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

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

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

A. Mission Description and Budget Item Justification

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

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

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

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

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

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

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

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

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

Change Summary Explanation

Funding:

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

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

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

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

Schedule: None.

Technical: None.

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

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

A. Mission Description and Budget Item Justification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. Other Program Funding Summary ($ in Millions)

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

Remarks

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

D. Acquisition Strategy

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

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

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

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

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

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

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

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

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

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

E. Performance Metrics

N/A

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

Product Development ($ in Millions)

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

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

Support ($ in Millions)

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

Test and Evaluation ($ in Millions)

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

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

Management Services ($ in Millions)

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

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

Remarks

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

EC-130J Upgrades Schedule

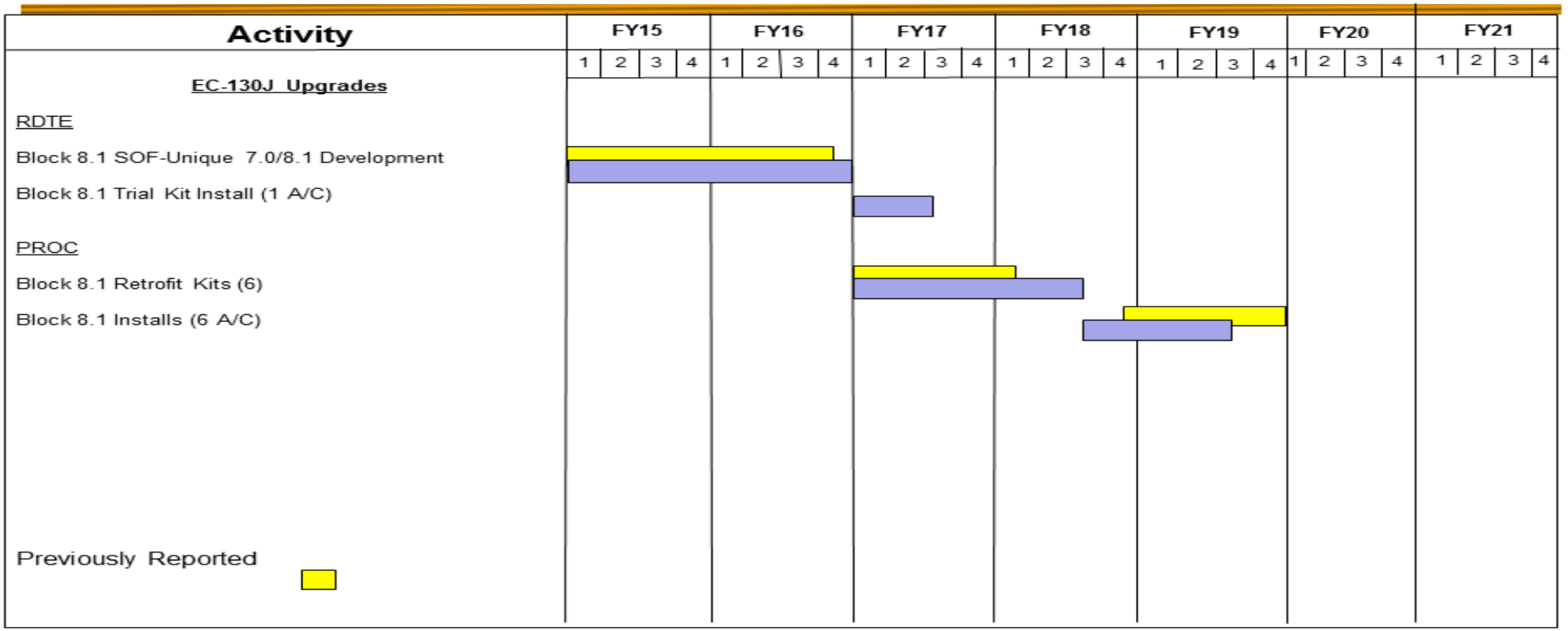

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100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

ESA For MC-130H Schedule

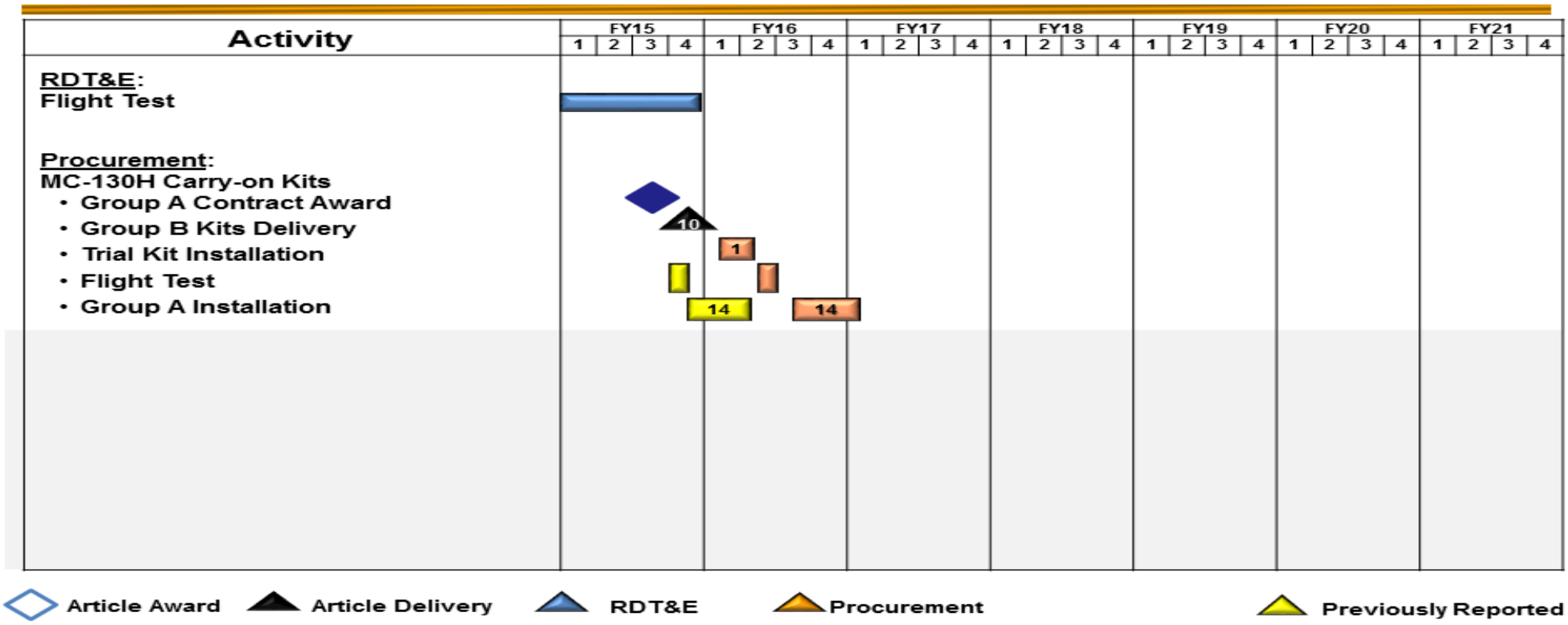

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100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

EW RFCM Schedule

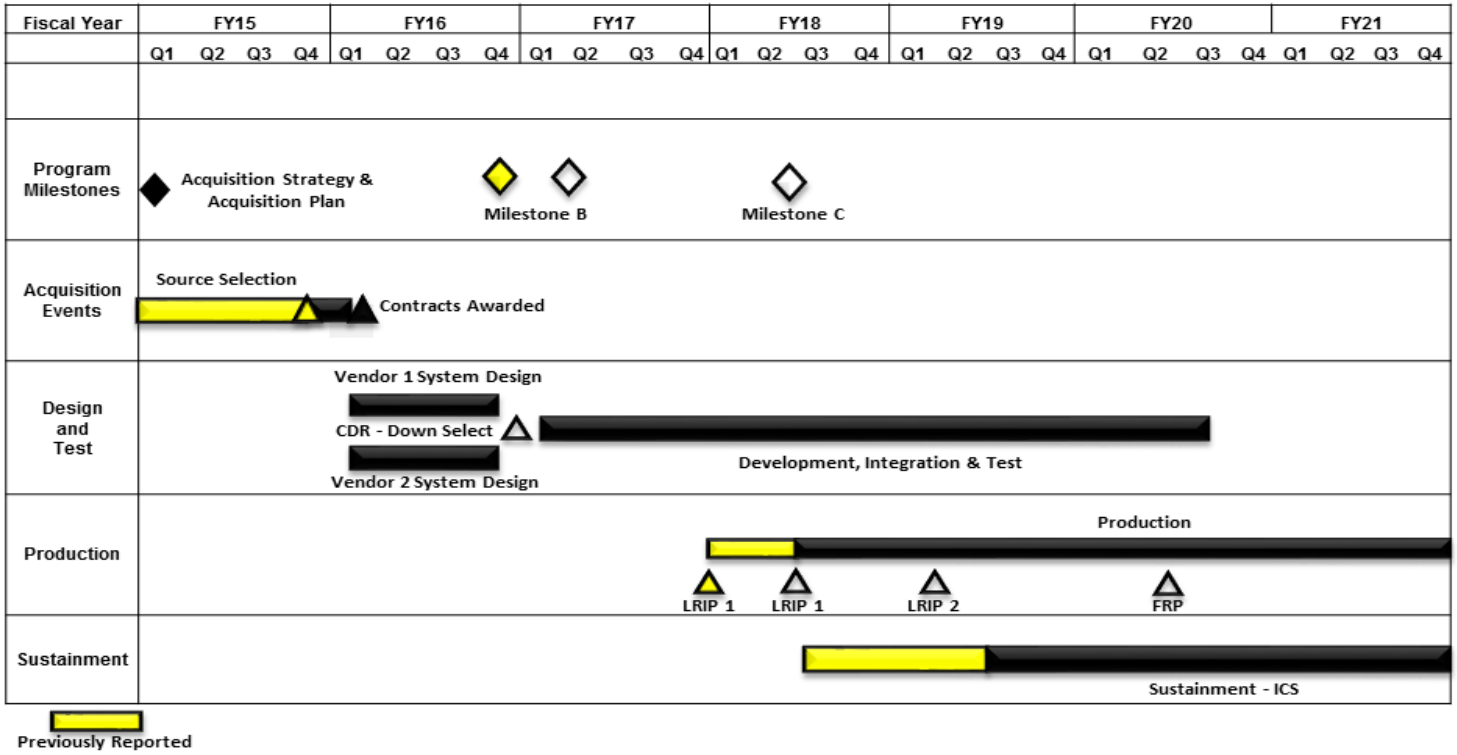

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100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

AC-130J/PSP Integrated Schedule

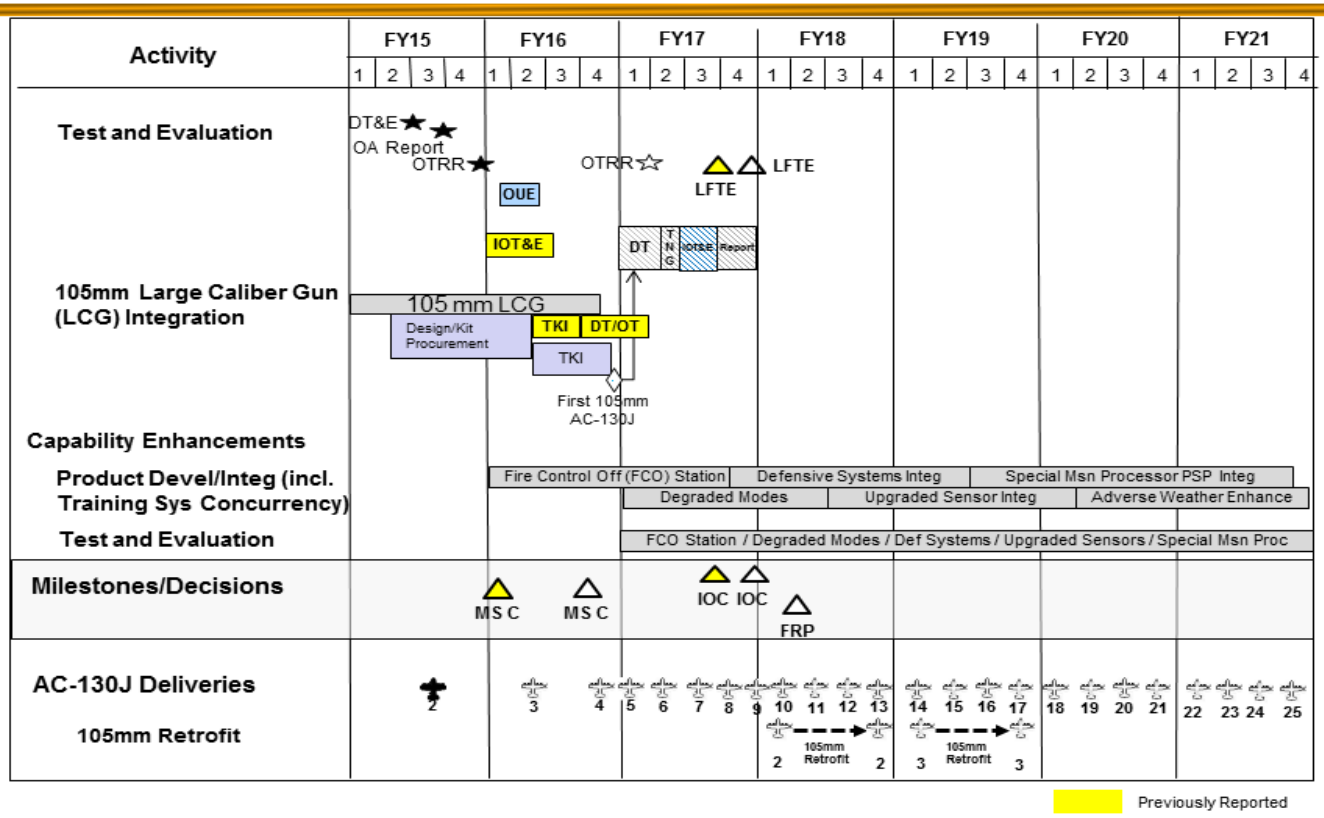

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

C-130 Terrain Following (TF) Radar System Schedule

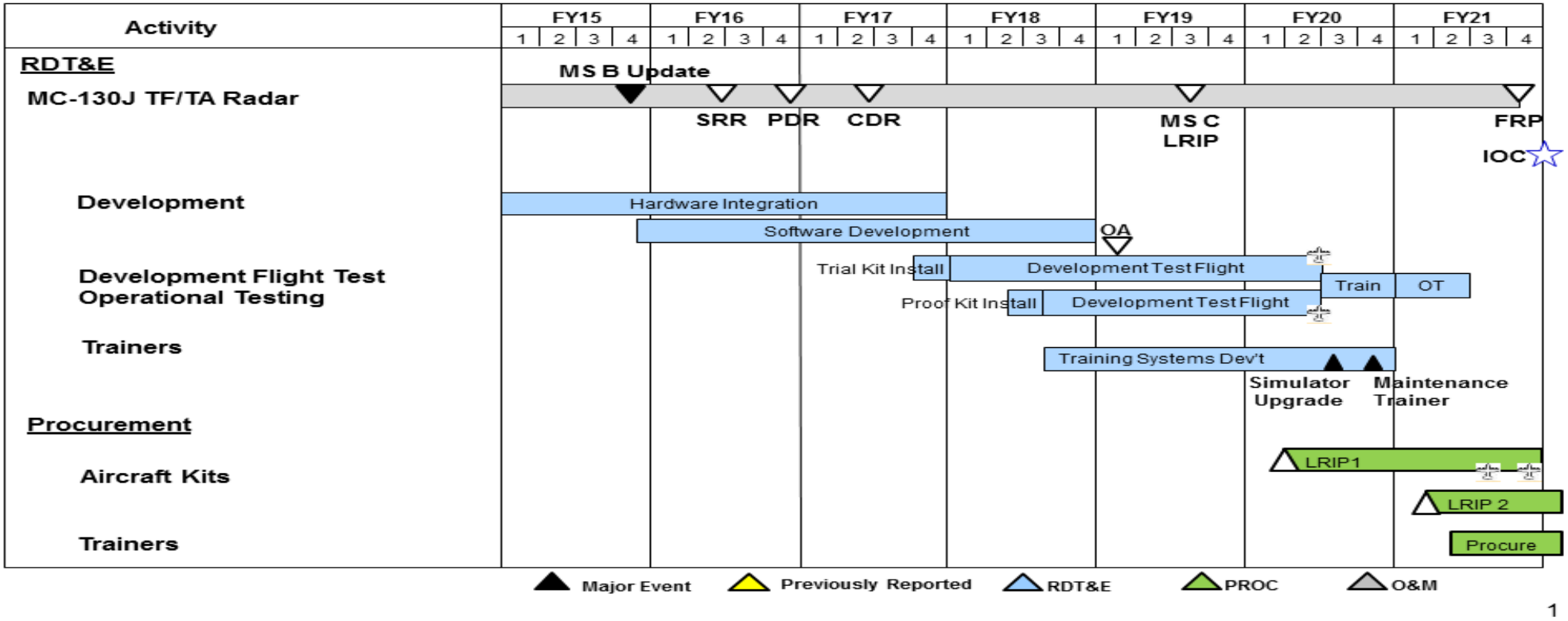

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100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

Silent Knight Radar Schedule

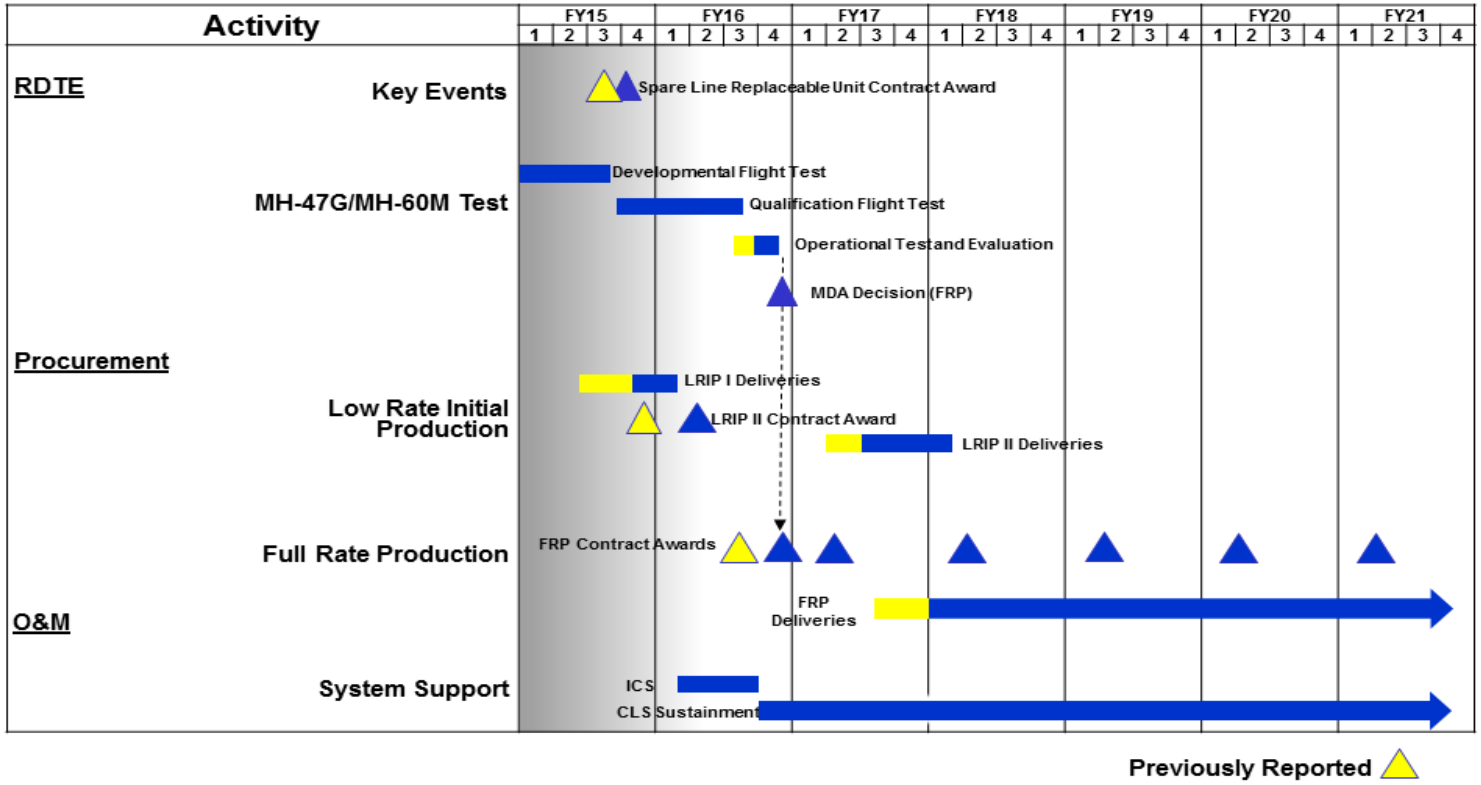

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

EC-130J Commando SOLO Schedule

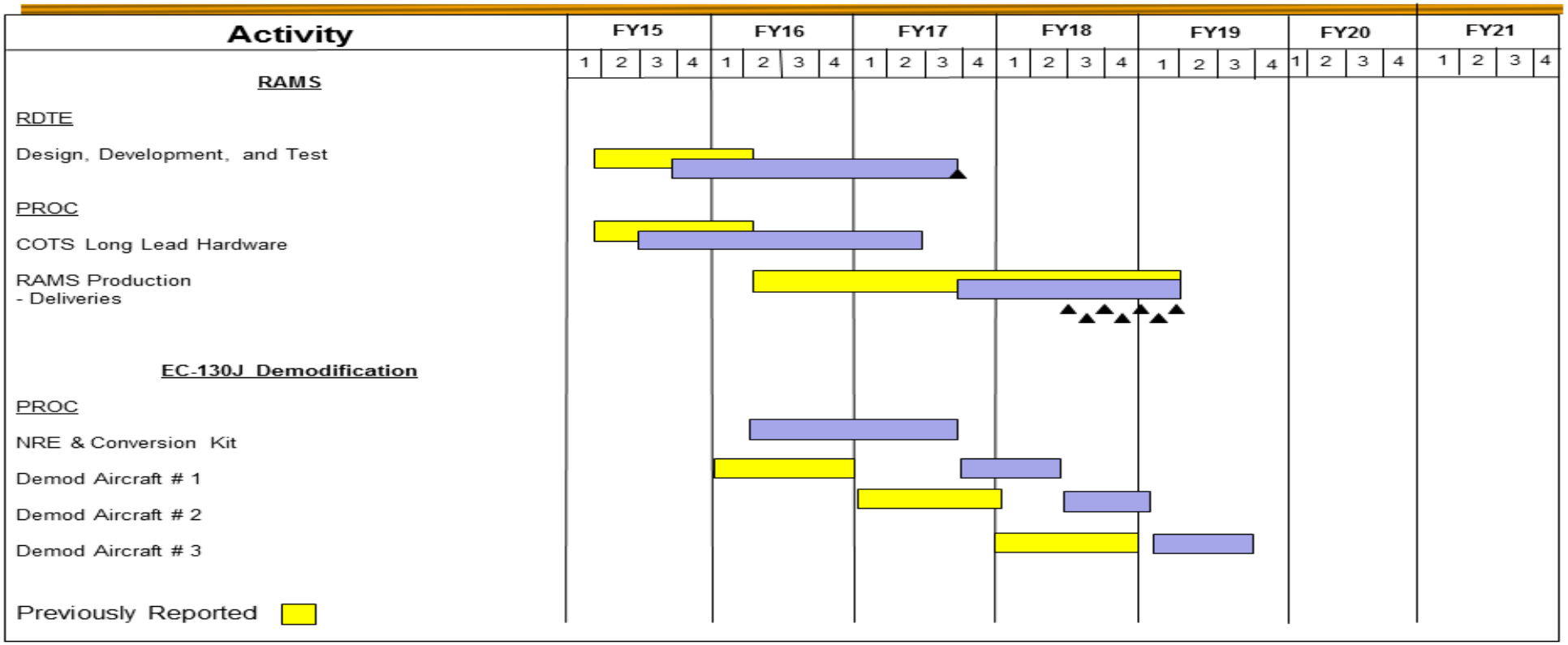

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100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

ISR Payload

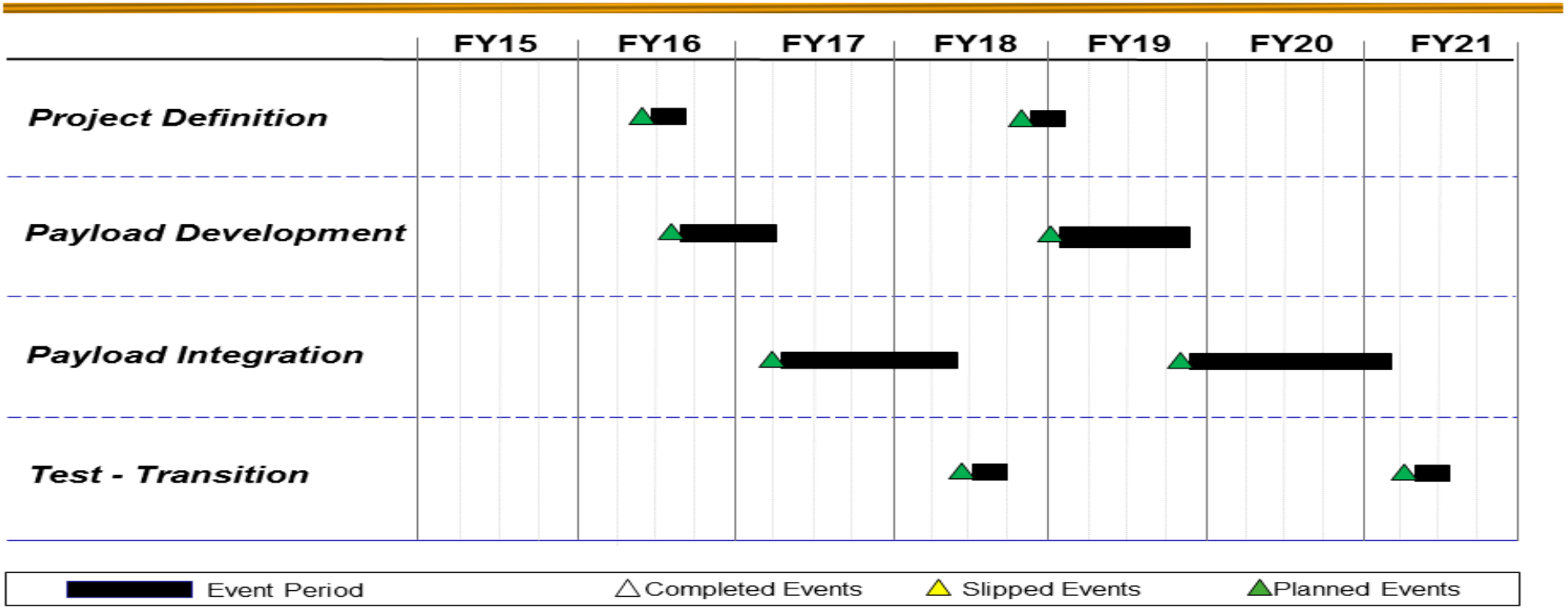

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100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

Schedule Details

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

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

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

Project MDAP/MAIS Code: 212

A. Mission Description and Budget Item Justification

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

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

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

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

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

C. Other Program Funding Summary ($ in Millions)

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

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

N/A

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

Product Development ($ in Millions)

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

Test and Evaluation ($ in Millions)

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

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

Remarks

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

CV-22 Schedule

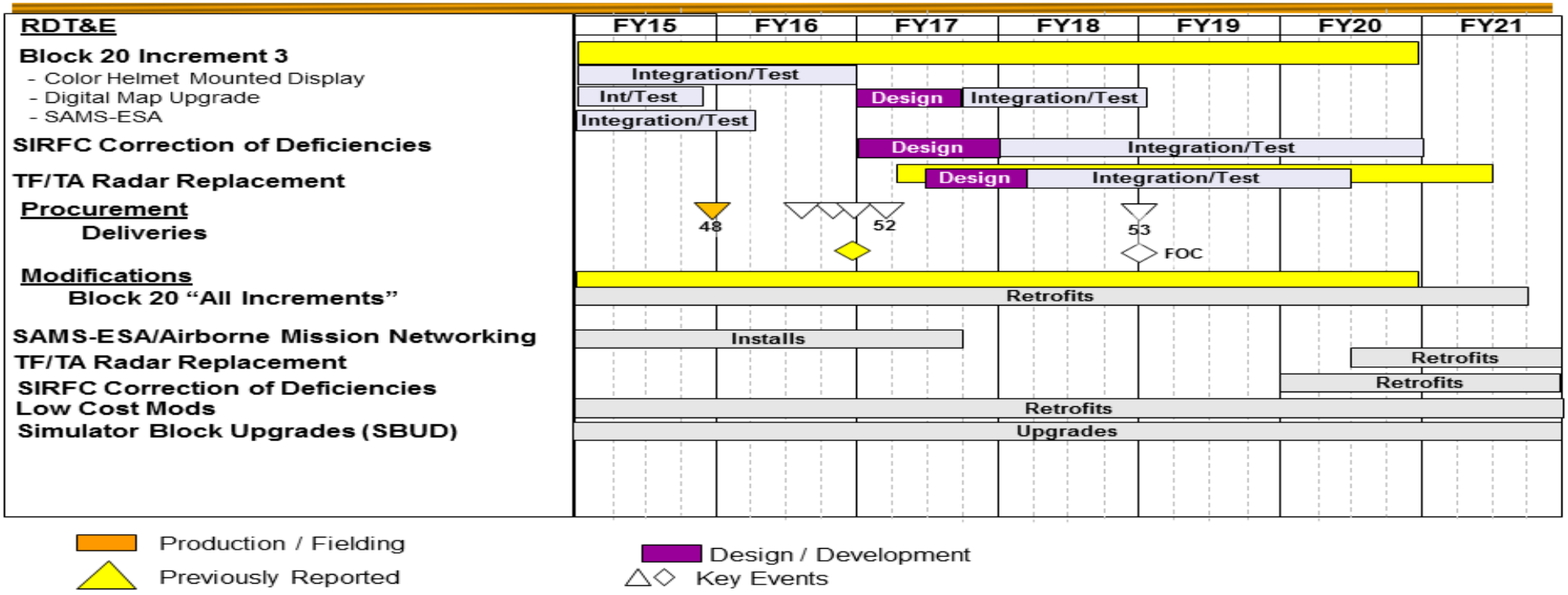

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

Schedule Details

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

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

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

A. Mission Description and Budget Item Justification

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

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

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

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

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

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

N/A

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

Product Development ($ in Millions)

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

Support ($ in Millions)

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

Test and Evaluation ($ in Millions)

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

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

Remarks

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

SOMPE Schedule

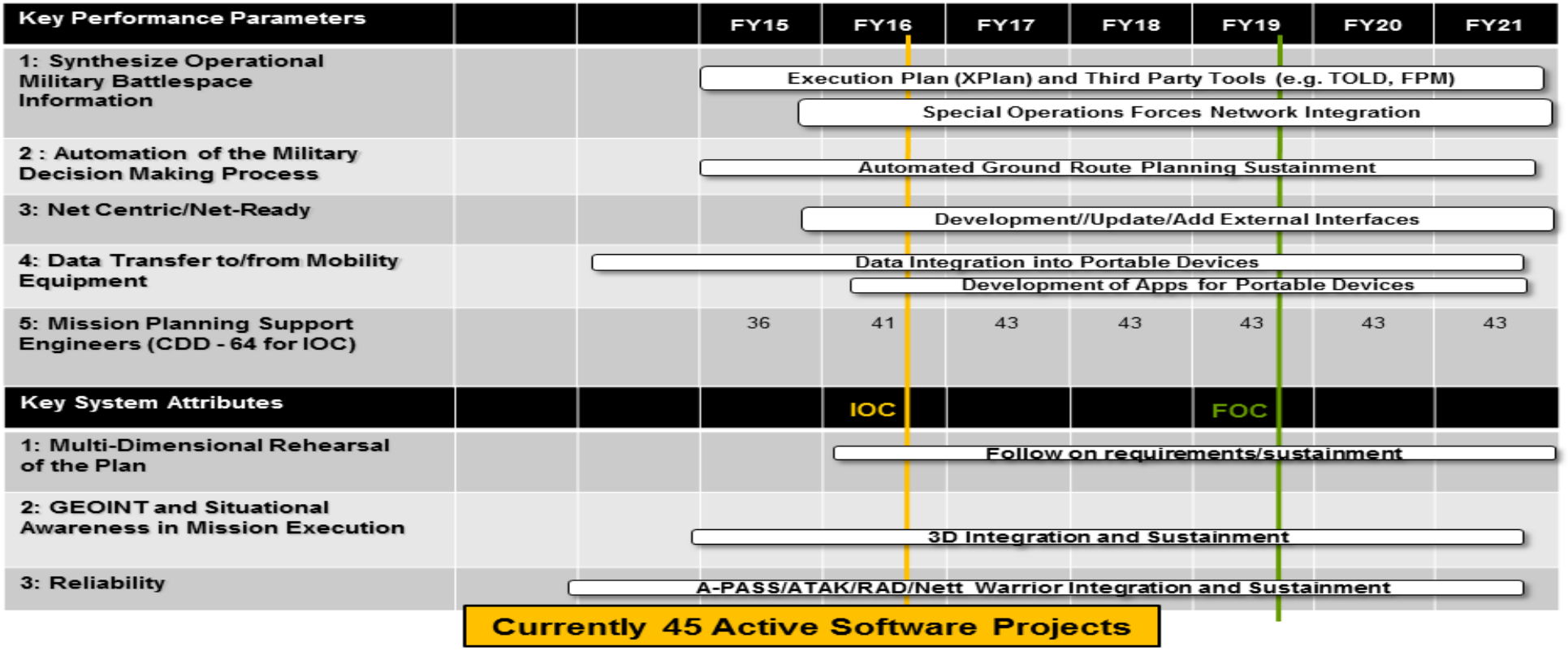

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750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

Schedule Details

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

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

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

A. Mission Description and Budget Item Justification

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

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

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

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

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

C. Other Program Funding Summary ($ in Millions)

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

Remarks

D. Acquisition Strategy

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

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

E. Performance Metrics

N/A

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

Product Development ($ in Millions)

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

Test and Evaluation ($ in Millions)

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

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

Remarks

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

MC-130J Schedule

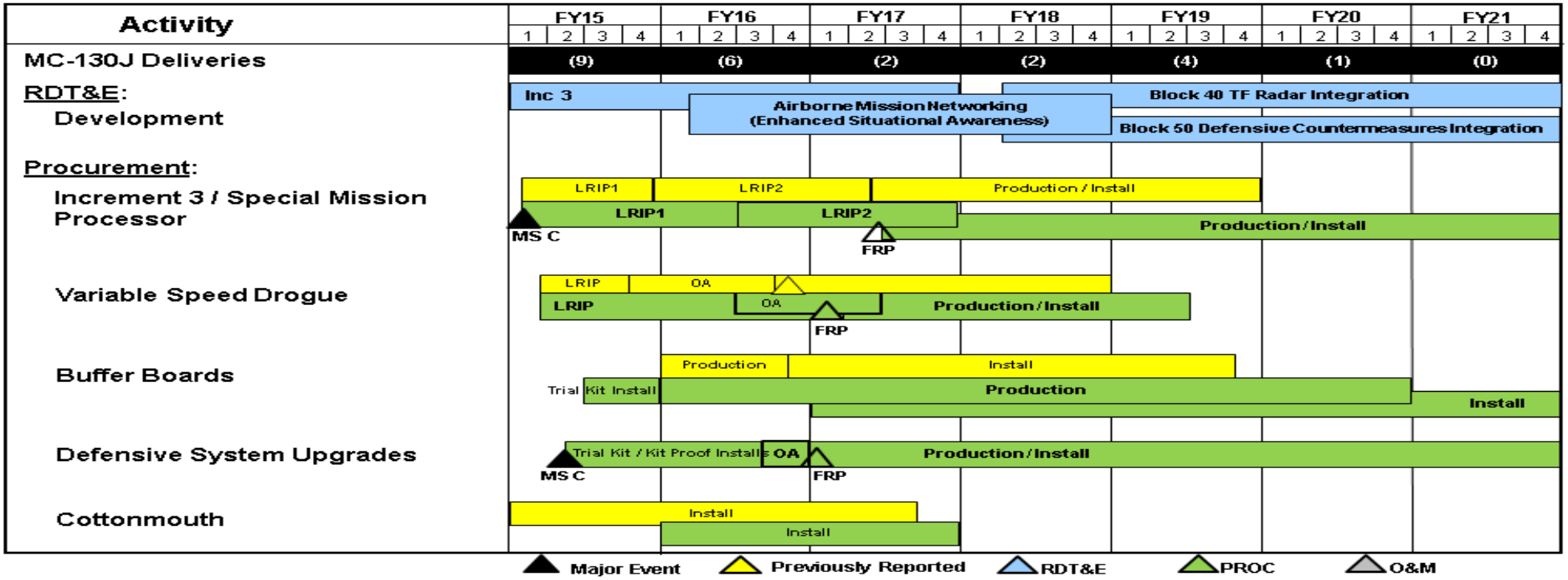

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

AC-130J/PSP Integrated Schedule

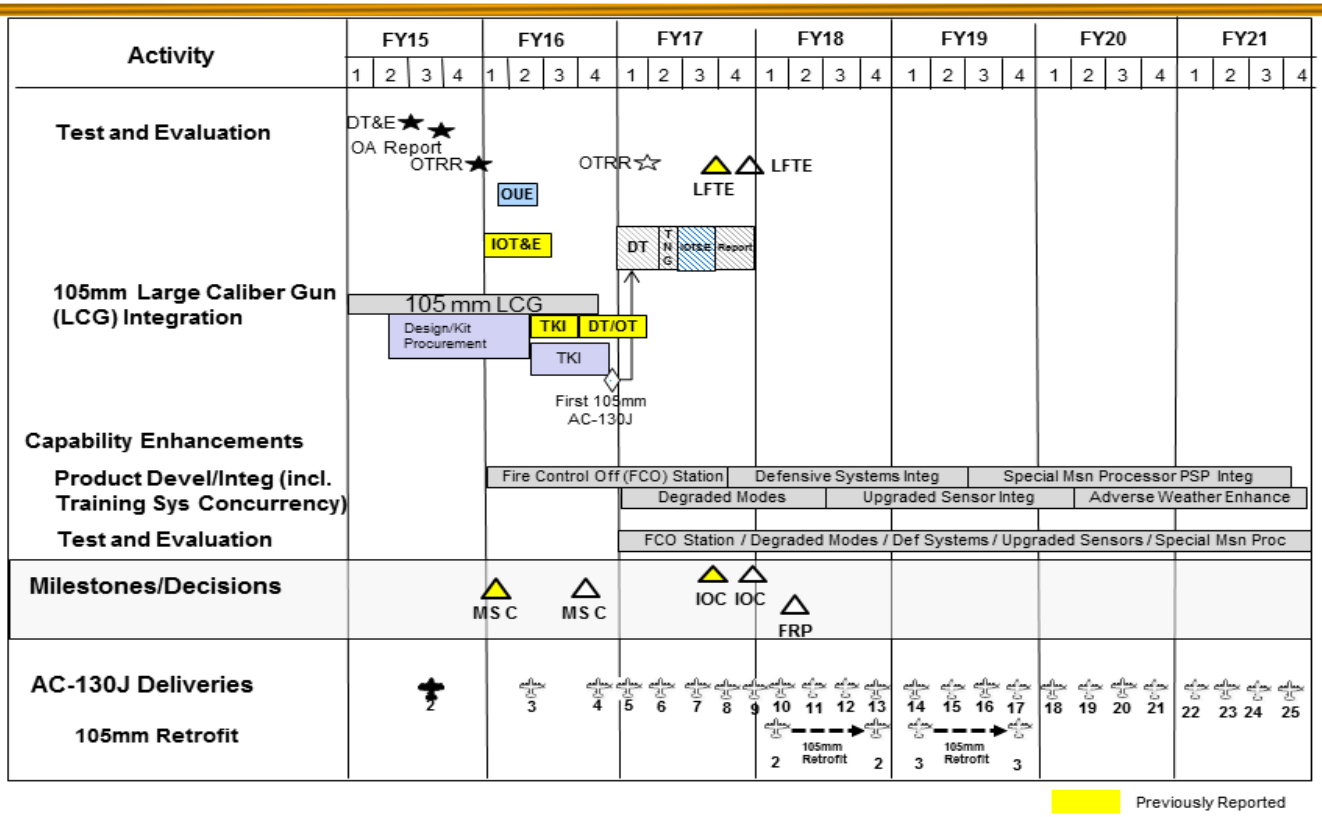

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875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

Schedule Details

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

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

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

A. Mission Description and Budget Item Justification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. Other Program Funding Summary ($ in Millions)

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

Remarks

D. Acquisition Strategy

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

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

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

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

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

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

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

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

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

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

E. Performance Metrics

N/A

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

Product Development ($ in Millions)

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

Test and Evaluation ($ in Millions)

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

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

Remarks

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

A/MH-6M Block 3.0 Upgrade Schedule

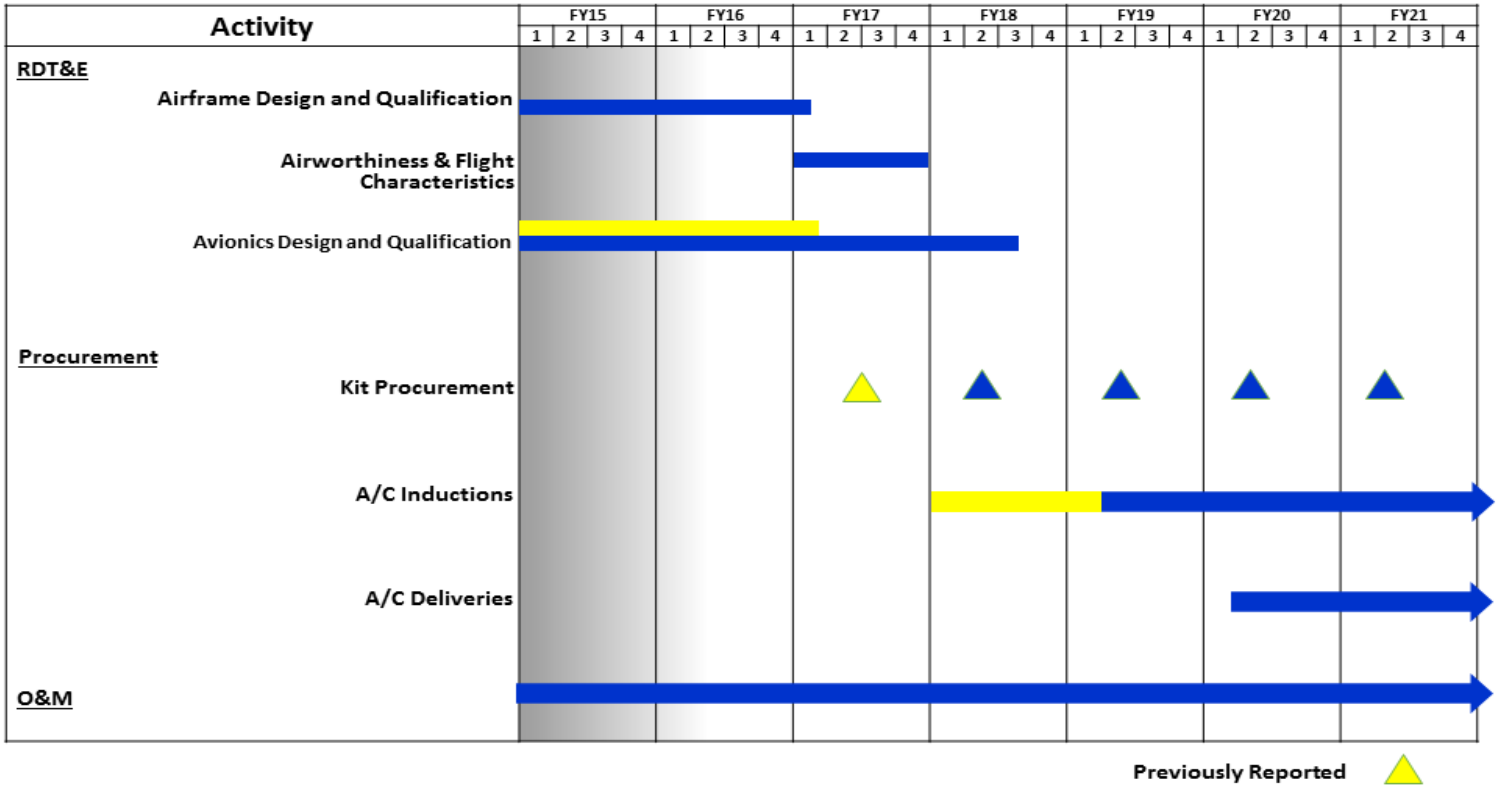

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

MH-60M Block Upgrades Schedule

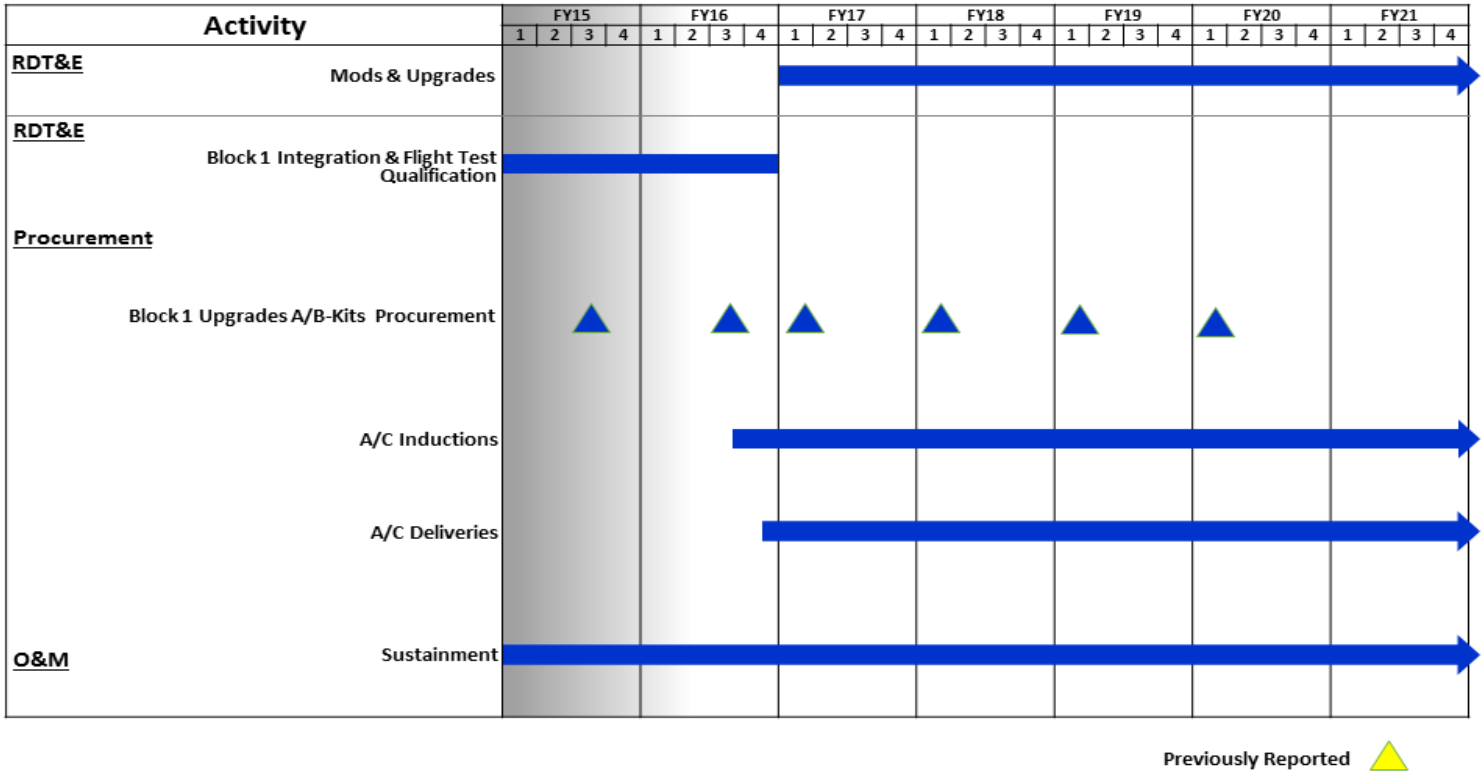

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Degraded Visual Environment Schedule

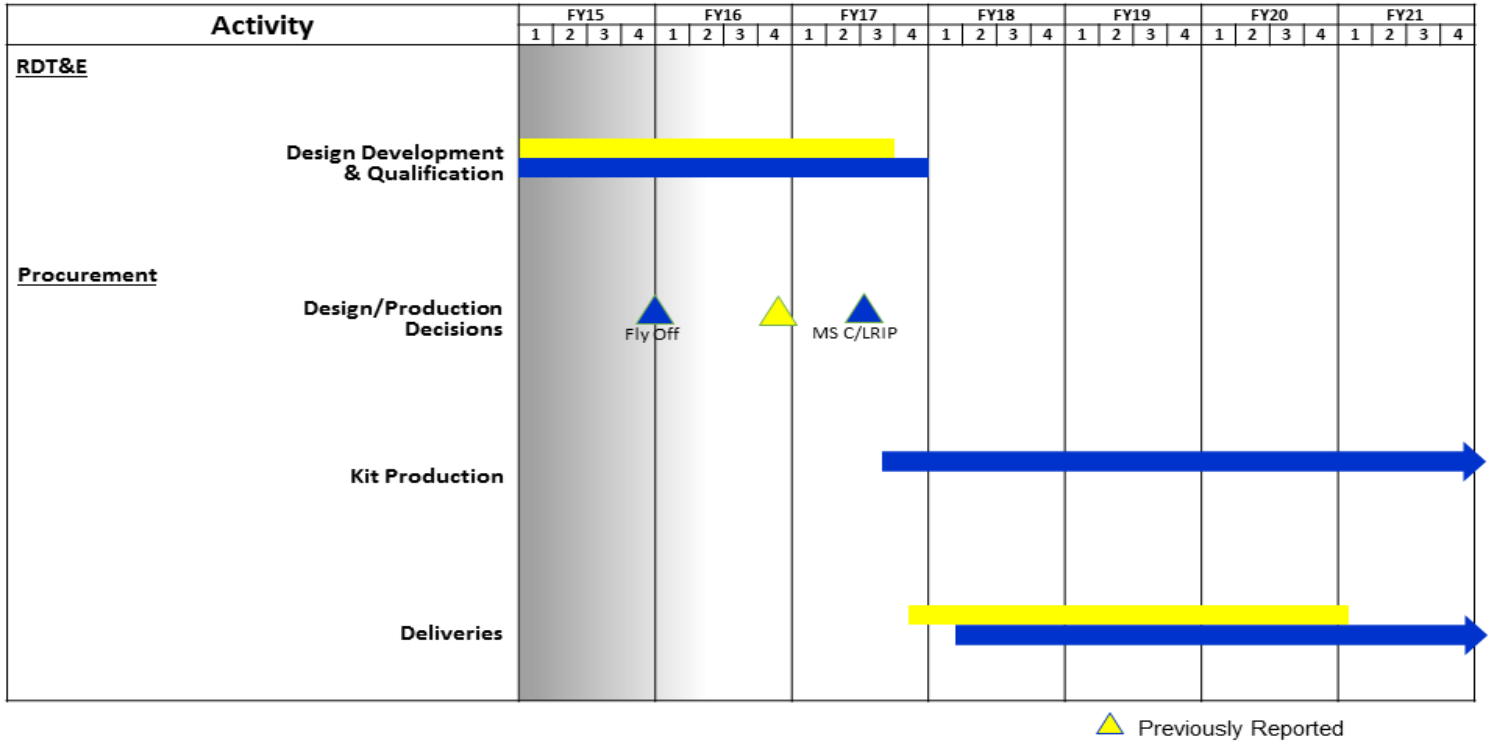

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Future Vertical Lift Schedule

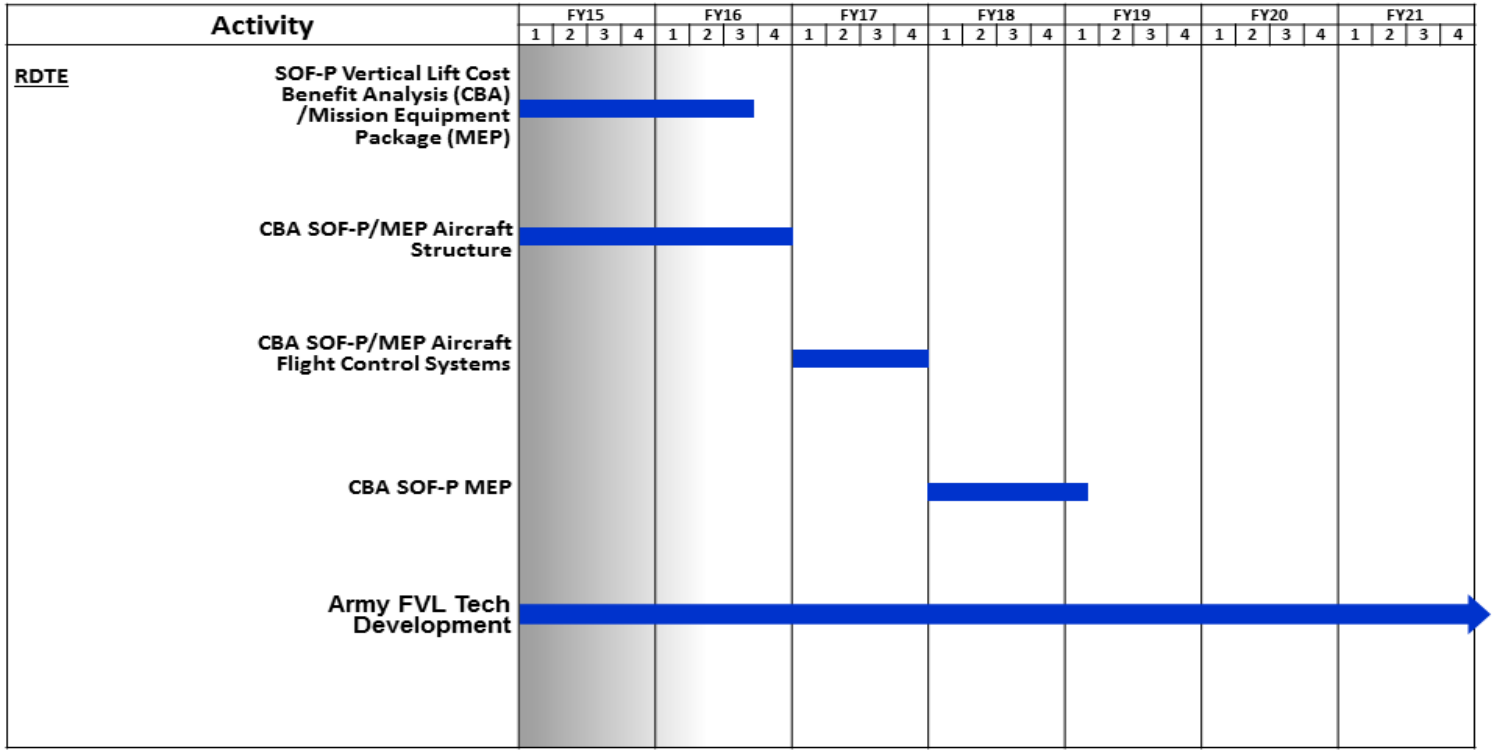

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Infrared Countermeasures Schedule

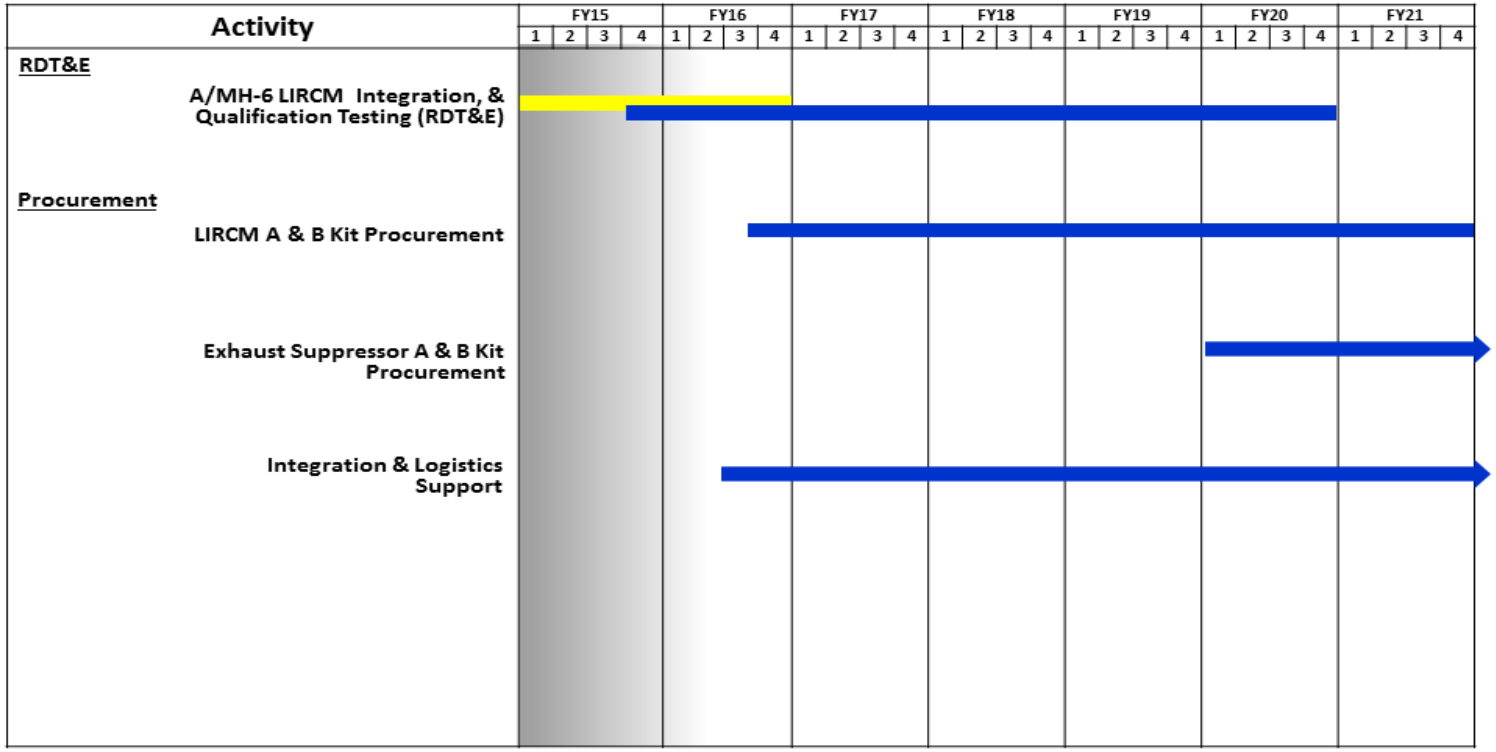

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

MH-47 Modifications & Upgrades Schedule

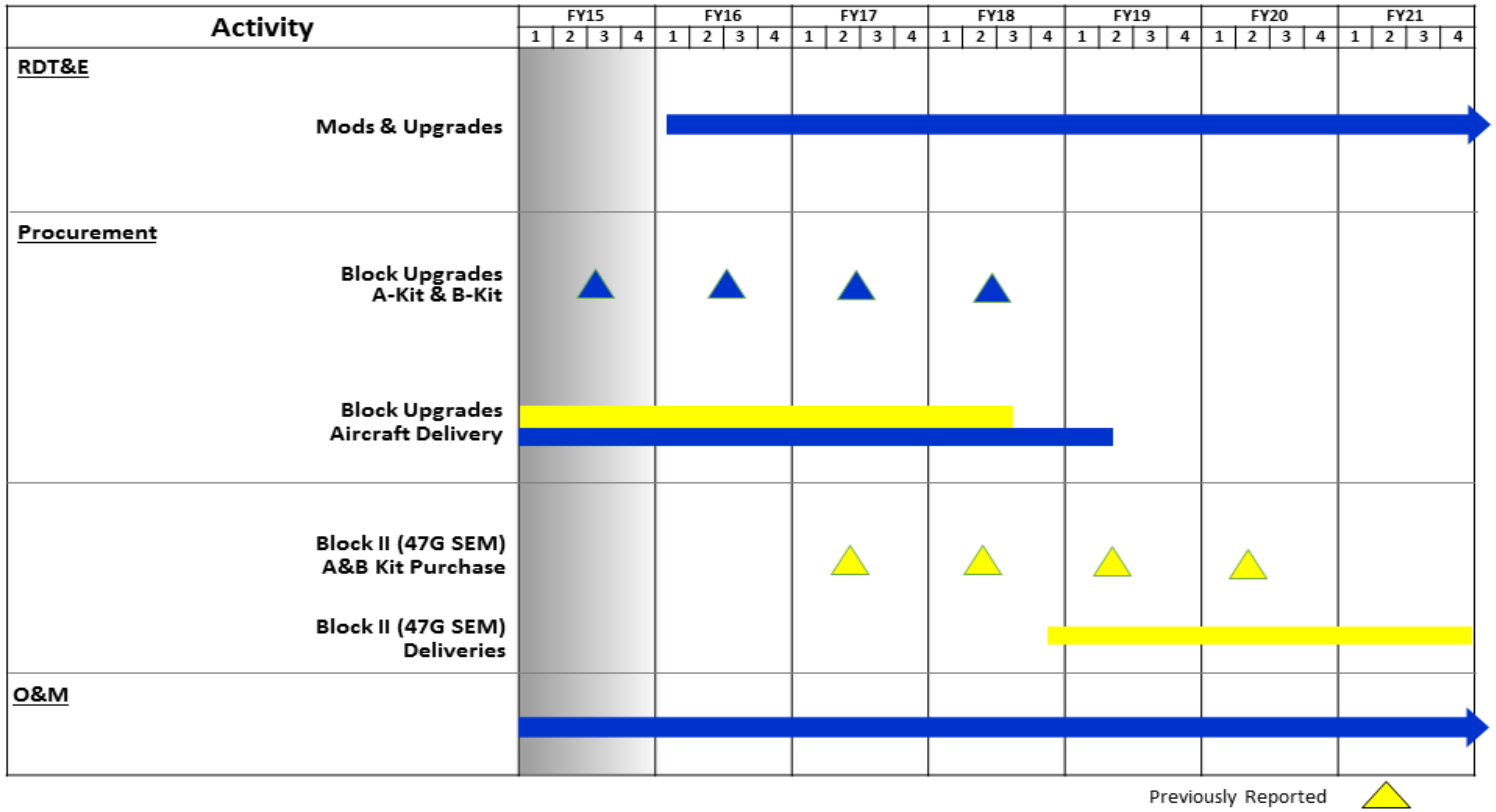

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Mission Processor Upgrades Schedule

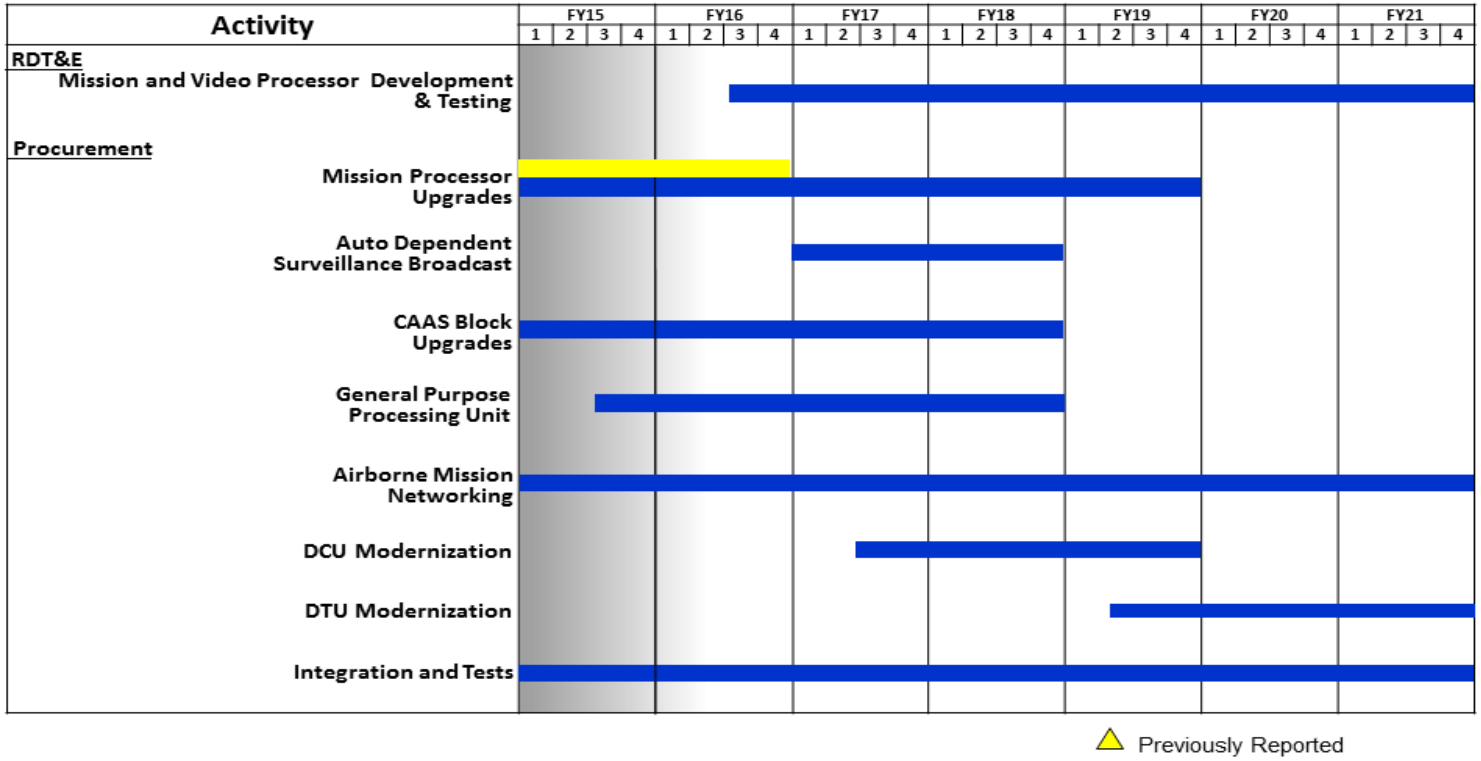

Exhibit R-4, RDT&E Schedule Profile: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Next Generation FLIR Schedule

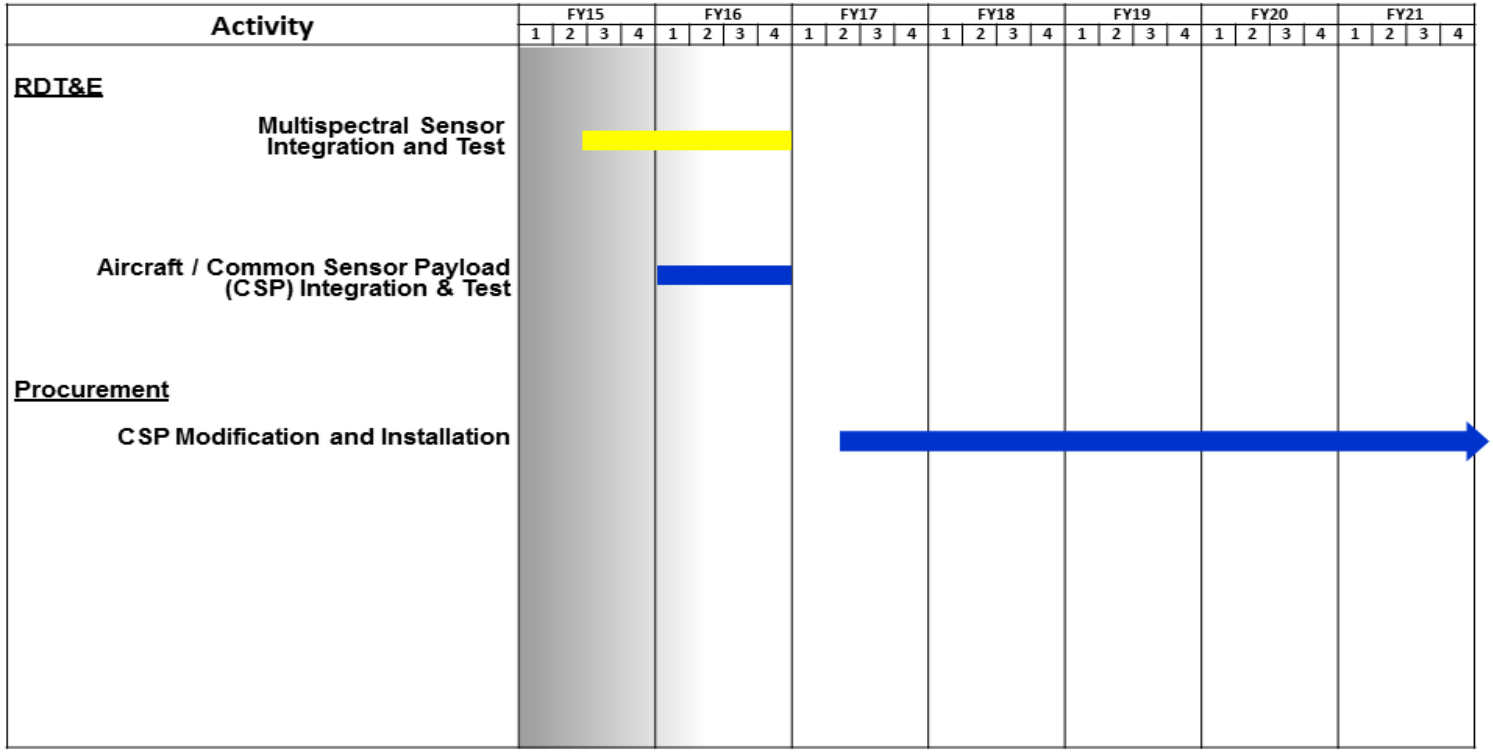

Exhibit R-4A, RDT&E Schedule Details: PB 2017 United States Special Operations Command		Date: February 2016
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Schedule Details

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