

UNCLASSIFIED

PE NUMBER: 0604226F
PE TITLE: B-1B

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2006	
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604226F B-1B					
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	79.201	95.910	130.546	95.789	57.750	88.365	6.812	Continuing	TBD
4596 Conventional Mission Upgrades	79.201	95.910	130.546	95.789	57.750	88.365	6.812	Continuing	TBD
The FY03 National Defense Authorization Act (NDAA) language directed T&E centers to charge only direct costs beginning in FY06; this resulted in a zero-balance transfer (ZBT) of funding over the FYDP from the customer accounts (for indirect test costs) to T&E support, PE 65807F									
(U) <u>A. Mission Description and Budget Item Justification</u> This program provides RDT&E funding for the B-1B Conventional Mission Upgrade Program (CMUP). Funding in the FYDP includes integration of advanced conventional weapons, including (but not limited to) variants of the Joint Direct Attack Munition (JDAM), Wind Corrected Munitions Dispenser (WCMD), Joint Stand-Off Weapon (JSOW), and Joint Air to Surface Stand-Off Missile (JASSM). FYDP funding also includes upgrades to the Electronic Countermeasures (ECM) suite. Additional efforts include an upgrade to the avionics computers to enable simultaneous carriage of multiple weapon types, provide growth capability, and reduce support costs; development of the B-1B mission planning interface to the Air Force Mission Support System (AFMSS) and related mission planning systems; and upgrades to the B-1B training systems to keep them current with the aircraft's configuration. Funding is provided for development efforts to improve the display of threat situational awareness (S/A) information (to include datalink) to the aircrew and to record mission information. ALQ-161 defensive system upgrades to address reliability, maintainability, diminishing manufacturing sources (DMS) and performance deficiencies on selected line replaceable units (LRUs) are also included. Reliability and DMS deficiencies and performance improvements to the Central Integrated Test System (CITS), Inertial Navigation System/Gyro Stabilization System (INS/GSS), Vertical Situation Display (VSD), and radar are addressed in this program also. Funding is provided for engineering efforts, and engineering and planning studies and initiatives for potential future weapon system enhancements (including, but not limited to, weapons, targeting, sensors, and avionics) and for weapon system operational/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements. All B-1 development programs support planned requirements for Unique Identification (UID) in their production phases. Also included are the B-1 platform unique development items for integration of Link 16 and Beyond Line of Sight Datalinks, and associated weapons management enhancements. The B-1 CMUP program is included in Budget Activity 5, System Demonstration and Development. The CMUP program provides new capabilities to the B-1B weapon system that require significant software development and testing.									
R-1 Shopping List - Item No. 67-1 of 67-9									
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(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	83.719	132.496	120.485
(U) Current PBR/President's Budget	79.201	95.910	130.546
(U) Total Adjustments	-4.518	-36.586	
(U) Congressional Program Reductions		-35.200	
Congressional Rescissions	-0.064	-1.386	
Congressional Increases			
Reprogrammings	-2.432		
SBIR/STTR Transfer	-2.022		

(U) **Significant Program Changes:**

FY06: (-\$36.6M) - Congressional adjustments for Radar RMIP (-\$21M), Defensive System Upgrade Program reprogramming (-\$18.2M), CM reductions (-\$1.4M);

Congressional Adds for BRU-56 and Digital Communication (+\$4.0M).

FY07: +\$10.06M internal B-1 funds re-aligned from procurement to RDT&E for data link development.

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Exhibit R-2a, RDT&E Project Justification

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PROJECT NUMBER AND TITLE

4596 Conventional Mission Upgrades

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4596 Conventional Mission Upgrades	79.201	95.910	130.546	95.789	57.750	88.365	6.812	Continuing	TBD
Quantity of RDT&E Articles	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 Conventional Mission Upgrade Program (CMUP). Funding in the FYDP includes integration of advanced conventional weapons, including (but not limited to) variants of the Joint Direct Attack Munition (JDAM), Wind Corrected Munitions Dispenser (WCMD), Joint Stand-Off Weapon (JSOW), and Joint Air to Surface Stand-Off Missile (JASSM). FYDP funding also includes upgrades to the Electronic Countermeasures (ECM) suite. Additional efforts include an upgrade to the avionics computers to enable simultaneous carriage of multiple weapon types, provide growth capability, and reduce support costs; development of the B-1B mission planning interface to the Air Force Mission Support System (AFMSS) and related mission planning systems; and upgrades to the B-1B training systems to keep them current with the aircraft's configuration. Funding is provided for development efforts to improve the display of threat situational awareness (S/A) information (to include datalink) to the aircrew and to record mission information. ALQ-161 defensive system upgrades to address reliability, maintainability, diminishing manufacturing sources (DMS) and performance deficiencies on selected line replaceable units (LRUs) are also included. Reliability and DMS deficiencies and performance improvements to the Central Integrated Test System (CITS), Inertial Navigation System/Gyro Stabilization System (INS/GSS), Vertical Situation Display (VSD), and radar are addressed in this program also. Funding is provided for engineering efforts, and engineering and planning studies and initiatives for potential future weapon system enhancements (including, but not limited to, weapons, targeting, sensors, and avionics) and for weapon system operational/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements. All B-1 development programs support planned requirements for Unique Identification (UID) in their production phases. Also included are the B-1 platform unique development items for integration of Link 16 and Beyond Line of Sight Datalinks, and associated weapons management enhancements.

The B-1 CMUP program is included in Budget Activity 5, System Demonstration and Development. The CMUP program provides new capabilities to the B-1B weapon system that require significant software development and testing.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continued Conventional Mission Upgrade Program (CMUP) contractual efforts	61.214	81.427	123.949
(U) Government Flight Test, Live Fire Test & Evaluation and General Test Support	10.688	7.641	1.628
(U) Continuing Mission Support	4.044	5.144	4.939
(U) Modeling & Simulation / Studies & Analyses	3.255	1.698	0.030
(U) Total Cost	79.201	95.910	130.546

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

	<u>FY 2005</u>	<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>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) Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP11,	8.633	37.174	53.255	75.550	102.993	163.576	92.624	777.525	1,311.330

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Exhibit R-2a, RDT&E Project Justification								DATE February 2006		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604226F B-1B			PROJECT NUMBER AND TITLE 4596 Conventional Mission Upgrades			
(U) <u>C. Other Program Funding Summary (\$ in Millions)</u>										
Mods										
(U)	Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP16, Initial Spares	1.463	3.476	6.792	13.589	3.525	5.875	6.222	61.866	102.808
(U)	Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP12, Common Support Equipment	4.893	2.423	2.438	2.613	2.616	2.681	2.713	0.000	20.377
(U)	Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP13, Post Production Charges	11.474	13.287	10.320	0.000	0.000	0.000	0.000	10.000	45.081
(U)	Appn 10, PE 0207423F, Adv Com Sys BP11	0.000	0.000	0.000	19.754	20.603	25.908	20.611	84.325	171.201
(U)	Appn 36, PE 0207446F, Bomber TDL Core	63.945	76.877	63.406	36.380	0.000	0.000	0.000	0.000	240.608
Related RDT&E:										
(U) Program Element 0205164F, Global Positioning System (GPS)										
(U) Program Element 0207325F, Joint Air to Surface Standoff Missile (JASSM)										
(U) Program Element 0604727F/N, Joint Stand-Off Weapon (JSOW)										
(U) Program Element 0604600F, Wind Corrected Munitions Dispenser (WCMD)										
(U) Program Element 0208006F, Air Force Mission Support System (AFMSS)										
(U) Program Element 0604270F, Electronic Warfare (EW) Development										
(U) <u>D. Acquisition Strategy</u>										
(U) Key elements of the overall CMUP acquisition strategy include: use of a sole source contract with a prime/integrating contractor (Boeing); assignment of Total System Installed Performance Responsibility (TSIPR) to the integrating contractor; use of cost plus award fee (CPAF) and 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

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4596 Conventional Mission Upgrades

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
(U) Mission Planning System											0.000	
(U) Lockheed-Sanders	C/CPAF		0.545								0.545	
(U) Northrup Grumman	C/CPAF		60.178								60.178	
(U) Training Systems											0.000	
(U) Lockheed-Martin	C/CPAF		13.248								13.248	
(U) INLX	C/CPAF		29.175	0.480	Jan-06						29.655	
(U) Rockwell Collins	TBD					1.322	May-06	0.528	Mar-07	1.031	2.881	
(U) Weapons											0.000	
(U) TBC- JDAM/GPS Pre-SDD	SS/CPFF		78.626								78.626	
(U) TBC - INS/GSS	SS/CPIF					8.375	Feb-06	9.681	Nov-06	83.045	101.101	
(U) TBC - RADAR R&M Improvements	TBD					21.189	Jan-06	65.245	Oct-06	239.241	325.675	
(U) AIL - ALQ-161 R&M/DMS	SS/CPFF		26.464	10.040	Feb-05	9.239	Mar-06	8.714	Oct-06	84.290	138.747	
(U) TBC - TSAS/AVTR Improvements	SS/CPFF		34.133								34.133	
(U) TBD - VSD Upgrade	TBD					19.205	Mar-06	12.098	Oct-06	59.257	90.560	
(U) TBC - CITS/R&M/DMS	SS/CPIF			9.800	Feb-06	10.491	Feb-06	14.436	Jan-07	1.624	36.351	
(U) TBC - FIDL Pre-SDD	SS/CPFF		1.038	1.625	Feb-05						2.663	
(U) TBC - FIDL SDD	SS/CPIF			16.642	Apr-05	8.106	Feb-06	13.248	Nov-06	9.951	47.947	
(U) TBC - FIDL (Congressional Add)	SS/CPFF			1.800	Apr-05						1.800	
(U) Raytheon - Universal Armament Interface (UAI)	SS/CPFF			2.333	Mar-05						2.333	
(U) TBC - Computer	SS/CPAF		173.340								173.340	
(U) TBC - WCMD	SS/CPAF		41.325								41.325	
(U) Lockheed-Martin - WCMD	SS/CPAF		1.801								1.801	
(U) TBC - JSOW/ JASSM	SS/CPAF		36.429								36.429	
(U) Lockheed- Martin - JASSM	SS/T&M		9.499								9.499	
(U) Raytheon - JSOW	SS/T&M		2.510								2.510	
(U) EO/IR Targeting Pod	TBD									149.447	149.447	
(U) EO/IR Targeting Pod (Congressional Add)	SS/CPFF			18.494	Jul-05						18.494	
(U) BRU-56 (Congressional Add)	TBD					1.000	May-06			31.734	32.734	
(U) Digital Communications (Congressional Add)	TBD					2.500	Jun-06			9.411	11.911	
(U) TBD - Future CMUP Related SDD	TBD									Continuing	TBD	
Subtotal Product Development			508.311	61.214		81.427		123.950		Continuing	TBD	0.000
Remarks:												
(U) Support												
(U) A&AS	Various		38.390	4.044	Jun-05	5.144	Apr-06	4.939	Apr-07	18.392	70.909	
(U) Studies & Analyses / Modeling & Sim	Various		29.202	3.255	Dec-05	1.698	Jun-06	0.029	Jan-07	3.337	37.521	
Subtotal Support			67.592	7.299		6.842		4.968		21.729	108.430	0.000
Remarks:												

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Exhibit R-3 (PE 0604226F)

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Exhibit R-3, RDT&E Project Cost Analysis

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05 System Development and Demonstration (SDD)

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4596 Conventional Mission Upgrades

(U) Test & Evaluation

(U) Weapons

(U) AFFTC

P.O.

134.256

10.688

Jul-05

7.641

Jul-06

1.628

Jan-07

16.357

170.570

0.000

Subtotal Test & Evaluation

134.256

10.688

7.641

1.628

16.357

170.570

0.000

Remarks:

(U) Management

Subtotal Management

0.000

0.000

0.000

0.000

0.000

0.000

0.000

Remarks:

(U) Total Cost

710.159

79.201

95.910

130.546

Continuing

TBD

0.000

Exhibit R-4, RDT&E Schedule Profile

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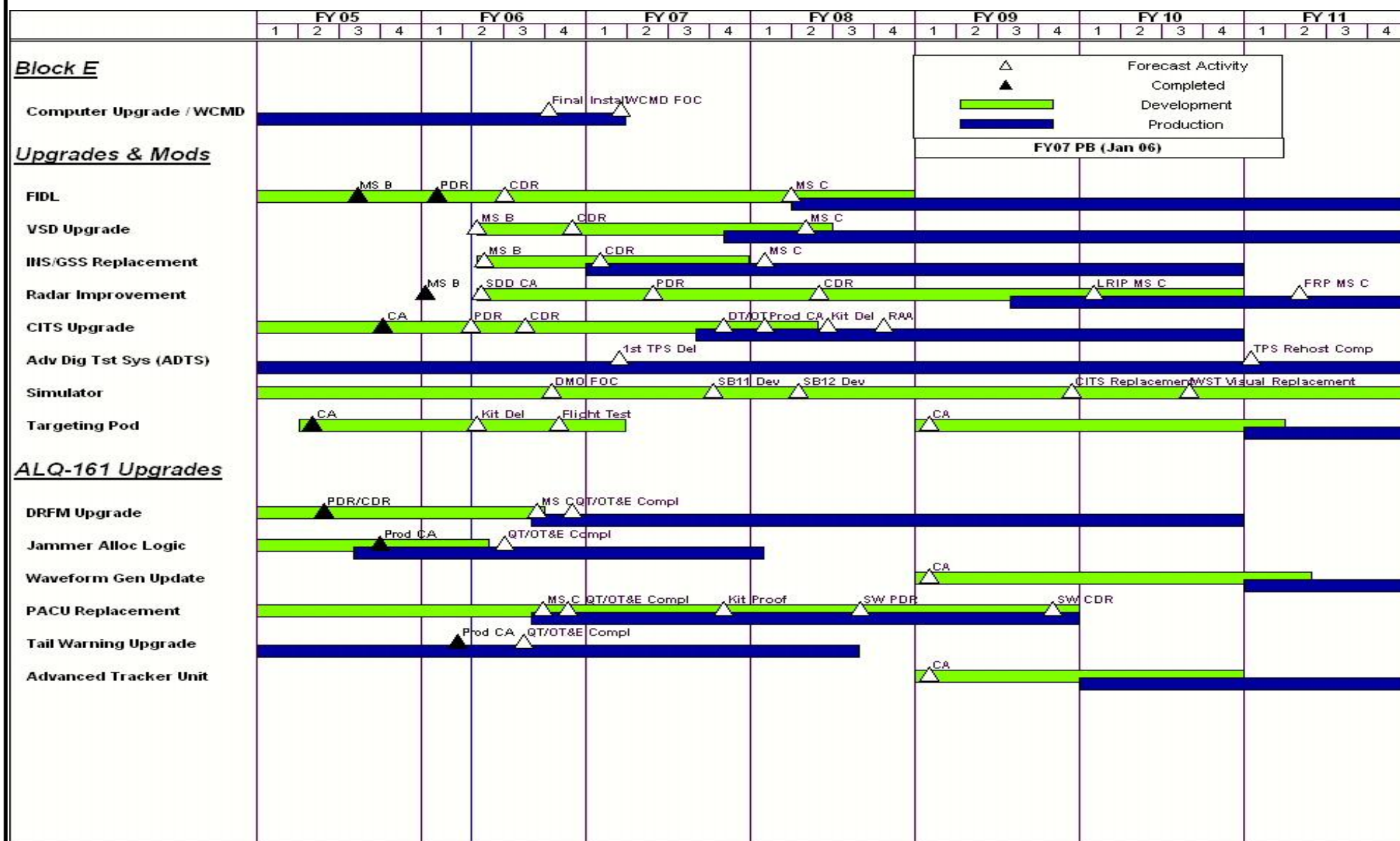
05 System Development and Demonstration (SDD)

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PROJECT NUMBER AND TITLE	DATE	STATUS	REMARKS
1. Project A: Development of a new software module for data analysis.	2023-10-26	In Progress	Initial requirements gathering and design phase completed.
2. Project B: Implementation of a new database system for customer records.	2023-10-26	On Hold	Waiting for budget approval and resource allocation.
3. Project C: Upgrade of the existing website to improve user experience.	2023-10-26	Completed	Final testing and deployment completed successfully.
4. Project D: Research and development of a new product line.	2023-10-26	Planning	Market research and initial concept development in progress.
5. Project E: Optimization of the current supply chain process.	2023-10-26	Analysis	Identifying inefficiencies and exploring potential solutions.

4596 Conventional Mission Upgrades



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R-1 Shopping List - Item No. 67-7 of 67-9

Exhibit R-4 (PE 0604226F)

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Exhibit R-4a, RDT&E Schedule Detail			DATE	
			February 2006	
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE		
05 System Development and Demonstration (SDD)	0604226F B-1B	4596 Conventional Mission Upgrades		
(U) <u>Schedule Profile</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
(U) Computer Upgrade / Wind Corrected Munitions Dispenser -- Final Install		4Q		
(U) Computer Upgrade / Wind Corrected Munitions Dispenser -- WCMD FOC			1Q	
(U) Trainer/Simulator System -- DMO FOC		3Q		
(U) Trainer/Simulator System -- SB-11 Development			3Q	
(U) ALQ-161A Digital Radio Frequency Memory (DRFM) -- PDR	2Q			
(U) ALQ-161A Digital Radio Frequency Memory (DRFM) -- CDR	2Q			
(U) ALQ-161A Digital Radio Frequency Memory (DRFM) -- MS C		3Q		
(U) ALQ-161A Digital Radio Frequency Memory (DRFM) -- QT/OT&E Complete		4Q		
(U) ALQ-161A Jammer Allocation Logic Subsystem (JALS) -- Production Contract Award	3Q			
(U) ALQ-161A Jammer Allocation Logic Subsystem (JALS) -- QT/OT&E Complete		2Q		
(U) ALQ-161A Tail Warning Function (TWF) -- Production Contract Award		1Q		
(U) ALQ-161A Tail Warning Function (TWF) -- QT/OT&E Complete		3Q		
(U) ALQ-161A Preprocessor Avionics Control Unit (PACU) -- QT/OT&E Complete		4Q		
(U) ALQ-161A Preprocessor Avionics Control Unit (PACU) -- Kit Proof		1Q	4Q	
(U) Fully Integrated Data Link (FIDL) -- FIDL Milestone B	3Q			
(U) Fully Integrated Data Link (FIDL) -- FIDL SDD Contract Award	3Q			
(U) Fully Integrated Data Link (FIDL) -- PDR		1Q		
(U) Fully Integrated Data Link (FIDL) -- CDR		3Q		
(U) Fully Integrated Data Link (FIDL) -- DT&E Flight Test Start			3Q	
(U) Central Integrated Test System (CITS) -- SDD Contract Award	3Q			
(U) Central Integrated Test System (CITS) -- PDR		1Q		
(U) Central Integrated Test System (CITS) -- CDR		3Q		
(U) Central Integrated Test System (CITS) -- DT/OT Flight Test			4Q	
(U) Vertical Situation Displays (VSD) Upgrade -- MS B		1Q		
(U) Vertical Situation Displays (VSD) Upgrade -- CDR		4Q		
(U) Inertial Nav Sys/Gyro Stab Sys (INS/GSS) -- MS B		2Q		
(U) Inertial Nav Sys/Gyro Stab Sys (INS/GSS) -- CDR			1Q	
(U) RADAR Improvement Upgrade -- Milestone B		1Q		
(U) RADAR Improvement Upgrade -- SDD Contract Award		2Q		
(U) RADAR Improvement Upgrade -- PDR			2Q	
(U) Targeting Pod - Congressional Add -- Contract Award	2Q			
(U) Targeting Pod - Congressional Add -- Kit Delivery		1Q		
Project 4596				
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Exhibit R-4a (PE 0604226F)				

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Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604226F B-1B	PROJECT NUMBER AND TITLE 4596 Conventional Mission Upgrades

(U) Targeting Pod - Congressional Add -- Flight Test

4Q