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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 I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0101126F / B-1B 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	-	14.355	4.353	2.245	-	2.245	2.990	0.706	-	-	Continuing	Continuing
675344: B-1B Modernization	-	14.355	4.353	2.245	-	2.245	2.990	0.706	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The B-1B Lancer is a swing-wing, supersonic, long-range, conventional bomber. It carries the largest payload of both guided and unguided weapons in the United States Air Force inventory. The multi-mission B-1B is the backbone of America's long-range conventional bomber force and can rapidly deliver massive quantities of precision and non-precision weapons against any adversary, anywhere in the world, at any time. The current service life extends beyond 2040.

This effort provides funding for B-1B modernization programs. These modernization programs alleviate aircraft obsolescence issues due to Diminishing Manufacturing Sources (DMS) while at the same time providing improved capabilities to the B-1B weapon system that require significant hardware and software development and testing.

B-1B training systems upgrades (both flight and maintenance simulators/trainers) provide required training assets for the aircraft Central Integrated Test System (CITS), Fully Integrated Data Link (FIDL), and Vertical Situational Display Upgrade (VSDU) modernization programs. These upgrades are required to bring the simulators up to the same configuration of the modernized aircraft. The B-1B training system provides the war fighter with a fully integrated, cost effective, high fidelity training capability in flight operations, weapons employment, and maintenance of the B-1B weapon system.

Aircraft RDT&E efforts include development of a Self-Contained Standby Attitude Indicator (SCAI). This development activity will replace three standby flight indicators (attitude, altimeter, and airspeed) with a more reliable/supportable commercial off-the-shelf display that combines all necessary flight information into one device. If the primary flight instruments are lost, SCAI will continue to provide the flight information needed to fly the aircraft. Standby instrumentation must be functional and reliable in the event of primary flight display failure, and is a Mission-Essential Subsystem List (MESL) item required for flight.

Upgrades to the B-1B flight test aircraft are included in the modernization programs to keep the test flight systems current. RDT&E funded test jets are currently configured with Engineering and Manufacturing Development (EMD) Line Replaceable Units (LRUs) for CITS, FIDL and VSDU. Replacement of the EMD LRUs is required to bring two flight test aircraft to fleet representative configuration. Maintenance and logistic support from the manufacturer is required until the Air Force supply chain is established. Replacement of the LRUs will ensure maximum supportability, maintainability, and reliability for continued and future flight tests.

Additionally, program funds cover engineering/planning studies, related engineering efforts, and auxiliary equipment needed for development programs that have not yet fielded. Cost includes Program Management Administrative (PMA) costs and initiatives for anticipated weapon system enhancements, including efforts to improve weapon system operational capabilities, safety, supportability, maintainability, reliability, and total ownership cost. All B-1B development programs support planned requirements for unique identification in their production phases.

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This program is in Budget Activity 7, Operational System Development; budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipated production funding in the current or subsequent fiscal year.						
The FY2016 funding request was reduced by \$1.780 million to account for the availability of prior year balances.						
B. Program Change Summary (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget		12.774	5.353	4.040	-	4.040
Current President's Budget		14.355	4.353	2.245	-	2.245
Total Adjustments		1.581	-1.000	-1.795	-	-1.795
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-1.000			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		2.000	-			
• SBIR/STTR Transfer		-0.419	-			
• Other Adjustments		-	-	-1.795	-	-1.795
Change Summary Explanation						
FY14 reprogramming of \$2M for SCAI Program.						
FY15 change of -\$1M due to execution adjustment improving funds management.						
The FY2016 funding request was reduced by \$1.780 million to account for the availability of prior year balances.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2014	FY 2015	FY 2016
Title: B-1B IBS Simulator Development				1.165	3.353	-
Description: B-1B Integrated Battle Station (IBS) simulator development is the upgrade to existing training systems (both flight and maintenance) to simulate IBS configuration. IBS is the combined production phase of Central Integrated Test Systems (CITS), Fully Integrated Data Link (FIDL), and Vertical Situation Display Upgrade (VSDU) development efforts.						
FY 2014 Accomplishments:						
Simulator and training upgrades conducted software and hardware development with integration and testing to support fielding of CITS, FIDL, and VSDU.						
FY 2015 Plans:						

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Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0101126F I B-1B Squadrons						
C. Accomplishments/Planned Programs (\$ in Millions)									FY 2014	FY 2015	FY 2016
Simulator and training upgrades will complete software and hardware development with integration and testing to support fielding of CITS, FIDL, and VSDU.											
Title: B-1B Self-Contained Attitude Indicator  Description: The B-1B Self-Contained Attitude Indicator (SCAI) program will replace the legacy standby attitude indicator that uses an obsolete spinning mass gyro with a reliable and supportable standby attitude indicator.  FY 2014 Accomplishments: SCAI development completed prototype hardware, ground/flight testing, and all EMD activities.									8.200	-	-
Title: B-1B Flight Test Upgrades  Description: B-1B Flight Test Upgrades modifies the two flight test aircraft at Edwards AFB to the production IBS configuration; the EMD Line Replacement Units (LRUs) that are currently on the aircraft will be removed and replaced with production units.  FY 2014 Accomplishments: Flight Test Upgrades purchased the upgrade kits to replace CITS, FIDL, and VSDU Engineering and Manufacturing Development (EMD) Line Replaceable Units (LRU) with production LRUs on the test aircraft. This effort provided engineering technical support and analysis for CITS, FIDL, and VSDU EMD LRUs on the RDT&E funded test jets.  FY 2015 Plans: Flight Test Upgrades fund the engineering technical support and analysis for CITS, FIDL, and VSDU EMD LRUs on the RDT&E funded test jets.  FY 2016 Plans: Flight Test Upgrades will continue to fund the engineering technical support and analysis for CITS, FIDL, and VSDU EMD LRUs prior to and during the installation of upgrade kits on test jets. This effort funds the installation of production LRUs installation.									4.990	1.000	2.245
Accomplishments/Planned Programs Subtotals									14.355	4.353	2.245
D. 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 # B01B00: Training Support to Units, Mods	0.333	0.427	0.434	-	0.434	0.442	0.451	0.458	0.466	-	-
• APAF: BA05: Line Item # B01B00: Bomber Tactical Data Link, Mods	-	0.223	1.011	-	1.011	1.392	0.539	0.800	-	-	-

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D. 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 IItem # B01B00: B-1B Squadrons, Mods	138.802	219.219	112.674	-	112.674	120.521	74.586	86.777	21.358	-	-
• APAF: BA05: Line Item # B01B00 S...: B-1B Squadrons, Spares	14.267	13.093	17.198	-	17.198	9.971	3.898	3.470	-	-	-
• APAF: BA05: Line Item # B01B00:: Bomber Tactical Data Link, Spares PE0207446F	-	1.038	-	-	-	-	-	-	-	-	-
• APAF: BA07: Line Item # B00100: B-1B Squadrons, Post Production Support	3.683	-	-	-	-	-	-	-	-	-	-
Remarks											
(U) Program Element 0208006F, Air Force Mission Planning Systems (AFMPS), Joint Mission Planning System (JMPS)											
(U) Program Element 0207446F, Bomber Tactical Data Link											
E. Acquisition Strategy											
The B-1 IBS Simulator Development program uses a Fixed Price Incentive Firm competitive award contract.											
The B-1 Self-Contained Standby Attitude Indicator acquisition strategy includes one year EMD, three years production and installation. The EMD portion of the Contract is a Cost Plus Fixed Fee (CPFF) with Firm Fixed Price for production.											
The B-1B Flight Test Upgrades program is using a sole source CPFF contract with the prime / integrating contractor (Boeing).											
F. 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.											

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2016 Air Force</b>												<b>Date: February 2015</b>			
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0101126F / B-1B Squadrons						<b>Project (Number/Name)</b> 675344 / B-1B Modernization			
<b>Product Development (\$ in Millions)</b>				<b>FY 2014</b>		<b>FY 2015</b>		<b>FY 2016 Base</b>		<b>FY 2016 OCO</b>		<b>FY 2016 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
B-1B IBS Simulator Development (CITS FIDL VSDU)	C/FPIF	AAI : Goose Creek, SC	-	0.810	Apr 2014	2.682	Apr 2015	-		-		-	Continuing	Continuing	-
B-1B Self Contained Attitude Indicator	C/CPFF	TBD :	-	8.200	Jan 2015	-		-		-		-	Continuing	Continuing	-
B-1B Flight Test Aircraft Upgrades	SS/FFP	Boeing : OKC, OK	-	4.990	Mar 2014	0.980	May 2016	2.000	Jun 2016	-		2.000	Continuing	Continuing	-
<b>Subtotal</b>			-	14.000		3.662		2.000		-		2.000	-	-	-
<b>Support (\$ in Millions)</b>				<b>FY 2014</b>		<b>FY 2015</b>		<b>FY 2016 Base</b>		<b>FY 2016 OCO</b>		<b>FY 2016 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Studies	Various	TBD :	-	-		0.500	Jun 2015	0.220	Jun 2016	-		0.220	Continuing	Continuing	-
<b>Subtotal</b>			-	-		0.500		0.220		-		0.220	-	-	-
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2014</b>		<b>FY 2015</b>		<b>FY 2016 Base</b>		<b>FY 2016 OCO</b>		<b>FY 2016 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-
<b>Management Services (\$ in Millions)</b>				<b>FY 2014</b>		<b>FY 2015</b>		<b>FY 2016 Base</b>		<b>FY 2016 OCO</b>		<b>FY 2016 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
A AS	Various	Various : Various,	-	0.238	Dec 2013	0.144		-		-		-	Continuing	Continuing	-
PMA	Various	Various : Various,	-	0.117	Jan 2014	0.047	Dec 2015	0.025	Jul 2015	-		0.025	Continuing	Continuing	-
<b>Subtotal</b>			-	0.355		0.191		0.025		-		0.025	-	-	-

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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 0101126F / B-1B Squadrons					Project (Number/Name) 675344 / B-1B Modernization				
	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	-	14.355		4.353		2.245		-		2.245	-	-	-	

Remarks

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2016 Air Force **Date:** February 2015

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0101126F / B-1B Squadrons	<b>Project (Number/Name)</b> 675344 / B-1B Modernization
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	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
UON ARC-210 Software Contract Activities Conclude																												
VSDU RDTE Contract Activities Conclude																												
Simulator Upgrades for CITS/FIDL /VSDU Contract Activities Conclude (June)																												
Self Contained Attitude Indicator (SCAI) RFP (June)																												
Self Contained Attitude Indicator (SCAI) Contract Award (January)																												
Self Contained Attitude Indicator (SCAI) Replacement PDR (May)																												
Self Contained Attitude Indicator (SCAI) Replacement CDR (June)																												
Self Contained Attitude Indicator (SCAI) Flight Test (September - October)																												
Self Contained Attitude Indicator (SCAI) MS C Decision (December)																												
Flight Test Aircraft Upgrades Contract Award (March)																												
Flight Test Aircraft Upgrades Deliveries (July - Sep)																												
Flight Test Aircraft Upgrades Installs																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2016 Air Force			<b>Date:</b> February 2015
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0101126F / <i>B-1B Squadrons</i>	<b>Project (Number/Name)</b> 675344 / <i>B-1B Modernization</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
UON ARC-210 Software Contract Activities Conclude	1	2015	1	2015
VSDU RDTE Contract Activities Conclude	2	2014	2	2014
Simulator Upgrades for CITS/FIDL /VSDU Contract Activities Conclude (June)	3	2015	3	2015
Self Contained Attitude Indicator (SCAI) RFP (June)	3	2014	3	2014
Self Contained Attitude Indicator (SCAI) Contract Award (January)	2	2015	2	2015
Self Contained Attitude Indicator (SCAI) Replacement PDR (May)	3	2015	3	2015
Self Contained Attitude Indicator (SCAI) Replacement CDR (June)	3	2015	3	2015
Self Contained Attitude Indicator (SCAI) Flight Test (September - October)	4	2015	1	2016
Self Contained Attitude Indicator (SCAI) MS C Decision (December)	1	2016	1	2016
Flight Test Aircraft Upgrades Contract Award (March)	2	2014	2	2014
Flight Test Aircraft Upgrades Deliveries (July - Sep)	3	2016	4	2016
Flight Test Aircraft Upgrades Installs	4	2016	1	2017