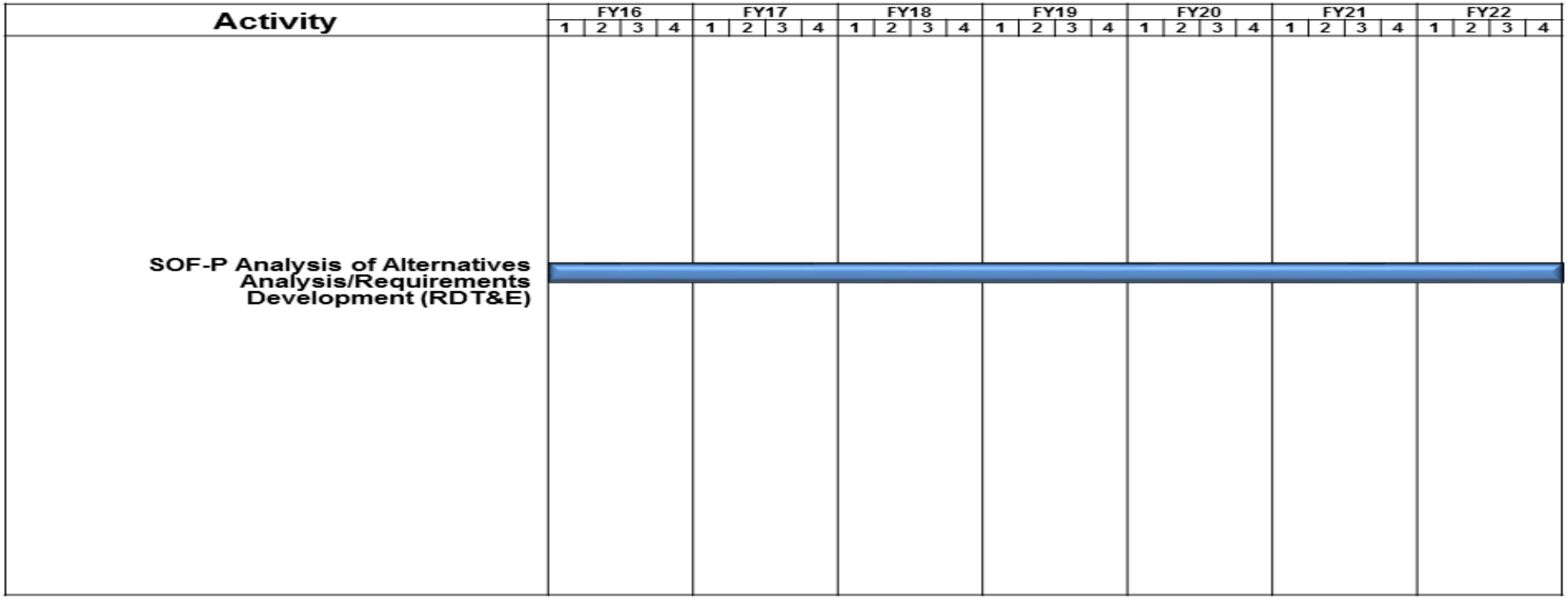

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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MH-47 Mods & Block Upgrades Schedule

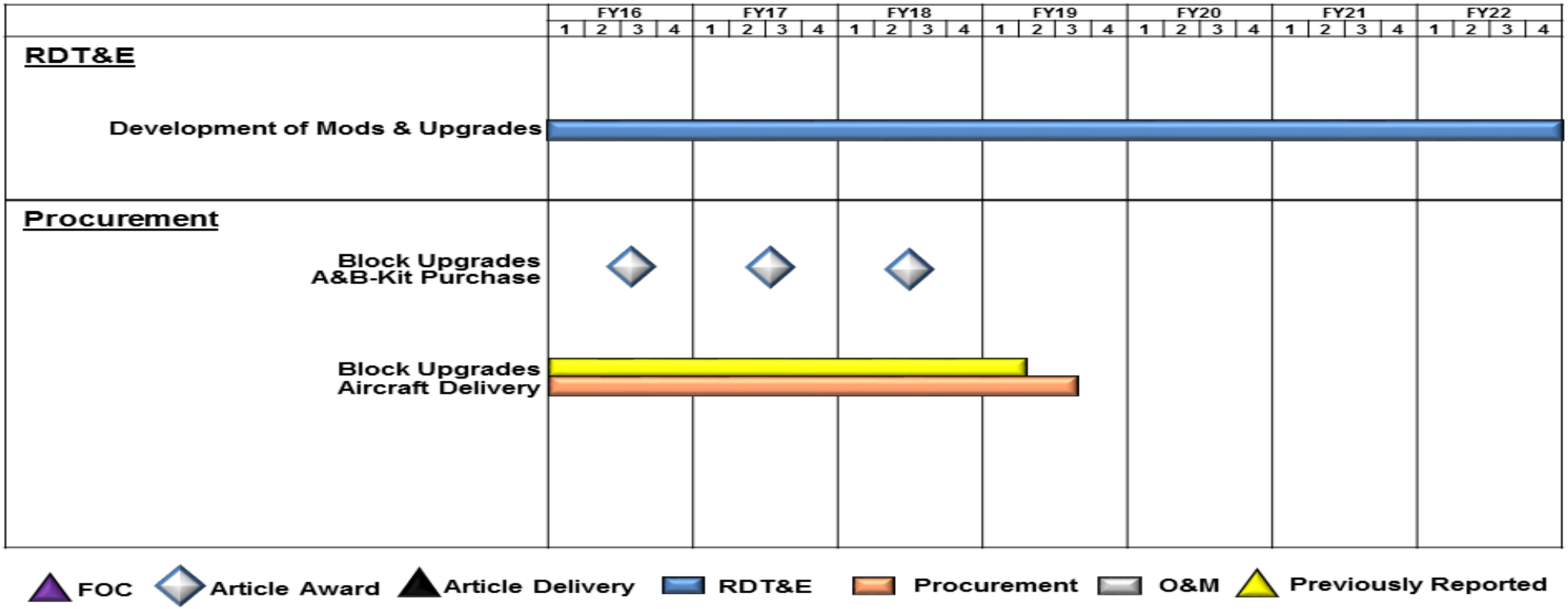

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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Mission Processor Upgrades Schedule

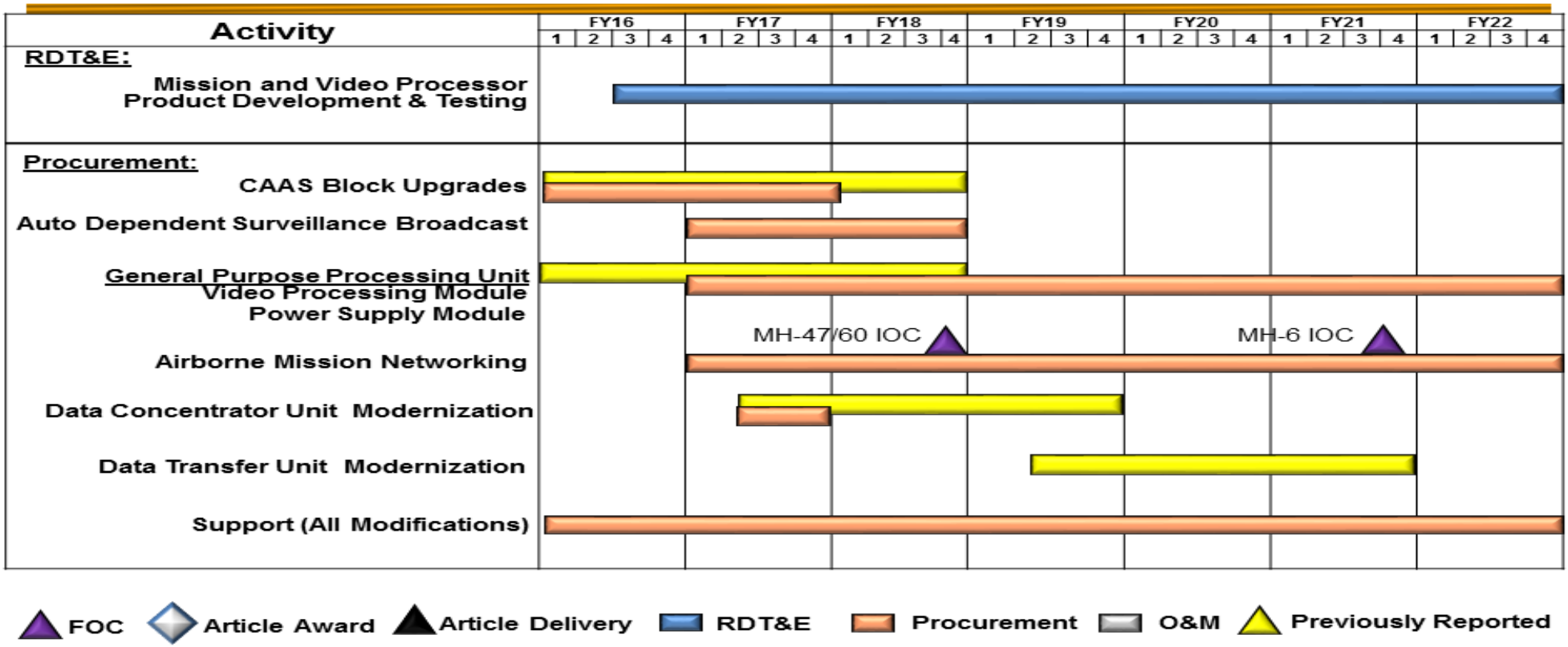

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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Next Generation FLIR Schedule

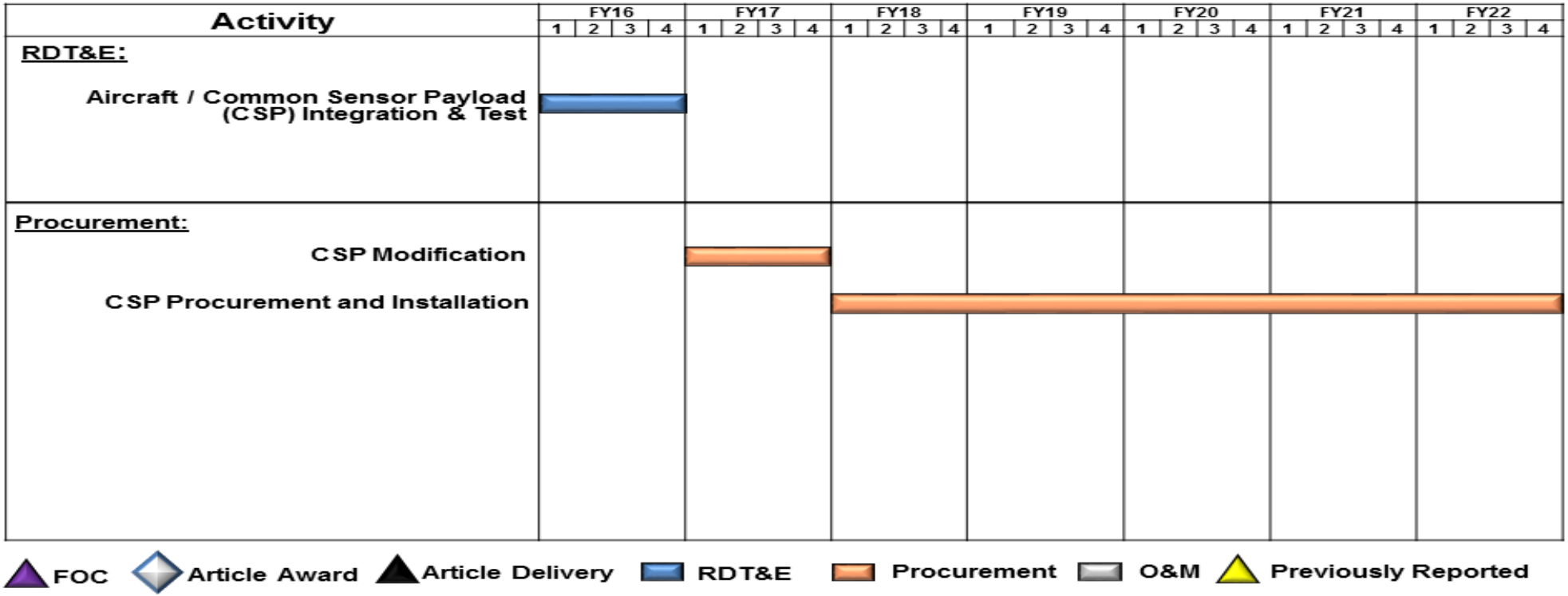

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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Aircraft Survivability Equipment Schedule

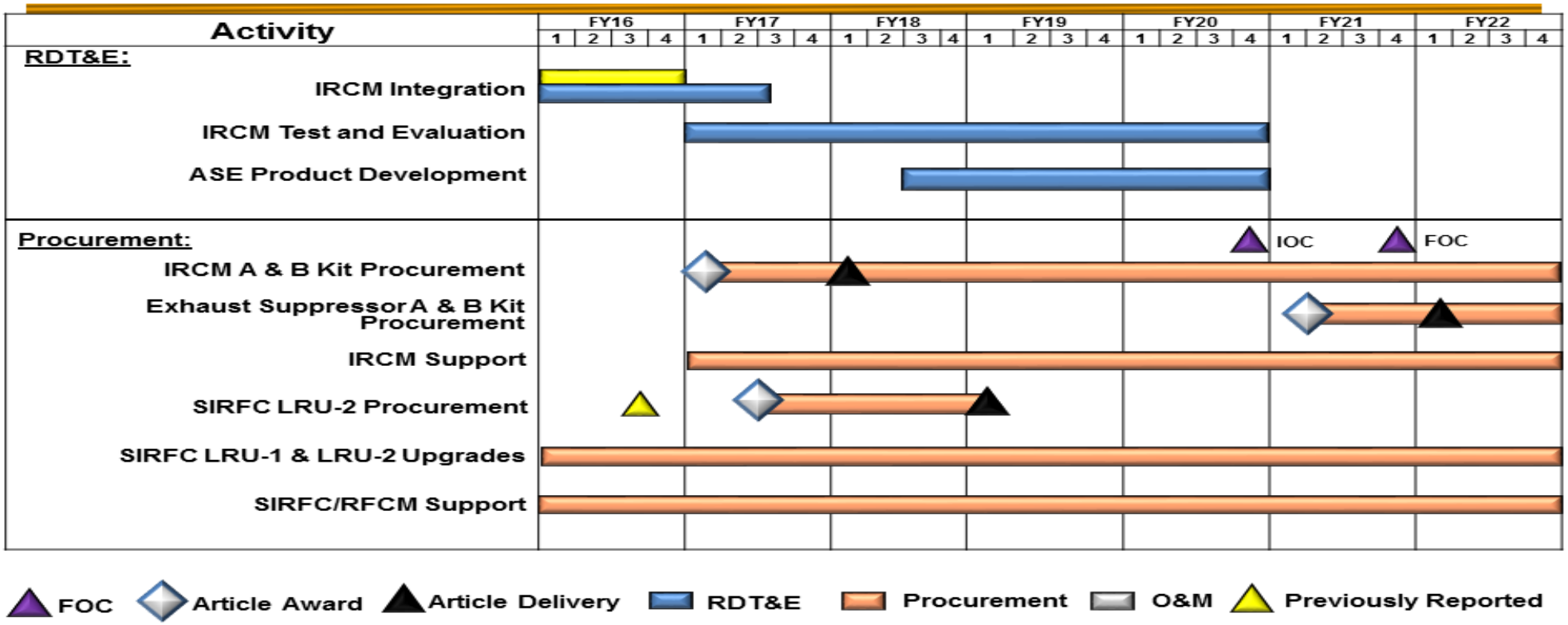

Exhibit R-4, RDT&E Schedule Profile: FY 2018 United States Special Operations Command		Date: May 2017
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Secure Real Time Video Schedule

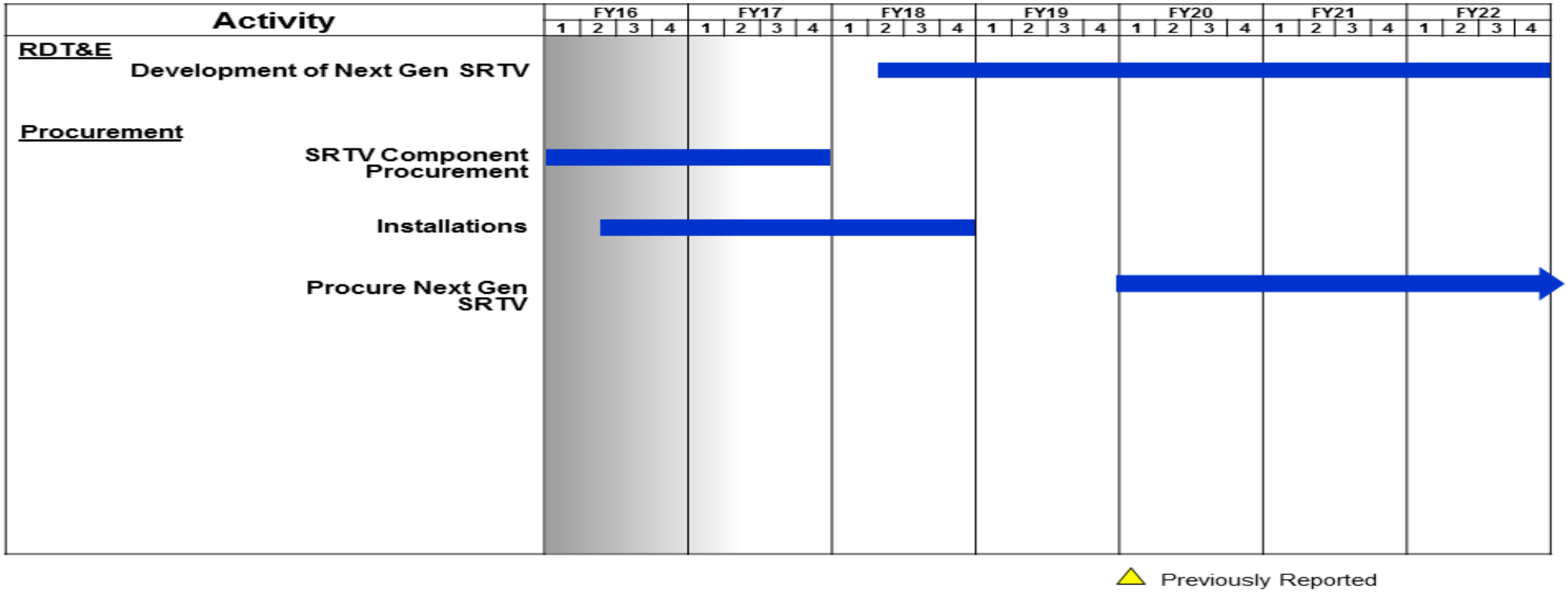

Exhibit R-4A, RDT&E Schedule Details: FY 2018 United States Special Operations Command		Date: May 2017
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Schedule Details

	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