Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force											Date: February 2015	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	-	16.481	49.457	74.520	-	74.520	48.849	38.276	23.318	0.050	Continuing	Continuing
675039: *B-52 System Improvements*	-	-	-	0.050	-	0.050	0.050	0.050	0.050	0.050	Continuing	Continuing
675048: *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*	-	7.373	41.134	60.265	-	60.265	26.070	15.244	-	-	-	150.086
675050: *CONECT*	-	9.108	8.323	11.225	-	11.225	12.808	9.097	11.369	-	-	61.930
675055: *GPS-IU*	-	-	-	2.980	-	2.980	9.921	13.885	11.899	-	Continuing	Continuing

Note

"In FY 2016, Project 675055, GPS-IU, includes new start effort for Global Positioning System (GPS)-Interface Unit(IU) Replacement.

In FY 2016, Project 675039, B-52 System Improvements, includes new start effort(s) for potential engineering studies & analysis and test & evaluation."

A. Mission Description and Budget Item Justification

B-52 System Improvements is a comprehensive project to ensure B-52 viability to perform current and future wartime missions to include datalinks, navigation, sensors, weapons, electronic warfare (EW), and training capabilities. B-52 System Improvements integrates and adds both tactical and global datalink communications for real time command and control, targeting, and intelligence. It upgrades antiquated Air Traffic Management (ATM) systems with those supported by three key functions using satellite technology: Communications, Navigation and Surveillance (CNS). B-52 System Improvements upgrades training devices to support aircrew and maintenance training with the latest B-52 capability. In addition, it improves conventional warfare capability with additional MIL-STD-1760 smart weapons and improved weapons carriage and fully integrates advanced targeting pods with the offensive avionics system. It studies, analyzes, and tests aircraft systems' hardness to Chemical, Biological, Radiological, and Nuclear (CBRN) weapons effects, such as Low Level Continuous Wave (LLCW) and High altitude Electromagnetic Pulse (HEMP) Survivability tests. It upgrades mission critical systems to survive in CBRN environments. B-52 System Improvements upgrades or replaces legacy defensive EW systems to include the radar warning receiver, jammers, chaff and flare dispensers and situational awareness displays as well as integration of offensive EW such as the Miniature Air-Launched Decoy (MALD) and MALD-Jammer (MALD-J).

Engineering Studies & Analysis and Test & Evaluation
B-52 System Improvements funds test activities at the Air Force Flight Test Center (AFFTC), engineering and planning studies for potential future weapon system enhancements (weapons, sensors, avionics, and EW) and emerging requirement on current projects, upgrades to the B-52 Systems Integration Laboratory (SIL), Avionics Integration Support Facility (AISF), and Weapon System Trainers (WSTs and other operations/maintenance trainers), and weapon system operational/safety, supportability, reliability, and Total Ownership Cost (TOC) improvements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force	Date: February 2015
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*

Additional Efforts
B-52 System Improvements funds additional efforts that stem from the operation and maintenance of a 50-plus-year-old aircraft, such as parts obsolescence, Diminishing Manufacturing Sources (DMS), and emerging requirements to add to or maintain the existing capabilities. Examples include, but are not limited to upgrades to radar,outdated avionics computers, communications and security updates,mission planning interfaces to Joint Mission Planning Software (JMPS), Air Force Mission Support System (AFMSS), upgrades to the EW suite, and studies and analysis. All B-52 development projects support planned requirements for unique identification in their production phases.

B-52 COMBAT NETWORK COMMUNICATIONS TECHNOLOGY (CONECT) (BPAC 675050)
The B-52 CONECT acquisition project supports nuclear and conventional operations by upgrading the B-52 fleet with tactical datalink and voice communications capabilities along with improved threat and situational awareness to support participation in network centric operations. The CONECT upgrade includes new Multi-Functional Color Displays (MFCDs) and a digital interphone system, which will survive and function through the nuclear environment to enhance crew interaction and situational awareness. To enable net centric operations, the CONECT upgrade integrates: on-board client/server architecture supporting distributed processing with independent control functions; UHF Beyond Line-Of-Sight (BLOS) Joint Range Extension (JRE) capability via ARC-210 Warrior radio to exchange J-Series messaging within theater; Intelligence Broadcast Receiver (IBR); limited Internet Protocol (IP) based UHF BLOS link supporting voice, e-mail and file transfers; and Improved Data Modem (IDM)-based digital Variable Message Format (VMF) datalink to significantly enhance close air support (CAS) missions. This integrated suite will provide the B-52 fleet with a machine-to-machine data transfer capability supporting aircraft re-tasking and retargeting of Conventional Air Launched Cruise Missile (CALCM) and J-series weapons across the range of B-52 military operations and missions. This requirement's Capability Production Document (CPD) was validated by the Air Force Requirement's Oversight Council (AFROC) on 16 September 2008.

Trainers and Upgrades for CONECT
In order to maintain currency with the latest aircraft configuration, the CONECT project will update existing trainers or use computer-based training to add CONECT functionality to meet user-training requirements, and update/maintain the SIL for the WSTs.

B-52 1760 INTERNAL WEAPONS BAY UPGRADE (IWBU) (BPAC 675048)
The 1760 IWBU requires the integration of the 1760 weapons capability into the bomb bay on 78 B-52H aircraft, which includes two Ground Instructional Training Aircraft (GITA), utilizing 44 Common Strategic Rotary Launcher (CSRLs) converted into Conventional Rotary Launchers (CRLs), where three of the CRLs will be modified under Engineering Manufacturing and Development (EMD) for test purposes. This requirement's Capability Development Document (CDD) was validated by the AFROCC in June 2013. The 1760 IWBU project provides internal and external carriage for eight MIL STD 1760 weapons and consists of two sub increments: 1.1 and 1.2.

Increment 1.1 consists of internal carriage of eight Joint Direct Attack Munitions (JDAM) and variants, to include Laser JDAM (L/JDAM), on a conventional rotary launcher. Additionally, this increment develops the capability for external carriage for 16 L/JDAM on Heavy Storage Adaptor Beam.

Increment 1.2 develops the capability for internal carriage of eight Joint Air-to-Surface Standoff Missiles (JASSM) and its variants, to include JASSM-Extended Range (JASSM-ER), and eight Miniature Air Launched Decoys (MALD) and its variants, to include MALD Jammer (MALD-J). This increment also develops the capability for external carriage for 12 JASSM-ER.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force	Date: February 2015
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*

GPS-INTERFACE UNIT (GPS-IU)REPLACEMENT (BPAC 675055)
Global Positioning System (GPS) Interface Unit (IU) Upgrade will replace three circuit card assemblies in the GPS-IU, as well as the backplane (to integrate the new and old CCAs): the Central Processing Unit/1553, the power supply CCA, and the video graphics card.

These projects are 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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	17.007	55.457	62.642	-	62.642
Current President's Budget	16.481	49.457	74.520	-	74.520
Total Adjustments	-0.526	-6.000	11.878	-	11.878
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-6.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.526	-			
• Other Adjustments	-	-	11.878	-	11.878

Change Summary Explanation

FY14: -$.526M SBIR

FY15: -$6.0M Congressional Mark (CONECT)Improving Funds Management: Forward Financing.

FY16: +$0.050M for B-52 System Improvements
+$4.813M to correct CONECT Weapon System Trainer
+$3.000M for GPS-IU Replacement
+$4.015M realignment of CONECT APAF to RDT&E

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675039 / *B-52 System Improvements*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675039: *B-52 System Improvements*	-	-	-	0.050	-	0.050	0.050	0.050	0.050	0.050	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY16, Project 675039, B-52 System Improvements, includes new start effort(s) for potential engineering studies & analysis and test & evaluation.

A. Mission Description and Budget Item Justification

B-52 System Improvements is a comprehensive project to ensure B-52 viability to perform current and future wartime missions. To facilitate future capabilities, scope of work may involve development of Analysis of Alternatives (AoA), Studies and Analysis, Capability Development Documents (CDD) or any other analysis or paper work necessary to establish a program of record. Additionally, this project may lead to airborne integration experiments or demonstrations of emerging technologies. B-52 System Improvements will encompass the following major aircraft areas but is not limited to the examples given within each area.

Avionics - Offensive and Defensive; Electronic Warfare systems require upgrades to continue to protect the aircraft in the battle space. Radar Modernization is require to ensure the aircraft can perform the mission in today's environment and resolve current mean time between repair issues with legacy radar. Global Positioning Satellite Interface Unit (GPS-IU) requires replacement due to throughput issues.

Navigation - Communication, Navigation and Surveillance and Air Traffic Management (CNS/ATM) upgrades are required to comply with ever increasing FAA requirements. Automatic Dependent Surveillance-Broadcast (ADS-B) upgrade FAA mandate for FY20. GPS guidance unit requires upgrade to new military M-Code standard.

Situational Awareness (SA) - upgrades to current SA systems is require to ensure the B-52 maintains battle space awareness of intelligence broadcasts, friendly force locations, enemy forces and any emerging threats within the Area of Responsibility (AOR). Adaptation of new data links as well as addition of existing links is crucial to the B-52 remaining relevant to the integrated airborne battle space.

Weapons/Targeting Pod Integration - Improves conventional warfare capability with additional MIL-STD-1760 smart weapons and improved weapons carriage and fully integrates advanced targeting pods with the offensive avionics system. Integrate emerging targeting pods to include optical and radar targeting capabilities.

Communications - current UHF communications systems require upgrades due to legacy radios and satellite systems rearing end of life. Multiple User Objective System (MUOS) satellite deployments will require the B-52 to upgrade legacy UHF radios to remain relevant. New technology Beyond line of Sight (BLOS) and Line of Sight (LOS) radios are emerging and required on the B-52 to ensure communications continue in the AOR. Extreme High Frequency (EHF) program required to meet Nuclear Command Authority two way communications.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675039 / *B-52 System Improvements*

Flight Systems - current Jet A fuel used freezes at higher temperatures than previous fuel and therefore requires the addition of an internal fuel tank monitoring system to ensure the fuel does not gel and freeze while flying at altitude. In additiona, the B-52 requires a new Environmental Control System (ECS) upgrade to support any new major aircraft modifications. EHF studies have indicated this will be a needed modification for integration depending on the terminal selection.

Nuclear Systems - studies, analyzes, and tests aircraft systems' hardness to Chemical, Biological, Radiological, and Nuclear (CBRN) weapons effects, such as Low Level Continuous Wave (LLCW) and High altitude Electromagnetic Pulse (HEMP) Survivability tests. It upgrades mission critical systems to survive in CBRN environments.

Electronic Flight Bags - require a system for displaying aircrew checklists on a permanent display. This supports current AF requirements to reduce carry on paper checklists.

BA7- This project 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 2014	FY 2015	FY 2016
Title: B-52 System Improvements	-	-	0.050
Description: Initiate Analysis of Alternatives, modeling & simulation, testing, and demonstration, including but not limited to: Studies of existing and planned avionics, communications/navigation, electrical, weapons, flight, and nuclear-related aircraft systems and subsystems to support the future viability of the B-52 fleet. ***FY 2016 Plans:*** Initiate Analysis of Alternatives, modeling & simulation, testing, and demonstration, including but not limited to: Studies of existing and planned avionics, communications/navigation, electrical, weapons, flight, and nuclear-related aircraft systems and subsystems to support the future viability of the B-52 fleet.			
Accomplishments/Planned Programs Subtotals	-	-	0.050

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APAF: BA 05: Line Item # B05200: *Arms Control Implementation*	0.500	0.198	0.099	-	0.099	0.198	-	-	-	-	0.995

Remarks

D. Acquisition Strategy

Analysis of Alternatives will be conducted by various AFLCMC (Wright-Patterson AFB) organizations.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675039 / *B-52 System Improvements*

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 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675039 / *B-52 System Improvements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Analysis of Alternatives	TBD	Not specified. : ,	-	-		-		0.050	Jan 2016	-		0.050	Continuing	Continuing	-
		Subtotal	-	-		-		0.050		-		0.050	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		0.050		-		0.050	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675039 / *B-52 System Improvements*

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Studies and Analysis, etc.										[redacted]																		

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675039 / *B-52 System Improvements*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Studies and Analysis, etc.	2	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675048: *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*	-	7.373	41.134	60.265	-	60.265	26.070	15.244	-	-	-	150.086
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

MIL-STD-1760 Internal Weapons Bay Upgrade (IWBU) requires the integration of the 1760 weapons capability into the bomb bay on 78 B-52H aircraft, which includes two Ground Instructional Training Aircraft (GITA), utilizing 44 Common Strategic Rotary Launcher (CSRLs) converted into Conventional Rotary Launchers (CRLs), where three of the CRLs will be modified under Engineering Manufacturing and Development (EMD) for test purposes. The 1760 IWBU project is segmented into increments. Increment 1.0 provides internal and external carriage and consists of two sub increments: 1.1 and 1.2. This requirement's Capability Development Document (CDD) was validated by the Air Force Requirements Oversight Council (AFROC) in June 2013.

Increment 1.1

Increment 1.1 develops the capability for internal carriage of eight Joint Direct Attack Munitions (JDAM) and variants, to include Laser JDAM (L/JDAM), on a rotary launcher. This increment also develops the capability for external carriage for 16 L/JDAM. The CRL Hardware modification consists of Group A (equipment racks and electrical wiring) and Group B (one Survivability/Vulnerability (SV) junction box and one Integrated Weapons Interface Unit (IWIU) per CRL). The IWIU Line Replaceable Unit (LRU) was previously developed under the Advanced Weapons Integration (AWI) project. No CSRL replacements will be required as a result of this project. Increment 1.1 completed Preliminary Design Review in February 2013 and awarded an EMD contract in September 2013. Critical Design Review (CDR) was conducted in October 2013. An IBR was conducted in February 2014, validating cost and schedule baselines.

Aircraft Hardware Development: None

Software Development: Consists of modifying aircraft Operational Flight Program (OFP) software, JDAM Stores Management Overlays (SMO) and ground based Joint Mission Planning System (JMPS).

CRL Hardware Development: Consists of modifying USSTRATCOM provided CSRLs by replacing nuclear mission equipment with Group B hardware and wiring interfaces. Group A includes equipment racks and electrical wiring; Group B includes one Survivability/Vulnerability (SV) junction box and one IWIU per CRL. The IWIU LRU was previously developed under the AWI project and work was previously accomplished during a 2005 demonstration and developed using 2006 and 2007 Congressional Add funding. Three CSRLs will be modified using RDT&E funds.

Support Equipment: Consists of developing software and 38 rotary launcher cable adapter sets on existing Multi-Use System Tester Armament Next Generation (MUSTANG) testers to interface with the CRL.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*

Increment 1.2

Increment 1.2 develops the capability for internal carriage of eight Joint Air-to-Surface Standoff Missiles (JASSM) and its variants, to include JASSM Extended Range (JASSM-ER), and eight Miniature Air Launched Decoys (MALD) and its variants, to include MALD Jammer (MALD-J). This increment also develops the capability for external carriage for 12 JASSM-ER.

Upon completion of JASSM/ER software development, an interim capability providing for carriage and deployment of no less than 16 JASSM/ER (4 bay, 12 external) is planned. A limited DT/OT will validate this capability in advance of hardware design completion and validation.

Aircraft Hardware Development: Development of Group A wiring and circuit breakers to supply additional power to the CRL per JASSM-ER requirements, for all 76 operational B-52H aircraft, and two Ground Instructional Training Aircraft.

Software Development: Development of a modification to existing aircraft SMO and weapon (JASSM and MALD) OFP software to allow for internal and external carriage and modification to ground based JMPS.

CRL Hardware Development: Develops Group A associated interface hardware and two Group B LRUs (power supply and power distribution box). Three CRLs will be modified using RDT&E funds.

Support Equipment: Consists of developing software updates to the existing MUSTANG to interface with the CRL and the development of additional ground handling support equipment.

BA7- This project 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 2014	FY 2015	FY 2016
Title: 1760 IWBU Inc 1.1	7.373	11.140	-
Description: Provides internal J-series weapons capability through modification of CSRLs with IWIUs and upgraded weapon management software.			
FY 2014 Accomplishments: Continued Increment 1.1 development: Continued SEEK EAGLE safe separation analysis. Conducted ground testing of CRL prototype and JDAM SMO. Continued B-52 JMPS and Trainer/Ground Maintenance Computer Program (GMCP) software.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Finalized drawings for CRL, and test support equipment modification kits to support Milestone C activity. Continue development of technical orders in preparation for kit-proof. Modify three prototype CRLs. ***FY 2015 Plans:*** Conclude Increment 1.1 development: Conclude SEEK EAGLE safe separation analysis. Conclude ground and initiate flight testing of CRL prototype and JDAM SMO. Conclude B-52 JMPS and Trainer/GMCP software. Finalize drawings for CRL, and test support equipment modification kits to support Milestone C activity. Conclude development of technical orders in preparation for kit-proof. Conclude modification of three prototype CRLs.			
Title: 1760 IWBU Inc 1.2 ***Description:*** Provides internal J-series weapons capability through modification of CSRLs with IWIUs, aircraft hardware modifications, and upgraded weapon management software. Upon completion of JASSM software coding yet prior to full 1760 hardware design completion, an interim JASSM/ER capability will be validated thru DT/OT in FY17. ***FY 2015 Plans:*** Implement Increment 1.2 development: Enter Technology Maturation & Risk Reduction phase (TMRR). Award Tech Maturation & Risk Reduction and Weapon Operational Flight Program Software contracts, including test assets. Initiate SEEK Eagle safe separation analysis. Begin designing and coding of software. Initiate test planning efforts. ***FY 2016 Plans:*** Continue Increment 1.2 development: Completes TMRR phase in support of Milestone B decision and awards Engineering and Manufacturing Development Option. Continue weapon software modification and provision remaining test assets. Continue SEEK EAGLE safe separation analysis. Conduct ground testing of JASSM SMO. Finalize test planning and technical orders in preparation for Interim JASSM/ER Capability validation. Initiate modification of three prototype aircraft and three prototype CRLs.	-	29.994	60.265
Accomplishments/Planned Programs Subtotals	7.373	41.134	60.265

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APAF: BA05: Line Item # B05200: *B-52 Modifications*	-	6.724	14.472	-	14.472	3.724	0.373	41.561	0.662	-	-
• APAF: BA06: Line Item # 000999: *Initial Spares/Repair Parts*	-	0.449	1.093	-	1.093	0.952	-	0.112	0.840	-	-
• APAF: BA07: Line Item # B05200: *Depot Activation*	-	-	3.960	-	3.960	-	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

The 1760 Internal Weapons Bay Upgrade project will acquire software development and hardware design via a sole-source contract to Boeing Defense, Space & Security (DSS), Oklahoma City, OK. Deliverables include an updated J-series weapon SMOs (software), three prototype modified CSRLs, six Low Rate Initial Production (LRIP) assets, logistics support, ground and flight test support, and engineering drawings. The project will competitively procure the CRL modification kits for full rate production, and installs of the kits will be completed via Contract Field Teams (CFTs).

Increment 1.1 consists of internal carriage of eight JDAM and variants, to include LJDAM, on a rotary launcher. This increment also develops the capability for external carriage for 16 LJDAM. The CRL Hardware modification consists of Group A (equipment racks and electrical wiring) and Group B (one SV junction box and one IWIU per CRL).

Increment 1.2 develops the capability for internal carriage of eight JASSM and its variants, to include JASSM-ER, or eight MALD and its variants, to include MALD-J. This increment also develops the capability for external carriage for 12 JASSM-ER. Upon completion of JASSM/ER OFP and SMO software coding, an interim capability of no less than 16 JASSM/ER carriage will be vaildated thru DT/OT in FY17.

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 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1.1 1760 IWBU Production Development	Various	Boeing : OKC, OK	-	0.771	Dec 2014	5.721	Nov 2014	-		-		-	Continuing	Continuing	-
1.2 1760 IWBU Production Development	Various	Boeing : OKC, OK	-	-		16.446	Feb 2015	32.482	Oct 2015	-		32.482	Continuing	Continuing	-
1.1 1760 IWBU Mission Planning Development	WR	557 SMXS : Tinker AFB, OK	-	-		0.044	Jan 2015	-		-		-	Continuing	Continuing	-
1.2 1760 IWBU MALD OFP	SS/FFP	Raytheon : Tuson, AZ	-	-		3.318	Mar 2015	2.705	Oct 2015	-		2.705	Continuing	Continuing	-
1.2 1760 IWBU JASSM OFP	SS/FFP	Lockheed : St Louis, MO	-	-		3.318	Mar 2015	2.900	Oct 2015	-		2.900	Continuing	Continuing	-
		Subtotal	-	0.771		28.847		38.087		-		38.087	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1.1 1760 IWBU Other Government Costs	Various	Various : Various,	-	0.168	Dec 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.168		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1.1 1760 IWBU Government Test	PO	419 FLTS : Edwards AFB, CA	-	5.244	Nov 2014	2.170	May 2015	-		-		-	Continuing	Continuing	-
1.2 1760 IWBU Government Test	PO	419 FLTS : Edwards AFB, CA	-	-		0.175	Feb 2015	0.988	May 2016	-		0.988	Continuing	Continuing	-
1.1 1760 IWBU Test Assets	MIPR	Navy Warfare : Patuxent River, MD	-	0.206	Sep 2014	-		-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1.1 1760 IWBU Trainer Software	Allot	AFLCMC : Wright Patterson AFB, OH	-	-		2.500	Jul 2015	-		-		-	Continuing	Continuing	-
1.2 1760 IWBU Trainer Software	Allot	AFLCMC : Wright Patterson AFB, OH	-	-		-		0.626	Mar 2016	-		0.626	Continuing	Continuing	-
1.1 1760 IWBU Ground Maintenance Computer Program	WR	AFLCMC : Tinker AFB, OK	-	0.050	Jan 2014	-		-		-		-	Continuing	Continuing	-
1.2 1760 IWBU JASSM Test Assets	SS/FFP	Lockheed : St Louis, MO	-	-		5.640	Mar 2015	17.830	Nov 2015	-		17.830	Continuing	Continuing	-
1.2 1760 IWBU MALD Test Assets	SS/FFP	Raytheon : Tuson, AZ	-	-		-		1.510	Nov 2015	-		1.510	Continuing	Continuing	-
		Subtotal	-	5.500		10.485		20.954		-		20.954	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
1.1 1760 IWBU Program Management Administration A&AS, Travel	Various	AFLCMC : Tinker AFB, OK	-	0.934	Sep 2014	0.705	Oct 2015	-		-		-	Continuing	Continuing	-
1.2 1760 IWBU Program Management Administration, A&AS, Travel	Various	AFLCMC : Tinker AFB, OK	-	-		1.097	Feb 2015	1.224	Oct 2015	-		1.224	Continuing	Continuing	-
		Subtotal	-	0.934		1.802		1.224		-		1.224	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.373		41.134		60.265		-		60.265	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*

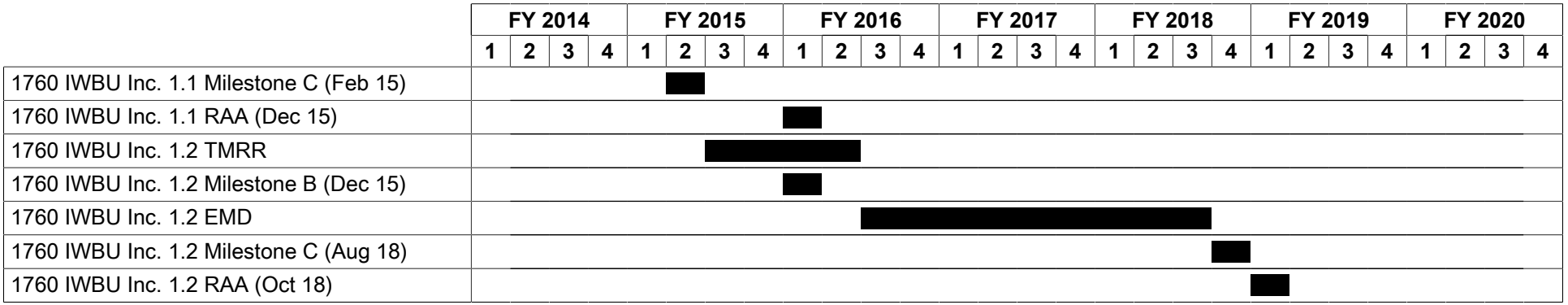

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675048 / *1760 INTERNAL WEAPONS BAY UPGRADE (IWBU)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
1760 IWBU Inc. 1.1 Milestone C (Feb 15)	2	2015	2	2015
1760 IWBU Inc. 1.1 RAA (Dec 15)	1	2016	1	2016
1760 IWBU Inc. 1.2 TMRR	3	2015	2	2016
1760 IWBU Inc. 1.2 Milestone B (Dec 15)	1	2016	1	2016
1760 IWBU Inc. 1.2 EMD	3	2016	3	2018
1760 IWBU Inc. 1.2 Milestone C (Aug 18)	4	2018	4	2018
1760 IWBU Inc. 1.2 RAA (Oct 18)	1	2019	1	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675050 / *CONECT*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675050: *CONECT*	-	9.108	8.323	11.225	-	11.225	12.808	9.097	11.369	-	-	61.930
Quantity of RDT&E Articles	2	-	-	-	-	-	-	-	-	-		

Note

PRIOR YEAR COSTS FOR CONECT FY 05 - FY 12 ARE CONTAINED IN BPAC 675039 B-52 MODERNIZATION. THIS DOCUMENT REFLECTS NEW BPAC 675050 WHICH WAS ESTABLISHED IN FY14.

A. Mission Description and Budget Item Justification

The B-52 Combat Network Communications Technology (CONECT) acquisition project supports nuclear and conventional operations by upgrading the B-52 fleet with tactical datalink and voice communications capabilities, along with improved threat and situational awareness to support participation in network centric operations. The CONECT upgrade includes new Multi-Functional Color Displays (MFCDs); a digital interphone system, on-board client/server architecture supporting distributed processing with independent control functions; UHF Beyond Line-Of-Sight (BLOS) Joint Range Extension (JRE) capability Intelligence Broadcast Receiver (IBR); limited Internet Protocol (IP)-based UHF BLOS link supporting voice, e-mail and file transfers; and Improved Data Modem (IDM)-based digital Variable Message Format (VMF) datalink. As the CONECT upgrade brings additional capability to the B-52, emerging communication and security requirements (upgrades to IBR, JRE messages, crypto modernization, etc.) and aircraft upgrades (1760 Internal Weapons Bay Upgrade, Mode S/Mode 5 Identification, Friend or Foe (IFF),etc.) may require study for potential impacts to CONECT.

In order to maintain currency with the latest aircraft configuration, the CONECT project will update existing trainers or use computer-based training to add CONECT functionality to meet user-training requirements, and update/maintain the system integration laboratory (SIL) for the Weapon System Trainers (WST).

This project 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 2014	FY 2015	FY 2016
Title: CONECT	9.108	8.323	11.225
Description: Continued Diminishing Manufacturing Source (DMS) redesign development and test effort. Continued engineering design of CONECT capability into the B-52 training systems. Began incorporating changes required due to updates in Government Furnished Equipment (GFE) and crypto modernization requirements. Incorporated/integrated CONECT with recurring updates of the B-52 software baseline. As the CONECT upgrade brings additional capability to the B-52, emerging communication and security requirements (upgrades to the IBR, JRE messages, crypto modernization, etc.) and aircraft upgrades (1760 Internal Weapons Bay Upgrade, Mode S/Mode 5 IFF, etc.) may require study for potential impacts to CONECT. CONECT will update the existing trainers or use computer-based training to add CONECT functionality to meet user-training requirements, and update/maintain the SIL for the WST.			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675050 / *CONECT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Continue DMS redesign development and test effort. Continuation of engineering design of CONECT capability into the B-52 training systems. Incorporate changes required due to updates in GFE and crypto modernization requirements. Incorporate/ integrate CONECT with recurring updates of the B-52 software baseline. As the CONECT upgrade brings additional capability to the B-52, emerging communication and security requirements (upgrades to the IBR, JRE messages, crypto modernization, etc) and aircraft upgrades (1760 Internal Weapons Bay Upgrade, Mode S/Mode 5 IFF, etc) may require study for potential impacts to CONECT. ***FY 2015 Plans:*** Complete DMS redesign development and test effort. Continuation of engineering design of CONECT capability into the B-52 training systems. Incorporate changes required due to updates in GFE and crypto modernization requirements. Incorporate/ integrate CONECT with recurring updates of the B-52 software baseline. As the CONECT upgrade brings additional capability to the B-52, emerging communication and security requirements (upgrades to the IBR, JRE messages, crypto modernization, etc) and aircraft upgrades (1760 Internal Weapons Bay Upgrade, Mode S/Mode 5 IFF, etc) may require study for potential impacts to CONECT. CONECT will update the existing trainers or use computer-based training to add CONECT functionality to meet user-training requirements, and update/maintain the SIL for the WST. ***FY 2016 Plans:*** Continuation of engineering design of CONECT capability into the B-52 training systems. Incorporate changes required due to updates in GFE and crypto modernization requirements. Incorporate/integrate CONECT with recurring updates of the B-52 software baseline. As the CONECT upgrade brings additional capability to the B-52, emerging communication and security requirements (upgrades to the IBR, JRE messages, crypto modernization, etc) and aircraft upgrades (1760 Internal Weapons Bay Upgrade, Mode S/Mode 5 IFF, etc) may require study for potential impacts to CONECT. CONECT will continue the update of the existing trainers or use computer-based training to add CONECT functionality to meet user-training requirements, and update/ maintain the SIL for the WST.			
Accomplishments/Planned Programs Subtotals	9.108	8.323	11.225

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APAF: BA05: Line Item # B05200: *B-52*	74.221	133.778	128.219	-	128.219	139.317	110.748	52.542	27.637	-	-
• APAF: BA06: Line Item # B05200: *Initial Spares\Repair Parts*	-	5.966	5.474	-	5.474	5.396	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675050 / *CONECT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APAF: BA07: Line Item # B05200: *Post Production Support*	5.600	5.249	5.911	-	5.911	9.010	0.201	14.252	5.537	-	-
• APAF:BA07: Line Item # B05200: *Depot Activation*	-	0.198	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The B-52 CONECT EMD prime contract is a sole source to Boeing Defense, Space & Security (DSS), Oklahoma City, OK. Boeing designs, develops, tests and procures necessary equipment from their subcontractors; developed engineering drawings, logistic and technical data. The Government is developing the time compliance technical order (TCTO) for installation on the B-52. Pro-Active Systems is the current contractor for the trainer update to integrate CONECT into the existing trainers.

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 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675050 / *CONECT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CONECT EMD - Wright Patt	SS/ Various	Boeing : Oklahoma City, OK	-	7.441	Mar 2015	1.184	Mar 2015	0.050	Feb 2016	-		0.050	Continuing	Continuing	-
		Subtotal	-	7.441		1.184		0.050		-		0.050	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Trainer Update	Various	AFLCMC/WNS : WPAFB, OH	-	0.465	Sep 2014	6.529	Aug 2015	11.155	Feb 2016	-		11.155	Continuing	Continuing	-
Other Government Costs (OGC)	Various	Various : ,	-	0.441	May 2014	0.600	Feb 2015	0.010	Feb 2016	-		0.010	Continuing	Continuing	-
		Subtotal	-	0.906		7.129		11.165		-		11.165	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFTRS R2/R3 Testing	PO	Edwards AFB : , CA	-	0.485	Apr 2014	0.010	Feb 2015	0.010	Feb 2016	-		0.010	Continuing	Continuing	-
Operational Test Support for DMS Redesign	PO	53rd Wing : Barksdale AFB, LA	-	0.204	Jan 2015	-		-		-		-	Continuing	Continuing	-
DMS Redesign JREAP Support/Analysis	PO	46th Test Squad : Eglin AFB, FL	-	0.062	May 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.751		0.010		0.010		-		0.010	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AAS, Travel, Centralized Support	Various	Various : ,	-	0.010	Apr 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.010		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675050 / *CONECT*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	9.108		8.323		11.225		-		11.225	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675050 / *CONECT*

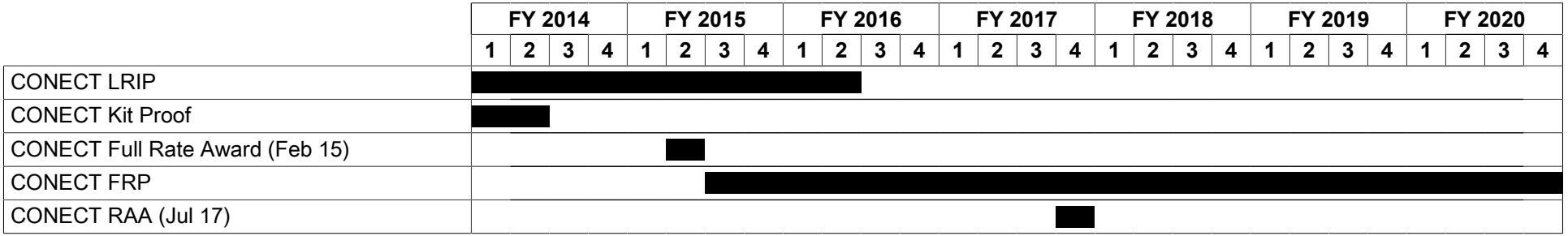

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675050 / *CONECT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CONECT LRIP	1	2014	2	2016
CONECT Kit Proof	1	2014	2	2014
CONECT Full Rate Award (Feb 15)	2	2015	2	2015
CONECT FRP	3	2015	4	2020
CONECT RAA (Jul 17)	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675055 / *GPS-IU*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
675055: *GPS-IU*	-	-	-	2.980	-	2.980	9.921	13.885	11.899	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY16, Project 675055, GPS-IU, includes new start effort for Global Positioning System (GPS)-Interface Unit(IU) Replacement.

A. Mission Description and Budget Item Justification

Global Positioning System (GPS) Interface Unit (IU) Upgrade will replace three Circuit Card Assemblies (CCA) in the GPS-IU, as well as the backplane (to integrate the new and old CCAs): the Central Processing Unit/1553, the power supply CCA, and the video graphics card. The current inventory of GPS-IU (76 installed on B-52H, plus current inventory levels of 17, plus 1 in the System Integration Laboratory (SIL)) will be upgraded by Prime Contractor Boeing, and the upgraded LRUs replaced using blue-suit installation, using remove-and-replace processes on the flight line (the current maintenance process). This is a new initiative upgrade to the B-52H platform.

GPS-IU acts as a controller and a communications path between onboard computer systems, ensuring data needed by one system is available in the correct format for the requesting system. Originally developed with a 33MHz processor with 4MB of Static Random Access Memory (SRAM), the GPS-IU has become overloaded as more software has been added to the B-52. Currently operating at 86% throughput capacity and at 90% memory capacity, it is projected to exceed the designated safety threshold of 95% memory load by 2018. The GPS-IU is also facing parts obsolescence issues. Studies show that the current spares will be exhausted by 2018. The upgrade will address obsolescence, as well as increase memory and throughput capacity to ensure future modernization efforts are successful.

GPS-IU requires upgrading to incorporate any other GPS dependent capabilities on the B-52 platform. B-52 fleet will have the capability to carry additional GPS dependent weapons and targeting pods, and the increased capacity to incorporate future GPS-dependent capabilities beyond 2018.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: Global Positioning System (GPS) Interface Unit (IU)	-	-	2.980
Description: Global Positioning System (GPS) Interface Unit (IU) Upgrade will replace three circuit card assemblies in the GPS IU, as well as the backplane (to integrate the new and old CCAs): the Central Processing Unit/1553, the power supply CCA, and the video graphics card. ***FY 2016 Plans:*** Enter GPS-IU Technology Maturation Risk Reduction (TMRR) phase. Award TMRR sole source contract to Boeing, OKC OK.			
Accomplishments/Planned Programs Subtotals	-	-	2.980

Exhibit R-2A, RDT&E Project Justification: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675055 / *GPS-IU*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Award Technology Maturation Risk Reduction (TMRR) phase sole source contract to Boeing, OKC OK

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 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / *B-52 SQUADRONS*	Project (Number/Name) 675055 / *GPS-IU*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GPS-IU TMRR	SS/ Various	Boeing : Oklahoma City, OK	-	-		-		2.980	May 2017	-		2.980	Continuing	Continuing	-
		Subtotal	-	-		-		2.980		-		2.980	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		2.980		-		2.980	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675055 / *GPS-IU*

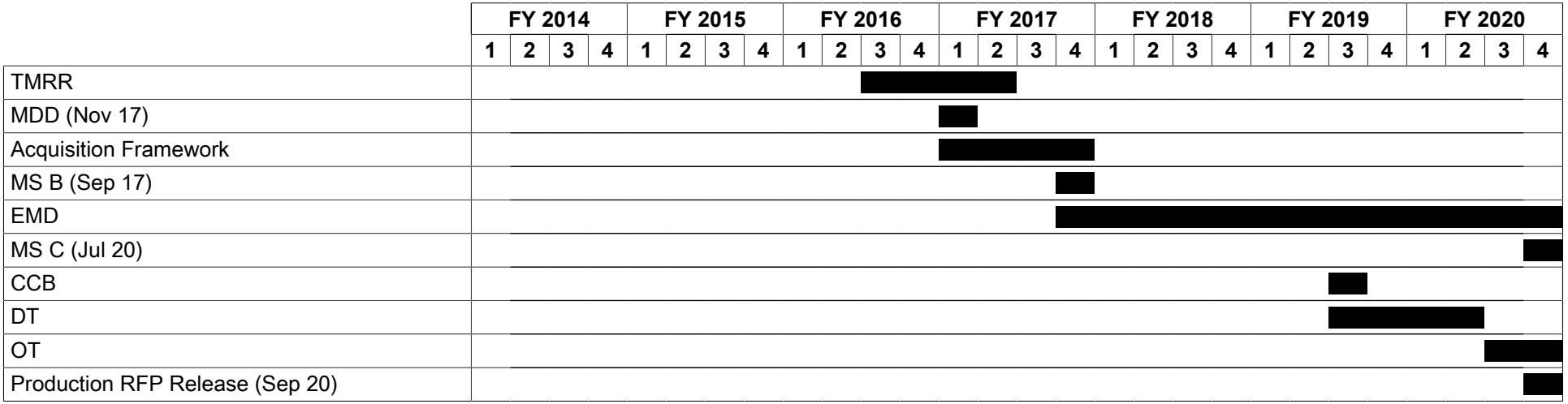

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force		Date: February 2015
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0101113F / *B-52 SQUADRONS*	**Project (Number/Name)** 675055 / *GPS-IU*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TMRR	3	2016	2	2017
MDD (Nov 17)	1	2017	1	2017
Acquisition Framework	1	2017	4	2017
MS B (Sep 17)	4	2017	4	2017
EMD	4	2017	4	2020
MS C (Jul 20)	4	2020	4	2020
CCB	3	2019	3	2019
DT	3	2019	2	2020
OT	3	2020	4	2020
Production RFP Release (Sep 20)	4	2020	4	2020