PE NUMBER: 0101113F PE TITLE: B-52 SQUADRONS

	Ex	hibit R-2,	RDT&E Bu	ıdget Item	Justificat	tion			DATE	February 2	:005		
	PE NUMBER AND TITLE Of Operational System Development Of Operational System Development Of Operational System Development Of Operational System Development												
	Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	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	34.037	31.090	22.784	71.085	44.470	29.765	5.047	0.000	Continuing	TBD		
4810	Avionics Midlife Improvement (AMI)	26.455	9.095	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD		
4875	Situational Awareness Defensive Improvement	7.582	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	67.712		
5039	B-52 Modernization	0.000	21.995	22.784	71.085	44.470	29.765	5.047	0.000	Continuing	TBD		

(U) A. Mission Description and Budget Item Justification

The B-52 is one of two bomber weapon systems which supports conventional and nuclear taskings. It employs a diverse weapons load and is the only long range bomber/weapon system that can employ the Advanced Cruise Missile (ACM), the Air Launched Cruise Missile (ALCM), and the Conventional Air Launched Cruise Missile (CALCM). The current service life is forecast to be beyond 2040. The Avionics Midlife Improvement (AMI) modification replaces unsupportable mission critical parts of the Offensive Avionics System (OAS), which controls navigation and weapons delivery. The Situational Awareness Defensive Improvement (SADI) modification was originally planned to improve situational awareness and electronic countermeasure system control. In Fiscal Year 2003, the SADI program was rebaselined and moved the development and acquisition activities under the Airborne Electronic Attack Stand Off Jamming (AEA/SOJ) program (PE 64270F). The Global Air Traffic Management (GATM) upgrade will allow the B-52 to meet Federal Aviation Agency (FAA) and International Civil Aviation Organization (ICAO) avionics requirements to reduce airspace congestion and increase safety; however, program start is now outside of the Future Years Defense Plan (FYDP). The B-52 Modernization upgrade provides communications improvements for enhanced command and control and in-flight CALCM and J-series/GPS aided weapons retargeting. In addition, the B-52 Modernization program will start a modification in the out-years which will fully integrate the targeting pods. Fully integrating the targeting pods will also allow the B-52 to employ other advanced targeting pods. Air Force Material Command's Oklahoma Air Logistics Center has program management responsibility. The prime contractor for these projects is Boeing Defense located in Wichita, Kansas.

The B-52 is an operational system resulting in this program being budget activity 7 - Operational System Development.

R-1 Shopping List - Item No. 120-1 of 120-15

Exhibit R-2, RDT&E Bud	get Item Justification		DATE Februa r	y 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRO	•	•	
(U) B. Program Change Summary (\$ in Millions)				
	<u>FY 2004</u>	FY 2005	FY 2006	FY 2007
(U) Previous President's Budget	28.406	25.766	34.259	71.215
(U) Current PBR/President's Budget	34.037	31.090	22.784	71.085
(U) Total Adjustments	5.631	5.324		
(U) Congressional Program Reductions		-0.276		
Congressional Rescissions				
Congressional Increases		5.600		
Reprogrammings	5.631			
SBIR/STTR Transfer				
(U) Significant Program Changes:				

B-52 Modernization Program is a FY05 start. FY06 funding requirement decreased due to transfer of LINK 16 portion of the B-52 Modernization program to the Tactical Data Link program. FY07 funding requirement for B-52 Modernization BPAC 675039 increased due to a program realignment required to execute the CALCM Inflight Beyond Line of Sight Rapid Retasking (CIBR2) and Airborne Wideband Terminal (AWT) modifications.

R-1 Shopping List - Item No. 120-2 of 120-15

	E	DATE	DATE February 2005								
	T ACTIVITY erational System Development			PE NUMBER AND TITLE PROJECT NUMBER AND 4810 Avionics Midlif (AMI)					ovement		
	Cost (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Total
4810	Avionics Midlife Improvement (AMI)	Actual 26.455	Estimate 9.095	Estimate 0.000	Estimate 0.000	Estimate 0.000	Estimate 0.000	Estimate 0.000	Estimate 0.000	Complete Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The B-52H Offensive Avionics System (OAS) has several subsystems which must be replaced. The Inertial Navigation System (INS) utilizes 1960 unsupportable spinning mass gyro technology. The Avionics Control Unit (ACU) is a computer system with limited processing capability and memory. The Data Transfer Unit Cartridges (DTUCs) are bulky, unreliable, and obsolete. The AMI program will use non developmental components and technology to replace these subsystems and their associated software, significantly increasing OAS reliability, maintainability, supportability. Reliability, DMS deficiencies, and performance improvements to the OAS are also addressed in this program. Funding is provided for engineering and planning studies for potential future weapon system enhancements (weapons, sensors, and avionics) and for weapon system operation/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements.

The B-52 is an operational system resulting in this program being budget activity 7 - Operational System Development.

(U)	B. Accomplishments/Planned Program (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U)	Prototype Hardware	0.000			
(U)	Design, development of replacement software	15.841	1.300		
(U)	Ground and Flight Test	9.976	7.669		
(U)	System Program Office Support	0.638	0.126		
(U)	Program Support/Modeling and Simulation/Studies and Analysis				
(U)	Total Cost	26.455	9.095	0.000	0.000
(U)	C. Other Program Funding Summary (\$ in Millions)				
(U)		7 2008 FY 2009 F	V 2010 FV 20	11 Cost to	

()	O O O O O O O O O O O O O O O O O O O	difficulty (\$ III 1	· · · · · · · · · · · · · · · · · · ·								
		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to To	otal Cost
		<u>Actual</u>	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete 10	<u>otai Cost</u>
(U)) AF RDT&E	26.455	9.176							Continuing	TBD
(U)	Other APPN										
(U)	Aircraft Procurement (BP1100)	11.410	37.178	51.622	31.793	20.018	2.000			Continuing	TBD

(U) D. Acquisition Strategy

The AMI program contracted with Boeing Wichita for aircraft hardware integration and Flight Management System and the Stores Management Overlay software development. Boeing works with selected vendors which will provide EMD hardware. The Government will subsequently contract with these specific vendors for procurement of production hardware to support aircraft installations.

Project 4810 R-1 Shopping List - Item No. 120-3 of 120-15 Exhibit R-2a (PE 0101113F)

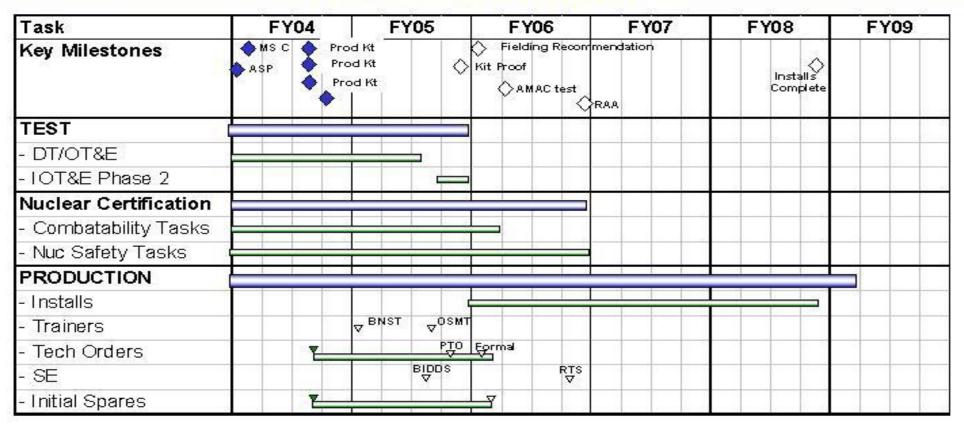
	Exhibi	it R-3, RD	T&E Proj	ect Co	st Ana	lysis					DATE		ıary 200	5
BUDGET ACTIVITY 07 Operational System Developm	ent										Avioni	T NUMBER AND TITLE vionics Midlife Improvement		
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions) (U) Product Development	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	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
Boeing, Wichita	CONTRA CT		0.000	9.776		0.000		0.000		0.000		Continuing	TBD	0.000
Subtotal Product Development Remarks: (U) Support			0.000	9.776		0.000		0.000		0.000		Continuing	TBD	0.000
OC-ALC/LH OC-ALC/LAS OO-ALC/LIR SER/CASU	PMA 206 616 MIPR			0.203 0.500 5.700 0.300								Continuing Continuing Continuing Continuing	TBD TBD TBD TBD	
Miscellaneous Subtotal Support	BTR/SIB R		0.000	6.703		0.000		0.000		0.000		Continuing	0.000 TBD	0.000
Remarks: (U) <u>Test & Evaluation</u>														
419 FLTS	Project Order			9.976		9.095						Continuing	TBD	
Subtotal Test & Evaluation Remarks: (U) <u>Management</u>			0.000	9.976		9.095		0.000		0.000		Continuing	TBD	0.000
Subtotal Management Remarks:			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
(U) Total Cost			0.000	26.455		9.095		0.000		0.000		Continuing	TBD	0.000
Project 4810			R-1 Shr	nnina l iet	- Item No	120-4 of 1	20-15					Eyhihi	t R-3 (PE 01	01113F)

DATE Exhibit R-4, RDT&E Schedule Profile February 2005 PROJECT NUMBER AND TITLE BUDGET ACTIVITY PE NUMBER AND TITLE 07 Operational System Development 0101113F B-52 SQUADRONS 4810 Avionics Midlife Improvement (AMI)



Program Status Schedule Rapidly delivering war-winning capability





Project 4810

R-1 Shopping List - Item No. 120-5 of 120-15

Exhibit R-4 (PE 0101113F)

	UNCLASSIFIED						
Exhibit	R-4a, RDT&E Schedule Detail		DATE Februa	ry 2005			
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS						
(U) Schedule Profile		2005	FY 2006	FY 2007			
(U) Ground & Flight Test		1-3Q					
(U) Milestone C	1Q						
(U) Production Acquisition Strategy Plan	1Q						
(U) Production Contract Award	2-3Q						
(U) Kit Proof		4Q					
(U) Production (U) RAA		1-4Q	1-4Q 4Q	1-4Q			
(U) Trainers		2-4Q	1-4Q	1-4Q			
Project 4810	R-1 Shopping List - Item No. 120-6 of 120-15		Exhibit R-	4a (PE 0101113F)			

	Exhibit R-2a, RDT&E Project Justification F													
	BUDGET ACTIVITY 07 Operational System Development					BER AND TITLE 3F B-52 SQ		75 Situation	ECT NUMBER AND TITLE Situational Awareness nsive Improvement					
	Cost (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Total			
4875	Situational Awareness Defensive Improvement	7.582	Estimate 0.000	Estimate 0.000	Estimate 0.000	Estimate 0.000	Estimate 0.000	Estimate 0.000	Estimate 0.000	Complete 0.000	67.712			
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0					

The Situational Awareness Defensie Improvement (SADI) modifications originally was planned to preserve B-52 survivability and add cornerstone architecture for stand off jamming (SOJ) capability in support of Air Force's system of system approach for Airborne Electronic Attack (AEA) by replacing the AN/ALR-20 Panoramic Receiver System. SADI has been rebaselined under the AEA/SOJ program (PE64270F). Fiscal Year 2004 will be the last year of funding under the SADI modification program. SADI is currently going through contract closeout actions.

(U) A. Mission Description and Budget Item Justification

The Situational Awareness Defensive Improvement (SADI) modification originally was planned to preserve B-52 survivability and add cornerstone architecture for stand off jamming (SOJ) capability in support of Air Force's system of system approach for Airborne Electronic Attack (AEA) by replacing the AN/ALR-20 Panoramic Receiver System. SADI has been rebaselined under the Airborne Electronic Attack Stand Off Jamming (AEA/SOJ) program (PE 64270F). Fiscal Year 2004 will be the last year of funding under the SADI modification program.

(U)	B. Accomplishments/Planned	Program (\$ in	Millions)				FY 20	<u>1004</u> <u>F</u>	FY 2005	FY 2006	FY 2007
(U)	System Concept Studies (Includ	les CTD plannii	ng, System Eng	gineering, Syst	em Capability	Trades,	7.5	30			
	Modeling and Simulation, Studi	es and Analysis	s and contract (Closeout Actio	ons						
(U)	Program Management						0.0)52			
(U)	Not Applicable						0.0	000			
(U)	Total Cost						7.5	582	0.000	0.000	0.000
(U)	C. Other Program Funding Su	mmary (\$ in N	Millions)								
		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Γotal Cost
		<u>Actual</u>	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete 2	total Cost
(U)	AF RDT&E									Continuing	TBD
(U)	Other APPN									Continuing	TBD
(U)	Aircraft Procurement (BP1100)									Continuing	TBD

(U) D. Acquisition Strategy

Program has been rebaselined under the Airborne Electronic Attack Stand Off Jamming (AEA/SOJ) program (PE 64270F). The SADI program is undergoing contract closeout actions. All FY04 activities retroactive to 1 Jul 04 and ongoing contract closeout activities are being priced as Firm Fixed Price. The AEA/SOJ program will manage funding and development efforts, starting in FY05.

Project 4875 R-1 Shopping List - Item No. 120-7 of 120-15

	Exhib	it R-3, RD	T&E Proj	ect Co	st Ana	lysis					DATE		ary 200)5
BUDGET ACTIVITY 07 Operational System Developme	ent			0101113F B-52 SQUADRONS						PROJECT NUMBER AND TITLE 4875 Situational Awareness Defensive Improvement				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions) (U) Product Development	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	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
Boeing Military Programs, Wichita Division Subtotal Product Development Remarks:	CPAF		0.000	4.999 4.999		0.000		0.000		0.000		0.000	4.999 4.999	0.000
(U) Support OC-ALC/LH WR/ALC OO-ALC/YWT HQ ACC/XRA52 Subtotal Support Remarks:	PMA 616 MORD		0.000	2.583 2.583		0.000		0.000		0.000		0.000	2.583 0.000 0.000 0.000 2.583	0.000
(U) Test & Evaluation 36 EWS//EWF 419 FLTS 2LG & 49 TES Subtotal Test & Evaluation Remarks:	616 616 616		0.000	0.000		0.000		0.000		0.000		0.000	0.000 0.000 0.000 0.000	0.000
(U) Management Subtotal Management Remarks:			0.000	0.000		0.000		0.000		0.000		0.000	0.000 0.000	0.000
(U) Total Cost			0.000	7.582		0.000		0.000		0.000		0.000	7.582	0.000
Project 4875			D 1 Ch/	opping Liet	- Itam No	120-8 of 1	20-15					Evhihir	t R-3 (PE 01	011125\

Exhibit R-4, RDT&E Schedule	Profile		DATE February 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS	4875 S	T NUMBER AND TITLE ituational Awareness iive Improvement

Situational Awareness Defensive Improvement Contract Closeout Actions

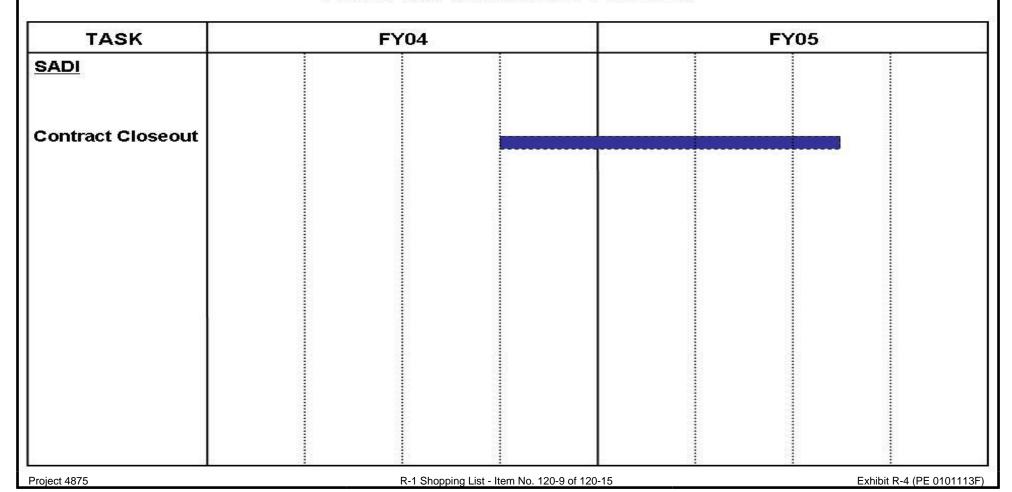


Exhibit R-4a, RDT&E Schedu	ile Detail		DATE February 2005		
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 01011113F B-52 SQUAD	RONS	4875 S	Februal T NUMBER AND TITI ituational Aware sive Improvemen	_E ness
(U) Schedule Profile (U) Studies and Analysis/Pre Milestone A /risk reduction activities for AEA/SOJ (U) Contract Closeout	FY 2004 3-4Q	FY 2005 2-3Q		FY 2006	FY 2007
Project 4875 R-1 Shopping List	- Item No. 120-10 of 120-15			Exhibit R-4	a (PE 0101113F)

	E	Exhibit R-2	a, RDT&E	Project J	ustificatio	n			DATE	February 2	2005		
	T ACTIVITY erational System Development					BER AND TITLE 3F B-52 SQ				NUMBER AND TITLE 52 Modernization			
	Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total		
5039	B-52 Modernization	0.000	21.995	22.784	71.085	44.470	29.765	5.047	0.000	Continuing	TBD		
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0				

(U) A. Mission Description and Budget Item Justification

B-52 Modernization is a comprehensive program that will ensure future B-52 viability. B-52 Modernization will first provide a communication and data link suite through the COmbat NEtwork Communications Technology (CONECT), a three spiral modification program. Spiral one is the Conventional Air Launched Cruise Missile In-flight Beyond Line-Of-Sight Rapid Retasking (CIBR2)modification, which will establish a communications backbone by providing a new client/server architecture using commercial-off-the-shelf (COTS) computers interconnected through a Local Area Network (LAN) system and adding new color displays at each crew station. CIBR2 will improve information processing and presentation. Spiral two is the Airborne Wideband Terminal (AWT) modification, which will integrate an Extremely High Frequency (EHF) radio, which will replace the AFSATCOM radio used for nuclear Command and Control and beyond-line-of sight connectivity. AWT terminal and antenna, which will be developed through the Family of Airborne Terminals (FAB T) program, are architecture keystones to the B-52 conventional beyond-line-of-sight (BLOS) data link integration programs. AWT will provide secure, wideband, high data rate BLOS connectivity. Spiral three will integrate Link 16 Tactical Data Link (TDL) system protocol. Funding for Spiral three is in the Tactical Data Link PE. Starting in Fiscal Year 2008, the B-52 Modernization program includes funding for a modification program which will fully integrate the 12 targeting pods purchased this past year through the Warfighter Rapid Acquisition Process and provide the capability to employ other advanced targeting pods. Additionally, B-52 Modernization funding pays for test activities at the Air Force Flight Test Center (AFFTC); engineering and planning studies for potential future weapon system enhancements (weapons, sensors, and avionics); and weapon system operational/safety, supportability, reliability, and Total Ownership Cost (TOC) improvements.

The B-52 is an operational system resulting in this program being budget activity 7 - Operational System Development.

(U)	B. Accomplishments/Planned Program (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U)	Group A and B Kit Development		8.700	5.578	33.194
(U)	Ground and Flight Test Planning		0.831	0.150	0.150
(U)	Data Development		0.277	0.854	3.100
(U)	Installation/Integration Planning		0.211	1.100	5.599
(U)	Support Equipment Development		1.066	2.491	4.599
(U)	Software Development		3.284	3.481	8.499
(U)	Simulation/Trainer Development		1.203	3.167	8.251
(U)	Program Support/Modeling and Simulation/Studies and Analysis		6.423	1.723	3.762
(U)	Management support			4.240	3.931
(U)	Total Cost	0.000	21.995	22.784	71.085

Project 5039 R-1 Shopping List - Item No. 120-11 of 120-15

		Exhibi	t R-2a, RD	T&E Projec	ct Justifica	tion			DATE	February 20	005
	GET ACTIVITY Operational System Develop	ment			•	JMBER AND TIT 1113F B-52 S	QUADRONS	•	PROJECT NUMBE 5039 B-52 Mod		
(U)	C. Other Program Funding Su	ımmary (\$ in N	Millions)								
		FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to To	otal Cost
		<u>Actual</u>	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete T	otai Cost
(U)	AF RDT&E									Continuing	TBD
(U)	Other APPN									Continuing	TBD
(U)	Aircraft Procurement (BP1100)		4.993	26.468	25.407	145.980	185.122	45.141	51.100	Continuing	TBD

(U) D. Acquisition Strategy

B-52 modernization is an development program that will be sole sourced to Boeing, which will be designing group A wiring and fairing for an Electronic System Center developed antenna and associated AWT electronic hardware. At the same time, Boeing will be developing the architecture for a system to process the information; procuring information processing equipment from their subcontractors; and developing drawings, data, and time compliance technical order (TCTO) for the installation on the B-52.

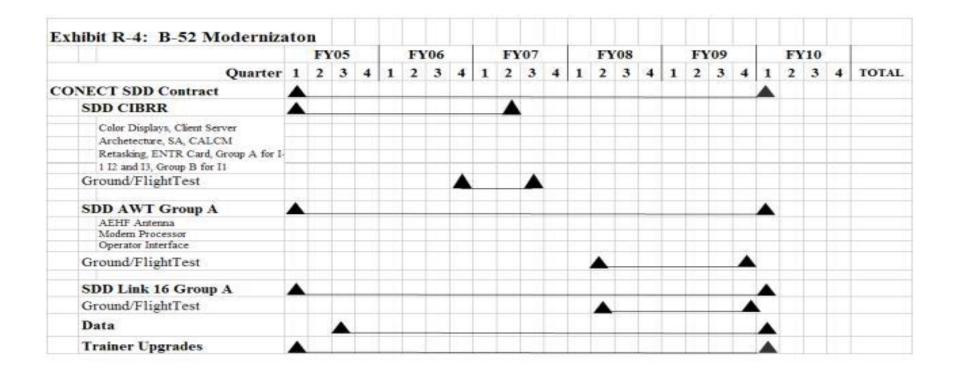
Project 5039 R-1 Shopping List - Item No. 120-12 of 120-15 Exhibit R-2a (PE 0101113F)

Exhibit R-3, RDT&E Project Cost Analysis February 2005)5			
BUDGET ACTIVITY 07 Operational System Develo	pment					ND TITLE - 52 SQU	ADRON	s			IBER AND T I oderniza		
U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Perform Method & Activity Type Location	y & Prior to FY	FY 2004 Cost	FY 2004 Award Date	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	Targe Value o Contrac
U) Product Development Boeing, Wichita Subtotal Product Development Remarks:	Contract	0.000	0.000		11.790 11.790	Dec-04	15.230 15.230	Dec-05	58.750 58.750	Dec-06	Continuing Continuing	TBD TBD	0.00
U) Support OO-ALC/LIR OC-ALC/LH ASC Subtotal Support Remarks:	616 PMA	0.000	0.000		2.740 6.635 9.375		3.170 1.030 2.410 6.610		8.251 0.920 2.140 11.311		Continuing Continuing Continuing Continuing	TBD TBD TBD TBD	0.00
U) Test & Evaluation 419 FLTS Subtotal Test & Evaluation Remarks:	Project Order	0.000	0.000		0.830 0.830		0.150 0.150		0.150 0.150		Continuing Continuing	TBD TBD	0.00
U) Management Subtotal Management Remarks: U) Total Cost		0.000	0.000		0.000 21.995		0.794 0.794 22.784		0.874 0.874 71.085		Continuing Continuing Continuing	TBD TBD	0.00

Project 5039 R-1 Shopping List - Item No. 120-13 of 120-15

Exhibit R-3 (PE 0101113F)

Exhibit R-4, RDT&E Schedu	lle Profile		February 2005
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJEC [®]	T NUMBER AND TITLE
07 Operational System Development	0101113F B-52 SQUADRONS	5039 B	-52 Modernization



Project 5039

R-1 Shopping List - Item No. 120-14 of 120-15

Exhibit R-4 (PE 0101113F)

Exhibit R-4a, RDT&E Schedule Detail DATE February 2005								
BUDGET ACTIVITY OF Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS	PROJECT NUMBER AND TITLE 5039 B-52 Modernization						
(U) Schedule Profile (U) CIBR2 SDD	<u>FY 2004</u> <u>F</u>	Y 2005 1-4Q	<u>FY 2006</u> 1-3Q	FY 2007				
U) AWT SDDU) CIBR2 Ground and Flight TestingU) AWT Ground and Flight Testing		1-4Q 4Q	1-4Q 1-4Q	1-4Q 1Q 3Q				
U) Production Award U) Trainer Upgrade		2.40	1Q 1-4Q	1-4Q				
U) Data		3-4Q	1-4Q	1-4Q				

Exhibit R-4a (PE 0101113F)

Project 5039