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

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS

Cost ($ in Millions)	FY 2007 Actual	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	88.420	42.121	38.651	68.381	55.761	34.312	15.643	Continuing	TBD
5039 B-52 Modernization	88.420	42.121	38.651	68.381	55.761	34.312	15.643	Continuing	TBD

FY2007 funding total includes $ 24.500M in GWOT supplemental.

(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, intelligence and upgrades antiquated air traffic management systems with those supported by three key functions using satellite technology: Communications, Navigation and Surveillance. 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.

CONECT

The Combat Network Communication Technology (CONECT) Program is an evolutionary acquisition program to develop, integrate, test, and field several capabilities into the B-52 weapon system. CONECT upgrades 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 are implemented in a phased approach. Phase A upgrades 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 also provides the B-52 fleet with a machine-to-machine capability supporting aircraft retasking and retargeting of CALCM and J-series weapons, a limited Internet Protocol (IP)-based UHF Beyond Line-Of-Sight (BLOS) capability, and improved situational awareness. Phase B integrates the Family of Advanced BLOS Terminals (FAB-T) system hardware to support Extremely High Frequency (EHF) Satellite Communications (SATCOM). CONECT Phase B provides 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 GIG interoperability. In addition, two remaining legacy crew station displays are replaced with new 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 enables the trainers to maintain currency with the latest aircraft configuration. The CONECT program upgrades existing trainers, establishes a system integration laboratory for development of aircrew trainers, and adds CONECT Phase A and Phase B functionality to meet user-training requirements.

Weapons Improvements

B-52 Modernization also includes improvement of conventional warfare capability. This effort provides development and testing to rapidly integrate weapons with a 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 are 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 fully integrates the Advanced Targeting Pod (ATP) by linking pod control, display and target geo-location with the B-52 offensive avionics system. The B-52 ATP effort continues the ATP (Sniper or LITENING) integration effort which began in FY 07 with GWOT funding. The ATP effort develops aircraft software updates to add and incorporate advanced pod functionality into the B-52. In addition, this effort upgrades the software functions of the Alternate Mission Equipment (AME) (Multi Function Display and the Integrated Hand Controller), and enables all wired aircraft to utilize a LITENING, or Sniper pod. This effort provides hardware and software upgrades to the existing aircrew/maintenance trainers and the system integration lab.

Global Air Traffic Management (GATM)

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 effort is driven by the International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) mandates to comply with performance standards to allow the B-52 to operate safely in controlled airspaces. This program will also yield significant savings through more efficient flight routes and altitudes. Functions requiring updated technology in the B-52 are communications, navigation, and surveillance. More specifically the capabilities upgraded under CNS/ATM activities will include FM Immunity, Digital Communications (voice to data), improved navigation accuracy such as Required Navigation Performance (RNP) 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, 8.33MHz VHF, Auto Dependent Surveillance (both address and broadcast), and any follow-on activities 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.

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS

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

		FY 2007	FY 2008	FY 2009
(U)	Previous President's Budget	75.991	41.916	48.607
(U)	Current PBR/President's Budget	88.420	42.121	38.651
(U)	Total Adjustments	12.429	0.205	
(U)	Congressional Program Reductions			
	Congressional Rescissions		-0.295	
	Congressional Increases	24.500	0.500	
	Reprogrammings	-10.000		
	SBIR/STTR Transfer	-2.071		

(U) Significant Program Changes:

($9.5M) adjustment in FY09 to support higher AF priorities. $24.5M FY07 GWOT Congressional Add to accelerate Advanced Targeting Pod integration.

Exhibit R-2a, RDT&E Project Justification			DATE: February 2008
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0101113F B-52 SQUADRONS	PROJECT NUMBER AND TITLE: 5039 B-52 Modernization	

Cost ($ in Millions)	FY 2007 Actual	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	88.420	42.121	38.651	68.381	55.761	34.312	15.643	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

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Exhibit R-2a, RDT&E Project Justification		DATE February 2008
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS	PROJECT NUMBER AND TITLE 5039 B-52 Modernization

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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.

(U)	**B. Accomplishments/Planned Program ($ in Millions)**	FY 2007	FY 2008	FY 2009
(U)	Product Development	34.619	29.321	16.682
(U)	MIL-STD-1760	3.700		
(U)	Common Reconfigurable Advanced Thermal Management System	1.000	0.500	
(U)	Advanced Pod Functions	23.076	4.132	3.500
(U)	Pod Lab & Simulator Upgrades		1.068	
(U)	Simulation/Trainer Development	17.480	0.500	11.815
(U)	Government Test	1.764	3.099	2.796
(U)	Program Support/Modeling and Simulation/Studies and Analysis	4.165	1.950	2.009

Exhibit R-2a, RDT&E Project Justification		DATE February 2008
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0101113F B-52 SQUADRONS	PROJECT NUMBER AND TITLE 5039 B-52 Modernization

	B. Accomplishments/Planned Program ($ in Millions)	FY 2007	FY 2008	FY 2009
(U)	Management Support	2.616	1.551	1.849
(U)	Total Cost	88.420	42.121	38.651

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

		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
(U)	AF RDT&E, PE 0207446F, Bomber TDL Core	20.700	0.000							20.700
(U)	Other APPN									TBD
(U)	APAF, PE 0101113F, B52 Squadrons, Aircraft Procurement BP11, Mods	55.893	33.066	41.699	79.917	81.024	94.924	93.047	90.444	570.014

RDT&E funding provided by PE 0207446F, Bomber 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 comprehensive program to assure B-52 viability to perform future wartime missions. The B-52 CONECT SDD prime contract is sole source to Boeing, Wichita, KS. Boeing will design, develop, test and procure the necessary equipment from their subcontractors; develop engineering drawings, logistic and technical data, and time compliance technical order (TCTO) for installation on the B-52. The SDD effort includes installing and testing CONECT equipment on a B-52 aircraft. The B-52 trainer will be modified to support the CONECT modification through Ogden ALC via their trainer contract with Rockwell Collins, Sterling, VA.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: February 2008

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0101113F B-52 SQUADRONS

PROJECT NUMBER AND TITLE: 5039 B-52 Modernization

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	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) Product Development												
CONECT SDD	CPFF	Boeing, Wichita KS		34.619	Mar-05	29.321		16.682		Continuing	TBD	
1760 Studies and Analysis	T&M	Boeing, Wichita KS		3.700	Jan-07						3.700	
Advanced Pod Functions	Various	Boeing, Wichita KS		23.077		4.132		3.500			30.709	
Common Reconfigurable Advanced Thermal Management System	MIPR	ISR (SprayCool Technology) and Wichita State University, Wichita KS		1.000		0.500					1.500	
Subtotal Product Development			0.000	62.396		33.953		20.182		Continuing	TBD	0.000
Remarks:												
(U) Support												
Simulator/Trainer	616	509 MASSG, OO-ALC, UT		17.480	Jan-07	0.500		11.815		Continuing	TBD	
CONECT Program Support, Studies & Analysis	Various			4.165		1.065		1.097		Continuing	TBD	
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	21.645		2.633		12.912		Continuing	TBD	0.000
Remarks:												
(U) Test & Evaluation												
419 FLTS	Project Order			1.550		2.188		2.431		Continuing	TBD	
JITC	MIPR			0.213		0.384		0.365			0.962	
Subtotal Test & Evaluation			0.000	1.763		2.572		2.796		Continuing	TBD	0.000
Remarks:												
(U) Management												
651 AESS		Wright-Patterson AFB, OH		1.866		2.205		1.980		Continuing	TBD	
327 ACSG		Tinker AFB, OK		0.750		0.758		0.781		Continuing	TBD	
Subtotal Management			0.000	2.616		2.963		2.761		Continuing	TBD	0.000
Remarks:												
(U) Total Cost			0.000	88.420		42.121		38.651		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE: February 2008
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0101113F B-52 SQUADRONS	PROJECT NUMBER AND TITLE: 5039 B-52 Modernization

B-52 CONECT SCHEDULE

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

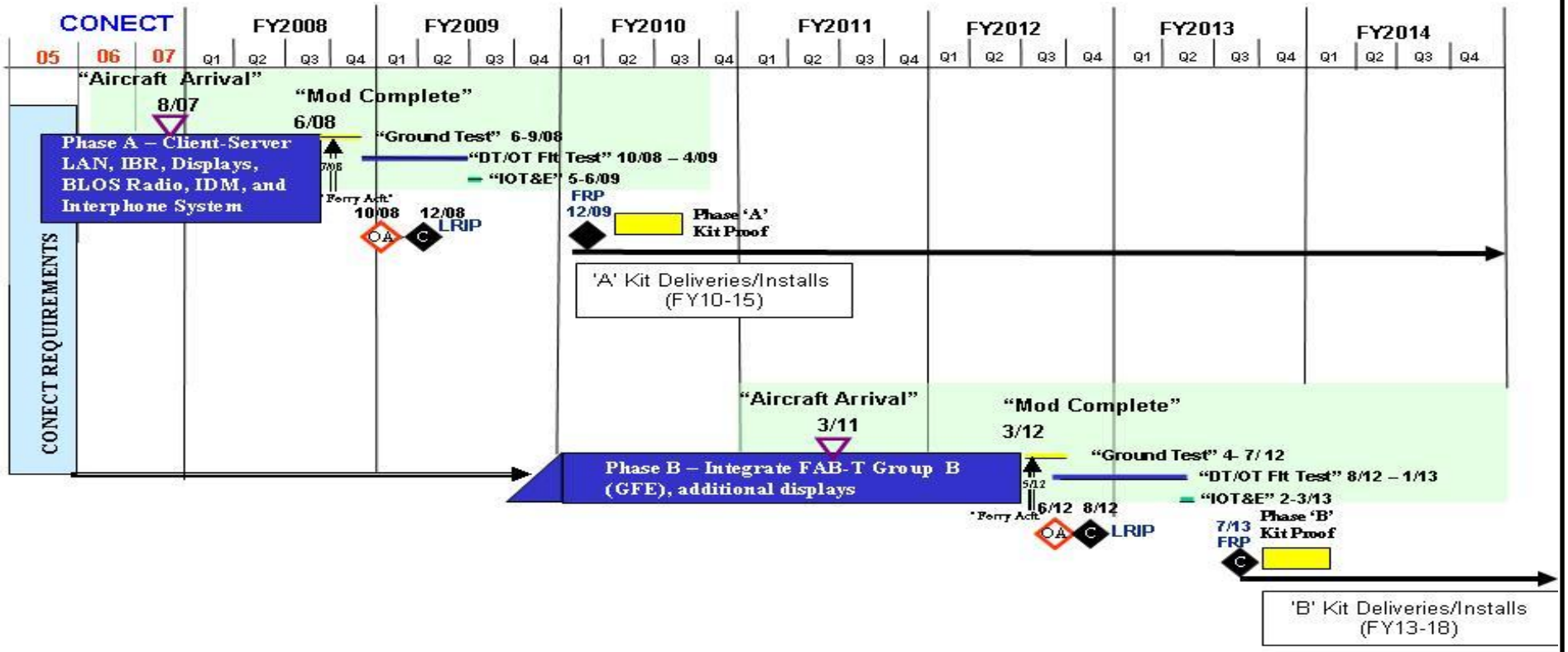

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2008
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0101113F B-52 SQUADRONS**	PROJECT NUMBER AND TITLE **5039 B-52 Modernization**

(U) Schedule Profile	FY 2007	FY 2008	FY 2009
(U) CONECT Phase A SDD	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 (FY10)			
(U) CONECT Phase B SDD (FY10)			