PE NUMBER: 0604240F
PE TITLE: B-2 Advanced Technology Bomber

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2005

BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604240F B-2 Advanced Technology Bomber

	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	171.286	270.472	285.205	213.089	206.125	138.216	96.247	86.176	Continuing	TBD
3843	B-2 Advanced Technology Bomber	171.286	270.472	285.205	213.089	206.125	138.216	96.247	86.176	Continuing	TBD

In FY06: B-2 Advanced Technology Bomber adds the Proximity Sensor Logic Unit (PSLU) and Oxygen Generation and Distribution System (OGADS) new start programs.

In FY06: 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.

In FY07: B-2 Advanced Technology Bomber adds the Mode S/5 Identification Friend or Foe (IFF) new start program.

(U) A. Mission Description and Budget Item Justification

The B-2A Spirit is the world's most advanced long-range strike asset. The unique combination of range, payload and stealth characteristics allow the B-2 to target and destroy the highest value enemy targets, regardless of location, and return home. The array of planned RDT&E projects are necessary to both preserve this strategic advantage as well as to increase the flexibility and lethality of this "capital" asset. The Radar Modernization (RMP) and the Aft Deck Crack Programs both address and correct potential fleet grounding issues. The RMP changes the operating frequency of the radar to enable the B-2 to legally operate in the future. The Aft Deck Crack Program preserves the key stealth characteristics that are so vital to the survivability of the B-2. Avionics and armament upgrades are key to enhancing the flexibility and lethality of the B-2. The Link-16/Center Instrument Display (CID)/In-Flight Replanner (IFR) upgrade allows the B-2 access to the theater tactical data link, improving on-board situational awareness while greatly enhancing the ability of the theater commanders to force package the B-2 with other assets. Secure, survivable communication systems upgrade preserves the critical ability to guarantee communication through a nuclear event, while providing a dramatic increase in the data flow into and out of the B-2. Upgrades include, but are not limited to, very low frequency and extremely high frequency components, including the infrastructure upgrades necessary to host these capabilities. Integration of new and/or advanced weapons allows the B-2 to destroy a wider array of target sets as well as destroy more targets per sortie. In addition to final testing and integration of EGBU-28 and JDAM-82/SBRA armament into the B-2 fleet, the GBU-28 C/B weapon integration program will integrate a 5,000 lb "bunker buster" weapon providing improved lethality, thus holding more enemy targets at risk. Engine, structure and Low Observable (LO) programs including, but not limited to Advanced Door Edge Treatment (ADET), Advanced Hot Trailing Edge (AHTE), Tailpipe Coatings, and Windshield Tape Alternative (WTA) are designed to ease pilot and maintainer workload, while preserving/enhancing the combat edge the B-2 fleet affords this nation. Continued baseline B-2 support is essential to the execution of all the RDT&E efforts discussed above. The baseline B-2 support ensures support of the B-2 flight test aircraft, maintains B-2 unique flight test infrastructure, ensures the Mission Planning System configuration keeps pace with aircraft system updates, provides a strategic planning capability to include acquisition planning activities, which are needed to prepare for program initiation, prior to proposal preparation, and provides for other B-2 unique government costs. This program is included in budget activity code 05, System Development and Demonstration because of the significant development and testing associated with the maintenance and upgrade of B-2 capabilities.

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2005
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604240F B-2 Advanced Technology Bomber

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

		FY 2004	FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	165.920	245.049	290.152	131.038
(U)	Current PBR/President's Budget	171.286	270.472	285.205	213.089
(U)	Total Adjustments	5.366	25.423		
(U)	Congressional Program Reductions		-2.502		
	Congressional Rescissions				
	Congressional Increases		30.000		
	Reprogrammings	9.465	-2.075		
	SBIR/STTR Transfer	-4.099			

(U) Significant Program Changes:

FY05 changes are due primarily to $30M ($8.4M RMP, $7.2M GBU-28 C/B, and $14.4M EHF SatCom) Congressional plus-up

FY06 changes are due primarily to $8.475M T&E funding realignment, EHF SatCom and RMP realignments, PSLU and OGADS new start programs.

FY07 changes are due primarily to $9.792M T&E funding realignment, EHF SatCom and RMP realignments, Mode S/5 IFF new start program.

Exhibit R-2a, RDT&E Project Justification

DATE: February 2005

BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604240F B-2 Advanced Technology Bomber

PROJECT NUMBER AND TITLE: 3843 B-2 Advanced Technology Bomber

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
3843	B-2 Advanced Technology Bomber	171.286	270.472	285.205	213.089	206.125	138.216	96.247	86.176	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-2A Spirit is the world's most advanced long-range strike asset. The unique combination of range, payload and stealth characteristics allow the B-2 to target and destroy the highest value enemy targets, regardless of location, and return home. The array of planned RDT&E projects are necessary to both preserve this strategic advantage as well as to increase the flexibility and lethality of this "capital" asset. The Radar Modernization (RMP) and the Aft Deck Crack Programs both address and correct potential fleet grounding issues. The RMP changes the operating frequency of the radar to enable the B-2 to legally operate in the future. The Aft Deck Crack Program preserves the key stealth characteristics that are so vital to the survivability of the B-2. Avionics and armament upgrades are key to enhancing the flexibility and lethality of the B-2. The Link-16/Center Instrument Display (CID)/In-Flight Replanner (IFR) upgrade allows the B-2 access to the theater tactical data link, improving on-board situational awareness while greatly enhancing the ability of the theater commanders to force package the B-2 with other assets. Secure, survivable communication systems upgrade preserves the critical ability to guarantee communication through a nuclear event, while providing a dramatic increase in the data flow into and out of the B-2. Upgrades include, but are not limited to, very low frequency and extremely high frequency components, including the infrastructure upgrades necessary to host these capabilities. Integration of new and/or advanced weapons allows the B-2 to destroy a wider array of target sets as well as destroy more targets per sortie. In addition to final testing and integration of EGBU-28 and JDAM-82/SBRA armament into the B-2 fleet, the GBU-28 C/B weapon integration program will integrate a 5,000 lb "bunker buster" weapon providing improved lethality, thus holding more enemy targets at risk. Engine, structure and Low Observable (LO) programs including, but not limited to Advanced Door Edge Treatment (ADET), Advanced Hot Trailing Edge (AHTE), Tailpipe Coatings, and Windshield Tape Alternative (WTA) are designed to ease pilot and maintainer workload, while preserving/enhancing the combat edge the B-2 fleet affords this nation. Continued baseline B-2 support is essential to the execution of all the RDT&E efforts discussed above. The baseline B-2 support ensures support of the B-2 flight test aircraft, maintains B-2 unique flight test infrastructure, ensures the Mission Planning System configuration keeps pace with aircraft system updates, provides a strategic planning capability to include acquisition planning activities, which are needed to prepare for program initiation, prior to proposal preparation, and provides for other B-2 unique government costs. This program is included in budget activity code 05, System Development and Demonstration because of the significant development and testing associated with the maintenance and upgrade of B-2 capabilities.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U) Continue B-2 baseline support to include developmental flight test aircraft modification and base of operations; Mission Planning support; long range planning, studies, and program integration activities; and other government costs.	22.513	13.768	14.330	11.015
(U) Continue development of Link-16/CID/IFR, EGBU-28, JDAM/SBRA, UHF SATCOM; Secure, Survivable Communications upgrade (FAB-T integration, computer architecture enhancements, potential near-term alternative integration); Aft Deck Cracks, Low Observable, airframe, and other avionics improvements.	48.126	38.991	30.280	70.220
(U) Continue development of RMP including completing Component Advanced Development (CAD) and	100.647	210.513	240.595	119.454

Exhibit R-2a, RDT&E Project Justification		DATE February 2005
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604240F B-2 Advanced Technology Bomber	PROJECT NUMBER AND TITLE 3843 B-2 Advanced Technology Bomber

initiating System Development and Demonstration (SDD) and design and fabrication of new and modified components for test aircraft and six developmental units.

(U)	Begin development of GBU-28 C/B		7.200		
(U)	Begin development of Mode S/Mode 5 IFF and PSLU				12.400
(U)	Total Cost	171.286	270.472	285.205	213.089

(U) C. Other Program Funding Summary ($ 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 Cost
(U)	A/C Proc, AF, Combat A/C/BA07/B-2A	0.000	0.000	0.000	0.000	0.000	0.000			0.000	0.000
(U)	A/C Proc, AF, Post Prod Support/BA07	6.017	6.697	7.304	7.567	0.000	0.000			0.000	TBD
(U)	A/C Proc, AF, Modifications/BA05/B-2A	120.156	94.533	59.134	195.759	304.749	112.882	82.940	120.899	Continuing	TBD
(U)	A/C Prod, AF, ICS	26.135	30.213	22.111	11.517	8.733	9.567			Continuing	TBD
(U)	A/C Proc, AF, Cmn Spt Eq/BA07/Items<$2M	1.099	0.000	0.000	0.000	0.000	0.000			0.000	TBD
(U)	A/C Proc, AF, A/C Initial Spares/BA06/B-2A	3.692	2.222	6.632	2.610	4.093	1.036			0.000	TBD
(U)	Proc (Other), AF/BA 02,03, 04/B-2A	7.493	7.614	7.813	8.092	8.378	8.625			Continuing	TBD
(U)	Military Construction/BA01	0.000	0.000	0.000	0.000	0.000	0.000			0.000	TBD

(U) D. Acquisition Strategy

Key elements of the overall acquisition strategy include: use of sole source contract with a prime/integrating contractor (Northrop Grumman); use of cost plus award fee (CPAF) development contracts; and the combination of developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and differences in fielded configurations.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: February 2005

BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE: 0604240F B-2 Advanced Technology Bomber

PROJECT NUMBER AND TITLE: 3843 B-2 Advanced Technology Bomber

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	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
(U) Product Development														
Air Vehicle	Multiple	Various	21,610.071	147.845	Oct-03	255.816	Oct-04	270.724	Oct-05	201.923	Oct-06	Continuing	TBD	
Aircrew Training	CPIF	Various	561.345	0.000	N/A	0.000	N/A	0.075	Apr-06	0.075	Apr-06		561.495	
Mission Planning	Multiple	Various	344.976	11.291	Oct-03	2.166	Jan-05	2.010	Jan-06	0.075	Jan-07	Continuing	TBD	
Engines	Multiple	Various	570.720	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A		570.720	
Subtotal Product Development			23,087.112	159.136		257.982		272.809		202.073		Continuing	TBD	0.000
Remarks:														
(U) Support														
Other Govt Costs	N/A	Various	1,060.695	6.769		6.352		7.895		6.919		Continuing	TBD	
Subtotal Support			1,060.695	6.769		6.352		7.895		6.919		Continuing	TBD	0.000
Remarks:														
(U) Test & Evaluation														
Govt Test	N/A	AFFTC	793.913	5.257		6.138		4.501		4.097		Continuing	TBD	
Subtotal Test & Evaluation			793.913	5.257		6.138		4.501		4.097		Continuing	TBD	0.000
Remarks:														
(U) Management														
Cancelled Year Invoices	N/A	Various	0.000	0.124		0.000		0.000		0.000			0.124	
Subtotal Management			0.000	0.124		0.000		0.000		0.000		0.000	0.124	0.000
Remarks:														
(U) Total Cost			24,941.720	171.286		270.472		285.205		213.089		Continuing	TBD	0.000

Award dates listed are the first incremental funding opportunity associated with cost categories

Exhibit R-4, RDT&E Schedule Profile		DATE: February 2005
BUDGET ACTIVITY: 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE: 0604240F B-2 Advanced Technology Bomber	PROJECT NUMBER AND TITLE: 3843 B-2 Advanced Technology Bomber

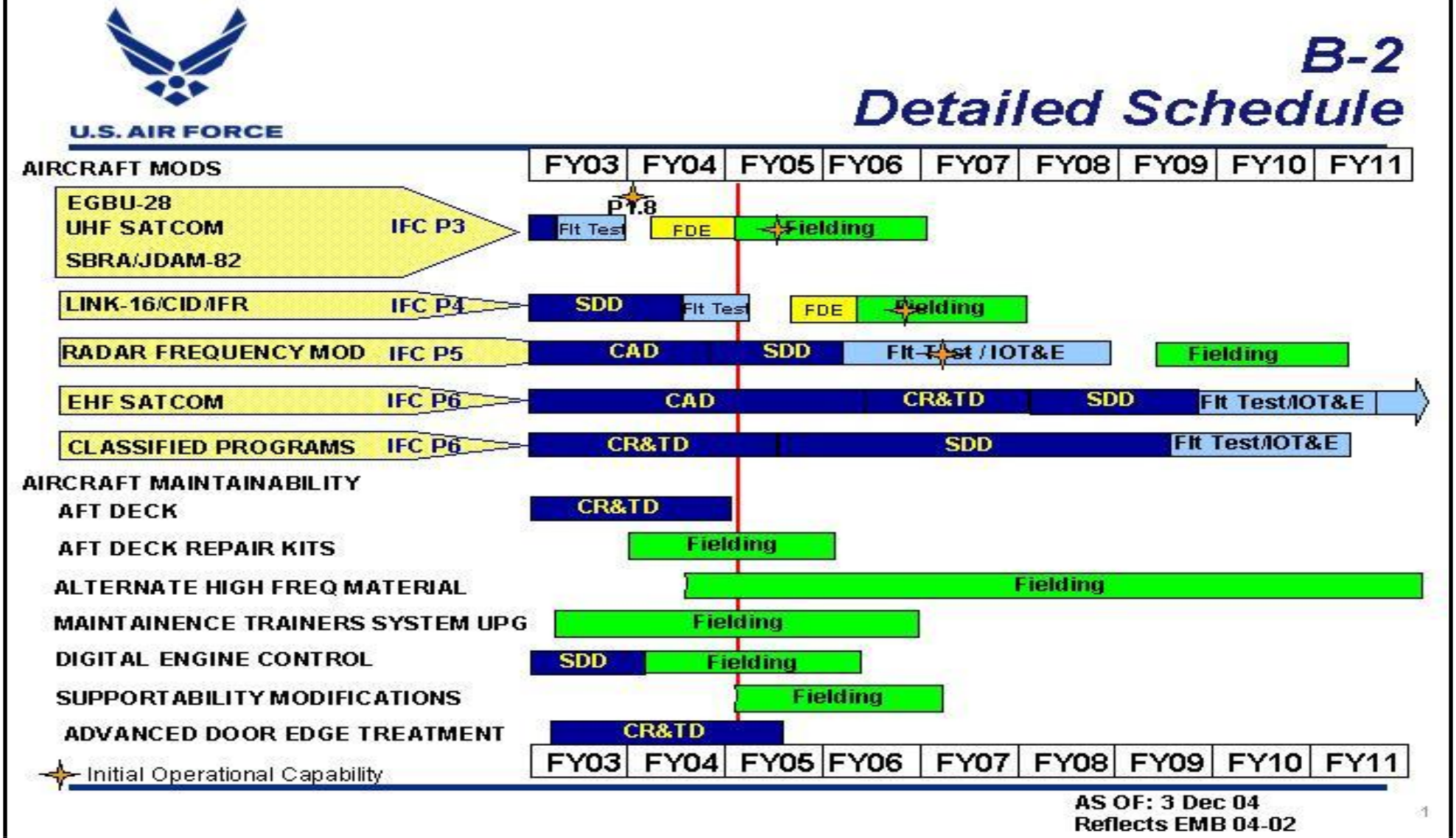

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2005
BUDGET ACTIVITY **05 System Development and Demonstration (SDD)**	PE NUMBER AND TITLE **0604240F B-2 Advanced Technology Bomber**	PROJECT NUMBER AND TITLE **3843 B-2 Advanced Technology Bomber**

(U) Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007
(U) EHF SatCom CAD Extension (FY04/05 Congressional Plus-up)		3Q		
(U) Secure, Survivable Communications System Upgrade Contract Award			2Q	
(U) Radar Management Mod Dev CAD III	3Q			
(U) Aft Deck Contract Award (FY04 Congressional Plus-up)	2Q			
(U) UHF SatCom Flight Test Complete	4Q			
(U) EGBU-28 Flight Test Complete	1Q			
(U) JDAM-82/SBRA Flight Test Complete	1Q			
(U) Radar Management Mod Dev SDD Contract Award (FY05 Congressional Plus-up)	4Q			
(U) Link-16/CID/IFR Flight Test Begins/Completes	3Q	1Q		
(U) GBU-28 C/B Contract Award		2Q		
(U) GBU-28 C/B Flight Test Begins/Completes (FY05 Congressional Plus-up)			1Q	