Exhibit R-2, RDT&E Budget Item Justification: PB 2016 United States Special Operations Command	Date: February 2015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	448.154	131.119	158.733	173.934	-	173.934	133.619	80.310	68.533	47.190	Continuing	Continuing
SF100: *Aviation Systems Advanced Development*	448.154	86.074	78.199	92.830	-	92.830	84.939	34.988	20.554	22.926	Continuing	Continuing
SF200: *CV-22*	0.000	2.817	0.182	-	-	-	0.707	14.372	21.806	-	-	39.884
S750: *Mission Training and Preparation Systems*	0.000	4.696	7.333	7.052	-	7.052	7.051	6.874	7.035	7.086	Continuing	Continuing
S875: *AC/MC-130J*	0.000	9.915	5.629	7.398	-	7.398	8.024	6.719	2.329	-	Continuing	Continuing
D615: *Rotary Wing Aviation*	0.000	27.617	67.390	66.654	-	66.654	32.898	17.357	16.809	17.178	Continuing	Continuing

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) for AC-130W; 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 & Reconnaissance (ISR); data fusion; threat detection and avoidance; navigation, target detection, and identification technologies; weapons integration; digital broadcast capabilities; aerial refueling; 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 10: Integrated and tested Directional Infrared Countermeasures, a system that protects against infrared guided missiles; designed, integrated and validated the Troop Commander Situational Awareness Station that provides the embarked troop commander access to the CV-22's communication, navigation and mission management system; relocated the ALE-47 chaff and flare dispenser control head to allow any cockpit crew member to activate defensive countermeasures; added a second forward firing chaff and flare dispenser to provide an adequate quantity of consumable countermeasures for the extended duration of SOF infiltration, exfiltration, and resupply missions; and incorporate a dual access feature to the Digital Map System to allow both the pilot and co-pilot to independently access and control the digital map display from the mission computer.
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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 United States Special Operations Command	Date: February 2015
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 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 AC-130H Spectre, AC-130W Stinger II, AC-130U Spooky, MC-130E Combat Talon I, MC-130P Combat Shadow, MC-130H Combat Talon II. 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 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; airdrop of leaflets, small special operations teams, resupply bundles and combat rubber raiding craft; and provide close air support, air interdiction, armed reconnaissance, escort, and force protection - integrated base defense. 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. 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 2016 United States Special Operations Command	Date: February 2015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	130.811	164.233	151.349	-	151.349
Current President's Budget	131.119	158.733	173.934	-	173.934
Total Adjustments	0.308	-5.500	22.585	-	22.585
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.308	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	22.585	-	22.585

Change Summary Explanation

Funding:

FY 2014: Increase of $0.308 million supports flight and qualification testing for MH-60M Block Upgrades.

FY 2015: Net decrease of $5.500 million is due to congressional reductions to the C-130 Terrain Following Radar System for under execution (-$4.000 million) and EC-130J Commando Solo as a new start (-$1.500 million).

FY 2016: Net increase of $22.585 million is due to an increase for Degraded Visual Environment integration and flight test ($7.688 million); to improve size, weight, power and integration of payloads for SOF ISR ($1.344 million); tactical flight management system and electronic warfare bus access for Commando II ($5.562 million); C-130 Terrain Following Radar ($10.251 million); and decreases for higher command priorities (-$1.000 million) and a Departmental economic assumption decrease (-$1.260 million).

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command			Date: February 2015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
SF100: *Aviation Systems Advanced Development*	448.154	86.074	78.199	92.830	-	92.830	84.939	34.988	20.554	22.926	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) for AC-130W, AC-130H replacement aircraft, and other SOF 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 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 at program start, situational awareness and threat response processing, which 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 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 other SOF platforms. Missions for the AC-130 aircraft include, but are not limited to, Close Air Support (CAS), Air Interdiction, Armed Reconnaissance, Escort, and Force Protection - Integrated Base Defense. 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 2016 United States Special Operations Command		Date: February 2015
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.

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

• Sensor Technology: Development, integration, and testing of sensor miniaturization effort to place large ISR platform capability, such as Group 4-5 unmanned aerial systems (UASs) into various smaller ISR platforms such as Group 2-3 UASs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: EC-130J Upgrades	1.235	3.503	4.161
FY 2014 Accomplishments: Continued integration of SOF-unique implementation of the C-130J block cycle upgrade installed on the EC-130J Commando Solo aircraft.			
FY 2015 Plans: Begin development of trial kit installation of C-130J block cycle upgrade.			
FY 2016 Plans: Continues development and testing of trial kit installation of C-130J block cycle upgrade.			
Title: ESA	0.724	0.182	-
FY 2014 Accomplishments: Continued risk reduction, development and integration of an ESA system on SOF C-130 aircraft.			
FY 2015 Plans: Begin flight test ESA system on SOF C-130 aircraft.			
Title: EW – RFCM	1.936	16.181	43.691
FY 2014 Accomplishments: Initiated risk reduction activities and development efforts for an EW-RFCM system on AC/MC-130J aircraft.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command		Date: February 2015
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 2014	FY 2015	FY 2016
Conduct source selection and begin program to develop, integrate and test EW capability against RF threats for SOF AC/MC-130J aircraft. ***FY 2016 Plans:*** Continues development, integration and testing to provide EW capability against RF threats for SOF AC/MC-130J aircraft.			
Title: PSP for SOF ***FY 2014 Accomplishments:*** Continued development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft. ***FY 2015 Plans:*** Continue development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft. ***FY 2016 Plans:*** Continues development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft.	22.092	15.136	10.169
Title: PSP Large Caliber Gun ***FY 2014 Accomplishments:*** Started development, integration and test of large caliber gun capability upgrade of the PSP on AC-130 aircraft. ***FY 2015 Plans:*** Continue development, integration and testing of large caliber gun capability upgrade of the PSP on AC-130 aircraft. ***FY 2016 Plans:*** Completes development, integration and testing of large caliber gun capability upgrade of the PSP on AC-130 aircraft.	17.414	5.931	3.926
Title: C-130 Terrain Following (TF) Radar System ***FY 2014 Accomplishments:*** Continued development, integration and test of the TF Radar System on MC-130J aircraft. Supported developmental flight testing and an Operational Utility Evaluation for the first software spiral providing initial TF Capabilities. Also supported development, integration and test efforts for LPI TF capabilities on MC-130J aircraft as part of a second software spiral. ***FY 2015 Plans:*** Continue development, integration, test and Operational Utility Evaluation of the TF radar system on two MC-130J aircraft to accelerate MC-130J TF fielding and capability. ***FY 2016 Plans:***	23.662	28.642	27.174

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command		Date: February 2015
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 2014	FY 2015	FY 2016
Continues development, integration and test of the TF radar system on two MC-130J development testing aircraft. Also supports development and test efforts for integrating the TF radar system with the MC-130J Increment 3 special mission processors.			
Title: SOF Common Terrain Following/Terrain Avoidance (TF/TA) (Silent Knight) Radar ***FY 2014 Accomplishments:*** Continued EMD of SOF Common TF/TA radar. Continued Developmental flight testing. ***FY 2015 Plans:*** Complete EMD of SOF Common TF/TA radar. Perform qualification flight testing.	19.011	7.212	-
Title: EC-130J Commando Solo ***FY 2015 Plans:*** Begin development, integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft. ***FY 2016 Plans:*** Continues integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft.	-	1.412	2.375
Title: Intelligence, Surveillance, and Reconnaissance Payload ***FY 2016 Plans:*** This is an FY 2016 new start. Begins development, integration, and testing of sensor miniaturization effort to place large ISR platform capability, such as Group 4-5 unmanned aerial systems (UASs) into various smaller ISR platforms such as Group 2-3 UASs.	-	-	1.334
Accomplishments/Planned Programs Subtotals	86.074	78.199	92.830

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PROC1: *C-130 Modifications*	56.032	25.414	66.861	-	66.861	73.853	36.368	32.890	33.549	Continuing	Continuing
• PROC2: *Precision Strike Package*	90.220	131.929	204.105	-	204.105	213.720	218.400	222.024	227.066	Continuing	Continuing
• PROC3: *Rotary Wing Upgrades and Sustainment*	114.156	112.226	133.445	-	133.445	193.603	175.047	151.291	147.121	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.

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

• ESA: Air Force integration of off-the-shelf hardware and software into into carry-on kits for enhanced situational awareness hardware to include processors and displays.

• EW – RFCM: Award a competitive Engineering and Manufacturing Development (EMD) contract for development, integration and test of an RF Countermeasure system on AC/MC-130J aircraft.

• PSP for SOF: Incremental acquisition strategy to integrate and test the PSP and capability enhancements on MC-130J aircraft provided by the U.S. Air Force and the 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 competitive EMD contract for development, integration and test in FY 2012. Executing incremental acquisition strategy with contractor flight testing FY 2014; USG Development, Test, and Evaluation FY 2015; Operational Test and Evaluation FY 2016 with Initial Operating Capability Q3 FY 2016.

• SOF Common TF/TA (Silent Knight) Radar: Competitive EMD and low-rate initial production (LRIP) I contract 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 (FRP) contract using LRIP price points will be awarded.

• 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.

• Sensor Technology: Effort is being executed via an incremental acquisition strategy based on the state of existing sensor technology. The focus will be on miniaturization and combining of SIGINT, Electro-optical, and infra-red sensor capability onto an existing ISR platform.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 United States Special Operations Command			Date: February 2015
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 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EC-130J Upgrades	C/CPIF	Lockheed Martin : Marietta, GA	4.576	1.235	Dec 2013	3.503	Dec 2014	4.161	Dec 2015	-		4.161	Continuing	Continuing	-
Enhanced Situational Awareness (ESA)	C/Various	Robins AFB : Warner-Robins, GA	1.576	0.724	Dec 2014	0.182	Jun 2015	-		-		-	-	2.482	-
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)	C/TBD	TBD : TBD	0.000	1.936	Mar 2014	16.181	Jul 2015	43.691	Jul 2016	-		43.691	Continuing	Continuing	-
Precision Strike Package (PSP) for SOF - Prime Mission Product	SS/ Various	Various : Various	73.996	11.406	Mar 2014	5.794	Mar 2015	-		-		-	-	91.196	-
PSP Large Caliber Gun	C/TBD	Various : Various	0.000	9.083	Mar 2014	2.436	Mar 2015	2.426	Jan 2016	-		2.426	-	13.945	-
C-130 Terrain Following (TF) Radar System	C/CPIF	Scientific Research Corporation : Atlanta, GA	36.926	16.429	Jan 2014	12.889	Jan 2015	16.855	Jan 2016	-		16.855	Continuing	Continuing	-
SOF Common Terrain Following/Terrain Avoidance (TF/TA) (Silent Knight) Radar - Systems Engineering	C/Various	Various : Various	16.970	0.338	Dec 2013	1.554	Jan 2015	-		-		-	-	18.862	-
SOF Common TF/TA (Silent Knight) Radar Prime Mission Product	C/CPIF	Raytheon : Dallas, TX	79.490	0.339	Dec 2013	0.085	Jan 2015	-		-		-	-	79.914	-
EC-130J Commando Solo	C/TBD	Various : Various	0.000	-		1.412	Apr 2015	2.375	Dec 2015	-		2.375	Continuing	Continuing	-
Intelligence, Surveillance, and Reconnaissance Payload	TBD	Various : Various	-	-		-		1.334	Mar 2016	-		1.334	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	80.572	-		-		-		-		-	-	80.572	-
		Subtotal	294.106	41.490		44.036		70.842		-		70.842	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 United States Special Operations Command		Date: February 2015
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 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSP for SOF	C/Various	Various : Various	2.409	2.476	Jan 2014	0.581	Dec 2014	-		-		-	-	5.466	-
PSP Large Caliber Gun	C/Various	Various : Various	0.000	1.051	Mar 2014	0.145	Dec 2014	-		-		-	-	1.196	-
C-130 TF Radar System	C/CPIF	Scientific Research Corporation : Atlanta, GA	-	2.001	Mar 2014	3.339	Dec 2014	3.028	Dec 2015	-		3.028	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	TBD	Various : Various	22.334	-		-		-		-		-	-	22.334	-
		Subtotal	24.743	5.528		4.065		3.028		-		3.028	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSP for SOF	C/Various	Various : Various	1.970	8.210	Jan 2014	8.761	Jan 2015	10.169	Jan 2016	-		10.169	Continuing	Continuing	-
PSP Large Caliber Gun	C/Various	Various : Various	0.000	7.280	Mar 2014	3.350	Jan 2015	1.500	Jan 2016	-		1.500	-	12.130	-
C-130 TF Radar System	C/CPIF	Scientific Research Corporation : Atlanta, GA	-	2.612	Mar 2014	8.950	Dec 2014	5.046	Dec 2015	-		5.046	Continuing	Continuing	-
SOF Common TF/TA (Silent Knight) Radar	C/CPIF	Various : Various	99.310	16.443	Dec 2013	4.912	Jan 2015	-		-		-	Continuing	Continuing	-
		Subtotal	101.280	34.545		25.973		16.715		-		16.715	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 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	Mar 2014	3.464	Dec 2014	2.245	Dec 2015	-		2.245	Continuing	Continuing	-
SOF Common TF/TA (Silent Knight) Radar	C/CPIF	Raytheon : Dallas, TX	28.025	1.891	Dec 2013	0.661	Jan 2015	-		-		-	-	30.577	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 United States Special Operations Command		Date: February 2015
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 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	28.025	4.511		4.125		2.245		-		2.245	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	448.154	86.074		78.199		92.830		-		92.830	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

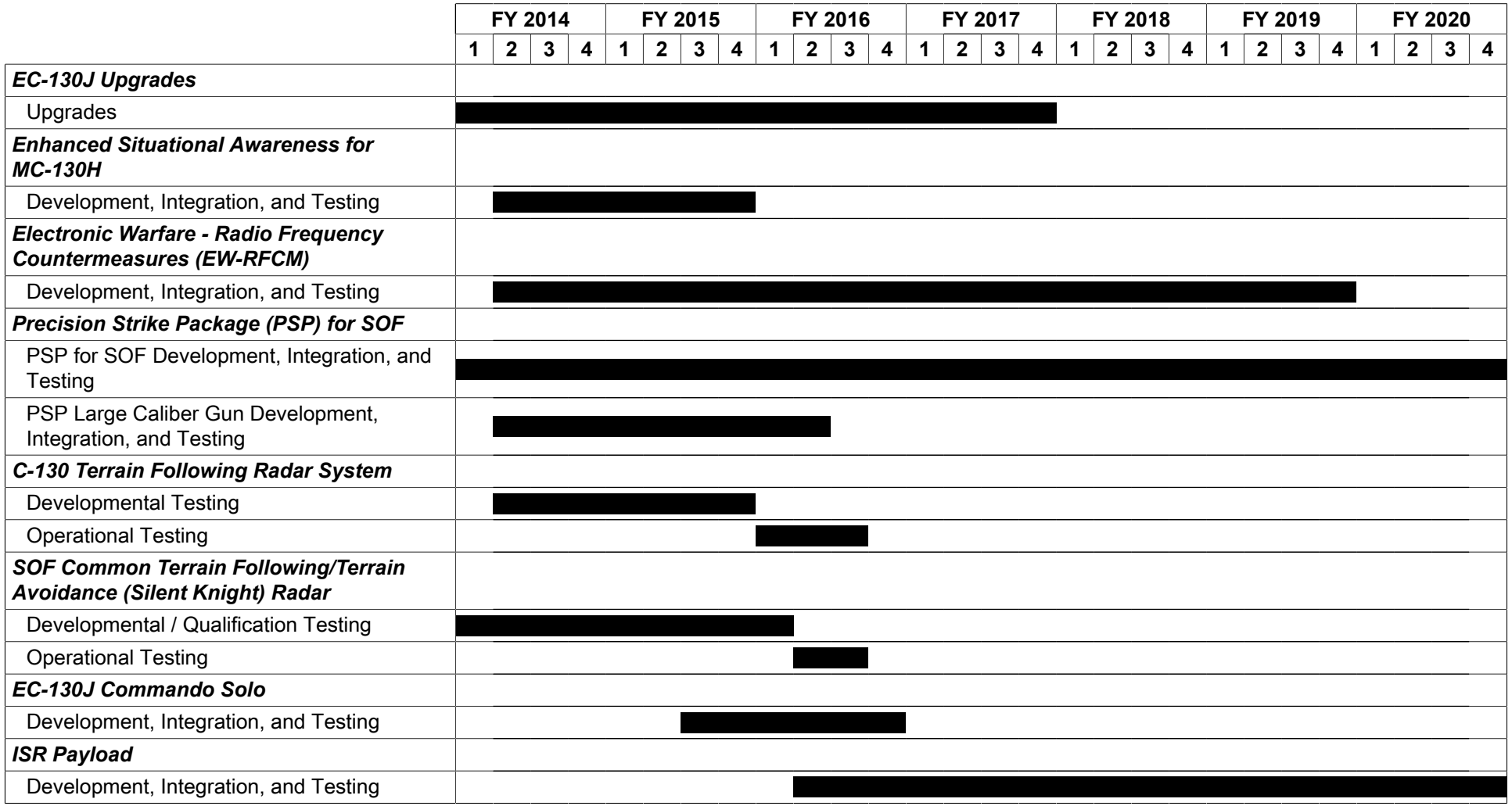

Exhibit R-4A, RDT&E Schedule Details: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
EC-130J Upgrades				
Upgrades	1	2014	4	2017
Enhanced Situational Awareness for MC-130H				
Development, Integration, and Testing	2	2014	4	2015
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)				
Development, Integration, and Testing	2	2014	4	2019
Precision Strike Package (PSP) for SOF				
PSP for SOF Development, Integration, and Testing	1	2014	4	2020
PSP Large Caliber Gun Development, Integration, and Testing	2	2014	2	2016
C-130 Terrain Following Radar System				
Developmental Testing	2	2014	4	2015
Operational Testing	1	2016	3	2016
SOF Common Terrain Following/Terrain Avoidance (Silent Knight) Radar				
Developmental / Qualification Testing	1	2014	1	2016
Operational Testing	2	2016	3	2016
EC-130J Commando Solo				
Development, Integration, and Testing	3	2015	4	2016
ISR Payload				
Development, Integration, and Testing	2	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command			Date: February 2015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
SF200: *CV-22*	-	2.817	0.182	-	-	-	0.707	14.372	21.806	-	-	39.884
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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 and associated training systems. 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. 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, robust performance in situational awareness, weapons, avionics, survivability, maneuverability, mission deployment, improved reliability and maintainability of the CV platform.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: CV-22 Aircraft Block 20	2.817	0.182	-
FY 2014 Accomplishments: Continued ESA development providing enhanced, correlated, fusion and display, threat response, training and simulation capabilities and developmental testing for aircraft block upgrades.			
FY 2015 Plans: Complete ESA development providing enhanced, correlated, fusion and display, threat response, training and simulation capabilities and developmental testing for aircraft block upgrades.			
Accomplishments/Planned Programs Subtotals	2.817	0.182	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PROC1: *CV-22 SOF Modification*	104.199	21.578	18.832	-	18.832	20.158	18.522	23.307	21.505	-	228.101
• PROC/V022A0: *Aircraft Procurement CV-22 (MYP)*	230.798	-	-	-	-	-	-	-	-	-	4,272.414
• RDT&E1/0401318F: *RDT&E, USAF*	46.705	39.202	26.728	-	26.728	16.073	14.566	14.828	-	131.500	613.166
• RDT&E/0604262N: *V-22 RDT&E, N BA-05*	43.084	68.816	60.659	-	60.659	53.319	53.063	-	-	273.513	9,363.505

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command		Date: February 2015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

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 10 RDT&E funding was sent from USSOCOM to NAVAIRSYSCOM to be placed on contract with the V-22 prime contractor. Block 10 capability is required for compliance with the Joint Operational Requirements Document and associated Milestone III Capabilities Production Document. 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 2016 United States Special Operations Command			Date: February 2015
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 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Enhanced Situational Awareness	SS/ Various	Bell-Boeing; 413FLTS : Amarillo, Tx; Fort Worth, TX	0.000	0.881	Mar 2014	0.182	Mar 2015	-		-		-	-	1.063	-
		Subtotal	0.000	0.881		0.182		-		-		-	-	1.063	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Test and Evaluation (Block 20)	SS/ Various	Bell-Boeing; 413FLTS : Amarillo, Tx; Fort Worth, TX	0.000	0.936	Jan 2014	-		-		-		-	-	0.936	-
System Test and Evaluation (ESA)	SS/ Various	Bell-Boeing; Dyncorp : Amarillo, TX; Fort Worth, TX	0.000	1.000	Dec 2013	-		-		-		-	-	1.000	-
		Subtotal	0.000	1.936		-		-		-		-	-	1.936	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.817		0.182		-		-		-	-	2.999	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

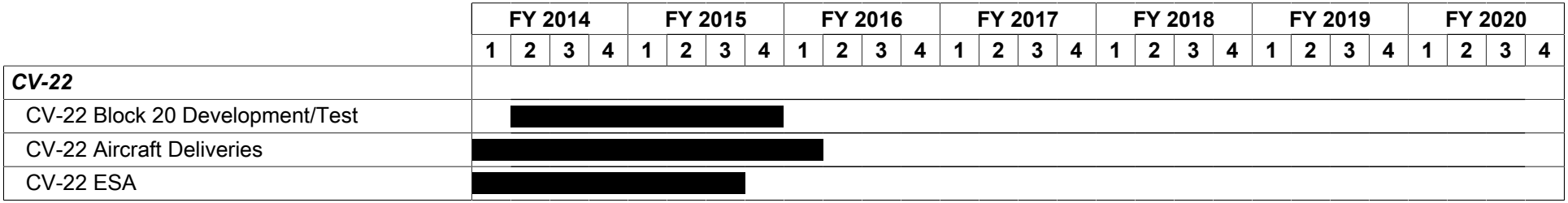

Exhibit R-4A, RDT&E Schedule Details: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CV-22				
CV-22 Block 20 Development/Test	2	2014	4	2015
CV-22 Aircraft Deliveries	1	2014	1	2016
CV-22 ESA	1	2014	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command			Date: February 2015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
S750: *Mission Training and Preparation Systems*	-	4.696	7.333	7.052	-	7.052	7.051	6.874	7.035	7.086	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 2014	FY 2015	FY 2016
Title: SOMPE	4.696	7.333	7.052
FY 2014 Accomplishments: Continued 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. Continued testing of mission planning, data transfer and performance software.			
FY 2015 Plans: Continue 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,			

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command		Date: February 2015
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 2014	FY 2015	FY 2016
airplanes, and simulator/rehearsal systems, and automated performance models and performance prediction software. Continue testing of mission planning, data transfer and performance software. ***FY 2016 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	4.696	7.333	7.052

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 2016 United States Special Operations Command			Date: February 2015
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 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Special Operations Mission Planning and Execution (SOMPE) Software	MIPR	Various : Various	-	3.999	Jan 2014	5.942	Jan 2015	5.650	Jan 2016	-		5.650	Continuing	Continuing	-
		Subtotal	-	3.999		5.942		5.650		-		5.650	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOMPE Software	MIPR	Special Operations Mission Planning Office : Fort Eustis, VA	-	0.256	Feb 2014	0.332	Feb 2015	0.363	Feb 2016	-		0.363	Continuing	Continuing	-
		Subtotal	-	0.256		0.332		0.363		-		0.363	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOMPE Software	C/CPFF	Wyle-CAS : Huntsville, AL	-	0.441	Jan 2014	1.059	Jan 2015	1.039	Jan 2016	-		1.039	Continuing	Continuing	-
		Subtotal	-	0.441		1.059		1.039		-		1.039	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	4.696		7.333		7.052		-		7.052	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

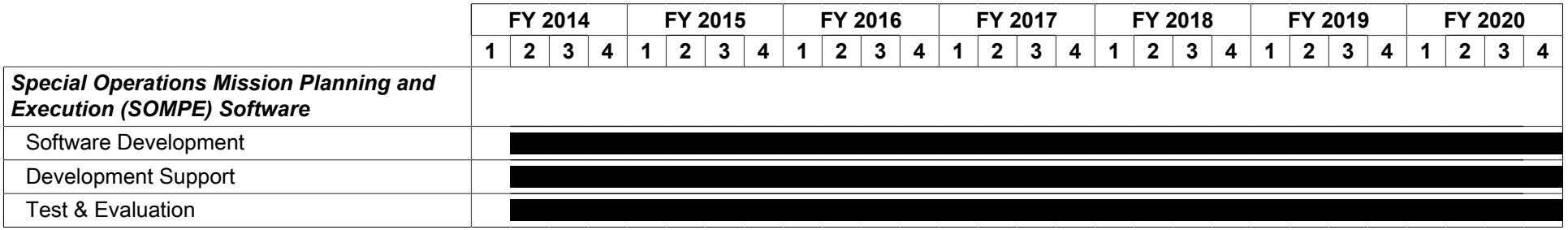

Exhibit R-4A, RDT&E Schedule Details: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Special Operations Mission Planning and Execution (SOMPE) Software				
Software Development	2	2014	4	2020
Development Support	2	2014	4	2020
Test & Evaluation	2	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command			Date: February 2015
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
S875: *AC/MC-130J*	-	9.915	5.629	7.398	-	7.398	8.024	6.719	2.329	-	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 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 configuration. These platforms 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; airdrop leaflets, small special operations teams, resupply bundles and combat rubber raiding craft; and close air support (CAS), air interdiction, armed reconnaissance, escort, and force protection - integrated base defense. 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 2014	FY 2015	FY 2016
Title: MC-130J	5.412	2.848	6.118
FY 2014 Accomplishments: Continued SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
FY 2015 Plans: Continue SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
FY 2016 Plans: Continues SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
Title: ESA	0.631	1.705	0.705
FY 2014 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command		Date: February 2015
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 2014	FY 2015	FY 2016
Initiated ESA integration and test on the MC-130J aircraft. ***FY 2015 Plans:*** Continue ESA integration and test. ***FY 2016 Plans:*** Continues ESA integration and test.			
Title: AC-130J ***FY 2014 Accomplishments:*** Developed and tested aircraft modification designs for PSP kit installation. ***FY 2015 Plans:*** Develop and tests aircraft modification designs for PSP kit installation. ***FY 2016 Plans:*** Develops and tests aircraft modification designs for PSP kit installation.	3.872	1.076	0.575
Accomplishments/Planned Programs Subtotals	9.915	5.629	7.398

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PROC1: *AC/MC-130J*	54.070	70.988	61.368	-	61.368	63.567	157.117	176.794	207.572	Continuing	Continuing
• PROC2: *Precision Strike Package*	90.220	131.929	204.105	-	204.105	213.730	218.400	222.024	227.066	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, test and production/retrofit of SOF-unique mission equipment under this program and the USSOCOM PSP program.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 United States Special Operations Command			Date: February 2015
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 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MC-130J	C/Various	Lockheed Martin : Atlanta, GA	-	5.412	Apr 2014	2.848	Mar 2015	6.118	Mar 2016	-		6.118	Continuing	Continuing	-
Enhanced Situational Awarness	C/Various	Lockheed Martin : Atlanta, GA	-	0.631	Jul 2014	1.705	Dec 2014	0.705	Jan 2016	-		0.705	Continuing	Continuing	-
AC-130J	C/Various	Lockheed Martin : Lexington, KY	-	3.872	Jan 2014	1.076	Jan 2015	0.575	Jan 2016	-		0.575	Continuing	Continuing	-
		Subtotal	-	9.915		5.629		7.398		-		7.398	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	9.915		5.629		7.398		-		7.398	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

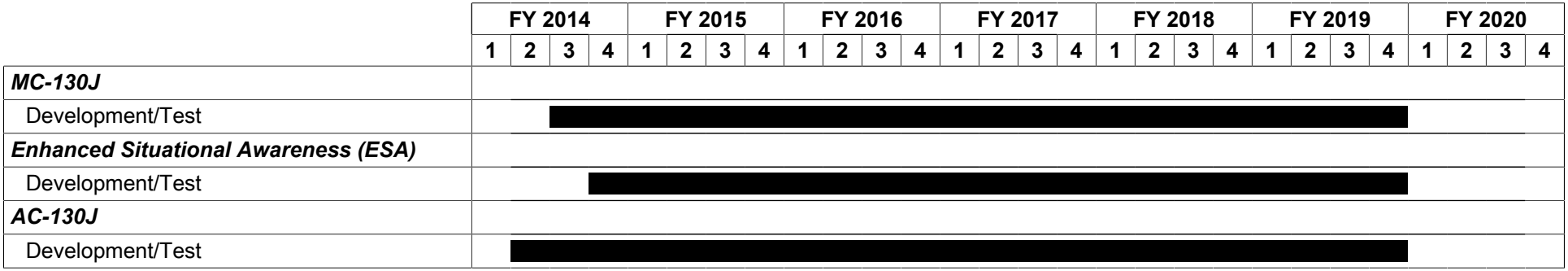

Exhibit R-4A, RDT&E Schedule Details: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MC-130J				
Development/Test	3	2014	4	2019
Enhanced Situational Awareness (ESA)				
Development/Test	4	2014	4	2019
AC-130J				
Development/Test	2	2014	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command											Date: February 2015	
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 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
D615: *Rotary Wing Aviation*	-	27.617	67.390	66.654	-	66.654	32.898	17.357	16.809	17.178	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. 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 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.

• MH-60M SOF Modernization program provides for the recurring/non-recurring systems engineering and platform integration efforts, to include continued flight and qualification testing and test support for MH-60M Block program.

• 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.

• 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.

Exhibit R-2A, RDT&E Project Justification: PB 2016 United States Special Operations Command		Date: February 2015
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

• Infrared Countermeasure (IRCM) program provides a low Size, Weight, and Power (SWaP) capability suitable for the A/MH-6 Mission Enhanced Little Bird. The IRCM program will develop, integrate, qualify, and test a complete lightweight IRCM system to include a missile warning system and countermeasure capability. The A/MH-6 is the only tactical aircraft in the U.S. Army 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 the Active Parallel Actuator System (APAS), Active Noise Cancellation (ANC), and Engine Barrier Filter.

• 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.

• Next Generation Forward Looking Infrared (NGFLIR) program is a pre-planned product improvement that incorporates a multispectral sensor (Shortwave Infrared, Image Intensifying TV, and Color Day TV) into the existing Q2 Electro-Optical Sensor System (EOSS). This will improve targeting, tracking, and aircrew situational awareness. This program also maximizes the service life of the Q2 sensor by mitigating obsolescence and increasing functionality on the light and heavy assault platforms within the ARSOA fleet.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: A/MH-6M Block 3.0 Upgrade	12.420	20.037	20.010
FY 2014 Accomplishments: Continued the development of cockpit upgrades, improved rotor systems, and upgrades to airframe. ***FY 2015 Plans:*** Continue development of cockpit upgrades, improved rotor systems, and upgrades to airframe. Continue component level qualification testing and Contract Data Requirements List development/submittals. Initiate system level qualification testing. ***FY 2016 Plans:*** Continues system level qualification of improved rotor system and initiates Airworthiness and Flight Characteristics testing.			
Title: MH-60M SOF Modernization Program	2.686	-	-
FY 2014 Accomplishments:			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Began flight and qualification testing for the MH-60M upgrades.			
Title: MH-60M Block Upgrades ***FY 2015 Plans:*** Continue flight and qualification testing for the MH-60M Block Upgrades ***FY 2016 Plans:*** Continues integration and flight qualification for the MH-60M Block Upgrades.	-	13.500	12.666
Title: DVE ***FY 2014 Accomplishments:*** Completed Phase I DVE sensor development culminating in ground test of three candidate technical solutions. ***FY 2015 Plans:*** Continue Phase II DVE sensor development culminating in flight test of two candidate technical solutions. ***FY 2016 Plans:*** Continues integration and testing of the selected DVE technical solution.	11.523	16.976	13.465
Title: FVL ***FY 2014 Accomplishments:*** Began to identify classes of FVL technology development most applicable to SOF Aviation platforms and participated in the Analysis of Alternatives conducted by the Joint FVL Program Office. ***FY 2015 Plans:*** Continue participation in the Joint Integrated Product Team materiel solution analysis with a focus on injecting SOF requirements into the baseline planning and requirements documents that provides a minimum of SOF-peculiar modifications. Focus will be on current fleet operations and support cost analysis, logistics analysis, and cost estimation methodology to include front end better buying power initiatives. ***FY 2016 Plans:*** Continues science and technology effort aligned with the future SOF-peculiar requirements.	0.488	1.299	1.282
Title: IRCM ***FY 2014 Accomplishments:*** Conducted market analysis and trade studies in parallel with requirement definition completion. ***FY 2015 Plans:***	0.500	2.498	3.450

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Begin development, integration, and qualification testing of a missile warning and lightweight IRCM systems for A/MH-6 aircraft. ***FY 2016 Plans:*** Continues development, integration, and qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft.			
Title: MH-47 Low Cost Modifications ***FY 2015 Plans:*** Begin development of APAS and the Engine Barrier Filter for the MH-47G. ***FY 2016 Plans:*** Continues development of APAS and the Engine Barrier Filter for MH-47G.	-	7.000	11.753
Title: MPU ***FY 2015 Plans:*** Begin development and testing of replacement mission and video processors for the ARSOA platforms. ***FY 2016 Plans:*** Continues development and testing of replacement mission and video processors for the ARSOA platforms.	-	3.000	3.032
Title: NGFLIR ***FY 2015 Plans:*** Begin development, integration, and testing of the multi-spectral sensor into the Q2 EOSS. ***FY 2016 Plans:*** Continues development, integration, and testing of the multi-spectral sensor into the Q2 EOSS.	-	3.080	0.996
Accomplishments/Planned Programs Subtotals	27.617	67.390	66.654

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PROC 1: *Rotary Wing Upgrades and Sustainment*	114.156	112.226	133.445	-	133.445	193.603	175.047	151.291	147.121	Continuing	Continuing

Remarks

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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 Modernization Program 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. Contractor flight test support will be conducted by Sikorsky Aircraft while aircraft modification efforts will be performed at the 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. DVE will increase MH-60 and MH-47 and warfighter survivability in degraded visual environments.

• 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 will be a competitive source selection effort that 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. Special Operations Aviation requires the addition of IRCM to protect against increasingly proliferated and sophisticated infrared-guided weapons.

• MH-47 Modifications and Upgrades - These efforts 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.

• MPU - The GPPU NRE supports improvements to the video processing and Ethernet switch capabilities for CAAS aircraft. The engineering and testing will be sole-source to Rockwell Collins, the original equipment manufacturer (OEM) for the GPPU. The 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 OEM for the DCU. The Future Aircraft Architecture Studies will be competitively awarded.

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• NGFLIR integration of a multi-spectral sensor into the Q2 EOSS will be sole-source procurement through Raytheon. As the OEM, Raytheon maintains overall responsibility for the Q2 System, and will develop an acquisition strategy to develop, test, and integrate the multi-spectral sensor. Raytheon is closely monitoring the joint Technology Applications Program Office/Night Vision Electronic Sensors Directorate multi-spectral work, and is currently using Independent Research and Development to further mature that technology.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 United States Special Operations Command			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 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	0.000	12.420	Dec 2013	20.037	Jan 2015	20.010	Dec 2015	-		20.010	Continuing	Continuing	-
Degraded Visual Environment (DVE)	C/Various	PM TAPO : Ft Eustis, VA	0.000	11.523	Jul 2014	16.976	Jan 2015	13.465	Dec 2015	-		13.465	Continuing	Continuing	-
Future Verticle Lift (FVL)	C/Various	PEO-RW : MacDill AFB, FL	0.000	0.488	Jun 2014	1.299	Sep 2015	1.282	Feb 2016	-		1.282	Continuing	Continuing	-
Infrared Countermeasure (IRCM)	C/Various	PM TAPO : Ft Eustis, VA	0.000	0.500	Jul 2014	2.498	Apr 2015	3.450	Apr 2016	-		3.450	Continuing	Continuing	-
MH-47G Low Cost Mods	C/Various	PM TAPO : Eustis, VA	0.000	-		7.000	Jun 2015	11.753	Jun 2016	-		11.753	Continuing	Continuing	-
Mission Processor Upgrade (MPU)	C/Various	PM TAPO : Eustis, VA	0.000	-		3.000	Apr 2015	3.032	Apr 2016	-		3.032	Continuing	Continuing	-
Next Generation Foward Looking Infrared (NGFLIR)	C/Various	PM TAPO : Eustis, VA	0.000	-		3.080	Apr 2015	0.996	Apr 2016	-		0.996	Continuing	Continuing	-
		Subtotal	0.000	24.931		53.890		53.988		-		53.988	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MH-60M SOF Modernization Program	C/Various	Various : Various	0.000	2.686	Jun 2014	-		-		-		-	-	2.686	-
MH-60 Block Upgrades	C/Various	Various : Various	0.000	-		13.500	Apr 2015	12.666	Apr 2016	-		12.666	-	26.166	-
		Subtotal	0.000	2.686		13.500		12.666		-		12.666	-	28.852	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	27.617		67.390		66.654		-		66.654	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 United States Special Operations Command		Date: February 2015
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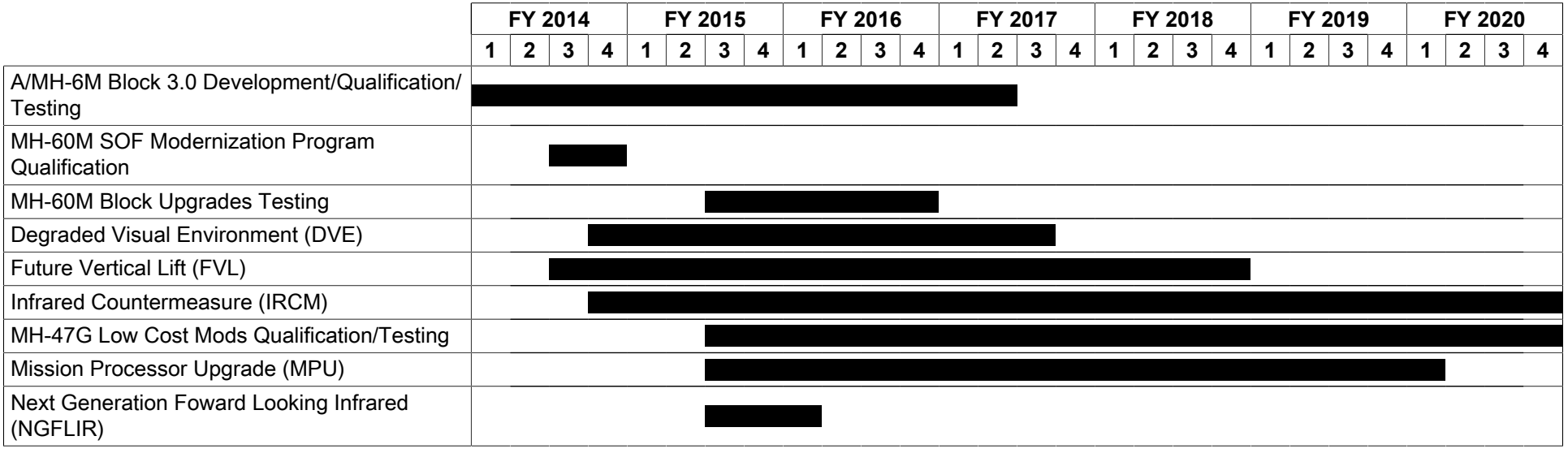

Exhibit R-4A, RDT&E Schedule Details: PB 2016 United States Special Operations Command		Date: February 2015
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
A/MH-6M Block 3.0 Development/Qualification/Testing	1	2014	2	2017
MH-60M SOF Modernization Program Qualification	3	2014	4	2014
MH-60M Block Upgrades Testing	3	2015	4	2016
Degraded Visual Environment (DVE)	4	2014	3	2017
Future Vertical Lift (FVL)	3	2014	4	2018
Infrared Countermeasure (IRCM)	4	2014	4	2020
MH-47G Low Cost Mods Qualification/Testing	3	2015	4	2020
Mission Processor Upgrade (MPU)	3	2015	1	2020
Next Generation Foward Looking Infrared (NGFLIR)	3	2015	1	2016