Exhibit R-2, RDT&E Budget Item Justification: PB 2015 United States Special Operations Command	Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	363.765	84.254	130.811	164.233	-	164.233	151.349	117.788	59.449	40.785	Continuing	Continuing
SF100: *Aviation Systems Advanced Development*	363.765	84.254	86.179	83.699	-	83.699	82.907	87.209	35.683	17.070	Continuing	Continuing
SF200: *CV-22*	0.000	-	2.817	0.182	-	0.182	-	-	-	-	-	2.999
S750: *Mission Training and Preparation Systems*	0.000	-	4.696	7.333	-	7.333	7.104	6.648	6.789	6.904	Continuing	Continuing
S875: *AC/MC-130J*	0.000	-	9.638	5.629	-	5.629	1.889	0.411	0.419	-	Continuing	Continuing
D615: *Rotary Wing Aviation*	0.000	-	27.481	67.390	-	67.390	59.449	23.520	16.558	16.811	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

Beginning in FY 2014 Aviation Systems Program Element 1160403BB represents the approved project consolidation of Aviation Systems Advanced Development Program Element (PE) 1160403BB, SO CV-22 Development PE 1160421BB, Mission Training and Preparation Systems PE 1160427BB, AC/MC-130J PE 1160429BB and SOF Rotary Wing Aviation PE 1160482BB.

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 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: Integrate and test Directional Infrared Countermeasures, a system that protects against infrared guided missiles; design, integrate and validate the Troop Commander Situational Awareness Station to

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 United States Special Operations Command	Date: March 2014
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*

provide the embarked troop commander access to the CV-22's communication, navigation and mission management system; relocate the ALE-47 chaff and flare dispenser control head to allow any cockpit crew member to activate defensive countermeasures; add 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, intelligence, surveillance and reconnaissance, weapons, avionics, survivability, maneuverability, mission deployment and improved reliability and maintainability of the CV platform.

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 and rehearsal required to meet SOF-unique mission requirements and correct deficiencies in current mission planning and rehearsal 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 systems.

AC/MC-130J:
The AC/MC-130J project funds core 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, 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 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 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.

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 2015 United States Special Operations Command	Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	97.267	156.561	123.687	-	123.687
Current President's Budget	84.254	130.811	164.233	-	164.233
Total Adjustments	-13.013	-25.750	40.546	-	40.546
• Congressional General Reductions	-7.835	-			
• Congressional Directed Reductions	-	-21.412			
• Congressional Rescissions	-0.127	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.090	-			
• SBIR/STTR Transfer	-2.961	-4.338			
• Other Adjustments	-	-	40.546	-	40.546

Change Summary Explanation

Funding:

FY 2013: Net decrease of $13.686 million is due to sequestration reductions (-$7.835million), congressional rescissions (-$0.127million), a reprogramming to higher command priorities (-$2.09 million) and a transfer of funds to Small Business Innovative Research (-$2.961million).

FY 2014: Net decrease of $ $25.750 million is due to congressional reduction to C-130 TF radar system (-$15.225 million), general program reduction (-$6.187 million), and a transfer of funds to Small Business Innovative Research/Small Business Technology Transfer programs (-$4.338 million).

FY 2015: Increase of $40.546 million funds EW-RFCM and TF Radar.

Schedule: None.

Technical: None.

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
SF100: *Aviation Systems Advanced Development*	363.765	84.254	86.179	83.699	-	83.699	82.907	87.209	35.683	17.070	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 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.

• SOF C-130 Avionics Modifications: Provides for development necessary to maintain current SOF-unique capabilities for SOF C-130 aircraft. Includes the fit/function/interface replacement of the mission computers on the MC-130H and AC-130U aircraft due to obsolescence issues with the current AP-102 mission computer.

• 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: 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.

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

• 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.

• 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.

• SOF Common (TF/TA (Silent Knight) Radar: Supports Engineering and Manufacturing Development, and developmental, qualification, and operational flight testing of a SOF common 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, MC-130 Combat Talon and CV-22 Tilt-Rotor aircraft.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SOF C-130 Avionics Modifications ***FY 2013 Accomplishments:*** Completed the Mission Computer Replacement.	0.277	-	-
Title: EC-130J Upgrades ***FY 2013 Accomplishments:*** Continued integration of SOF-unique implementation of the C-130J block cycle upgrade installed on the EC-130J Commando Solo aircraft. ***FY 2014 Plans:*** Continue integration of SOF-unique implementation of the C-130J block cycle upgrade installed on the EC-130J Commando Solo aircraft. ***FY 2015 Plans:*** Begins development of trial kit installation of C-130J block cycle upgrade.	0.118	0.670	3.503
Title: Enhanced Situational Awareness ***FY 2013 Accomplishments:*** Initiated risk reduction, development and integration of an ESA system on SOF C-130 aircraft. ***FY 2014 Plans:*** Continue risk reduction, development and integration of an ESA system on SOF C-130 aircraft. ***FY 2015 Plans:*** Begins flight test ESA system on SOF C-130 aircraft.	1.682	0.881	0.182
Title: EW – RFCM	-	1.936	16.181

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2014 Plans: Initiate risk reduction activities and development efforts for an EW-RFCM system on AC/MC-130J aircraft. ***FY 2015 Plans:*** Supports contract award for development, integration and test activities to provide EW capability against RF threats for SOF AC/MC-130J aircraft.			
Title: PSP for SOF ***FY 2013 Accomplishments:*** Continued development, integration, test, and system improvement of the PSP on MC-130J aircraft. ***FY 2014 Plans:*** Continue development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft. ***FY 2015 Plans:*** Continues development, integration, test, and system improvement of the PSP on SOF C-130s and other SOF aircraft.	41.810	14.384	15.136
Title: PSP Large Caliber Gun ***FY 2014 Plans:*** Develop, integrate and test large caliber gun capability upgrade of the PSP on AC-130J aircraft ***FY 2015 Plans:*** Continues development, integration and testing of large caliber gun capability upgrade of the PSP on AC-130 aircraft	-	17.555	5.931
Title: C-130 TF Radar System ***FY 2013 Accomplishments:*** Continued development and integration of the TF Radar System onto MC-130J aircraft. ***FY 2014 Plans:*** Continue development, integration and test of the TF Radar System on MC-130J aircraft. Support developmental flight testing and an Operational Utility Evaluation for the first software spiral providing initial TF Capabilities. Also support development, integration and test efforts for LPI TF capabilities on MC-130J aircraft as part of a second software spiral. ***FY 2015 Plans:*** Continues development, integration and test of the TF radar system on two MC-130J aircraft to accelerate MC-130J TF fielding and capability.	18.382	28.804	32.642
Title: SOF Common TF/TA (Silent Knight) Radar	21.985	21.949	7.212

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Continued EMD of SOF Common TF/TA radar. Continued developmental flight testing. Received Milestone C approval and initiated Low Rate Initial Production contract. ***FY 2014 Plans:*** Continue EMD of SOF Common TF/TA radar. Completes development flight testing and performs qualification flight testing. ***FY 2015 Plans:*** Continues EMD of SOF Common TF/TA radar. Performs operational flight testing.			
Title: EC-130J Commando Solo ***FY 2015 Plans:*** FY 2015 New Start. Begins development, integration and testing of digital broadcast capabilities on the EC-130J Commando Solo aircraft.	-	-	2.912
Accomplishments/Planned Programs Subtotals	84.254	86.179	83.699

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PROC1: *C-130 Modifications*	20.643	60.545	39.095	-	39.095	61.950	67.254	33.150	33.338	Continuing	Continuing
• PROC2: *Precision Strike Package*	67.362	93.520	145.929	-	145.929	223.351	245.749	251.450	255.045	539.347	1,821.753
• PROC3: *Rotary Wing Upgrades and Sustainment*	74.733	110.456	112.226	-	112.226	127.575	185.251	162.518	147.355	Continuing	Continuing

Remarks

D. Acquisition Strategy

• SOF C-130 Avionics Modifications: Develop a fit/function/ interface replacement mission computer and rehost existing Operational Flight Program and Fire Control Software. Effort is being executed via an incremental acquisition strategy based on SOF C-130 avionics obsolescence mitigation need dates.

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

• ESA: Award competitive development contract for software integration effort for enhanced situational awareness hardware to include processors and displays.

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
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: 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 DT&E FY 2015; OTE FY 2016 with IOC Q3 FY 2016.

• SOF Common TF/TA (Silent Knight) Radar: Executing incremental acquisition strategy with the MH-47G as the lead platform. A competitive EMD contract with an option for six low-rate initial production (LRIP) units was awarded to Raytheon in FY 2007. MH-60M Group A design and integration effort was awarded in FY 2010. Follow-on platforms (MC -130 & CV-22) Group A design and integration efforts will be awarded. Group A production and installation contracts will be awarded. A follow-on radar production contract using LRIP price points will be awarded.

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

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

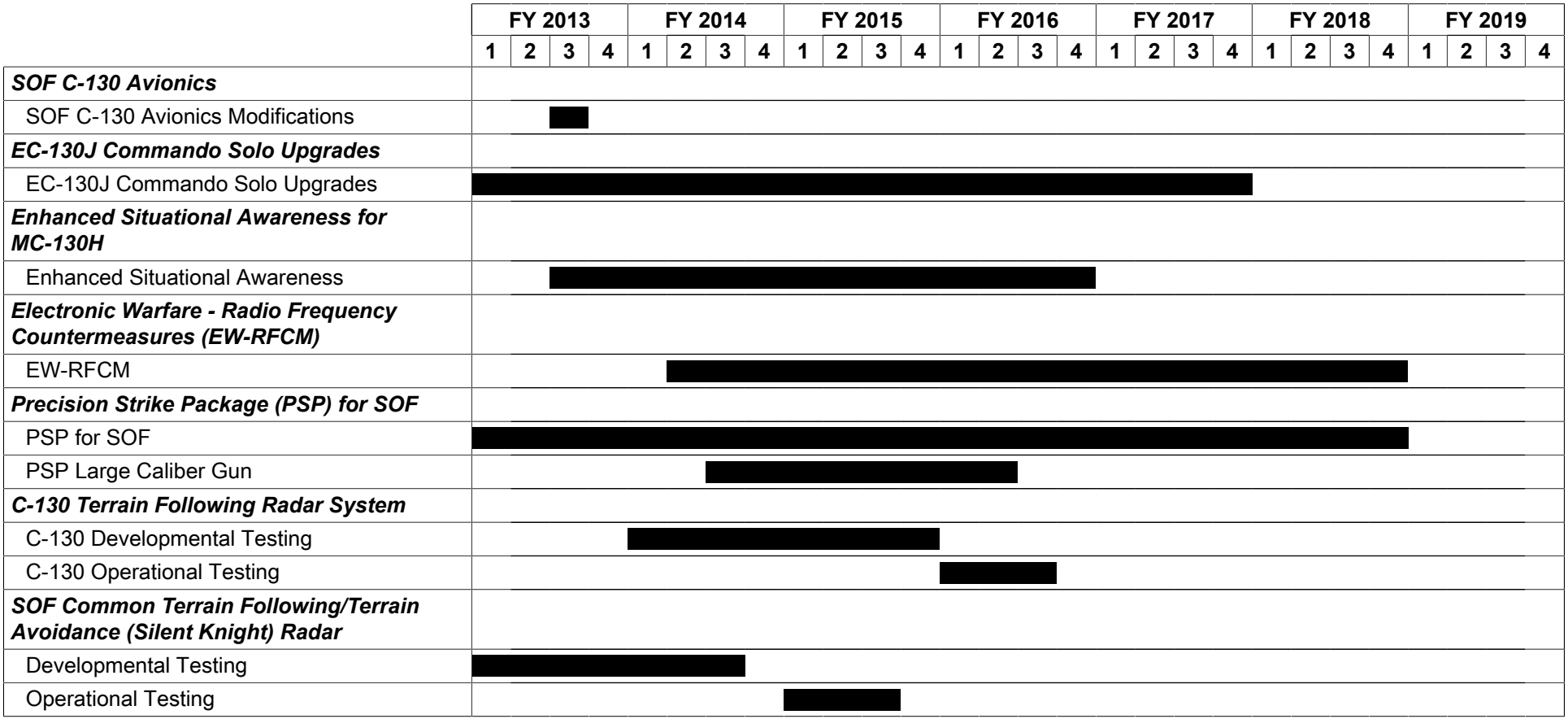

Exhibit R-4A, RDT&E Schedule Details: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF100 / *Aviation Systems Advanced Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SOF C-130 Avionics				
SOF C-130 Avionics Modifications	3	2013	3	2013
EC-130J Commando Solo Upgrades				
EC-130J Commando Solo Upgrades	1	2013	4	2017
Enhanced Situational Awareness for MC-130H				
Enhanced Situational Awareness	3	2013	4	2016
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)				
EW-RFCM	2	2014	4	2018
Precision Strike Package (PSP) for SOF				
PSP for SOF	1	2013	4	2018
PSP Large Caliber Gun	3	2014	2	2016
C-130 Terrain Following Radar System				
C-130 Developmental Testing	1	2014	4	2015
C-130 Operational Testing	1	2016	3	2016
SOF Common Terrain Following/Terrain Avoidance (Silent Knight) Radar				
Developmental Testing	1	2013	3	2014
Operational Testing	1	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
SF200: *CV-22*	-	-	2.817	0.182	-	0.182	-	-	-	-	-	2.999
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

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. 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 2013	FY 2014	FY 2015
Title: CV-22 Aircraft Block 20	-	2.817	0.182
FY 2014 Plans: Continue ESA development providing enhanced, correlated, fusion and display, threat response, training and simulation capabilities and developmental testing for aircraft block upgrades.			
FY 2015 Plans: Continue 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PROC1: *CV-22 SOF Modification*	126.021	108.599	25.578	-	25.578	19.703	16.123	13.226	13.480	-	1,696.207
• PROC/V022A0: *Aircraft Procurement CV-22 (MYP)*	309.220	230.798	-	-	-	-	-	-	-	-	4,272.414
• RDT&E1/0401318F: *RDT&E, USAF*	26.314	46.705	39.202	-	39.202	26.728	16.073	14.566	14.828	131.500	613.166

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDT&E/0604262N: *V-22 RDT&E, N BA-05*	54.512	43.084	68.816	-	68.816	60.659	53.319	53.063	-	273.513	9,363.505

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-4, RDT&E Schedule Profile: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

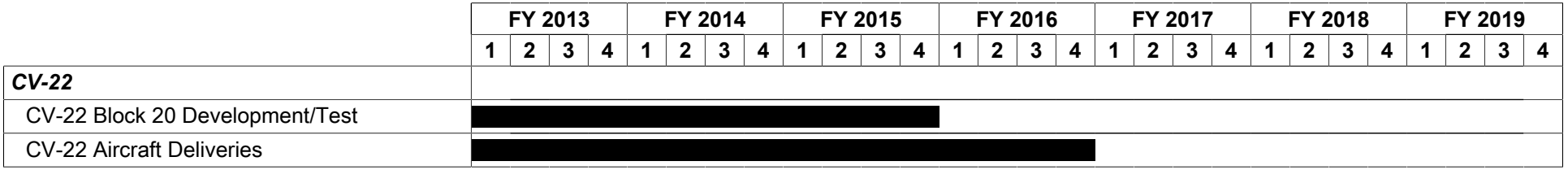

Exhibit R-4A, RDT&E Schedule Details: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** SF200 / *CV-22*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CV-22				
CV-22 Block 20 Development/Test	1	2013	4	2015
CV-22 Aircraft Deliveries	1	2013	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
S750: *Mission Training and Preparation Systems*	-	-	4.696	7.333	-	7.333	7.104	6.648	6.789	6.904	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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.

Sub-projects include:

• The Special Operations Mission Planning and Execution (SOMPE) project 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 2013	FY 2014	FY 2015
Title: SOMPE	-	4.696	7.333
FY 2014 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. Complete testing of mission planning, data transfer and performance software completing development.			
FY 2015 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			

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
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 2013	FY 2014	FY 2015
systems, and automated performance models and performance prediction software. Completes testing of mission planning, data transfer and performance software completing development.			
Accomplishments/Planned Programs Subtotals	-	4.696	7.333

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PROC1: *AC/MC-130J*	26.701	50.300	65.130	-	65.130	68.730	70.916	165.144	185.672	Continuing	Continuing
• PROC2: *C-130 MODIFICATIONS*	20.643	60.545	39.095	-	39.095	61.950	67.254	33.150	33.338	Continuing	Continuing

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-4, RDT&E Schedule Profile: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S750 / *Mission Training and Preparation Systems*

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Special Operations Mission Planning and Execution (SOMPE) Software																												
Software Development	[redacted]																											
Development Support	[redacted]																											
Test & Evaluation	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2015 United States Special Operations Command		Date: March 2014
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	2013	1	2017
Development Support	1	2013	1	2017
Test & Evaluation	1	2013	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
S875: *AC/MC-130J*	-	-	9.638	5.629	-	5.629	1.889	0.411	0.419	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 2013	FY 2014	FY 2015
Title: MC-130J	-	5.282	2.848
FY 2014 Plans: Continue SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
FY 2015 Plans: Continues SOF-unique mission improvements including, but not limited to, MC-130J Increment 3 development, integration, and test efforts.			
Title: Enhanced Situational Awareness	-	0.484	1.705
FY 2014 Plans: Initiate Enhanced Situational Awareness (ESA) integration and test on the MC-130J aircraft.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
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 2013	FY 2014	FY 2015
Continues ESA integration and test.			
Title: AC-130J	-	3.872	1.076
FY 2014 Plans: Develop and test aircraft modification designs for PSP kit installation.			
FY 2015 Plans: Develops and tests aircraft modification designs for PSP kit installation.			
Accomplishments/Planned Programs Subtotals	-	9.638	5.629

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PROC1: *AC/MC-130J*	26.701	50.300	65.130	-	65.130	68.730	70.916	165.144	185.672	Continuing	Continuing
• PROC2: *Precision Strike Package*	67.362	93.520	145.929	-	145.929	223.351	245.749	251.450	255.045	539.347	1,821.753

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-4, RDT&E Schedule Profile: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

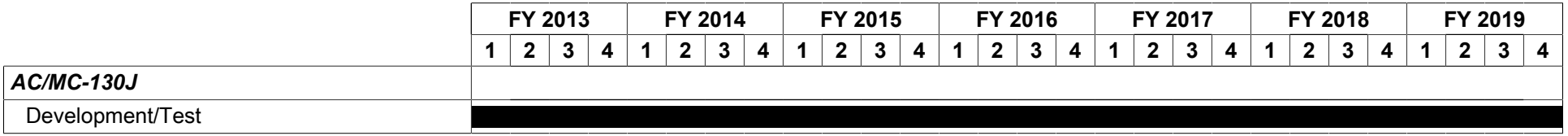

Exhibit R-4A, RDT&E Schedule Details: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** S875 / *AC/MC-130J*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AC/MC-130J				
Development/Test	1	2013	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
D615: *Rotary Wing Aviation*	-	-	27.481	67.390	-	67.390	59.449	23.520	16.558	16.811	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project develops/upgrades SOF rotary wing aircraft systems 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 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 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-60 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.

• 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.

• 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 2015 United States Special Operations Command		Date: March 2014
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 Space, Weight, and Power (SWaP) capability suitable for the A/MH-6 Mission Enhanced Little Bird (MELB). 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 IR 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, 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. This program is an FY 2015 new start.

• 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. 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. This program is an FY 2015 new start.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: A/MH-6M Block 3.0 Upgrade	-	12.420	20.037
FY 2014 Plans: Continue to development of cockpit upgrades, improved rotor systems, and upgrades to airframe.			
FY 2015 Plans: Continues development of cockpit upgrades, improved rotor systems, and upgrades to airframe.			
Title: MH-60 SOF Modernization Program	-	1.211	13.500
FY 2014 Plans: Begin flight and qualification testing for the MH-60M Block 1 upgrade.			
FY 2015 Plans: Continues flight and qualification testing for the MH-60M Block 1 upgrades.			
Title: DVE	-	11.382	16.976

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
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 2013	FY 2014	FY 2015
FY 2014 Plans: Continue development of DVE sensor solution. ***FY 2015 Plans:*** Continues development of DVE sensor solution.			
Title: FVL ***FY 2014 Plans:*** Begin to identify classes of FVL technology development most applicable to SOF Aviation platforms and participate in the Analysis of Alternatives conducted by the Joint FVL Program Office. ***FY 2015 Plans:*** Continues participation in the Joint Integrated Product Team (IPT) 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.	-	0.968	1.299
Title: IRCM ***FY 2014 Plans:*** Begin development, integration, and qualification testing of a missile warning and lightweight infrared countermeasure system for the A/MH-6 aircraft. ***FY 2015 Plans:*** Continues development, integration and qualification testing of missile warning and lightweight IRCM systems for the A/MH-6 aircraft.	-	1.500	2.498
Title: MH-47 Modifications and Upgrades ***FY 2015 Plans:*** Begins development of APAS and the Engine Barrier Filter for the MH-47G.	-	-	7.000
Title: MPU ***FY 2015 Plans:*** Begins development and testing of replacement mission and video processors for the Army Special Operations Aviation platforms. This program is an FY 2015 new start.	-	-	3.000
Title: NGFLIR ***FY 2015 Plans:***	-	-	3.080

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
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 2013	FY 2014	FY 2015
Begins development, integration and testing of the multi-spectral sensor into the Q2 Electro-Optical Sensor System (EOSS). This program is an FY 2015 new start.			
Accomplishments/Planned Programs Subtotals	-	27.481	67.390

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PROC 1: *Rotary Wing Upgrades and Sustainment*	74.733	110.456	112.226	-	112.226	127.575	185.251	162.518	147.355	Continuing	Continuing

Remarks

D. Acquisition Strategy

1. 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 Goodrich Power and Engine Control under subcontract to Boeing. As part of the airframe upgrade, the main and tail rotor blades are being replaced with one of several blades available off-the-shelf through a competitive evaluation. The cockpit avionics architecture will be developed by Rockwell-Collins, with the intent to leverage the CAAS source code to the extent possible. Any new hardware components will be NDI/COTS and will be competitively selected. The production software effort will be a Firm Fixed Price contract. Airframe modification and integration work will be conducted at the Special Operations Forces Support Activity (SOFSA) by the incumbent contractor.

2. MH-60M SOF Modernization Program supports the systems integration and qualification efforts on the prototype Block 1 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.

3. DVE - Effort will be a competitive source selection that 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 customer survivability in degraded visual environments.

4. FVL - This effort 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.

5. IRCM - This program will be a competitive source selection effort that develops, integrates, and qualifies a mission configurable Missile Warning System (MWS) and IRCM capability which does not currently exist at a weight suitable for the A/MH-6 Mission Enhanced Little Bird (MELB). Special operations aviation requires the addition of IRCM to protect against increasingly proliferated and sophisticated infrared-guided weapons.

Exhibit R-2A, RDT&E Project Justification: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

6. 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.

7. Mission Processor Upgrade (MPU) - The General Purpose Processing Unit (GPPU) non-recurring engineering (NRE) supports improvements to the video processing and Ethernet switch capabilities for Common Avionics Architecture System aircraft. The engineering and testing will be sole source to Rockwell Collins, the OEM for the GPPU. The 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, the OEM for the DCU. The Future Aircraft Architecture Studies will be competitively awarded.

8. Next Generation Forward Looking Infrared (NGFLIR) - The NGFLIR integration of a multi-spectral sensor into the Q2 EOSS will be sole-source procurement through Raytheon. As the Original Equipment Manufacturer (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 TAPO/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-4, RDT&E Schedule Profile: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

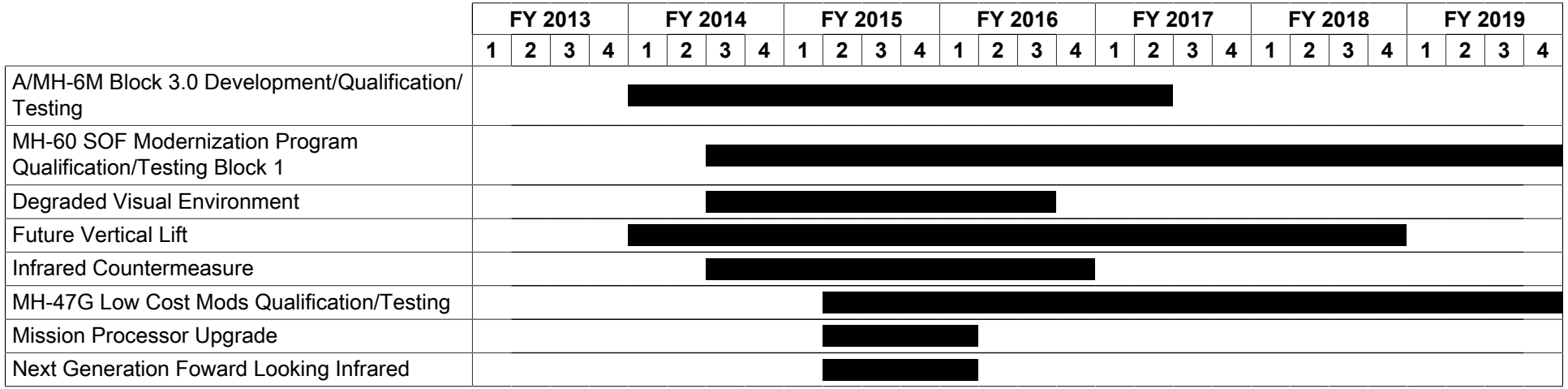

Exhibit R-4A, RDT&E Schedule Details: PB 2015 United States Special Operations Command		Date: March 2014
Appropriation/Budget Activity 0400 / 7	**R-1 Program Element (Number/Name)** PE 1160403BB / *Aviation Systems*	**Project (Number/Name)** D615 / *Rotary Wing Aviation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
A/MH-6M Block 3.0 Development/Qualification/Testing	1	2014	2	2017
MH-60 SOF Modernization Program Qualification/Testing Block 1	3	2014	4	2019
Degraded Visual Environment	3	2014	3	2016
Future Vertical Lift	1	2014	4	2018
Infrared Countermeasure	3	2014	4	2016
MH-47G Low Cost Mods Qualification/Testing	2	2015	4	2019
Mission Processor Upgrade	2	2015	1	2016
Next Generation Foward Looking Infrared	2	2015	1	2016