

**UNCLASSIFIED**

PE NUMBER: 0302015F

PE TITLE: E-4B NATIONAL AIRBORNE OPERATIONS CENTER

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>								DATE <b>February 2008</b>	
BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER</b>					
Cost (\$ in Millions)	FY 2007 Actual	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	2.728	19.406	4.069	11.554	4.622	1.846	5.983	0.000	210.293
4777 E-4B Aircraft Modernization	2.728	19.406	4.069	11.554	4.622	1.846	5.983	0.000	210.293

**(U) A. Mission Description and Budget Item Justification**

The E-4B National Airborne Operations Center (NAOC) modernization program upgrades the fleet of highly modified Boeing 747-200 aircraft to add new capabilities and improve reliability for its primary missions. The E-4B NAOC fleet satisfies the military need for an airborne operations center with communications capabilities that permit military and civilian leadership to monitor and control military and civil national assets during all phases of nuclear and non-nuclear conflict or natural disaster. The E-4B NAOC fleet also satisfies the military requirement to provide a highly survivable alternate operations center to the National Military Command Center (NMCC). Developmental modifications include, but are not limited to, upgrades and enhancements to aircraft structures, propulsion system, fuel system, environmental control system, electrical generation and distribution systems, flight safety and navigation systems (with their associated communications equipment), and the related aircraft operations center facilities, equipment, and communications necessary for the E-4B fleet to execute its mission.

Developmental modifications currently underway or planned for accomplishment under this program include:

- The E-4B NAOC Aircraft Replacement Analysis of Alternatives (AoA) will analyze the cost, effectiveness, risk and affordability of various airframes mated with a mission package for replacement of the E-4B to support NAOC missions in 2020 and beyond as directed by the Deputy Secretary of Defense.
- The STU III Replacement project will replace the current Secure Telephone Units III (STU III) on board the E-4B with a more reliable secure voice system. The National Security Agency (NSA) has set a sunset date for the STU IIIR driving the need for a secure voice system that is certified for aircraft use. This modification will integrate a secure voice system that is certified for aircraft use into the E-4B.
- The C3 UHF Digitization upgrade will replace the analog Ultra High Frequency (UHF) link with a digital link to provide Internet Protocol (IP) based connectivity to unclassified and SECRET Internet as well as provide video teleconference (VTC) and Voice Over Internet Protocol (VOIP) capabilities. This modification is required for digital operation over the Northstar Ground Entry Point Network, which provides more flexibility and utility than the current UHF/Frequency Division Modulation (UHF/FDM) system. This modification will replace existing analog modems, routers, and High Assurance IP Encryptor (HAIPE) devices with digital modems, routers, and HAIPE devices.

The E-4B program is categorized as a Budget Activity 7 - Operational System Development, because it develops modifications for a fielded system.

Exhibit R-2, RDT&E Budget Item Justification

DATE

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	0.282	19.406	4.105
(U) Current PBR/President's Budget	2.728	19.406	4.069
(U) Total Adjustments	2.446		
(U) Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings	2.446		
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

\$2.446M was added to the program for the E-4B NAOC Aircraft Replacement Analysis of Alternatives (AoA).

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2008**

BUDGET ACTIVITY <b>07 Operational System Development</b>					PE NUMBER AND TITLE <b>0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER</b>		PROJECT NUMBER AND TITLE <b>4777 E-4B Aircraft Modernization</b>		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4777 E-4B Aircraft Modernization	2.728	19.406	4.069	11.554	4.622	1.846	5.983	0.000	210.293
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) E-4B NAOC Aircraft Replacement Analysis of Alternatives (AoA)	2.728		
(U) C-3 UHF - Prototype design, kit manufacturing, install, and test		2.891	3.734
(U) STU III - Prototype design, kit manufacturing, install, and test		15.157	
(U) Test plan development and test execution			0.050

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY <b>07 Operational System Development</b>	PE NUMBER AND TITLE <b>0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER</b>	PROJECT NUMBER AND TITLE <b>4777 E-4B Aircraft Modernization</b>
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(U) <b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) SPO support (A&AS) and travel		1.358	0.285
(U) Total Cost	2.728	19.406	4.069

(U) <b>C. Other Program Funding Summary (\$ in Millions)</b>	<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>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Aircraft Procurement AF, Budget Activity 5, Weapon System Code E00400, PE 0302015F; Mod 4389 C-3 UHF Digitization			2.470	2.354					
(U) Aircraft Procurement AF, Budget Activity 5, Weapon System Code E00400, PE 0302015F; Mod 4393 STU III Replacement			12.662						

(U) **D. Acquisition Strategy**  
Implementation of modifications will be contracted under the sole source Product Support Integration (PSI) with Boeing - Wichita.

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**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2008**

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
<b>07 Operational System Development</b>				<b>0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER</b>					<b>4777 E-4B Aircraft Modernization</b>			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u> STU III replacement integration and testing	CPIF	Boeing, Wichita Development & Modification Center, Wichita, KS				15.157	Feb-08	3.734	Jan-09		18.891	18.891
C-3 UHF Digitization integration and testing	CPIF	Boeing, Wichita Development & Modification Center, Wichita, KS				2.891	Feb-08				2.891	2.891
Subtotal Product Development Remarks:			0.000	0.000		18.048		3.734		0.000	21.782	21.782
(U) <u>Support</u> Management and analysis support for AoA	MIPR to DISA	Booz Allen Hamilton, McLean, VA		2.728	Jul-07						2.728	2.728
Subtotal Support Remarks:			0.000	2.728		0.000		0.000		0.000	2.728	2.728
(U) <u>Test and Evaluation</u> Modification test plan development and test execution	MIPR to DISA	DISA						0.050			0.050	0.500
Subtotal Test and Evaluation Remarks:			0.000	0.000		0.000		0.050		0.000	0.050	0.500
(U) <u>Management</u> E-4B Program Office contractor support	Small Business T&M	Chickasaw Nation Industries, Inc., Oklahoma City, OK				1.358	Jan-08	0.285	Jan-09	Continuing	TBD	TBD
Subtotal Management Remarks:			0.000	0.000		1.358		0.285		Continuing	TBD	TBD
(U) Total Cost			0.000	2.728		19.406		4.069		Continuing	TBD	TBD

R-1 Line Item No. 162

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Project 4777

Exhibit R-3 (PE 0302015F)

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY  
07 Operational System Development

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0302015F E-4B NATIONAL AIRBORNE  
OPERATIONS CENTER

PROJECT NUMBER AND TITLE  
4777 E-4B Aircraft Modernization

FY09 PB Schedule

E-4B NAOC	FY06				FY07				FY08				FY09				FY10				FY11				FY12				FY13			
	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	1	2	3	4
E-4B Replacement AoA									AoA												Milestone A											
STU Replacement									PROTO																#3 STU III							
C-3 UHF DIGITIZATION									PROTOTYPE																#3 C-3 UHF							
																									#2 C-3 UHF							

AoA: Analysis of Alternatives  
 STU: Secure Telephone Units  
 C-3: Command, Control, and Communications  
 UHF: Ultra High Frequency

-  Planned Activity(s)
-  Completed Activity
-  Completed Event
-  Planned Event

As of: 11 Jan 08

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<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>	DATE <b>February 2008</b>
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<b>BUDGET ACTIVITY</b> <b>07 Operational System Development</b>	<b>PE NUMBER AND TITLE</b> <b>0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER</b>	<b>PROJECT NUMBER AND TITLE</b> <b>4777 E-4B Aircraft Modernization</b>
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	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <b><u>Schedule Profile</u></b>			
(U) E-4B NAOC Aircraft Replacement AoA	4Q	1-4Q	1Q
(U) Milestone A for E-4B NAOC Aircraft Replacement			4Q
(U) C-3 UHF Digitization Prototype dev begins (design & kit)		2-4Q	
(U) -- C-3 UHF Digitization Prototype dev continues & install			1-4Q
(U) STU III protoype development		2-4Q	