

UNCLASSIFIED

PE NUMBER: 0207253F
 PE TITLE: Compass Call

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207253F Compass Call
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	9.598	9.931	4.603	4.709	13.369	21.421	19.348	12.661	Continuing	TBD
4804 Compass Call	9.598	9.931	4.603	4.709	13.369	21.421	19.348	12.661	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The EC-130H COMPASS CALL is the USAF's wide-area, airborne Command and Control Warfare (C2W) / Information Operations (IO) weapon system. It interdicts adversary use of the electronic battlespace and is a key active component in the information battlespace and global war on terror. 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 Block 35/Baseline 0 configuration.

Due to the rapid advances in electronic technology, COMPASS CALL was designed to be easily modified and must continue to modernize and evolve to keep pace with adversary tactics and technology. Continuous development is required to maintain battlespace superiority. COMPASS CALL employs a spiral development and fielding strategy IAW AFPD 63-1 that puts capability into the warfighters hands as soon as practical and ensures each iteration of the weapon system is effective against the highest priority threats. That process requires a steady stream of development funds.

Development funds are required to accomplish subsystem additions and improvements such as the digital signal analysis and exciter subsystem (AXE), the special purpose emitter array (SPEAR), the IED Defeat subsystem (NOVA), the human machine interface (HMI), network centric operations, phased array transmit and receive apertures and other classified hardware and software developments necessary to counter military and commercial communications, C2 and sensor developments.

This program will participate in the development, testing, and implementation of international standards (to include NATO standardization agreements) to pursue joint, allied, and coalition interoperability.

This program is categorized as Budget Activity 7 because it provides for development of technologies and capabilities in support of operational system development.

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0207253F Compass Call

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	9.907	4.469	0.000	0.000
(U) Current PBR/President's Budget	9.598	9.931	4.603	4.709
(U) Total Adjustments	-0.309	5.462		
(U) Congressional Program Reductions				
Congressional Rescissions		-0.038		
Congressional Increases		5.500		
Reprogrammings	-0.030			
SBIR/STTR Transfer	-0.279			

(U) **Significant Program Changes:**

(U) FY06 Congressional Adds totaling \$5.4M includes \$1.4M for Radar Situational Awareness and Targeting (RSAT) system concept demonstration, and \$4.0M for network centric information operations improvements.

(U) FY07 Congressional Adds totaling \$5.5M includes \$1.0M for continuation of the RSAT system concept demonstration and \$4.5M for additional operational system development.

(U) Program RDT&E was zeroed out in FY08 and FY09 when a new PE was established for Airborne Electronic Attack in FY04. The Air Force re-instated the RDT&E disconnect funding (\$4.6M in FY08 and \$4.7M in FY09) to restore the PE to their previous levels.

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0207253F Compass Call			PROJECT NUMBER AND TITLE 4804 Compass Call		
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4804 Compass Call	9.598	9.931	4.603	4.709	13.369	21.421	19.348	12.661	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

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Due to the rapid advances in electronic technology, COMPASS CALL was designed to be easily modified and must continue to modernize and evolve to keep pace with adversary tactics and technology. Continuous development is required to maintain battlespace superiority. COMPASS CALL employs a spiral development and fielding strategy IAW AFPD 63-1 that puts capability into the warfighters hands as soon as practical and ensures each iteration of the weapon system is effective against the highest priority threats. That process requires a steady stream of development funds.

Development funds are required to accomplish subsystem additions and improvements such as the digital signal analysis and exciter subsystem (AXE), the special purpose emitter array (SPEAR), the IED Defeat subsystem (NOVA), the human machine interface (HMI), network centric operations, phased array transmit and receive apertures and other classified hardware and software developments necessary to counter military and commercial communications, C2 and sensor developments.

This program will participate in the development, testing, and implementation of international standards (to include NATO standardization agreements) to pursue joint, allied, and coalition interoperability.

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(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Development, integration, and test of classified techniques and electronic attack infrastructure (Special Purpose Emitter Array)	1.304	0.447	4.603	4.709
(U) Development, integration, and test of Digital Signal Acquisition and Analysis Subsystem	1.443	2.234		
(U) Integration and test of Block 35 Human Machine Interface (HMI)	1.451	1.788		
(U) Congressional Add: Radar Situational Awareness and Targeting (RSAT) demonstration concept	1.400	1.000		
(U) Congressional Add: Network centric information operations improvements	4.000			
(U) Congressional Add: Operational system development		4.462		
(U) Total Cost	9.598	9.931	4.603	4.709

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(U) C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) PE 0207253F, Aircraft Modification (3010)	29.474	46.818	84.674	74.588	69.840	70.096	70.538	70.990	Continuing	TBD
(U) PE 0207253F, Aircraft Initial Spares (3010)	14.036	14.433	15.160	15.753	16.197	16.398	16.759	17.127	Continuing	TBD

(U) D. Acquisition Strategy

COMPASS CALL baseline upgrades and quick reaction capabilities (QRC) developments are acquired sole-source through the 645th Aeronautical Systems Group (BIG SAFARI Program Office).

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> Compass Call RDT&E	SS/FFP& CPFF	BAE Systems, Nashua NH		9.598	Oct-05	4.469	Jan-07	4.603	Jan-08	4.709	Jan-09	Continuing	TBD	TBD
Subtotal Product Development Remarks:			0.000	9.598		4.469		4.603		4.709		Continuing	TBD	TBD
(U) <u>Test & Evaluation</u> Subtotal Test & Evaluation Remarks:			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
(U) <u>Primary Mission Equipment</u> Compass Call RDT&E	CPFF	BAE Systems, Nashua NH				5.462	Jan-07					Continuing	TBD	TBD
Subtotal Primary Mission Equipment Remarks:			0.000	0.000		5.462		0.000		0.000		Continuing	TBD	TBD
(U) Total Cost			0.000	9.598		9.931		4.603		4.709		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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Compass Call Development

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Task	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
MB Phased Array		██████████	██████████					
Analysis/Exciter (AXE)		██████████	██████████					
Radar CM	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Advanced Comms Denial		██████████	██████████	██████████	██████████	██████████	██████████	██████████
Transmit/Receive Apertures			██████████	██████████	██████████			
Transmitter Interoperability			██████████	██████████	██████████			
Automated Voice Recognition (ACVOP)				██████████	██████████			
Radar Situational Awareness and Targeting (RSAT)	██████████	██████████	██████████	██████████	██████████			
Network Centric Operations	██████████	██████████	██████████	██████████				
Counter Nav Techniques	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Counter Comms Techniques	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Open Architecture Infrastructure Design		██████████	██████████	██████████	██████████	██████████	██████████	
GUI-based HMI	██████████							

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Exhibit R-4a, RDT&E Schedule Detail

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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Midband (MB) Phased Array Integration		1-4Q	1-3Q	
(U) Low-latency Analysis-Exciter (AXE) Integration		1-4Q	1-3Q	
(U) Radar Counter-measures (CM) Development	1-4Q	1-4Q	1-4Q	1-4Q
(U) Advanced Communications Denial Development		1-4Q	1-4Q	1-4Q
(U) Transmit and Receive Aperture Development			1-4Q	1-4Q
(U) EA Transmitter Interoperability Development			1-4Q	1-4Q
(U) Auto Voice Recognition (ACVOP) Integration				1-4Q
(U) Radar Situational Awareness and Targeting (RSAT) Study	2-4Q	1-4Q	1-4Q	
(U) Network Centric Operations Development	2-4Q	1-4Q	1-4Q	1-4Q
(U) Counter Nav Techniques Development	1-4Q	1-4Q	1-4Q	1-3Q
(U) Counter Comms Techniques Development	1-4Q	1-4Q	1-4Q	1-4Q
(U) Open Architecture Infrastructure Development	2-4Q	1-4Q	1-4Q	1-4Q