

UNCLASSIFIED

PE NUMBER: 0101126F
PE TITLE: B-1B SQUADRONS

Exhibit R-2, RDT&E Budget Item Justification									DATE May 2009	
BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0101126F B-1B SQUADRONS					
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	0.000	148.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5344 B-1B Modernization	0.000	0.000	148.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000

FY10, B-1B development efforts are transferring from PE 0604226F, Budget Program Activity Code (BPAC) 654596 to B-1B Squadrons, PE 0101126F, BPAC 675344. This transfers funds / efforts from Budget Activity (BA) 5 Demonstration / Validation to BA 7 Operations Systems Development.

(U) A. Mission Description and Budget Item Justification

This program provides RDT&E funding for the B-1B Modernization program. The Modernization program provides new and improved capabilities to the B-1B weapon system that require significant hardware and software development and testing. In addition, the Modernization program addresses reliability and diminishing manufacturing sources (DMS) deficiencies to prevent future grounding of aircraft.

B-1B grounding items are addressed in the following efforts: Central Integrated Test System (CITS) upgrade, Radar Modernization Improvement Program (RMIP), Vertical Situational Display (VSD) upgrade, and Inertial Navigation System (INS) upgrade.

B-1B improvement efforts include, but are not limited to, the development of the Fully Integrated Data Link (FIDL) and ALQ-161A Preprocessor Avionics Control Unit (PACU) software re-host/development.

FIDL integrates Link-16 and Beyond Line of Sight (BLOS) data links along with upgraded displays for improved connectivity to command and control authorities and for enhancements to targeting and weapons management. Upgrades to the B-1B training systems are included in the Modernization program to keep the training systems current with the aircraft configuration. In addition, program funds cover engineering/planning studies, related engineering efforts, and initiatives for future weapon system enhancements, including efforts to improve weapon system operational capabilities, safety, supportability, maintainability, reliability, and total ownership cost.

All B-1B development programs support planned requirements for unique identification in their production phases. The B-1B Modernization upgrade program is included in Budget Activity (BA) 7, Operational System Development.

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0101126F B-1B SQUADRONS

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Previous President's Budget	0.000	0.000	139.649
(U) Current PBR/President's Budget	0.000	0.000	148.025
(U) Total Adjustments	0.000	0.000	

(U) Congressional Program Reductions

Congressional Rescissions

Congressional Increases

Reprogrammings

SBIR/STTR Transfer

(U) **Significant Program Changes:**

FY10 funding adjusted to reflect \$35M re-color 3010 to 3600 funding, and reflects continuing modernization efforts on Vertical Situational Display (VSD) Upgrade and Radar Modernization Improvement Program (RMIP).

FY10/FY11, B-1B development efforts are transferring from PE 0604226F, Budget Program Activity Code (BPAC) 654596 to B-1B Squadrons, PE 0101126F, BPAC 675344. This transfers funds / efforts from Budget Activity (BA) 5 Demonstration / Validation to BA 7 Operations Systems Development.

Exhibit R-2a, RDT&E Project Justification

DATE

May 2009

BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE		
07 Operational System Development					0101126F B-1B SQUADRONS			5344 B-1B Modernization		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
5344 B-1B Modernization	0.000	0.000	148.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

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

This program provides RDT&E funding for the B-1B Modernization program. The Modernization program provides new and improved capabilities to the B-1B weapon system that require significant hardware and software development and testing. In addition, the Modernization program addresses reliability and diminishing manufacturing sources (DMS) deficiencies to prevent future grounding of aircraft.

B-1B grounding items are addressed in the following efforts: Central Integrated Test System (CITS) upgrade, Radar Modernization Improvement Program (RMIP), Vertical Situational Display (VSD) upgrade, and Inertial Navigation System (INS) upgrade.

B-1B improvement efforts include, but are not limited to, the development of the Fully Integrated Data Link (FIDL) and ALQ-161A Preprocessor Avionics Control Unit (PACU) software re-host/development.

FIDL integrates Link-16 and Beyond Line of Sight (BLOS) data links along with upgraded displays for improved connectivity to command and control authorities and for enhancements to targeting and weapons management. Upgrades to the B-1B training systems are included in the Modernization program to keep the training systems current with the aircraft configuration. In addition, program funds cover engineering/planning studies, related engineering efforts, and initiatives for future weapon system enhancements, including efforts to improve weapon system operational capabilities, safety, supportability, maintainability, reliability, and total ownership cost.

All B-1B development programs support planned requirements for unique identification in their production phases. The B-1B Modernization upgrade program is included in Budget Activity (BA) 7, Operational System Development.

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Continued B-1B Modernization contractual efforts			139.649
(U) Government Flight Test, Live Fire Test & Evaluation and General Test Support			2.928
(U) Continuing Mission Support			5.148
(U) Modeling & Simulation / Studies & Analyses			0.300
(U) Total Cost	0.000	0.000	148.025

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

	<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>FY 2014</u>	<u>FY 2015</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>Estimate</u>	<u>Complete</u>	
(U) Appn 10, Multiple PEs, Aircraft Procurement BP11,	0.000	0.000	107.165							107.165

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Exhibit R-2a (PE 0101126F)

Project 5344

Exhibit R-2a, RDT&E Project Justification

DATE

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07 Operational System Development

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PROJECT NUMBER AND TITLE

5344 B-1B Modernization

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

Mods

(U) Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP16, Initial Spares	0.000	0.000	9.915	9.915
(U) Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP12, Common Support Equipment	0.000	0.000	2.672	2.672
(U) Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP13, Post Production Charges	0.000	0.000	3.929	3.929

Related RDT&E:

(U) Program Element 0205164F, Global Positioning System

(U) Program Element 0207325F, Joint Air to Surface Standoff Missile (JASSM)

(U) Program Element 0208006F, Air Force Mission Planning Systems (AFMPS), Joint Mission Planning System (JMPS)

(U) **D. Acquisition Strategy**

(U) Key elements of the overall B-1B Modernization acquisition strategy include: use of a sole source contract with a prime/integrating contractor (Boeing); installed performance responsibility; use of cost plus incentive fee (CPIF) development contracts; and combining developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime and differences in fielded configurations.

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Exhibit R-3, RDT&E Project Cost Analysis										DATE May 2009		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE		
07 Operational System Development					0101126F B-1B SQUADRONS					5344 B-1B Modernization		
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2008 Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u>												
Central Integrated Test System (CITS) Upgrade	SS/CPIF	Boeing, Long Beach, CA						3.670	Dec-09	Continuing	TBD	
Vertical Situation Display (VSD) Upgrade	SS/CPIF	Boeing, Long Beach, CA						15.050	Oct-09	Continuing	TBD	
Radar Modernization Improvement Program (RMIP)	SS/CPIF	Boeing, Long Beach, CA						40.438	Oct-09	Continuing	TBD	
Inertial Navigation System (INS)	SS/CPIF	Boeing, Long Beach, CA						40.008	Dec-09	Continuing	TBD	
Fully Integrated Data Link (FIDL)	SS/CPIF	Boeing, Long Beach, CA						35.000	Oct-09	Continuing	TBD	
ALQ-161A Preprocessor Avionics Control Unit (PACU)	SS/CPFF	561st, Robins AFB, GA						7.483	Nov-09	Continuing	TBD	
Mode S/5	SS/CPIF	Boeing, Long Beach, CA									0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			0.000	0.000		0.000		141.649		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												
A&AS								3.148			3.148	
Studies & Analyses / Modeling & Simulation								0.300			0.300	
Subtotal Support			0.000	0.000		0.000		3.448		0.000	3.448	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												
AFFTC								2.928			2.928	
Subtotal Test & Evaluation			0.000	0.000		0.000		2.928		0.000	2.928	0.000
Remarks:												
(U) <u>Management</u>												
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		0.000		148.025		Continuing	TBD	0.000

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Exhibit R-3 (PE 0101126F)

Exhibit R-4, RDT&E Schedule Profile

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Development Activity



CA - Contract Award
 MS - Milestone
 PDR - Preliminary Design Review
 CDR - Critical Design Review
 FRP DR - Full Rate Production Decision Review
 HW - Hardware
 LCTP - Laptop Controlled Targeting Pod
 RAA - Required Assets Available
 UNR - Urgent Need Request

△ Forecast Activity
 ▲ Completed
 RDT&E Funding
 G Grounding Item

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Exhibit R-4 (PE 0101126F)

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Exhibit R-4a, RDT&E Schedule Detail

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0101126F B-1B SQUADRONS

PROJECT NUMBER AND TITLE

5344 B-1B Modernization

(U) **Schedule Profile**FY 2008FY 2009FY 2010

(U) Gyro Stabilization System (GSS) - MS C

2Q

(U) Central Integrated Test System (CITS) Upgrade - MS C

2Q

(U) Vertical Situation Display (VSD) Upgrade - MS C

2Q

(U) Radar Modernization Improvement Program (RMIP) - MS C

2Q

(U) Radar Modernization Improvement Program (RMIP) - FRP DR

2Q

(U) Inertial Navigation System (INS) - CDR

3Q

(U) Fully Integrated Data Link (FIDL) - MS C

1Q

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Exhibit R-4a (PE 0101126F)

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