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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 United States Special Operations Command **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>				PE 1160403BB: <i>Special Operations Aviation Systems Advanced Development</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	65.851	74.382	97.267	-	97.267	64.688	54.078	18.369	14.506	Continuing	Continuing
SF100: <i>SO Aviation Systems Advanced Development</i>	65.851	74.382	97.267	-	97.267	64.688	54.078	18.369	14.506	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element 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, terrain following/terrain avoidance radar; Precision Strike Package for MC-130W Multi-Mission Modification, AC-130H Recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; enhanced situational awareness; near-real-time intelligence to include data fusion, threat detection and avoidance; electronic support measures for threat geo-location and specific emitter identification; navigation, target detection, and identification technologies; digital broadcast capabilities; and aerial refueling.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	68.691	89.382	93.596	-	93.596
Current President's Budget	65.851	74.382	97.267	-	97.267
Total Adjustments	-2.840	-15.000	3.671	-	3.671
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-15.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.785	-			
• SBIR/STTR Transfer	-1.706	-			
• Other Adjustments	-0.349	-	3.671	-	3.671

Change Summary Explanation

Funding:

FY 2011: Net decrease of \$2.840 million due to reprogramming to higher command priorities (-\$1.578 million), EC-130J Multi-Mission Upgrades (+\$0.793 million), economic assumption reduction (-\$0.349 million) and a transfer of funds to Small Business Innovative Research (-\$1.706 million).

FY 2012: Decrease is due to a congressional directed reduction (\$15.000 million).

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 1160403BB: <i>Special Operations Aviation Systems Advanced Development</i>
FY 2013: Net increase of \$3.671 million due to reprogramming of Enhanced Situational Awareness for MC-130H (\$1.800 million). Terrain Following/Terrain Avoidance Radar (\$4.316), economic assumptions increase (\$1.170 million) and a reprogramming to higher command priorities (-\$3.615 million).		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 United States Special Operations Command									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 1160403BB: Special Operations Aviation Systems Advanced Development				PROJECT SF100: SO Aviation Systems Advanced Development			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
SF100: SO Aviation Systems Advanced Development	65.851	74.382	97.267	-	97.267	64.688	54.078	18.369	14.506	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 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; Precision Strike Package (PSP) for MC-130W Multi-Mission Modification, AC-130H replacement aircraft, and other SOF platforms; digital terrain elevation data and electronic order of battle; digital maps; enhanced situational awareness; near-real-time intelligence to include data fusion, threat detection and avoidance; electronic support measures for threat geo-location and specific emitter identification; navigation, target detection and identification technologies; digital broadcast capability; and aerial refueling.

- **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 Commando Solo 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 for MC-130H.** Provides for near-real-time intelligence to include data fusion, threat detection, identification, and avoidance; electronic support measures for threat geo-location and specific emitter identification. This program is a new start in FY 2013.
- **PSP MC-130W Multi-Mission Modification.** Fulfills an urgent combat requirement to rapidly arm and field multi-mission precision strike platforms. Provides an armed over-watch capability including sensors, communication systems, precision guided munitions, and a single medium-caliber gun. An interim kit was fielded and funded under a Combat Mission Needs Statement.
- **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 replacement aircraft, as well as other SOF platforms. Missions for the AC-130H 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, and includes mission management, sensors, and weapons.
- **C-130 Terrain Following Radar System.** Integrates a TF/TA radar with an on-board processor to provide a multi-mode terrain following capability. This system is targeted for the MC-130J, MC-130W, and MC-130H platforms.

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<ul style="list-style-type: none">Acquisition Development Support. This funding is required to support systems engineering, analysis, and integration. Primary use of funds is to examine commonality and interoperability across systems. Funding will be used in a multitude of avenues across systems to support cost-benefit analysis; provide additional test support; and further reduce cost, schedule, and technical risk. As required, funds will support manpower costs for experts needed to meet certification, safety, reliability, and other requirements required by Office of the Secretary of Defense, Acquisition, Technology and Logistics, as well as commitments for joint programs.SOF Common terrain following/terrain avoidance (TF/TA) (Silent Knight) Radar. Continues Engineering and Manufacturing Development of a SOF common low probability of intercept/low probability of detection (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 Blackhawk helicopters, MC-130H Combat Talon II and CV-22 Tilt-Rotor aircraft.				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013
Title: SOF C-130 Avionics Modifications FY 2011 Accomplishments: Continued development and integration of aircraft modifications to maintain SOF-unique capabilities executed via an incremental acquisition strategy based on SOF C-130 avionics obsolescence dates, to include MC-130H and AC130U mission computer replacement. FY 2012 Plans: Continues development and integration of aircraft modifications to maintain SOF-unique capabilities executed via an incremental acquisition strategy based on SOF C-130 avionics obsolescence dates, to include MC-130H and AC130U mission computer replacement.		10.231	8.550	-
Title: EC-130J Commando Solo Upgrades FY 2011 Accomplishments: Integrated SOF-unique implementation of the C-130J block cycle upgrade installed on the EC-130J Commando Solo aircraft. Developed and integrated digital broadcast capability for incorporation on EC-130J. FY 2012 Plans: Continues integration of SOF-unique implementation of the C-130J block cycle upgrade installed on the EC-130J Commando Solo aircraft and development of digital broadcast capabilities. FY 2013 Plans: Continue integration of SOF-unique implementation of the C-130J block cycle upgrade installed on the EC-130J Commando Solo aircraft and development of digital broadcast capabilities.		2.357	1.782	0.673
Title: Enhanced Situational Awareness for MC-130H FY 2013 Plans:		-	-	1.800

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2011	FY 2012	FY 2013
FY 2013 new start. Initiate risk reduction, development and integration of an enhanced situational awareness system on MC-130H aircraft.					
Title: Precision Strike Package (PSP) MC-130W Multi-Mission Modification			6.307	-	-
FY 2011 Accomplishments: Continued software development, integration, and test for updated PSP capabilities.					
Title: Precision Strike Package (PSP) for SOF			4.651	26.193	29.351
FY 2011 Accomplishments: Initiated risk reduction, development and integration of the PSP on MC-130J aircraft, and continued system improvements.					
FY 2012 Plans: Continues development, integration, risk reduction, test and system improvement of the PSP on MC-130J aircraft.					
FY 2013 Plans: Continue development, integration, test, and system improvement of the PSP on MC-130J aircraft.					
Title: C-130 Terrain Following Radar System			1.930	17.536	37.523
FY 2011 Accomplishments: Initiated development and integration of a LPI/LPD TF Radar System onto SOF MC-130 platforms.					
FY 2012 Plans: Continues development and integration of the TF Radar System onto SOF MC-130 platforms.					
FY 2013 Plans: Continue development and integration of the TF Radar System onto SOF MC-130 platforms.					
Title: Acquisition Development Support			0.925	-	-
FY 2011 Accomplishments: Conducted engineering, analysis and integration support across a multitude of systems to examine commonality and interoperability across systems; to support cost-benefit analyses; to provide additional test support; and further reduce cost, schedule, and technical risk.					
Title: SOF Common Terrain Following/Terrain Avoidance (TF/TA) (Silent Knight) Radar			39.450	20.321	27.920
FY 2011 Accomplishments:					

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B. Accomplishments/Planned Programs (\$ in Millions)									FY 2011	FY 2012	FY 2013
Continued Engineering and Manufacturing Development (EMD) of SOF Common TF/TA radar. Continued contractor flight testing and platform integration. FY 2012 Plans: Continues EMD of SOF Common TF/TA radar. Continues contractor flight testing and platform integration. Begins developmental flight testing. FY 2013 Plans: Continue EMD of SOF Common TF/TA radar. Continue developmental flight testing.											
Accomplishments/Planned Programs Subtotals									65.851	74.382	97.267
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PROC1: C-130 MODIFICATIONS	8.907	27.965	25.248		25.248	28.367	15.332	27.161	90.351	Continuing	Continuing
• PROC2: PRECISION STRIKE PACKAGE	0.000	0.000	73.013		73.013	137.944	181.218	265.073	297.957	Continuing	Continuing
• PROC3: Rotary Wing Upgrades and Sustainment			4.400		4.400	16.706	69.790	70.471	62.935	Continuing	Continuing
D. Acquisition Strategy											
• SOF C-130 Avionics Modifications. Develop a fit function and 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 Commando Solo Upgrades. Block 7.0 is being develop by the Air Force program office using existing development and production contracts. Digital broadcast capabilities are being procured through an incremental acquisition strategy to incorporate and test readily available equipment into the EC-130J aircraft.											
• Enhanced Situational Awareness for MC-130H. Award competitive development contract to add situational awareness processors and displays.											
• Precision Strike Package (PSP) MC-130W Multi-Mission Modification. Executing incremental acquisition strategy with development, integration and testing for offensive systems, sensors, and mission management.											
• PSP for SOF. Incremental acquisition strategy to integrate and test the PSP on MC-130J aircraft provided by the U.S. Air Force and other SOF platforms. Multiple contract awards.											

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<ul style="list-style-type: none">• C-130 Terrain Following Radar System. Award competitive EMD contract for development, integration and test.• Acquisition Development Support. Conduct engineering, analysis and integration support across a multitude of systems to examine commonality and interoperability issues to ensure cost, schedule and technical issues are addressed.• SOF Common Terrain Following/Terrain Avoidance (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 platform 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.		
<u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 United States Special Operations Command										DATE: February 2012				
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Product Development (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SOF C-130 Avionics Modifications	C/FFP	BAE Systems:Rockville, MD	13.192	8.550	May 2012	-		-		-	0.00	21.742		
EC-130J Commando Solo Upgrades	C/CPIF	Lockheed Martin Aero:Marietta, GA	3.791	1.782	Dec 2011	0.673	Dec 2012	-		0.673	Continuing	Continuing		
Precision Strike Package for SOF - Prime Mission Product	SS/Various	Various:Various	4.267	24.740	Mar 2012	29.351	Mar 2013	-		29.351	Continuing	Continuing		
SOF Common TF/TA (Silent Knight) Radar - Systems Engineering	C/CPIF	Raytheon:Dallas, TX	14.407	1.016	Dec 2011	1.396	Dec 2012	-		1.396	Continuing	Continuing		
SOF Common TF/TA (Silent Knight) Radar - Prime Mission Product	C/CPIF	Raytheon:Dallas, TX	76.927	1.016	Dec 2011	1.396	Dec 2012	-		1.396	Continuing	Continuing		
C-130 Terrain Following Radar System	C/TBD	TBD:TBD	1.930	17.536	Feb 2012	37.523	Dec 2012	-		37.523	Continuing	Continuing		
Enhanced Situational Awareness for MC-130H	C/TBD	TBD:TBD	-	-		1.800	Dec 2012	-		1.800	Continuing	Continuing		
Prior Year Funding - Completed Efforts	TBD	Various:Various	63.939	-		-		-		-	0.000	63.939		
Subtotal			178.453	54.640		72.139		-		72.139				
Support (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Precision Strike Package for SOF	C/Various	Various:Various	0.384	1.453	Mar 2012	-		-		-	Continuing	Continuing		
Prior Year Funding - Completed Efforts	TBD	Various:Various	22.334	-		-		-		-	0.000	22.334		
Subtotal			22.718	1.453		-		-		-				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 United States Special Operations Command										DATE: February 2012			
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Common TF/TA (Silent Knight) Radar	C/CPIF	RaYtheon:Dallas TX	37.420	16.663	Dec 2011	22.894	Dec 2012	-		22.894	Continuing	Continuing	
Subtotal			37.420	16.663		22.894		-		22.894			
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SOF Common TF/TA (Silent Knight) Radar	C/CPIF	Raytheon:Dallas, TX	23.923	1.626	Dec 2011	2.234	Dec 2012	-		2.234	Continuing	Continuing	
Subtotal			23.923	1.626		2.234		-		2.234			
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			262.514	74.382		97.267		-		97.267			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 United States Special Operations Command	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 1160403BB: <i>Special Operations Aviation Systems Advanced Development</i>	PROJECT SF100: <i>SO Aviation Systems Advanced Development</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
SOF C-130 Avionics																												
SOF C-130 Avionics Modifications																												
EC-130J Commando Solo Upgrades																												
EC-130J Commando Solo Upgrades																												
Enhanced Situational Awareness for MC-130H																												
Enhanced Situational Awareness for MC-130H																												
Precision Strike Package																												
Precision Strike Package for SOF																												
C-130 Terrain Following Radar System																												
C-130 Terrain Following Radar System																												
SOF Common TF/TA (Silent Knight) Radar																												
Prototype Integration and Testing																												
Developmental Testing (DT)																												
Operational Testing (Combined with DT)																												
Follow-On Platform Integration and Testing																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 United States Special Operations Command **DATE:** February 2012

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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>SOF C-130 Avionics</i>				
SOF C-130 Avionics Modifications	3	2011	4	2014
<i>EC-130J Commando Solo Upgrades</i>				
EC-130J Commando Solo Upgrades	1	2011	4	2017
<i>Enhanced Situational Awareness for MC-130H</i>				
Enhanced Situational Awareness for MC-130H	1	2013	4	2016
<i>Precision Strike Package</i>				
Precision Strike Package for SOF	1	2011	4	2017
<i>C-130 Terrain Following Radar System</i>				
C-130 Terrain Following Radar System	1	2011	4	2017
<i>SOF Common TF/TA (Silent Knight) Radar</i>				
Prototype Integration and Testing	1	2011	4	2011
Developmental Testing (DT)	2	2011	4	2014
Operational Testing (Combined with DT)	4	2011	4	2014
Follow-On Platform Integration and Testing	1	2013	4	2017

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