

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0101126F: B-1B SQUADRONS							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	0.000	178.278	33.234	0.000	33.234	6.273	3.851	0.089	0.084	Continuing	Continuing
675344: B-1B Modernization	0.000	178.278	33.234	0.000	33.234	6.273	3.851	0.089	0.084	0.000	0.000

Note
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.

A. Mission Description and Budget Item Justification
This program provides RDT&E AF funding for the B-1B Modernization program. The Modernization program addresses potential aircraft grounding issues and 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 Reliability and Maintainability Improvement Program (RMIP), Vertical Situational Display Upgrade (VSDU), 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), ALQ-161A Preprocessor Avionics Control Unit (PACU) software re-host/development, Active Electronically Scanned Array (AESA) Radar study, and integration of the Mode S/Mode 5 Identification Friend/Foe (IFF) Upgrade.

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.

UNCLASSIFIED

R-1 Line Item #119

Page 1 of 12

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force				DATE: February 2010	
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B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	0.000	148.025	0.000	0.000	0.000
Current President's Budget	0.000	178.278	33.234	0.000	33.234
Total Adjustments	0.000	30.253	33.234	0.000	33.234
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		30.253			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	33.234	0.000	33.234
Congressional Add Details (\$ in Millions, and Includes General Reductions)					
Project: 675344: B-1B Modernization				FY 2009	FY 2010
Congressional Add: Active Electronically Scanned Array (AESA) Study				0.000	2.000
Congressional Add Subtotals for Project: 675344				0.000	2.000
Congressional Add Totals for all Projects				0.000	2.000
Change Summary Explanation					
FY 2010: Program increased by \$29M to support continued development of Fully Integrated Data Link (FIDL) and Vertical Situational Display Upgrade (VSDU). Program received \$2M Congressional Mark for Active Electronically Scanned Array (AESA) radar study.					
The FY 2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore, an explanation of changes between the two budget positions cannot be made in a relevant manner.					

UNCLASSIFIED

R-1 Line Item #119

Page 2 of 12

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0101126F: B-1B SQUADRONS				PROJECT 675344: B-1B Modernization			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
675344: B-1B Modernization	0.000	178.278	33.234	0.000	33.234	6.273	3.851	0.089	0.084	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
This program provides RDT&E AF funding for the B-1B Modernization program. The Modernization program addresses potential aircraft grounding issues and 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 Reliability and Maintainability Improvement Program (RMIP), Vertical Situational Display Upgrade (VSDU), 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), ALQ-161A Preprocessor Avionics Control Unit (PACU) software re-host/development, Active Electronically Scanned Array (AESA) Radar study, and integration of the Mode S/Mode 5 Identification Friend/Foe (IFF) Upgrade.											
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.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: Continued B-1B Modernization contractual efforts						0.000	176.278	33.034	0.000	33.034	

UNCLASSIFIED

R-1 Line Item #119

Page 3 of 12

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0101126F: B-1B SQUADRONS		PROJECT 675344: B-1B Modernization		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> In FY 2009: Not Applicable. B-1 RDT&E efforts prior to FY 2010 are associated with PE 0604226F.</p> <p><i>FY 2010 Plans:</i> In FY 2010: The B-1 transfers significant effort into flight test phases for FIDL, Radar RMIP, INS, LCTP and sustainment blocks/PACU Flight System (ALQ-161) effort. FIDL completed Phase I flight test and will enter Phase II during FY10. Radar RMIP will enter Low Rate Initial Production mid-year given a Milestone (MS) C decision based totally on British Air Corporation (BAC) 1-11 flights. Flight test for RMIP will begin mid-year. INS flight test is planned for fourth quarter FY10; Gyro Stabilization System Replacement (GSSR) must be installed on test aircraft prior to test start. VSDU is currently being installed in the flight test aircraft, continuing through FY10. CITS completed Aircraft Functional Test and will be moving toward MS C, a production decision and development contract closeout late in FY10. Sustainment block software (SB 14) is in flight test currently with continuing updates. LCTP has Phase II on contract for that development effort. PACU ALQ-161 software migration will continue through FY10. 16-Carry Congressional Add will work through required hardware and software development with the flight test asset yet to be determined but probably early FY11. Simulator/Trainer support will continue integration and support efforts. General development-related support for the flight test effort will continue.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: VSDU will enter flight test after completion of flight test aircraft mod. FIDL will complete Functional Configuration Audit/Physical Configuration Audit (FCA/PCA) and wrap up the development effort in FY11. INS will conclude its flight test program, FCA/PCA and development contract closeout as well. Radar RMIP will also conclude flight test, FCA/PCA and development contract closeout around mid FY. PACU software migration should conclude in FY11. Some additional development effort involving Office of the Secretary of Defense and Air Staff directives will start up such as Mode S Mode 5 and related support. Simulator/Trainer development/support will continue. General development related support for the flight test effort will continue.</p>						

UNCLASSIFIED

R-1 Line Item #119

Page 4 of 12

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0101126F: B-1B SQUADRONS		PROJECT 675344: B-1B Modernization		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						
MAJOR THRUST: Mode S/Mode 5 New Start FY 2009 Accomplishments: In FY 2009: Not Applicable. FY 2010 Plans: In FY 2010: Not Applicable. FY 2011 Base Plans: In FY 2011: Initial development activities associated with integration of Mode S/Mode 5 capabilities into existing B-1 Identification Friend or Foe (IFF) subsystem begins. This is an FY 2011 New Start. FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.		0.000	0.000	0.200	0.000	0.200
Accomplishments/Planned Programs Subtotals		0.000	176.278	33.234	0.000	33.234
		FY 2009	FY 2010			
Congressional Add: Active Electronically Scanned Array (AESA) Study FY 2009 Accomplishments: In FY 2009: Not Applicable.		0.000	2.000			

UNCLASSIFIED

R-1 Line Item #119

Page 5 of 12

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0101126F: <i>B-1B SQUADRONS</i>				PROJECT 675344: <i>B-1B Modernization</i>			
B. Accomplishments/Planned Program (\$ in Millions)											
								FY 2009	FY 2010		
<i>FY 2010 Plans:</i> In FY 2010: Execute a trade study to establish physical & functional interface requirements for potential B-1B Active Electronically Scanned Array (AESA) integration.											
Congressional Adds Subtotals								0.000	2.000		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE Not Provided (1690): <i>PE0101126F, Aircraft Procurement BP11, Mods</i>	0.000	98.416	199.694	0.000	199.694	192.394	177.910	124.527	93.891	0.000	0.000
• PE 0101126F: <i>B-1B, Aircraft Procurement BP16, Initial Spares</i>	0.000	9.883	12.533	0.000	12.533	10.299	8.784	6.452	6.477	0.000	0.000
• PE 0101126F (1): <i>B-1B, Aircraft Procurement BP12, Common Support Equipment</i>	0.000	2.663	10.272	0.000	10.272	13.592	9.682	4.041	2.865	0.000	0.000
• PE 0101126F (2): <i>B-1B, Aircraft Procurement BP13, Post Production Charges</i>	0.000	3.916	6.791	0.000	6.791	5.914	1.074	0.470	0.000	0.000	0.000
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.											
E. 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.											

UNCLASSIFIED

R-1 Line Item #119

Page 6 of 12

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0101126F: <i>B-1B SQUADRONS</i>				PROJECT 675344: <i>B-1B Modernization</i>					
Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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
Central Integrated Test System (CITS) Upgrade	SS/CPIF	Boeing Long Beach, CA	0.000	3.976	Oct 2009	0.000		0.000		0.000	0.000	3.976	0.000
Vertical Situation Display Upgrade (VSDU)	SS/CPFF	Boeing Long Beach, CA	0.000	42.321	Oct 2009	5.000	Oct 2010	0.000		5.000	4.000	51.321	0.000
Radar Reliability and Maintainability Improvement Program (RMIP)	SS/CPIF	Boeing Long Beach, CA	0.000	38.736	Oct 2009	1.620	Nov 2010	0.000		1.620	0.000	40.356	0.000
Inertial Navigation System (INS) upgrade	SS/CPIF	Boeing Long Beach, CA	0.000	41.177	Oct 2009	4.592	Oct 2010	0.000		4.592	0.000	45.769	0.000
Fully Integrated Data Link (FIDL)	SS/CPIF	Boeing Long Beach, CA	0.000	38.113	Oct 2009	18.125	Oct 2010	0.000		18.125	0.000	56.238	0.000
ALQ-161A Preprocessor Avionics Control Unit (PACU)	SS/CPFF	561st Robins AFB GA	0.000	7.500	Oct 2009	0.500	Oct 2010	0.000		0.500	0.000	8.000	0.000
Active Electronically Scanned Array (AESA) Radar	TBD/TBD	TBD TBD	0.000	2.000	Mar 2010	0.000		0.000		0.000	0.000	2.000	0.000
Mode S/Mode 5	TBD/TBD	TBD TBD	0.000	0.000		0.200	Oct 2010	0.000		0.200	3.880	4.080	0.000
Subtotal			0.000	173.823		30.037		0.000		30.037	7.880	211.740	0.000
Remarks													

UNCLASSIFIED

R-1 Line Item #119

Page 7 of 12

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force										DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0101126F: B-1B SQUADRONS					PROJECT 675344: B-1B Modernization				
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	
A&AS	TBD/TBD	TBD TBD	0.000	3.588		2.526		0.000		2.526	0.600	6.714	0.000	
Studies & Analyses / Modeling & Simulation	TBD/TBD	TBD TBD	0.000	0.496		0.300		0.000		0.300	1.512	2.308	0.000	
Subtotal			0.000	4.084		2.826		0.000		2.826	2.112	9.022	0.000	
Remarks														
Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 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	
AFFTC	Various/ Various	Various Various	0.000	0.371		0.371		0.000		0.371	0.376	1.118	0.000	
Subtotal			0.000	0.371		0.371		0.000		0.371	0.376	1.118	0.000	
Remarks														
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			0.000	178.278		33.234		0.000		33.234	10.368	221.880	0.000	

UNCLASSIFIED

R-1 Line Item #119

Page 8 of 12

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force							DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0101126F: <i>B-1B SQUADRONS</i>		PROJECT 675344: <i>B-1B Modernization</i>			
	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Remarks Total Prior Years Cost may include only FY 2009 data.								

UNCLASSIFIED

R-1 Line Item #119

Page 9 of 12

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

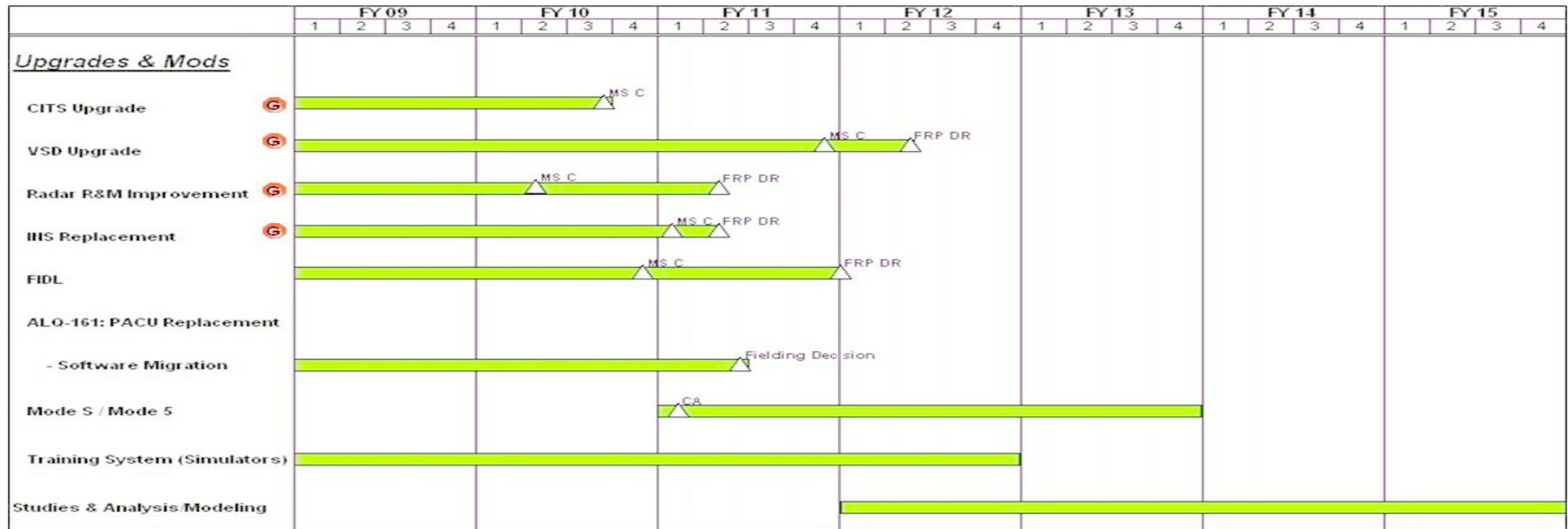
R-1 ITEM NOMENCLATURE

PE 0101126F: B-1B SQUADRONS

PROJECT

675344: B-1B Modernization

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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UNCLASSIFIED

R-1 Line Item #119

Page 10 of 12

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101126F: <i>B-1B SQUADRONS</i>	PROJECT 675344: <i>B-1B Modernization</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Central Integrated Test System (CITS) Upgrade - MS C/program started FY2005	3	2010	3	2010
Central Integrated Test System (CITS) Upgrade - program completion	3	2010	3	2010
Vertical Situation Display Upgrade (VSDU) - MS C/program started FY2006	4	2011	4	2011
Vertical Situation Display Upgrade (VSDU) - program completion FY2012	1	2011	4	2011
Radar Reliability & Maintainability Improvement Program (RMIP) - MS C/program started FY2006	2	2010	2	2010
Radar Reliability & Maintainability Improvement Program (RMIP) - FRP DR	2	2011	2	2011
Radar Reliability & Maintainability Improvement Program (RMIP) - program completion	2	2011	2	2011
Inertial Navigation System (INS) - MS C	1	2011	1	2011
Inertial Navigation System (INS) - FRP DR	2	2011	2	2011
Inertial Navigation System (INS) - program completion	2	2011	2	2011
Fully Integrated Data Link (FIDL) - MS C/program started FY2004	4	2010	4	2010
Fully Integrated Data Link (FIDL) - FRP DR	4	2010	4	2010
Fully Integrated Data Link (FIDL) - program completion	4	2011	4	2011
ALQ-161A Preprocessor Avionics Control Unit (PACU) Software Migration - Fielding Decision/program started FY2004	2	2011	2	2011
ALQ-161A Preprocessor Avionics Control Unit (PACU) Software Migration -	2	2011	2	2011
Mode S/Mode 5 Identification, Friend or Foe (IFF) Upgrade - Contract Award/program started FY2011	1	2011	1	2011

UNCLASSIFIED

R-1 Line Item #119

Page 11 of 12

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force			DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101126F: <i>B-1B SQUADRONS</i>	PROJECT 675344: <i>B-1B Modernization</i>		

Event	Start		End	
	Quarter	Year	Quarter	Year
Mode S/Mode 5 Identification, Friend or Foe (IFF) Upgrade - program completion FY2013	1	2011	4	2011

UNCLASSIFIED

R-1 Line Item #119

Page 12 of 12