

UNCLASSIFIED

PE NUMBER: 0604226F

PE TITLE: B-1B

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2004
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604226F B-1B
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	150.427	87.933	59.462	107.061	74.751	56.518	44.737	Continuing	TBD
4596 Conventional Mission Upgrades	150.427	87.933	59.462	107.061	74.751	56.518	44.737	Continuing	TBD

(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 on-board maintenance diagnostics system and radar subsystem are addressed in this program also. Funding is provided for engineering efforts and engineering and planning studies for potential future weapon system enhancements (weapons, targeting, sensors, and avionics) and for weapon system operational/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements. 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. Development of enhancements to the ALE-50 decoy is also funded to address new threats. The Defensive System Upgrade Program (DSUP) has been terminated; FY03 funds will be applied to DSUP termination.

(U) 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, including GPS, Near-Precision Weapons, enhanced computers, datalink, and upgraded ECM. These capabilities require significant software development and testing.

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2004

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604226F B-1B

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	157.173	88.703	76.918
(U) Current PBR/President's Budget	150.427	87.933	59.462
(U) Total Adjustments	-6.746	-0.770	
(U) Congressional Program Reductions			
Congressional Rescissions		-0.770	
Congressional Increases			
Reprogrammings	-3.370		
SBIR/STTR Transfer	-3.376		

(U) **Significant Program Changes:**

FY03 funds to be used for termination of DSUP project. Congress notified of DSUP termination 30 Dec '02.

FY05 realigned to match rephasing of B-1 development. Computer upgrade; WCMD; JSOW/JASSM ending with new development efforts (On-board diagnostics system upgrade in FY05; and other efforts) beginning later in the FYDP.

Exhibit R-2a, RDT&E Project Justification

DATE

February 2004

BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE			
05 System Development and Demonstration (SDD)				0604226F B-1B			4596 Conventional Mission Upgrades			
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total	
4596 Conventional Mission Upgrades	150.427	87.933	59.462	107.061	74.751	56.518	44.737	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 on-board maintenance diagnostics system and radar subsystem are addressed in this program also. Funding is provided for engineering efforts and engineering and planning studies for potential future weapon system enhancements (weapons, targeting, sensors, and avionics) and for weapon system operational/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements. 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. Development of enhancements to the ALE-50 decoy is also funded to address new threats. The Defensive System Upgrade Program (DSUP) has been terminated; FY03 funds will be applied to DSUP termination.

(U) 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, including GPS, Near-Precision Weapons, enhanced computers, datalink, and upgraded ECM. These capabilities require significant software development and testing.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishment/Planned Program	0.000	0.000	0.000
(U) Continued Conventional Mission Upgrade Program (CMUP) contractual efforts	107.669	60.906	52.167
(U) Government Furnished Equipment (GFE)	0.000	0.000	0.000
(U) Government Flight Test, Live Fire Test & Evaluation and General Test Support	37.195	21.425	2.940
(U) Continuing Mission Support	4.278	4.352	4.064
(U) Modeling & Simulation / Studies & Analyses	1.285	1.250	0.291
(U) Total Cost	150.427	87.933	59.462

Exhibit R-2a, RDT&E Project Justification

DATE

February 2004

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604226F B-1B	PROJECT NUMBER AND TITLE 4596 Conventional Mission Upgrades
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(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</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, Mods	101.445	102.953	8.825	31.267	53.430	82.533	27.860	777.830	1,186.143
(U) Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP16, Initial Spares	7.815	5.839	1.486	3.458	6.549	13.098	1.266	61.866	101.377
(U) Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP12, Common Support Equipment	18.703	26.519	4.969	4.929	4.954	5.297	5.242	0.000	70.613
(U) Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP13, Post Production Charges	1.909	8.385	11.733	13.218	9.951	0.000	0.000	10.000	55.196
(U) Appn 10, PE 0207446F, Bomber TDL Core BP11	0.000	0.000	0.000	0.000	21.754	12.520	12.906	84.325	131.505
(U) Appn 36, PE 0207446F, Bomber TDL Core	0.000	12.959	68.353	77.876	31.841	0.000	0.000	0.000	191.029
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) **D. Acquisition Strategy**

(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) development contracts; and combining developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime and differences in fielded configurations.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604226F B-1B					PROJECT NUMBER AND TITLE 4596 Conventional Mission Upgrades		
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u>	<u>Cost to</u> <u>Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>												
(U) DSUP*											0.000	
(U) TBC	SS/CPAF		31.918								31.918	
(U) TBC	SS/CPAF		209.994	49.953	Sep-04						259.947	
* FY03 funds to be applied to DSUP termination											0.000	
(U) Mission Planning System											0.000	
(U) Lockheed-Sanders	C/CPAF		0.545								0.545	
(U) Northrup Grumman	C/CPAF		51.299	5.771	Dec-04	1.722	Apr-04				58.792	
(U) Training Systems											0.000	
(U) Lockheed-Martin	C/CPAF		13.284								13.284	
(U) INLX	C/CPAF		21.139	6.022	Mar-04	7.588	Jan-05	1.834	Jan-06	6.645	43.228	
(U) Weapons											0.000	
(U) TBC - CBU's	SS/CPFF		4.960								4.960	
(U) TBC - CBU's	SS/CPFF		16.314								16.314	
(U) TBC - FWEP	SS/T&M		3.866								3.866	
(U) TBC - EFX	SS/T&M		5.727								5.727	
(U) TBC- JDAM/GPS Pre-SDD	SS/CPFF		72.223								72.223	
(U) TBD - INS/GSS	TBD									56.466	56.466	
(U) TBD - RADAR Improvements	TBD									68.762	68.762	
(U) AIL - ALQ-161 R&M/DMS	SS/CPFF			9.608	Sep-03	22.372	Feb-04	16.773	Feb-05	40.315	89.068	
(U) ATU Modification	TBD							6.035	Feb-05	1.913	7.948	
(U) Raytheon - ALE-50 Upgrade	TBD					3.624	Aug-04				3.624	
(U) TBC - TSAS/AVTR Improvements	SS/CPFF			11.004	Apr-04	6.954	May-04				17.958	
(U) TBD - VSD Improvements	TBD									25.948	25.948	
(U) TBD - CITS/R&M/DMS	TBD							6.732	Apr-05	22.265	28.997	
(U) TBC -FIDL	SS/CPFF					1.116	May-04	20.793	Feb-05	50.584	72.493	
(U) TBC- JDAM/ GPS SDD	SS/CPAF		272.404			0.781	Feb-04			18.040	291.225	
(U) TBC-ACBM	SS/CPAF		1.900								1.900	
(U) TBC-Wing Sweep	SS/T&M		1.089								1.089	

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis							DATE February 2004				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE				
05 System Development and Demonstration (SDD)				0604226F B-1B			4596 Conventional Mission Upgrades				
(U)	TBC- Computer	SS/CPAF	172.075	0.577	Nov-02			172.652			
(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	17.983	24.734	Aug-04	16.749	Aug-04	59.466			
(U)	Lockheed- Martin - JASSM	SS/T&M	9.499					9.499			
(U)	Raytheon -JSOW	SS/T&M	2.510					2.510			
(U)	TBD - Future CMUP Related SDD	TBD						Continuing	TBD		
	Subtotal Product Development		951.855	107.669		60.906		52.167	Continuing	TBD	0.000
	Remarks:										
(U)	<u>Support</u>										
(U)	A&AS	Various	28.790	4.278	Sep-03	4.352	Jun-04	4.064	Jun-04	21.725	63.209
(U)	Studies & Analyses / Modeling & Sim	Various	24.689	1.285	Dec-03	1.250	Dec-04	0.291	Dec-05	6.000	33.515
(U)	Program Mgmt & Admin	Various	32.124							32.124	
	Subtotal Support		85.603	5.563		5.602		4.355		27.725	128.848
	Remarks:										
(U)	<u>Test & Evaluation</u>										
(U)	Modernization/DataLinks									0.000	
(U)	AFFTC	P.O.								74.348	74.348
(U)	DSUP*									0.000	
	* FY03 funds to be applied to DSUP termination									0.000	
(U)	AFFTC	P.O.	17.761	10.993	Dec-03					28.754	
(U)	Weapons									0.000	
(U)	AFFTC	P.O.	87.985	26.202	Dec-03	21.425	Dec-04	2.940	Jul-05	24.058	162.610
	Subtotal Test & Evaluation		105.746	37.195		21.425		2.940		98.406	265.712
	Remarks:										
(U)	<u>Management</u>										
	Subtotal Management		0.000	0.000		0.000		0.000		0.000	0.000
	Remarks:										
(U)	Total Cost		1,143.204	150.427		87.933		59.462		Continuing	TBD
											0.000

Exhibit R-4, RDT&E Schedule Profile

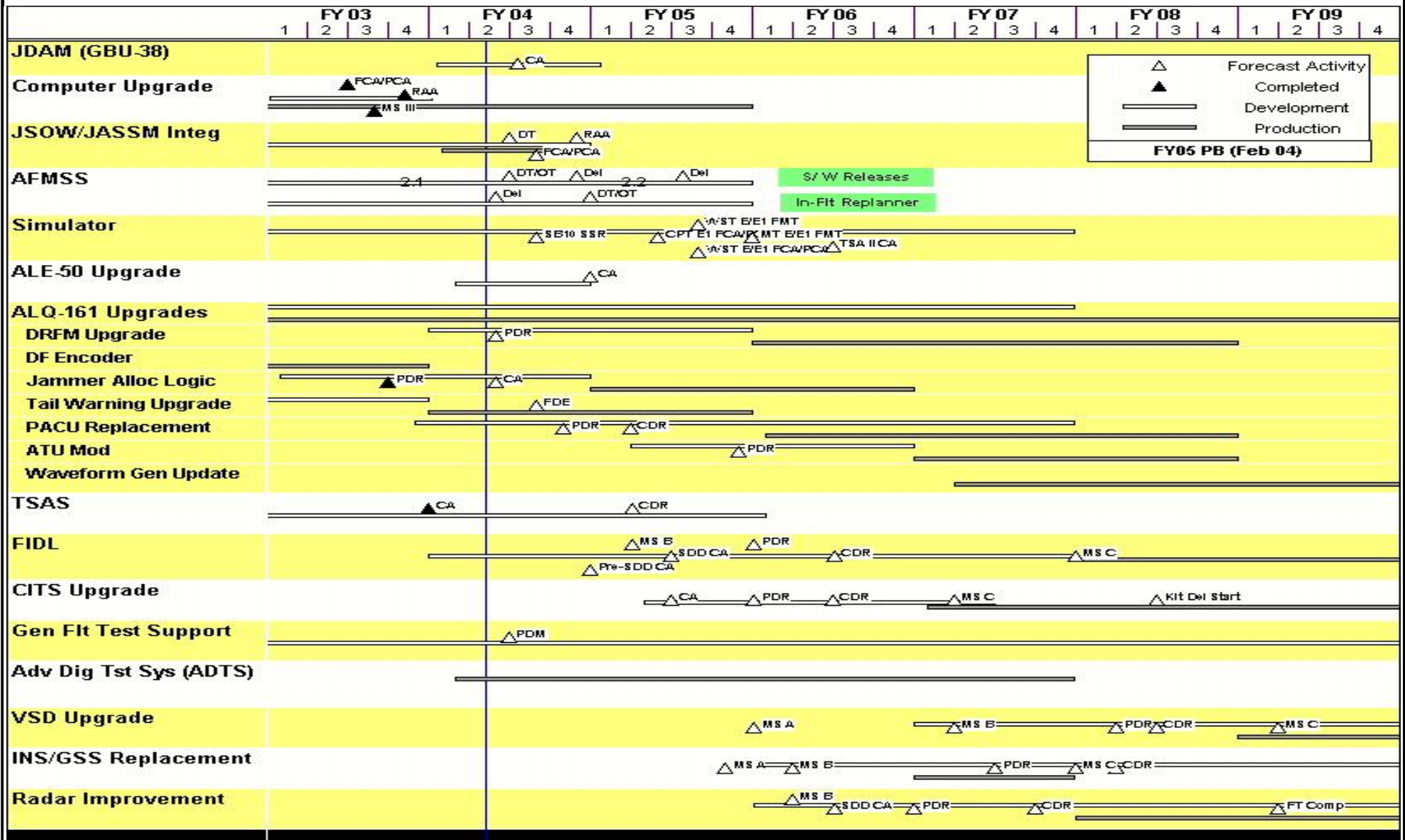
DATE

February 2004

BUDGET ACTIVITY
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604226F B-1B

PROJECT NUMBER AND TITLE
4596 Conventional Mission Upgrades



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2004		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE		
05 System Development and Demonstration (SDD)	0604226F B-1B	4596 Conventional Mission Upgrades		
		<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Schedule Profile				
(U) DEFENSIVE SYSTEM UPGRADE PROGRAM;- Program in Termination		1Q		
(U) Avionics Computers/WCMD -- Computer/WCMD System FCA/PCA		1Q		
(U) Avionics Computers/WCMD-- (T&E) Complete Computer/WCMD OT&E		1Q		
(U) Avionics Computers/WCMD-- Computer - Installation Blk E Kit on A/C 075 (Test A/C)		3Q		
(U) Avionics Computers/WCMD-- Computer - Ejector Rack (14") Testing		3Q		
(U) Avionics Computers/WCMD-- Complete Computer/WCMD Milestone III		3Q		
(U) JSOW/JASSM Integration-- FCA/PCA			3Q	
(U) JSOW/JASSM Integration -- Software Fielding Decision			3Q	
(U) JSOW/JASSM Integration (T&E)-- DT/OT Complete			2Q	
(U) JSOW/JASSM Integration (T&E)-- FDE Complete			3Q	
(U) JSOW/JASSM Integration-- RAA			4Q	
(U) JSOW/JASSM Integration-- EOC			4Q	
(U) JSOW/JASSM Integration-- Award Fee Period #13			4Q	
(U) JSOW/JASSM Integration-- Delivery Order 007 Complete			4Q	
(U) JSOW/JASSM Integration-- Contract -2075 CLIN 16 Closeout			4Q	
(U) Mission Planning System-- S/W Release 2.02 Delivery		2Q		
(U) Mission Planning System-- S/W Release 2.10 Delivery			3Q	
(U) Mission Planning System-- S/W Release 2.20 Delivery				2Q
(U) Mission Planning System-- In-Flight Replanner (IFR) Spiral 1 Delivery			1Q	
(U) Mission Planning System-- IFR Spiral 2 Delivery			2Q	
(U) Mission Planning System-- Award Fee Period 10				1Q
(U) Mission Planning System (T&E)-- S/W Release 2.10 DT/OT			2Q	
(U) Mission Planning System (T&E)-- IFR DT/OT			4Q	
(U) Mission Planning System (T&E)-- S/W Release 2.20 DT/OT				1Q
(U) Trainer/Simulator System-- WST Rehost FCA/PCA			3Q	
(U) Trainer/Simulator System-- SB-10 SSR			3Q	
(U) Trainer/Simulator System-- CPT E1 FCA/PCA				2Q
(U) Trainer/Simulator System-- WST Blk E/E1 FCA/PCA				3Q
(U) Trainer/Simulator System (T&E) -- WST Rehost FMT Kit-Proof			3Q	
(U) Trainer/Simulator System (T&E) -- CPT E1 Kit-Proof FMT				2Q
(U) Trainer/Simulator System (T&E) -- WST Blk E/E1 Kit-Proof FMT				3Q
(U) Trainer/Simulator System (T&E) -- Mission Trainer Blk E/E1 Kit-Proof FMT				4Q
(U) Trainer/Simulator System (Contract) -- Award Fee (FY03)			2Q	

UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail		DATE
		February 2004
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
05 System Development and Demonstration (SDD)	0604226F B-1B	4596 Conventional Mission Upgrades
(U) Trainer/Simulator System (Contract) -- Award Fee (FY04)		2Q
(U) ALE-50 Upgrade Program-- Contract Award		4Q
(U) ALQ-161A Digital Radio Frequency Memory (DRFM)-- PDR		2Q
(U) ALQ-161A Digital Radio Frequency Memory (DRFM)-- CDR		3Q
(U) ALQ-161A Digital Radio Frequency Memory (DRFM)-- Lab Testing		2Q
(U) ALQ-161A Digital Radio Frequency Memory (DRFM)-- QT&E/FDE		4Q
(U) ALQ-161A Digital Radio Frequency Memory (DRFM)-- EMD Phase II		2Q
(U) ALQ-161A Digital Radio Frequency Memory (DRFM)-- EMD Test/Support		2Q
(U) ALQ-161A Jammer Allocation Logic Sys (JALS)-- Lab Testing		4Q
(U) ALQ-161A Jammer Allocation Logic Sys (JALS)-- QT&E/FDE		1Q
(U) ALQ-161A Jammer Allocation Logic Sys (JALS)-- EMD Phase II		2Q
(U) ALQ-161A Tail Warning Function (TWF)-- QT&E/FDE		3Q
(U) ALQ-161A Preprocessor Avionics Control Unit (PACU)-- PDR/CDR		3Q
(U) ALQ-161A Preprocessor Avionics Control Unit (PACU)-- Lab Testing		4Q
(U) ALQ-161A Preprocessor Avionics Control Unit (PACU)-- HDWE/SW EMD Phase I		2Q
(U) ALQ-161A Preprocessor Avionics Control Unit (PACU)-- HDWE/SW EMD Phase II		2Q
(U) ALQ-161A Advanced Tracker Unit (ATU)-- PDR		4Q
(U) ALQ-161A Advanced Tracker Unit (ATU)-- EMD Phase I		2Q
(U) Threat Situational Awareness System (TSAS)-- PDR		3Q
(U) Threat Situational Awareness System (TSAS)-- CDR		1Q
(U) Threat Situational Awareness System (TSAS)-- Lab Testing		1Q
(U) Threat Situational Awareness System (TSAS)-- TSAS Spiral I		2Q
(U) Threat Situational Awareness System (TSAS)-- Contract Award	4Q	
(U) Threat Situational Awareness System (TSAS)-- Undef Contractual Action Definitization		3Q
(U) Fully Integrated Data Link (FIDL)-- PDR		3Q
(U) Fully Integrated Data Link (FIDL)-- FIDL Milestone B		1Q
(U) Fully Integrated Data Link (FIDL)-- FIDL Pre-SDD Complete		2Q
(U) Fully Integrated Data Link (FIDL)-- FIDL Pre-SDD Contract Award		3Q
(U) Fully Integrated Data Link (FIDL)-- FIDL SDD Contract Award		2Q
(U) Central Integrated Test System (CITS)-- PDR		4Q
(U) Central Integrated Test System (CITS)-- Proposal Receipt		1Q
(U) Central Integrated Test System (CITS)-- Milestone II Contract Award		2Q