Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force

R-1 ITEM NOMENCLATURE

3600: Research, Development, Test & Evaluation, Air Force

PE 0101127F: *B-2 SQUADRONS*

DATE: February 2011

BA 7: Operational Systems Development

APPROPRIATION/BUDGET ACTIVITY

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	351.549	260.466	340.819	-	340.819	432.155	422.958	361.634	271.430	Continuing	Continuing
675345: B-2 Modernization	351.549	260.466	5.135	-	5.135	2.007	1.945	1.962	1.988	Continuing	Continuing
676021: BASELINE SUPPORT	-	-	9.523	-	9.523	7.860	14.336	15.916	13.810	Continuing	Continuing
676022: EHF SATCOM and Computer	-	-	285.034	-	285.034	244.410	225.389	244.846	205.843	Continuing	Continuing
676023: Defensive Management System	-	-	41.127	-	41.127	177.878	181.288	98.910	49.789	Continuing	Continuing

Note

In FY10, Project Number 653843, B-2 Advanced Technology Bomber efforts transferred from PE 0604240F, B-2 Advanced Technology Bomber, to PE 0101127F, B-2 Squadrons, transferring funds/efforts from major force program (MFP) 6 to MFP 1.

Funding prior to FY10-FY12, and the estimate to complete after FY12 for the two B-2 ACAT 1 programs as follows:

- (1) The ACAT 1C B-2 Extremely High Frequency Satellite Communication (EHF SATCOM) and Computers Increment 1: Prior years funding: \$288.5M; estimate to complete: \$6.4M
- (2) The ACAT 1C B-2 Radar Modernization Program (RMP): Prior years funding: \$646.6M; estimate to complete: Not applicable. EMD is complete, effort is in full-rate production, no remaining RDT&E efforts after FY10.

In FY12, three new project numbers were established:

676021 Baseline Support

676022 EHF SATCOM and Computer

676023 Defensive Management System

Funding for the three new project numbers was transferred from the existing 675345 project number. Project number 675345 will continue to be used for B-2 Modernization efforts that are not allocated to the three new project numbers.

The program funding includes reductions for overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total \$3.515M in FY12.

Air Force Page 1 of 32 R-1 Line Item #115

Exhibit R-2, **RDT&E Budget Item Justification**: PB 2012 Air Force

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

3600: Research, Development, Test & Evaluation, Air Force

PE 0101127F: *B-2 SQUADRONS*

BA 7: Operational Systems Development

The program funding includes reductions for acquisition excellence efficiencies for project 676023 in FY15 and FY16 that are not intended to impact program content. Reductions for efficiencies may be spread to other Air Force programs at a later date. Amounts of the reductions are: \$3.7M/FY15 and \$54.2M/FY16.

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, precision, payload, and ability to operate in anti-access environments allow the B-2 to identify, locate, target, and destroy the highest value enemy targets. The B-2 can, with necessary upgrades, accomplish its mission regardless of location, return to base safely, and permit freedom of movement for follow-on forces, including other long range strike platforms.

The array of planned RDT&E projects are necessary to both preserve this strategic advantage as well as increase the flexibility, lethality, and survivability of this national asset tasked across a broad spectrum, from tactical to national objectives. Upgrades include, but are not limited to, armament systems, structures, engine improvements, low obervable modifications, trainers, support equipment, Radar Modernization Program (RMP), Link-16 Center Instrument Display (CID)/In-Flight Replanner (IFR), Ultra High Frequency (UHF) Satellite Communication (SATCOM), Mode 5/S Identification Friend or Foe (IFF)-Automatic Dependence Surveillance-Broadcast, Adaptable Communications Suite (ACS), Extremely High Frequency (EHF) SATCOM and Computers, Defensive Management System (DMS), Electromagnetic pulse (EMP) Hardening Testing, and advanced, low detection data links upgrades.

Specific efforts will be managed under one of four projects:

676021 Baseline Support

676022 EHF SATCOM and Computer

676023 Defensive Management System

675345 B-2 Modernization

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	407.189	260.466	295.333	-	295.333
Current President's Budget	351.549	260.466	340.819	-	340.819
Total Adjustments	-55.640	-	45.486	-	45.486
 Congressional General Reductions 		-			
 Congressional Directed Reductions 		-			
 Congressional Rescissions 	-	-			
Congressional Adds		-			
 Congressional Directed Transfers 		-			
Reprogrammings	-2.039	-			
SBIR/STTR Transfer	-51.902	-			
Other Adjustments	-1.699	-	45.486	-	45.486

Air Force Page 2 of 32 R-1 Line Item #115

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Ford	ce	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
3600: Research, Development, Test & Evaluation, Air Force	PE 0101127F: <i>B-2 SQUADRONS</i>	
BA 7: Operational Systems Development		

Congressional Add Details (\$ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Project: 675345: B-2 Modernization		
Congressional Add: B-2 Advanced Tactical Data Link (ATDL)	9.560	-
Congressional Add: B-2 Strike Control System	12.124	-

Congressional Add: B-2 Strike Control System Congressional Add Subtotals for Project: 675345

21.684 Congressional Add Totals for all Projects 21.684

Change Summary Explanation

FY12 changes increased funding for EHF SATCOM and Computer Increments 1 and 2, and decreased funding for Defensive Management System and Mode 5/

R-1 Line Item #115

DATE: February 2011

0

APPROPRIATION/BUDGET ACTIV 3600: Research, Development, Test		n Air Force			IOMENCLAT 7F: <i>B-2</i> SQU			PROJECT 675345: <i>B-2</i>			
BA 7: Operational Systems Develop		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			2 2 0 0 0	7.27.07.0		0.00.0.2			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To	Total Cost
675345: B-2 Modernization	351.549				5.135		1.945	1.962		•	Continuing

0

0

0

0

Note

In FY10, Project Number 653843, B-2 Advanced Technology Bomber efforts transferred from PE 0604240F, B-2 Advanced Technology Bomber, to PE 0101127F, B-2 Squadrons, transferring funds/efforts from MFP 6 to MFP 1.

In FY12:

Quantity of RDT&E Articles

funding for Baseline Support transferred from project 675345 to project 676021.

0

funding for Extremely High Frequency (EHF) SATCOM and Computers transferred from project 675345 to project 676022.

0

0

funding for DMS upgrade transferred from project 675345 to project 676023.

A. Mission Description and Budget Item Justification

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

Totals include funding for PRCP Program Number (PNO) 224, B-2 EHF Increment 1; and PRCP Program Number (PNO) 376, B-2 Radar Modernization Program (RMP);

The B-2A Spirit is the world's most advanced long-range strike asset. The unique combination of range, precision, payload, and ability to operate in anti-access environments allow the B-2 to identify, locate, target, and destroy the highest value enemy targets. The B-2 can, with necessary upgrades, accomplish its mission regardless of location, return to base safely, and permit freedom of movement for follow-on forces, including other long range strike platforms.

The array of planned RDT&E projects are necessary to both preserve this strategic advantage as well as increase the flexibility, lethality, and survivability of this national asset tasked across a broad spectrum, from tactical to national objectives. Avionics upgrades include, but are not limited to, Radar Modernization Program (RMP), Link-16 Center Instrument Display (CID)/In-Flight Replanner (IFR), Mode 5/S Identification Friend or Foe (IFF)-Automatic Dependence Surveillance-Broadcast, Adaptable Communications Suite (ACS), Extremely High Frequency (EHF) SATCOM and Computers, Defensive Management System Modernization (DMS-M), Electro-magnetic pulse (EMP) Hardening Testing, and advanced, low detection data links upgrades.

RMP changes the operating frequency of the radar to enable the B-2 to operate as a primary user worldwide.

Link-16 CID/IFR upgrade allows the B-2 access to theater tactical data links, improving on-board situational awareness while greatly enhancing the ability of the theater commanders to coordinate the B-2 with other assets.

ACS provides UHF SATCOM data for beyond line of sight situational awareness and airborne mission data transfer.

Air Force Page 4 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

BA 7: Operational Systems Development

DATE: February 2011

R-1 ITEM NOMENCLATURE
PE 0101127F: B-2 SQUADRONS
675345: B-2 Modernization

Mode 5 IFF provides enhanced combat identification of friend or foe functions for military Air Traffic Management; Mode S IFF provides enhanced surveillance functions with commercial Air Traffic Management to allow operations in controlled air space; Automatic Dependence Surveillance-Broadcast provides aircraft position and navigation information to Air Traffic Control and nearby aircraft.

EMP hardening requirements will test individual components and the entire B-2 fleet at higher EMP levels for Nuclear Command and Control Survivability.

Integrated Strike Warfare (ISW) Airborne Network project will model and simulate combat effects and performance constraints in an environment that can demonstrate, integrate, generate and validate four generic wave form models which will be used on the B-2 platform. Additionally, this project will establish a viable end-to-end distributed modeling and simulation network.

Advanced Tactical Data Link (ATDL) will identify B-2 CONOPS requirements and integration issues which will permit B-2 to communicate with other stealth platforms in an anti-access environment to enhance situational awareness and permit time-critical targeting and engagement.

Armament upgrades include, but are not limited to, integration of new and/or advanced weapons on the B-2 to destroy a wider array of target sets, to include moving target sets and Hardened, Deeply Buried Targets (HDBT), as well as destroy more targets per sortie. Integration of the 30K lb class Massive Ordnance Penetrator (MOP) will provide the nation with the ability to hold additional HDBT targets at risk that are currently unachievable with 5K lb class penetrator munitions. The B-2 is the only anti-access penetrating platform capable of carrying the MOP and meets Urgent Operational Need (UON) requirements. The MOP project will design, develop, integrate, and test hardware, software, and support equipment required for carriage, jettison, and release of two MOP weapons from the B-2. The initial MOP Quick Reaction Capability effort will be expanded to include a fully developed Launch Acceptability Region, single Smart Bomb Rack Controller (SBRC) per bay, dual fuze control, and mixed carriage capability with Smart Bomb Rack Assemblies (SBRA). Further expansion will include the addition of the Global Positioning System (GPS) signal into the B-2 weapons bays to allow Monitor and Control Equipment (MACE) weapons, SBRA weapons, and RLA weapons to acquire and track GPS satellites prior to weapons release, maintaining unjammed delivery accuracy in a jamming environment.

The Moving Target Kill (MTK) effort will leverage a high precision munition such as the Small Diameter Bomb II (SDB II) as the mobile target kill munition forming the foundation to exploit the modularity and improved precision algorithms of Universal Armament Interface (UAI) as well as a display infrastructure that can support the integration of this future weapon. Planned upgrades also include integration of upgrades to currently fielded or inventory weapons and weapons development, such as, but not limited to, B61 Life Extention Program, GBU-28 E/B Selective Availability Anti-Spoofing Module(SAASM) with impact angle control, GBU-28 D/B SAASM with impact angle control, Hard Target Void Sensing Fuse, extended range Joint Air-to-Surface Standoff Missile, and JDAM-5000.

Basic armament improvements include, but are not limited to, stores management hardware and software modernization and improvements to enable simultaneous carriage of the Rotary Launcher Assembly (RLA) and the SBRA, integration of Universal Armament Interface, integration of System 2 Nuclear Interface, and integration of new and improved weapon capabilities thus affording maximum strike flexibility. The B-2 Weapons System Tester and its associated Test Program Sets (TPS) include, but are not limited to, the Common Organizational Level Tester (COLT), MUSTANG, and B-2 Armament Tester, will be continually upgraded for increased reliability and performance to support current and new B-2 weapon suspension and release systems.

Air Force Page 5 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
3600: Research, Development, Test & Evaluation, Air Force	PE 0101127F: <i>B-2 SQUADRONS</i>	675345: <i>B</i> -	2 Modernization
BA 7: Operational Systems Development			

Structures improvements include, but are not limited to, Aft Deck upgrade which addresses an interim and long term solution to persistent cracking of aft deck surfaces while preserving the key stealth characteristics that are vital to the survivability of the B-2; windshield redesign provides improved components and windshield manufacturing processes to remedy windshield cracking and electrical conductivity limitations; Proximity Sensor Logic Unit replacement counters obsolescence issues with electronic components, improving safety of maintainers working around various aircraft bay doors as well as improving reliability of on-board indicators.

Engine improvements include, but are not limited to, the F118 engine service life extension program and the extended mission oil tank upgrade; Stage 1 and 3 engine fan blade improvements will reduce engine changes, increasing aircraft availability. Engine upgrades are necessary to maintain commonality with the F110 engine core.

Low Observable Signature and Supportability Modification (LOSSM) projects decrease low observable (LO) maintenance, increase aircraft availability, and maintain and improve the combat-ready LO signature for the B-2 fleet. LOSSM funds projects that improve LO materials, LO structures, and diagnostic tools necessary to evaluate LO materials and systems in the B-2 fleet. LOSSM projects include, but are not limited to, improvements to door edge treatments, tile protection system, Magnetic Radar Absorbing Material picture framing and other LO materials development, hot structures, tailpipe material improvements, nozzle bay doors, windshield low observable treatments, advanced topcoat system, radar frequency diagnostics and other LO diagnostic tools development such as, but not limited to, improvements of the Signature Diagnostic System database, Tier One Material Inspection System, and other low observable special test equipment and information systems.

B-2 Training Systems keep pace with aircraft system updates and counters obsolescence issues. Projects include, but not limited to, upgrades of threat environment, radar display emulation, aero fidelity of key pilot procedures, improvements to courseware, upgrades of display systems and subsystems, and simulation and computational processors. Other upgrades include, but not limited to, conventional and nuclear guided weapons delivery training, expanded crypto keyfill capability in simulators, upgraded capability to train weapons as powered up upon completion of initial conditions, as well as upgrades to the electronic combat environment threat database tools to include threat laydown, threat parametrics, and Integrated Air Defense System. Upgrades will also be provided to the Defensive Management System simulation (DMS), DMS alternative/emergency procedures courseware, and Mission Generation System. Enhancements will be provided to the B-2 family of trainers to include the Weapon System Trainers, Mission Trainer, Cockpit Procedures Trainers, Computerized Maintenance Training System, Weapon System Training Aids, Weapons Load Trainer, Crew Escape System Maintenance Trainer, Flight Control System Trainer, instructor-operator station, and Training System Support Center.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs (\$ in Millions)			FY 2012	FY 2012	FY 2012	
	FY 2010	FY 2011	Base	oco	Total	
Title: B-2 Baseline Support	26.608	15.134	-	-	-	

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Air Force Page 6 of 32 R-1 Line Item #115

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			D	ATE: Febru	ary 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0101127F: B-2 SQUADRONS PROJECT 675345: B-2 Modernization					
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: B-2 Baseline Support to include developmental flight operations; Mission Planning, Trainer core support, long range planacquisition planning, and other government costs.						
FY 2010 Accomplishments: Continue B-2 Baseline Support to include developmental flight test Mission Planning, Trainer core support, long range planning, studie planning, and other government costs.						
FY 2011 Plans: Continue B-2 Baseline Support to include developmental flight test Mission Planning, Trainer core support, long range planning, studie planning, and other government costs.						
FY 2012 Base Plans: In FY12, funding for Baseline transferred from project 675345 to pr	roject 676021.					
FY 2012 OCO Plans:						
Title: B-2 EHF SATCOM and Computers Increment 1 System Dev	elopment	59.777	76.926	-	-	-
Description: Development of EHF SATCOM and Computers Increand Demonstration (SDD) and design and fabrication of new and new two Force Development Evaluation (FDE) aircraft.						
FY 2010 Accomplishments: Continue EHF SATCOM and Computers Increment 1 SDD, ground	d test, and start of flight test.					
FY 2011 Plans: Continue EHF SATCOM and Computers Increment 1 SDD, continue C decision in FY12.	ue flight test, leading to a successful milestone					
FY 2012 Base Plans: In FY12, funding for Extremely High Frequency (EHF) SATCOM at to project 676022.	nd Computers transferred from project 675345					
FY 2012 OCO Plans:						

UNCLASSIFIED

Air Force Page 7 of 32 R-1 Line Item #115

	UNCLASSIFIED						
Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			D	ATE: Febru	ary 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0101127F: B-2 SQUADRONS		ROJECT 5345: <i>B-2</i> M	2 Modernization			
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Title: B-2 EHF SATCOM and Computers Increment 2 System Dev	117.727	96.637	-	-	-		
Description: Development of EHF SATCOM and Computer Incre reduction activities to meet Milestone B in FY13.	ment 2 component advanced design, risk						
FY 2010 Accomplishments: Continue EHF SATCOM and Computer Increment 2 component acantenna system requirements review (SRR) to meet Milestone B in							
FY 2011 Plans: Continue EHF SATCOM and Computer Increment 2 component acantenna system functional review (SFR) to meet Milestone B in FY	9 1						
FY 2012 Base Plans: In FY12, funding for Extremely High Frequency (EHF) SATCOM at to project 676022.	nd Computers transferred from project 675345						
FY 2012 OCO Plans:							
Title: B-2 Defensive Management System (DMS) Moderization		93.662	52.575	-	-	-	
Description: Development of DMS Moderization Program to improve placement of passive antennas, receiver/processors, and display shortfalls, and improve DMS component repair issues.							
FY 2010 Accomplishments: Continue development of DMS core capability, complete analysis or requirement review (SRR).	of alternatives (AoA), and complete system						
FY 2011 Plans: Continue development of DMS core capability, complete system full Milestone A decison, and begin technology development phase.	ınctional review (SFR), achieve a successful						
FY 2012 Base Plans: In FY12, funding for DMS upgrade transferred from project 675345	5 to project 676023.						
FY 2012 OCO Plans:							
Title: B-2 Modernization		32.091	19.194	5.135	-	5.135	

UNCLASSIFIED

Air Force Page 8 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0101127F: <i>B-2 SQUADRONS</i>						
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Description: Development of Low Observable improvements, Pro Ordnance Penetrator (MOP), Integrated Windshield Solution, Train Testing, Common Organizational Level Tester (COLT), Adaptable Unit (GBU) -28, Aft Deck, Mode S/5, and other airframe and avion FY 2010 Accomplishments: Continue development of Low Observable improvements, Proximi Ordnance Penetrator (MOP), Integrated Strike Warfare (ISW), Adv Upgrades, EMP Testing, COLT, ACS, GBU-28, Mode S/5, and oth improvements. Complete Integrated Windshield Solution.	ter Upgrades, Electro Magnetic Pulse (EMP) Communication Suite (ACS), Guided Bomb ics improvements. ty Sensor Logic Unit (PSLU), Massive vanced Tactical Data Link (ATDL), Trainer						
FY 2011 Plans: Continue development of on-going Low Observable improvements PSLU, GBU-28, and other airframe, avionics, and weapons improv ACS, and complete integration of the MOP QRC weapon on the B	vements. Complete development efforts for						
FY 2012 Base Plans: Continue development of on-going Low Observable improvements GBU-28, and other airframe, avionics, and weapons improvement							
FY 2012 OCO Plans:							
Acc	complishments/Planned Programs Subtotals	329.865	260.466	5.135	-	5.13	
		FY 2010	FY 2011]			
Congressional Add: B-2 Advanced Tactical Data Link (ATDL)		9.560					
FY 2010 Accomplishments: B-2 Strike Control System upgrade fusion and pilot vehicle interface (PVI) upgrades on B-2. Funds ap							
FY 2011 Plans: Congressional Add: B-2 Strike Control System							
		12.124	1 -	1			

UNCLASSIFIED

Air Force Page 9 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force

BA 7: Operational Systems Development

DATE: February 2011

R-1 ITEM NOMENCLATURE
PE 0101127F: B-2 SQUADRONS

675345: B-2 Modernization

	FY 2010	FY 2011
FY 2010 Accomplishments: Completed development of Radar Modernization Program.		
FY 2011 Plans:		
Congressional Adds Subtotals	21.684	-

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

C. Other Program Funding Summa	<u>гу (Фіні мінн</u>	<u>0115)</u>									
			FY 2012	FY 2012	FY 2012					Cost To	
<u>Line Item</u>	FY 2010	FY 2011	Base	<u>000</u>	<u>Total</u>	FY 2013	FY 2014	FY 2015	FY 2016		Total Cost
• PE 0101127F: <i>B-2 Squadrons,</i>	241.216	57.415	6.651	0.000	6.651	6.221	9.947	12.401	12.930	Continuing	Continuing
APAF, Modifications/BA05/B-2A											
• PE 0809731F: Training Support	5.875	5.956	5.163	0.000	5.163	5.271	6.261	6.385	6.500	Continuing	Continuing
to Units, APAF, Modifications/											
BA05/B-2A											
 PE 0207446F: Bomber Tactical 	0.000	0.000	0.000	0.000	0.000	0.000	0.479	0.439	0.399	Continuing	Continuing
Data Link, APAF Modifications/											
BA05/B-2A											
• PE 0101127F (3): <i>B-2</i>	24.405	20.755	39.239	0.000	39.239	39.416	39.513	39.240	31.969	Continuing	Continuing
Squadrons, APAF, Post Prod											
Support/BA07/B-2A/ICS											
• PE 0101127F (4): <i>B-2</i>	19.739	5.462	10.080	0.000	10.080	7.683	7.584	5.988	12.275	Continuing	Continuing
Squadrons, APAF, Post Prod											
Support/BA07/B-2A											
• PE 0101127F (5): <i>B-2</i>	0.000	15.099	11.477	0.000	11.477	0.000	0.000	0.000	0.000	Continuing	Continuing
Squadrons, APAF, A/C Initial											
Spares/BA06/B-2A											
• PE 0101127F (6): <i>B-2</i>	18.100	166.067	11.891	0.000	11.891	10.262	9.803	10.324	10.565	Continuing	Continuing
Squadrons, APAF, Depot											
Activation/BA07/B-2A											
 PE 0207439F: B-2 Squadrons, 	0.000	10.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
APAF, Depot Activation/BA07/B-2A											
	0.000	0.000	0.490	0.000	0.490	0.599	0.649	0.499	0.499	Continuing	Continuing

Air Force Page 10 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

3600: Research, Development, Test & Evaluation, Air Force

PE 0101127F: *B-2 SQUADRONS*

Total

675345: B-2 Modernization

BA 7: Operational Systems Development

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

FY 2012 FY 2012 FY 2012 Cost To

Line Item

FY 2010 FY 2011 Base OCO

FY 2013 FY 2014 FY 2015

FY 2016 Complete Total Cost

• PE 0101127F (8): B-2

Squadrons, OPAF/BA 03/B-2A

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/ incentive fee (CPAF/IF) 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.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Pr	oject Cost	Analysis: PB 2012 <i>P</i>	Air Force							DATE: February 2011						
APPROPRIATION/BUD 3600: <i>Research, Develc</i> BA 7: <i>Operational Syste</i>	pment, Tes	t & Evaluation, Air Fo	orce	- 1	ITEM NON 0101127F:				PROJ 67534	PROJECT 175345: B-2 Modernization						
Product Development	(\$ in Millio	ns)		FY	2011		2012 ise	FY 2		FY 2012 Total						
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract			
Air Vehicle	Various	Various:Various,	318.768	239.462	Oct 2010	4.731	Oct 2011	-		4.731	Continuing	Continuing	0.00			
Aircrew Training	Various	Various:Various,	3.108	2.820	Jan 2011	0.239	Jan 2012	-		0.239	Continuing	Continuing	0.00			
Mission Planning	Various	Various:Various,	1.904	2.122	Jan 2011	-		-		-	Continuing	Continuing	0.00			
· · · · · · · · · · · · · · · · · · ·		Subtotal	323.780	244.404		4.970		-		4.970			0.00			
Support (\$ in Millions)				FY	2011		2012 ise	FY 2		FY 2012 Total						
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract			
Other Government Costs	Various	Various:Various,	22.967	9.973	Oct 2010	0.165	Oct 2011	-		0.165	Continuing	Continuing	0.00			
		Subtotal	22.967	9.973		0.165		-		0.165			0.00			
Test and Evaluation (\$	in Millions	s)		FY:	2011		2012 ise	FY 2		FY 2012 Total						
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract			
Government Test	PO	AFFTC:,	4.802	6.089	Oct 2010	-		-		-	Continuing	Continuing	0.00			
		Subtotal	4.802	6.089		-		-		-			0.00			
Management Services	(\$ in Millio	ens)		FY:	2011		2012 ise	FY 2		FY 2012 Total						
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract			
		Subtotal	-	-		-		-		-	0.000	0.000	0.00			
			Total Prior Years Cost	FY:	2011		2012 Ise	FY 2 00		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract			
		Project Cost Totals	351.549	260.466		5.135		_		5.135			0.00			

UNCLASSIFIED

Air Force Page 12 of 32 R-1 Line Item #115

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 A	Air Force					DATI	: Februar	y 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development			MENCLATURE F: B-2 SQUADRONS	PROJECT 675345: <i>B-2 Modernization</i>					
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 201: OCO	2	FY 2012 Total	Cost To	Total Cost	Target Value of Contract

Remarks

Award dates listed are the first incremental funding opportunity associated with each cost category.

In FY12, funding for Baseline transferred from project 675345 PE 0101127F, B-2 Squadrons to project 676021 PE 0101127F, B-2 Squadrons.

In FY12, funding for Extremely High Frequency (EHF) SATCOM and Computers transferred from project 675345 PE 0101127F, B-2 Squadrons to project 676022 PE 0101127F, B-2 Squadrons.

In FY12, funding for DMS-M upgrade transferred from project 675345 PE 0101127F, B-2 Squadrons to project 676023 PE 0101127F, B-2 Squadrons.

Air Force Page 13 of 32 R-1 Line Item #115

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force	DATE : February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0101127F: B-2 SQUADRONS	PROJECT 675345: <i>B-2 Modernization</i>
BA 1. Operational Systems Development		

UNCLASSIFIED

Air Force Page 14 of 32 R-1 Line Item #115

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

BA 7: Operational Systems Development

DATE: February 2011

R-1 ITEM NOMENCLATURE
PE 0101127F: B-2 SQUADRONS
675345: B-2 Modernization

Schedule Details

	Start		End		
Events	Quarter	Year	Quarter	Year	
Radar Modernization Program SDD complete	2	2010	2	2010	
Radar Modernization Program LRIP Installs complete	4	2010	2	2011	
Radar Modernization Program FRP Installs complete	4	2011	2	2012	
MOP QRC Flight Test	3	2010	2	2011	
MOP QRC RAA	3	2011	3	2011	
EMP Testing Contract Award	1	2011	1	2011	
EMP Field Test	2	2011	3	2011	
AHFM Last Install	1	2013	1	2013	

Exhibit R-2A, RDT&E Project Jus	chibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: Febr	uary 2011	
					IOMENCLA 7F: <i>B-2</i> SQL			PROJECT 676021: BASELINE SUPPORT			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
676021: BASELINE SUPPORT	-	-	9.523	-	9.523	7.860	14.336	15.916	13.810	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY10, Project Number 653843, B-2 Advanced Technology Bomber efforts transferred from PE 0604240F, B-2 Advanced Technology Bomber, to PE 0101127F, B-2 Squadrons, transferring funds/efforts from MFP 6 to MFP 1.

In FY12, funding for Baseline Support transferred from project 675345 to the new project 676021.

A. Mission Description and Budget Item Justification

Baseline Support maintains the B-2 unique flight test aircraft and as well as obtains, modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter.

Baseline Support also ensures the Mission Planning system keeps pace with aircraft modifications and mission planning core system updates. Baseline Support also provides for other B-2 unique government costs, and includes acquisition planning activities for future capabilities such as, but not limited to, Stores Management Processor/Infrastructure upgrades, Global Positioning Satellite signal to B-2 Weapons Bays, Massive Ordnance Penetrator Enhancements, F118 Service Live Extension and F118 Extended Mission Oil Tank Upgrades, Advanced Tactical Data Link capabilities, mixed weapon load-outs, B61 Life Extension Program, Universal Armament Interface, System 2 Nuclear Interface, Global Positioning System/Selective Availability and Anti-Spoofing Module (SAASM)/M-Code receivers upgrades, Joint Precision Approach and Landing System upgrades, Radar Processor Modernization, and Automatic Dependent Surveillance – Broadcast, and integration of currently fielded or new weapons including, but not limited to, GBU E/B SAASM with impact angle control, GBU D/B SAASM with impact angle control, Hard Target Void Sending Fuze, extended range Joint Air-to-Surface Standoff Missile, and Joint Direct Attack Munition-5000.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Baseline Support Acquisition Planning	-	-	0.901	-	0.901
Description: Baseline support provides for other B-2 unique government costs, and includes acquisition planning activities for future capabilities, Trainer cores support, long range planning, studies, and program integration activities.					

UNCLASSIFIED

FY 2010 FY 2011 Base OCO To FY 2010 Accomplishments: FY10 effort covered under Project Number 675345. FY 2011 Plans: FY 2012 Base Plans: Continue Baseline support activities including acquisition planning for future capabilities, Trainer cores support, long range planning, studies, and program integration activities. FY 2012 OCO Plans:							
3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development B. Accomplishments/Planned Programs (\$ in Millions) FY 2010 FY 2010 FY 2011 FY 2012 FY 2012 FY 2010 FY 2011 FY 2012 FY 2010 FY 2011	Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				ATE: Febru	ary 2011	
FY 2010 Accomplishments: FY10 effort covered under Project Number 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue Baseline support activities including acquisition planning for future capabilities, Trainer cores support, long range planning, studies, and program integration activities. FY 2012 OCO Plans: Title: Baseline Support Flight Test maintains the B-2 unique flight test aircraft and as well as obtains, modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter. FY 2010 Accomplishments: FY10 effort covered under project 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,	3600: Research, Development, Test & Evaluation, Air Force				ELINE SUP	PORT	
FY10 effort covered under Project Number 675345. FY 2011 Plans: FY101 effort covered under project 675345. FY 2012 Base Plans: Continue Baseline support activities including acquisition planning for future capabilities, Trainer cores support, long range planning, studies, and program integration activities. FY 2012 OCO Plans: Title: Baseline Support Flight Test Description: Baseline support Flight Test maintains the B-2 unique flight test aircraft and as well as obtains, modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter. FY 2010 Accomplishments: FY10 effort covered under project 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,	B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	_		FY 2012 Total
FY 2012 Base Plans: Continue Baseline support activities including acquisition planning for future capabilities, Trainer cores support, long range planning, studies, and program integration activities. FY 2012 OCO Plans: Title: Baseline Support Flight Test - 6.714 Description: Baseline support Flight Test maintains the B-2 unique flight test aircraft and as well as obtains, modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter. FY 2010 Accomplishments: FY10 effort covered under project 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,							
Continue Baseline support activities including acquisition planning for future capabilities, Trainer cores support, long range planning, studies, and program integration activities. FY 2012 OCO Plans: Title: Baseline Support Flight Test Description: Baseline support Flight Test maintains the B-2 unique flight test aircraft and as well as obtains, modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter. FY 2010 Accomplishments: FY10 effort covered under project 675345. FY 2011 Plans: FY2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,							
Title: Baseline Support Flight Test Description: Baseline support Flight Test maintains the B-2 unique flight test aircraft and as well as obtains, modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter. FY 2010 Accomplishments: FY10 effort covered under project 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,	Continue Baseline support activities including acquisition planning for	or future capabilities, Trainer cores support,					
Description: Baseline support Flight Test maintains the B-2 unique flight test aircraft and as well as obtains, modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter. FY 2010 Accomplishments: FY10 effort covered under project 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,	FY 2012 OCO Plans:						
modifies, and operates a flying test bed and developmental hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerates deployment of advanced operational capabilities to the warfighter. FY 2010 Accomplishments: FY10 effort covered under project 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,	Title: Baseline Support Flight Test		_	-	6.714	-	6.714
FY10 effort covered under project 675345. FY 2011 Plans: FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,	modifies, and operates a flying test bed and developmental hardward developmental systems integration and flight test, reducing the need	re/software and test equipment to support d for additional operational aircraft and					
FY11 effort covered under project 675345. FY 2012 Base Plans: Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,							
Continue B-2 Flight Test activities, maintaining the B-2 unique flight test aircraft and as well as obtaining,							
developmental systems integration and flight test.	Continue B-2 Flight Test activities, maintaining the B-2 unique fligh modifying, and operatating a flying test bed and developmental hard						
FY 2012 OCO Plans:	FY 2012 OCO Plans:						
Title: Baseline Support Mission Planning - 1.908 -	Title: Baseline Support Mission Planning		-	-	1.908	-	1.908
Description: Baseline support mission planning ensures the mission planning system keeps pace with aircraft modifications and mission planning core system updates	modifications and mission planning core system	on planning system keeps pace with aircraft					

UNCLASSIFIED

Air Force Page 17 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force	PE 0101127F: <i>B-2 SQUADRONS</i>	676021: BASELINE SUPPORT
BA 7: Operational Systems Development		

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: FY10 effort covered under project 675345.					
FY 2011 Plans: FY11 effort covered under project 675345.					
FY 2012 Base Plans: Continue B-2 Mission Planning activities keeping pace with aircraft modifications and mission planning core system updates					
FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	-	-	9.523	-	9.523

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

			FY 2012	FY 2012	FY 2012					Cost To	
<u>Line Item</u>	FY 2010	FY 2011	Base	OCO	<u>Total</u>	FY 2013	FY 2014	FY 2015	FY 2016	Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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/ incentive fee (CPAF/IF) 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.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

R-1 Line Item #115

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force DATE: February 2011 APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE PROJECT** 3600: Research, Development, Test & Evaluation, Air Force PE 0101127F: B-2 SQUADRONS 676021: BASELINE SUPPORT BA 7: Operational Systems Development FY 2012 FY 2012 FY 2012 **Product Development (\$ in Millions)** oco **FY 2011** Base Total **Total Prior** Contract Target Method Performing Years Award Award Award Cost To Value of **Cost Category Item Activity & Location** Cost Date Cost Date Date Complete **Total Cost** Contract & Type Cost Cost Cost Mission Planning Various Various: Various. 1.596 Jan 2012 1.596 Continuina Continuina TBD Subtotal 1.596 1.596 FY 2012 FY 2012 FY 2012 Support (\$ in Millions) FY 2011 Base oco Total **Total Prior** Target Contract Years Cost To Method Performing Award Award Award Value of **Cost Category Item** & Type **Activity & Location** Cost Cost Date Cost Date Cost Date Cost Complete **Total Cost** Contract Other Government Costs Various Various:Various, 6.253 Oct 2011 6.253 Continuing Continuing TBD 6.253 6.253 Subtotal FY 2012 FY 2012 FY 2012 Test and Evaluation (\$ in Millions) FY 2011 oco Total Base Contract **Total Prior** Target Method Performing Years Award Award Award Cost To Value of Cost **Cost Category Item** & Type **Activity & Location** Cost Cost Date Date Cost Date Cost Complete **Total Cost** Contract Government Test PO AFFTC:. 1.674 Oct 2011 1.674 Continuina Continuina TBD Subtotal 1.674 1.674 FY 2012 FY 2012 FY 2012 Management Services (\$ in Millions) **FY 2011** oco Base Total Contract **Total Prior** Target Method Performing Years Award Award Award **Cost To** Value of **Cost Category Item** & Type **Activity & Location** Cost Cost Date Cost Date Cost Date Cost Complete **Total Cost** Contract 0.000 0.000 0.000 Subtotal **Total Prior** Target FY 2012 FY 2012 FY 2012 Value of Years Cost To Cost **FY 2011** oco Complete **Total Cost** Contract Base Total

Remarks

Award dates listed are the first incremental funding opportunity associated with each cost category.

Project Cost Totals

9.523

9.523

Air Force Page 19 of 32 R-1 Line Item #115

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0101127F: B-2 SQUADRONS	PROJECT 676021: BASELINE SUPPORT

UNCLASSIFIED

Air Force Page 20 of 32 R-1 Line Item #115

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

3600: Research, Development, Test & Evaluation, Air Force PE 0101127F: *B-2 SQUADRONS* 676021: BASELINE SUPPORT

BA 7: Operational Systems Development

Schedule Details

	Start		End		
Events	Quarter	Year	Quarter	Year	
Mission Planning Release 4.3	3	2010	3	2010	
Mission Planning Release 4.3.0.1	1	2011	1	2011	
Mission Planning Release 4.3.1	2	2011	2	2012	

DATE: February 2011

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APPROPRIATION/BUDGET ACTIVITY						IOMENCLA [*]	TURE		PROJECT				
3600: Research, Development, Test & Evaluation, Air Force					PE 010112	7F: <i>B-2 SQL</i>	JADRONS		676022: EHF SATCOM and Computer				
	BA 7: Operational Systems Development								·				
	COST (\$ in Millions) FY 2010 FY 2011 Base			FY 2012	FY 2012					Cost To			
				oco	Total	FY 2013	FY 2014	FY 2015	FY 2016	Complete	Total Cost		
	676022: EHF SATCOM and	_	_	285.034	_	285.034	244,410	225.389	244.846	205.843	Continuina	Continuina	

Note

Computer

Quantity of RDT&E Articles

In FY10, Project Number 653843, B-2 Advanced Technology Bomber efforts transferred from PE 0604240F, B-2 Advanced Technology Bomber, to PE 0101127F, B-2 Squadrons, transferring funds/efforts from MFP 6 to MFP 1.

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In FY12, funding for Extremely High Frequency (EHF) SATCOM and Computers transferred from project 675345 to project 676022.

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A. Mission Description and Budget Item Justification

Fyhibit R-24 RDT&F Project Justification: PB 2012 Air Force

The aging Ultra High Frequency (UHF) Military Satellite Communications system is being phased out and replaced by the Advanced Extremely High Frequency (AEHF) Satellite Communications (SATCOM) system. The B-2 Extremely High Frequency (EHF) SATCOM program supports the replacement of the present B-2 UHF Terminal Set with an EHF SATCOM system that will be compatible with the legacy MILSTAR I/II satellite constellation and the future AEHF satellite constellation. The B-2 EHF SATCOM system is one element of a system of systems that includes the AEHF satellites, multiple platforms, and the Family of Advanced Beyond-Line-of-Site Terminals (FAB-T) or other equivalent terminals, as required. The B-2 EHF SATCOM upgrade is a three increment program.

Increment 1 will provide upgraded flight management computer processors, increased data storage, re-hosted flight management operational flight program, and a high bandwidth data bus in order to prevent degradation of existing capabilities resulting from EHF SATCOM installation. Additionally, the Increment 1 Integrated Processing Unit and Disk Drive Unit architectures establish a high speed fiber optic structure network as well as maintain connectivity to legacy interfaces. Increment 1 provides a processing growth path to future B-2 upgrades.

Increment 2 will integrate the FAB-T Government Furnished Equipment, or other equivalent terminals (if required), into the B-2 as well as develop and install a low-observable antenna system consisting of arrays, antenna line replaceable units, and structural modifications for both power and cooling. This upgrade is critical to ensure the B-2 is compatible with the next generation communications satellite architecture and is absolutely essential in providing uninterrupted, highly survivable communications required for the command and control of the nation's strategic nuclear forces. Connectivity is mandatory to enable network centric enabled attack in an anti-access environment.

Increment 3 will enable the B-2 to interface with the Global Information Grid and provide net ready capability.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Air Force Page 22 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			D	ATE: Febru	ary 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	PROJECT 676022: EHF SATCOM and Computer						
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	
Title: B-2 EHF SATCOM and Computers Increment 1 System Dev	elopment	-	-	57.069	_	57.069	
Description: Development of EHF SATCOM and Computers Increased Demonstration (SDD) and design and fabrication of new and retwo Force Development Evaluation (FDE) aircraft.							
FY 2010 Accomplishments: FY10 effort covered under Project Number 675345.							
FY 2011 Plans: FY11 effort covered under Project Number 675345.							
FY 2012 Base Plans: Complete EHF SATCOM and Computers Increment 1 SDD, comp	lete IOT&E, and begin LRIP.						
FY 2012 OCO Plans:							
Title: B-2 EHF SATCOM and Computers Increment 2 System Dev	relopment	-	-	227.965	-	227.965	
Description: Development of EHF SATCOM and Computer Incrementation activities to meet Milestone B in FY13.	ment 2 component advanced design, risk						
FY 2010 Accomplishments: FY10 effort covered under Project Number 675345.							
FY 2011 Plans: FY11 effort covered under Project Number 675345.							
FY 2012 Base Plans: Continue EHF SATCOM and Computer Increment 2 component acachieve a successful System preliminary design review (PDR).	dvanced design, risk reduction activities to						
FY 2012 OCO Plans:							
Acc	omplishments/Planned Programs Subtotals	-	-	285.034	-	285.034	

Air Force Page 23 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force DATE: February 2011									
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT							
3600: Research, Development, Test & Evaluation, Air Force	PE 0101127F: <i>B-2 SQUADRONS</i>	676022: EHF SATCOM and Computer							
BA 7: Operational Systems Development									

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

		-	FY 2012	FY 2012	FY 2012					Cost To	
<u>Line Item</u>	FY 2010	FY 2011	<u>Base</u>	OCO	<u>Total</u>	FY 2013	FY 2014	FY 2015	FY 2016	Complete	Total Cost
 PE 0101127F: B-2 Squadrons, 	0.000	0.000	29.501	0.000	29.501	36.635	28.687	10.039	6.252	Continuing	Continuing
APAF, Modifications/BA05/B-2A											
• PE 0101127F (1): <i>B-2</i>	0.000	0.000	0.101	0.000	0.101	0.481	0.489	0.830	0.738	Continuing	Continuing
Squadrons, APAF, Post Prod											
Support/BA07/B-2A/ICS											
• PE 0101127F (2): <i>B-2</i>	0.000	0.000	0.803	0.000	0.803	6.673	5.098	0.512	0.522	Continuing	Continuing
Squadrons, APAF, A/C Initial											
Spares/BA06/B-2A											
• PE 0101127F (3): <i>B-2</i>	0.000	0.000	3.925	0.000	3.925	2.703	0.192	0.196	0.000	Continuing	Continuing
Squadrons, APAF, Depot											

D. Acquisition Strategy

Activation/BA07/B-2A

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/ incentive fee (CPAF/IF) 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

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force DATE: February 2011 APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE PROJECT** 3600: Research, Development, Test & Evaluation, Air Force PE 0101127F: B-2 SQUADRONS 676022: EHF SATCOM and Computer BA 7: Operational Systems Development FY 2012 FY 2012 FY 2012 **Product Development (\$ in Millions)** oco **FY 2011** Base Total **Total Prior** Contract Target Method Performing Years Award Award Award Cost To Value of **Cost Category Item Activity & Location** Cost Date Cost Date Cost Date Complete **Total Cost** Contract & Type Cost Cost Air Vehicle Various Various: Various. 280.430 Oct 2011 280.430 Continuina Continuina TBD Subtotal 280.430 280.430 FY 2012 FY 2012 FY 2012 Support (\$ in Millions) FY 2011 Base oco Total **Total Prior** Target Contract Years Method Performing Award Award Award Cost To Value of **Cost Category Item** & Type **Activity & Location** Cost Cost Date Cost Date Cost Date Cost Complete **Total Cost** Contract Other Government Costs Various Various:Various, 1.642 Oct 2011 1.642 Continuing Continuing TBD 1.642 Subtotal 1.642 FY 2012 FY 2012 FY 2012 Test and Evaluation (\$ in Millions) FY 2011 oco Total Base Contract **Total Prior** Target Method Performing Years Award Award Award Cost To Value of Cost **Cost Category Item** & Type **Activity & Location** Cost Cost Date Date Cost Date Cost Complete **Total Cost** Contract Government Test PO AFFTC:. 2.962 Oct 2011 2.962 Continuina Continuina TBD Subtotal 2.962 2.962 FY 2012 FY 2012 FY 2012 Management Services (\$ in Millions) **FY 2011** oco Base Total Contract **Total Prior** Target Method Performing Years Award Award Award **Cost To** Value of **Cost Category Item** & Type **Activity & Location** Cost Cost Date Cost Date Cost Date Cost Complete **Total Cost** Contract 0.000 0.000 0.000 Subtotal **Total Prior** Target FY 2012 FY 2012 FY 2012 Value of Years Cost To Cost **FY 2011** oco Complete **Total Cost** Contract Base Total

Remarks

Award dates listed are the first incremental funding opportunity associated with each cost category.

Project Cost Totals

285.034

285.034

Air Force Page 25 of 32 R-1 Line Item #115

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force										
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0101127F: B-2 SQUADRONS	PROJECT 676022: EHF SATCOM and Computer								

UNCLASSIFIED

Air Force Page 26 of 32 R-1 Line Item #115

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

3600: Research, Development, Test & Evaluation, Air Force PE 0101127F: *B-2 SQUADRONS* 676022: EHF SATCOM and Computer

BA 7: Operational Systems Development

Schedule Details

	St	art	End		
Events	Quarter	Year	Quarter	Year	
EHF SATCOM and Computers Inc 1 First Flight Test	4	2010	4	2010	
EHF SATCOM and Computers Inc 1 Milestone C production decision	1	2012	1	2012	
EHF SATCOM and Computers Inc 2 System Preliminary Design Review	4	2012	4	2012	
EHF SATCOM and Computers Inc 2 Milestone B	1	2013	1	2013	
EHF SATCOM and Computers Inc 2 start engineering and manufacturing development	2	2013	2	2013	
EHF SATCOM and Computers Inc 2 Critical Design Review	1	2014	1	2014	

DATE: February 2011

					I OMENCLA 7F: <i>B-2</i> SQU			PROJECT 676023: Defensive Management System					
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost		
676023: Defensive Management System	-	-	41.127	-	41.127	177.878	181.288	98.910	49.789	Continuing	Continuing		
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0				

Note

In FY10, Project Number 653843, B-2 Advanced Technology Bomber efforts transferred from PE 0604240F, B-2 Advanced Technology Bomber, to PE 0101127F, B-2 Squadrons, transferring funds/efforts from MFP 6 to MFP 1.

In FY12, funding for DMS upgrade transferred from project 675345 to project 676023.

The program funding includes reductions for acquisition excellence efficiencies in FY15 and FY16 that are not intended to impact program content. Reductions for efficiencies may be spread to other Air Force programs at a later date. Amounts of the reductions are: \$3.7MM/FY15 and \$54.2/FY16

A. Mission Description and Budget Item Justification

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force

The B-2 Defensive Management System modernization (DMS) program maintains the existing direct attack stealth capability against 21st century threats. DMS will upgrade the Electronic Support Measures, antennas, and display processing units. Modernization of this system will resolve the #1 obsolescence issue in the B-2 fleet.

The B-2 DMS will provide the Joint Force Commander and the B-2 fleet: advanced situational awareness, improved supportability, enhanced lethality, increased platform survivability, and networked battlespace awareness. The B-2 DMS upgrade will provide the following core capabilities for the B-2 and joint warfighting force:

- 1) The ability to provide indication, type, and position of airborne- and ground-based radio frequency (RF) threats with the situational awareness needed to avoid, engage, or negate threats, 2) Improved RF threat information that can be reported to control agencies or inter-flight for improved situation/battlespace awareness,
- 3) The ability to adequately control, process, and display incoming threat information to the pilot and provide updated battle-space awareness, and 4) Improved supportability and reduced operations and maintenance costs.

As DMS requires increased functionality and capability of the display processor, it includes FY10 and future year budgets transitioned from the B-2 Integrated Display System modification (MN-110041).

FY10 Congressional Plus-up for B-2 Strike Control System establishes the foundation for all future data fusion and pilot-vehicle interface upgrades. Funds were applied to the DMS development program.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Air Force Page 28 of 32 R-1 Line Item #115

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force	DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
3600: Research, Development, Test & Evaluation, Air Force	PE 0101127F: <i>B-2 SQUADRONS</i>	676023: <i>De</i>	efensive Management System
BA 7: Operational Systems Development			

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: B-2 Defensive Management System (DMS) Modernization	-	-	41.127	-	41.127
Description: Development of DMS Moderization Program to improve aircrew situational awareness through replacement of passive antennas, receiver/processors, and display processors, address critical system shortfalls, and improve DMS component repair issues.					
FY 2010 Accomplishments: FY10 effort covered under Project Number 675345.					
FY 2011 Plans: FY11 effort covered under Project Number 675345.					
FY 2012 Base Plans: Continue DMS Modernization technology development leading to Preliminary Design Review and a successful Milestone B decision in FY13.					
FY 2012 OCO Plans:					
Accomplishments/Planned Programs Subtotals	_	_	41.127	-	41.127

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

			FY 2012	FY 2012	FY 2012					Cost To	
<u>Line Item</u>	FY 2010	FY 2011	Base	<u>000</u>	<u>Total</u>	FY 2013	FY 2014	FY 2015	FY 2016	Complete	Total Cost
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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/ incentive fee (CPAF/IF) 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.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Air Force Page 29 of 32 R-1 Line Item #115

Exhibit R-3, RDT&E P			ir Force								E: Februar	y 2011	
APPROPRIATION/BUI 3600: Research, Devel BA 7: Operational Syste	opment, Tes	t & Evaluation, Air Fo	rce		ITEM NON 0101127F:		_		PROJECT 676023: Defensive Management System				
Product Development	(\$ in Millio	ns)		FY:	2011	FY 2 Ba	-	FY 2		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Air Vehicle	Various	Various:Various,	-	-		41.127	Oct 2011	-		41.127	Continuing		TBD
		Subtotal	-	-		41.127		-		41.127			
Support (\$ in Millions)			FY:	2011	FY 2 Ba		FY 2		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000
Test and Evaluation (in Millions	3)		FY	2011	FY 2 Ba	-	FY 2 OC		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000
Management Services	៖ (\$ in Millic	ens)		FY:	2011	FY 2 Ba	-	FY 2 OC		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000
			Total Prior Years			FY 2	-	FY 2		FY 2012	Cost To		Target Value of
			Cost	FY 2	2011	Ba	se	OC	0	Total	Complete	Total Cost	Contract

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Air Force Page 30 of 32 R-1 Line Item #115

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force	DATE : February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0101127F: <i>B-2 SQUADRONS</i>	PROJECT 676023: Defensive Management System

UNCLASSIFIED

Air Force Page 31 of 32 R-1 Line Item #115

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
3600: Research, Development, Test & Evaluation, Air Force	PE 0101127F: <i>B-2 SQUADRONS</i>	676023: De	fensive Management System
BA 7: Operational Systems Development			

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
DMS Milestone A	2	2011	2	2011
DMS Technology Development Contract Award	3	2011	3	2011
DMS Technology Development	3	2011	2	2014
DMS Preliminary Design Review	3	2013	3	2013
DMS Milestone B	4	2013	4	2013
DMS Critical Design Review	4	2014	4	2014