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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	16.480	14.187	13.723	0.000	13.723	13.996	7.824	3.823	14.785	Continuing	Continuing
674804: <i>Compass Call</i>	-	16.480	14.187	13.723	0.000	13.723	13.996	7.824	3.823	14.785	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The EC-130H COMPASS CALL is the USAF's wide-area, airborne Command and Control Warfare/Information Operations (C2W /IO) weapon system. The employment of this system interdicts adversary's use of the electronic battlespace and is a key active component in the information battlespace and prosecution of Overseas Contingency Operations (OCO). EC-130H COMPASS CALL's sophisticated electronic combat system is capable of surgical denial or disruption of adversary radio frequency (RF) communications systems and sensors. The system was fielded in 1983 and to date has evolved through the fielding of the Baseline 2 (BL2) configuration and the mid-Baseline 2 (MBL2) enhancements. BL2 configuration and MBL2 enhancements currently being fielded have advanced the COMPASS CALL's electronic attack capabilities significantly over the two previously fielded baselines (BL0 and BL1). Due to the rapid advances in electronic attack technology, the EC-130H COMPASS CALL was designed to be easily modified and must continue to modernize and evolve to keep pace with adversary tactics and emerging technologies. Continuous system development is required to maintain battlespace superiority. The two COMPASS CALL Mission Crew Simulators (CCMCS #1 and CCMCS #2) are upgraded per the Baseline schedule to ensure training capacity keeps pace and matches the operational and technological upgrades delivered in the fielded aircraft. The Weapons System Trainer (WST) mirrors the capabilities of the fielded aircraft's cockpit avionics and communications equipment as well to ensure training requirements provide the worldwide operational proficiency needed to comply with continually evolving CNS/ATM and RNP enhancements, parameters, and guidance.

The EC-130H COMPASS CALL program employs an incremental development and fielding strategy that puts capability into the warfighter's hands as soon as practical and ensures each iteration of the weapon system is effective against the highest priority threats. To sustain that process requires a steady stream of system development funds. Development funds are required to accomplish subsystem additions and improvements such as the digital signal analysis and exciter subsystem (AXE), the third generation of Special Purpose Emitter Array (SPEAR), new modern communications receiver technologies, new IR and counter radar technologies, the Human-to-Machine Interface (HMI), digital cockpit avionics with multi-function displays (a.k.a. glass cockpits), network centric operations, phased array transmit and receive apertures and other classified hardware, firmware and software developments necessary to counter military and commercial communications evolutions, command and control operations enhancements, and new/emerging sensor developments.

FY 2017 RDT&E efforts will concentrate support for Baseline 3(BL3)/platform upgrades to the COMPASS CALL fleet and ground systems/simulators. The programmed BL3 upgrades will advance the primary mission equipment (PME) even further as the 2017 development efforts address the evolving electronic attack requirement for the foreseeable future. Obsolescence and diminishing manufacturing sources (DMS)/Vanishing Vendor Items (VVI) are addressed with each baseline upgrade/enhancement as well as annually as part of the sustainment responsibilities.

Activities in the FY 2017 RDT&E efforts also include studies and analysis to support both current and future program planning and execution.

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Due to the rapidly changing threat environment encountered during our prolonged commitment to OCO, the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging requirements.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	14.315	14.249	13.860	0.000	13.860
Current President's Budget	16.480	14.187	13.723	0.000	13.723
Total Adjustments	2.165	-0.062	-0.137	0.000	-0.137
• Congressional General Reductions	0.000	-0.062			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	2.165	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.137	0.000	-0.137

Change Summary Explanation

FY 2015 Below Threshold Reprogramming of +\$2.165M for Baseline 3 development efforts.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Baseline Upgrade Development	16.480	14.187	13.723	0.000	13.723
Description: Supports Baseline development, integration and test, plus Special Purpose Emitter Array (SPEAR) Generation 3 for Mid-Baseline 2, and Baseline 3 non-recurring engineering (NRE).					
FY 2015 Accomplishments: Continued Mid-Baseline 2 development efforts and initiated Baseline 3 development efforts for: <ul style="list-style-type: none"> • New Counter Radar and Receiver Technologies • Human Machine Interface • New Array and Target Development • Advanced Commercial and Military Communications 					

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<ul style="list-style-type: none"> • Counter Satellite Navigation Techniques • Digital Avionics (glass cockpit) Enhancements <p>FY 2016 Plans: Completing Mid-Baseline 2 development efforts and channelling efforts towards Baseline 3 development of:</p> <ul style="list-style-type: none"> • New Counter Radar and Receiver Technologies • Human Machine Interface • New Array and Target Development • Advanced Commercial and Military Communications • Counter Satellite Navigation Technique • Digital Avionics (glass cockpit) Enhancements • Platform upgrades and associated non-recurring engineering • Studies and analysis for current/future planning and execution <p>FY 2017 Base Plans: Will complete the efforts on Baseline 3 development and initiate Mid-Baseline 3 development efforts for:</p> <ul style="list-style-type: none"> • New Counter Radar and Receiver Technologies • New Array and Target Development • Advanced Commercial and Military Communications • Counter Satellite Navigation Techniques • Platform upgrades and associated non-recurring engineering • Studies and analysis for current/future planning and execution <p>FY 2017 OCO Plans: N/A</p>					
Accomplishments/Planned Programs Subtotals	16.480	14.187	13.723	0.000	13.723

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• APAF: BA05: Line item# CALL00: <i>Compass Call Mods</i>	82.628	96.990	130.257	0.000	130.257	101.982	45.511	37.259	37.946	Continuing	Continuing
• APAF: BA06: Line item# CALL00: <i>Compass Call Mod Spares</i>	12.458	10.128	24.572	0.000	24.572	25.212	10.705	10.891	11.092	Continuing	Continuing

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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks
FY 2015 Compass Call Mods (BA05)funding totals include \$24.8M of OCO to provide two shipsets of SPEAR Generation 3 pod sets.

E. Acquisition Strategy

EC-130H COMPASS CALL capability is maintained with incremental upgrades per the baseline acquisition strategy plus Quick Reaction Capability (QRC) developments acquired through the 645th Aeronautical Systems Group (BIG SAFARI Systems Program Office) in accordance with the BIG SAFARI Program Management Directive (PMD) and the BIG SAFARI Class Justification and Approval (J&A) document for acquisition of supplies and services using other than full and open competition criteria. The procured supplies and services are supported by the BIG SAFARI Life Cycle Management Plan (LCMP) across the full spectrum of system life cycle management from developmental engineering to system retirement ("cradle to grave" support concept). Due to the rapidly changing threat environment encountered during our prolonged commitment to Overseas Contingency Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander (CCDR) requirements.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>	Project (Number/Name) 674804 / <i>Compass Call</i>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Mission Equipment	SS/CPFF	BAE Sysms : Nashua, NH	-	16.480	Dec 2014	14.187	Dec 2015	13.723	Dec 2016	0.000		13.723	Continuing	Continuing	TBD
Subtotal			-	16.480		14.187		13.723		0.000		13.723	-	-	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

			Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	16.480	14.187	13.723	0.000	13.723	-	-	-

Remarks
EC-130H Program Manager has determined that PMA will be funded with Compass Call's APAF appropriation and included in the P-3A, Mod 1001 & 1003.

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force **Date:** February 2016

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	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Mid Baseline 2 Integration and Test																												
Mid Baseline 2 Fielding																												
Baseline 3 Development																												
Baseline 3 Integration and Test																												
Baseline 3 Fielding																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Mid Baseline 2 Integration and Test	1	2015	3	2016
Mid Baseline 2 Fielding	3	2016	2	2018
Baseline 3 Development	1	2015	2	2017
Baseline 3 Integration and Test	2	2017	2	2019
Baseline 3 Fielding	2	2019	4	2021

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