

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	23.071	75.991	41.916	48.607	59.164	56.292	34.638	15.790	Continuing	TBD
4876 B-52 Global Air Traffic Management (GATM)	0.000	0.000	0.000	0.000	8.426	6.386	0.000	0.000	14.812	14.812
5039 B-52 Modernization	23.071	75.991	41.916	48.607	50.738	49.906	34.638	15.790	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

B-52 Modernization is a comprehensive program to assure B-52 viability to perform future wartime missions. B-52 modernization (initiated in FY05) integrates and adds both tactical and global data link communications for real time command and control, targeting, and intelligence. Modernization also upgrades training devices to support aircrew and maintenance training with the latest B-52 capability. In addition, modernization improves conventional warfare capability with additional MIL-STD-1760 smart weapons and fully integrates advanced targeting pods with the offensive avionics system.

CONNECT

The Combat Network Communication Technology (CONNECT) Program is an evolutionary acquisition program to develop, study, integrate, test, and field several capabilities into the B-52 weapon system. CONNECT will upgrade the B-52 fleet with digital and voice communications capabilities and improved situational awareness to support participation in network centric operations and interoperability with the Global Information grid (GIG). CONECT capabilities will be implemented in a phased approach. Phase A, Conventional In-flight Beyond Line-of-Sight (BLOS) Rapid Re-tasking (CIBRR), will upgrade digital and voice communication capabilities, on-board client/server networked architecture supporting distributed processing and control functions, integration of the Intel Broadcast System/Receiver (IBS/R) and new Multi-Functional Color Displays (MFCDs). This phase will provide the B-52 fleet with a machine-to-machine capability supporting aircraft retasking and weapons retargeting of CALCM and J-series weapons, a limited Internet Protocol (IP)-based UHF BLOS capability, and improved situational awareness. Phase B will integrate the Family of Advanced BLOS Terminals (FAB-T) system hardware to support Extremely High Frequency (EHF) Satellite Communications (SATCOM). This will provide the B-52 fleet with a survivable SATCOM link for emergency action messages (EAMs) to meet STRATCOM requirements as well as a high bandwidth BLOS data link communication capability supporting IP based Global Information Grid (GIG) interoperability. In addition, two remaining legacy crew station displays will be replaced with MFCDs.

Trainers & CONECT

B-52 aircrew and maintenance training devices are a mix of 1970's and '80's technology. Most have reached their design capacity and must be upgraded to remain useful training tools. Upgrades to some of the training systems must occur prior to incorporating CONECT functionality. This planned approach will enable the trainers to maintain currency with the latest aircraft configuration. The CONECT program will upgrade existing trainers, establish a system integration laboratory for development of aircrew trainers, and add CONECT CIBRR and FAB-T functionality to meet user-training requirements.

Weapons Improvements

B-52 Modernization also includes improvement to conventional warfare capability. This effort provides development and testing to rapidly integrate weapons with a

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large array of properties, but not limited to: stealth, hard target penetration, standoff, adverse weather, precision strike, loiter, decoy, defense suppression, post-release/launch re-target capability, area denial, mobile targets, and multiple simultaneous attack. These capabilities will be provided through the integration of advanced weapons both internally (MIL-STD-1760 in the bomb bay) and externally.

Advanced Targeting Pod Functionality

The B-52 Modernization program will fully integrate the Advanced Targeting Pod by linking ATP control, display and target geo-location with the B-52 offensive avionics system. The B-52 Advanced Targeting Pod (ATP) effort is the integration of the ATP (Sniper or Litening AT) which will begin in '08. The Targeting Pod effort will develop software updates to add and incorporate the advanced pod functionality. This effort will upgrade the software functions of the Alternate Mission Equipment (AME) (Multi Function Display and Integrated Hand Controller) and be backwards compatible with existing AME. This effort will enable all wired aircraft to utilize Litening Pod, Litening AT or Sniper.

GATM Phase II

GATM, or more accurately, Communication Navigation Surveillance/Air Traffic Management (CNS/ATM), will develop and integrate modern technology into the B-52 to enable it to operate in the evolving Air Traffic environment. This evolution is being driven by International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) mandates to comply with performance standards to allow the B-52 to operate in controlled airspaces safely. A benefit of this program will yield significant savings through more fuel efficient flight routes and altitudes. Functions requiring updated technology in the B-52 are communications, navigation, and surveillance. More specifically the capabilities that will be realized under CNS/ATM include: FM Immunity, Digital Communications (voice to data), navigation accuracy such as Required Navigation Performance (RNP-4) or Global Positioning System (GPS) enhancements, Reduced Vertical Separation Minimum (RVSM), Traffic Alert and Collision Avoidance System (TCAS), enhanced situational awareness such as Mode S/Mode 5 Identify Friend or Foe (IFF), Communications Management Unit, HF Data Link, 8.33 VHF, Auto Dependent Surveillance (both address and broadcast), and any follow-on activity to associated components/systems resulting from modifications to CNS/ATM systems.

Test & Evaluation

Additionally, B-52 Modernization funds 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.

Additional Efforts

Examples include upgrades to avionics computers, mission planning interface to the Air Force Mission Support System (AFMSS) and upgrades to the Electronic Countermeasures (ECM) suite.

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

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	26.748	71.379	45.138	30.230
(U) Current PBR/President's Budget	23.071	75.991	41.916	48.607
(U) Total Adjustments	-3.677	4.612		
(U) Congressional Program Reductions				
Congressional Rescissions		-0.289		
Congressional Increases		4.900		
Reprogrammings	-3.000			
SBIR/STTR Transfer	-0.677			

(U) **Significant Program Changes:**

The CONECT program restructured based on the Family of Beyond Line-Of-Sight Terminals (FAB-T) technology development delays, loss of Joint Tactical Radio Systems (JTRS) procurement funding and Bomber Tactical Data Link (TDL) RDT&E adjustments.

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07 Operational System Development				0101113F B-52 SQUADRONS				5039 B-52 Modernization			
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total	
5039 B-52 Modernization	23.071	75.991	41.916	48.607	50.738	49.906	34.638	15.790	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0			

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

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(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Product Development	12.820	45.583	27.032	15.561
(U) MIL-STD-1760	4.180	3.700		
(U) Common Reconfigurable Advanced Thermal Management System		1.000		
(U) GBU-38	1.000			
(U) Advanced Pod Functions			4.132	3.500
(U) Pod Lab & Simulator Upgrades			1.068	

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(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Simulation/Trainer Development		17.480	3.000	22.813
(U) Government Test	0.141	2.242	3.125	2.754
(U) Program Support/Modeling and Simulation/Studies and Analysis	3.021	3.431	1.151	1.186
(U) Management Support	1.909	2.555	2.408	2.793
(U) Total Cost	23.071	75.991	41.916	48.607

(U) <u>C. Other Program Funding Summary (\$ in Millions)</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>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) Appn 28, PE 0207446F, Bomber TDL Core	33.900	20.700								54.600
(U) Other APPN										TBD
(U) Appn 10, PE 0101113F, B52 Squadrons, Aircraft Procurement BP11, Mods	128.478	69.890	18.091	81.601	63.417	70.875	85.327	75.307	90.444	683.430
RDT&E funding provided by PE 0207446F, Bombers Tactical Data Link to implement Joint Range Extension (JRE) solution (JREAP A protocol) to send/receive theater-wide J-Series messages and integration of Common Link Integration Processing (CLIP) software										

(U) D. Acquisition Strategy
B-52 modernization is a development program that will be sole sourced to Boeing. 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 installation on the B-52.

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Exhibit R-3, RDT&E Project Cost Analysis											DATE February 2007			
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(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2006 Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u> CONNECT SDD	CPFF	Boeing, Wichita KS		12.820	Dec-05	45.671		27.032		15.561		Continuing	TBD	
1760 Studies and Analysis	Contract	Boeing, Wichita KS		4.180	Apr-06	3.612	Jan-07						7.792	
Advanced Pod Functions	Contract	Boeing, Wichita KS						4.132		3.500			7.632	
GBU-38	Contract	Boeing, Wichita KS		1.000									1.000	
CommonReconfigurable Advanced Thermal Management System						1.000							1.000	
Subtotal Product Development			0.000	18.000		50.283		31.164		19.061		Continuing	TBD	0.000
Remarks:														
(U) <u>Support</u> Simulator/Trainer	616	509 MASSG, OO-ALC, UT				17.480		3.000		22.813		Continuing	TBD	
CONNECT Program Support, Studies & Analysis	Various			0.541		2.558		0.265		0.273		Continuing	TBD	
OC-ALC Studies & Analysis	Various	Boeing, Wichita KS											0.000	
System Integration Lab Pod Software Upgrades	Contract	Boeing, Wichita KS						0.168					0.168	
Pod Software Trainer Upgrades	Contract	OO-ALC						0.900					0.900	
Subtotal Support			0.000	0.541		20.038		4.333		23.086		Continuing	TBD	0.000
Remarks:														
(U) <u>Test & Evaluation</u> 419 FLTS	Project Order			0.100		1.992		2.760		2.389		Continuing	TBD	
JITC	MIPR			0.041		0.250		0.365		0.365			1.021	
Subtotal Test & Evaluation			0.000	0.141		2.242		3.125		2.754		Continuing	TBD	0.000
Remarks:														
(U) <u>Management</u> AEASS		Wright-Patter son AFB, OH		3.378		2.678		2.535		2.925		Continuing	TBD	
327 BMSG		Tinker AFB, OK		1.011		0.750		0.759		0.781		Continuing	TBD	
Subtotal Management			0.000	4.389		3.428		3.294		3.706		Continuing	TBD	0.000
Remarks:														

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(U) Total Cost	0.000	23.071	75.991	41.916	48.607	Continuing	TBD	0.000
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Exhibit R-4, RDT&E Schedule Profile

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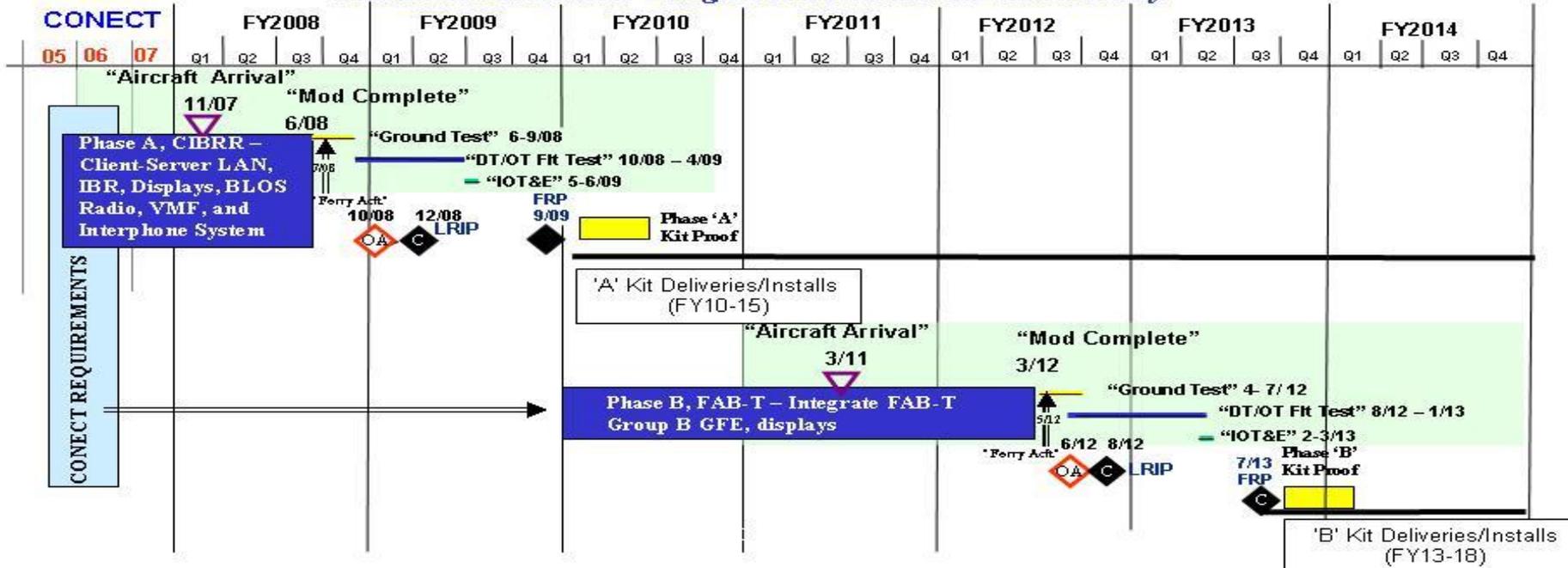
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B-52 CONECT CIBRR / FAB-T



Dominant Air Power: Design For Tomorrow... Deliver Today



Phase A: CIBRR: Client Server LAN, Intel Broadcast Receiver (IBR), MFDs, BLOS Warrior Radio, VMF, Interphone
Phase B: FAB-T: Integrate FAB-T Group B GFE (LDR & XDR capability) and remaining MFDs
 FAB-T XDR / JREAP C + Internet Protocol based Beyond Line-of-Sight (IP-based BLOS)

As of 4 Oct 06

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Exhibit R-4a, RDT&E Schedule Detail

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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) CONECT Phase A SDD	1-4Q	1-4Q	1-4Q	1-4Q
(U) CONECT Phase A Flight Test			4Q	1-3Q
(U) CONECT LRIP Milestone C			1Q	
(U) CONECT Full Rate Production				4Q
CONECT Phase B SDD (FY 10)				