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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 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605213F / F-22 Modernization Increment 3.2B							
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	110.432	88.268	173.647	140.640	-	140.640	72.467	1.399	1.426	1.452	23.348	613.079
654785: F-22 INCREMENT 3.2B	110.432	88.268	173.647	140.640	-	140.640	72.467	1.399	1.426	1.452	23.348	613.079
Quantity of RDT&E Articles	9	-	-	-	-	-	-	-	-	-		
Program MDAP/MAIS Code: 474												
<p>Note</p> <p>All Increment 3.2B efforts and associated funding prior to FY13 are included in the F-22A Squadrons budget documentation, PE 0207138F and other outside funding PEs. Prior year funding: PE 0207138F (FY04-FY12): \$422.4M PE 0207163F (FY10-FY13): \$39.8M PE 0207445F (FY07-FY10): \$39.6M PE 0200001F (FY07): \$32.9M</p> <p>A. Mission Description and Budget Item Justification</p> <p>Increment 3.2B will integrate the newest air-to-air intercept missiles (i.e., AIM-9X and AIM-120D), further improve the Electronic Protection (EP) capability over Increment 3.2A, and enhance the F-22's geolocation capability from the Increment 3.1 baseline with the addition of Geolocation 2. Increment 3.2B will include the Enhanced Stores Management System (ESMS), as well as Common Weapon Engagement Zone (Common WEZ), and an Intra-Flight Datalink (IFDL) improvement to increase IFDL bandwidth and enable cooperative functions required to realize Increment 3.2B capabilities.</p> <p>Increment 3.2B will develop, certify and integrate a new platform operational flight program to ensure the system interoperability and performance of all increment-level developments.</p> <p>The development program includes development, studies, and analysis to enhance the air vehicle and training system to improve/enhance F-22 weapons, communications, Electronic Warfare, and Intelligence Surveillance Reconnaissance (ISR) capabilities.</p> <p>BA5 - This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.</p>												

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B. Program Change Summary (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget		115.000	173.647	141.575	-	141.575
Current President's Budget		88.268	173.647	140.640	-	140.640
Total Adjustments		-26.732	-	-0.935	-	-0.935
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-23.000	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-3.732	-			
• Other Adjustments		-	-	-0.935	-	-0.935
Change Summary Explanation						
FY14: \$26.732 reduction due to: \$23M for Congressional Rescission and \$3.732M due to SBIR						
FY15: N/A						
FY16: \$0.935M reduction due to inflation rate adjustments						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2014	FY 2015	FY 2016
Title: F -22 Increment 3.2B				75.028	109.097	79.640
Description: The F-22 Increment 3.2B Modernization Program consists of the studies, analysis, demonstrations, and hardware/ software development necessary to provide Increment 3.2B capabilities including Intra-Flight Data Link Improvements, Electronic Protection, AIM-9X and AIM-120D integration with Common Weapon Engagement Zone, Geolocate 2.0 and Stores Management System Common Split Bus. The Enhanced Stores Management System (ESMS) program is a hardware development program required to integrate any new weapons on the F-22 beyond Increment 3.1. Mission Support of the F-22 Program Office: travel, computer costs, and other miscellaneous contract support.						
FY 2014 Accomplishments: F-22 Increment 3.2B finalized system design and continued Development, Code, Integration and Flight Test. Provided Management and infrastructure activities in support of the F-22 Program Office.						
FY 2015 Plans: F-22 Increment 3.2B will continue work in the Development, Code, Integration, and Test Phase. In addition will provide management and infrastructure activities in support of the F-22 Program Office.						
FY 2016 Plans:						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
F-22 Increment 3.2B will continue work in the Development, Code, Integration, and Test Phase in preparation for 3QFY16 Milestone C. In addition, will conduct management and infrastructure activities in support of the F-22 Program Office.				
Title: Combined Test Force (CTF) Description: The F-22 Combined Test Force (CTF), located at Edwards Air Force Base, conducts testing to assess performance and military utility of Increment 3.2B. The CTF uses operationally relevant ground and flight test scenarios to identify Increment 3.2B performance deficiencies. This funds Inc 3.2B unique test costs. FY 2014 Accomplishments: The CTF accomplished detailed test planning of Increment 3.2B and continued testing AIM-9X separations for a full AIM-9X integration in Increment 3.2B. CTF initiated Increment 3.2B Flight Test. FY 2015 Plans: The CTF will continue detailed test planning and Increment 3.2B Flight Test execution. FY 2016 Plans: The CTF will complete developmental flight test in preparation for Low Rate Initial Production (LRIP) decision (Milestone C).		3.730	29.500	27.500
Title: Lab Test & Operations Description: Increment 3.2B Lab Test & Operations will plan and conduct software build, integration & testing in the F-22 system integration at the laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS). FY 2014 Accomplishments: F-22 Increment 3.2B Lab Test & Operations planned and conducted software builds, integration & testing in the F-22 system integration at the laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS). FY 2015 Plans: Increment 3.2B Lab Test & Operations will continue to plan and conduct software builds, integration & testing on production representative hardware in the F-22 system integration laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS). To enhance software maturation, the developmental software labs will deliver several planned software versions to support developmental flight test execution. FY 2016 Plans:		9.510	35.050	33.500

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2014	FY 2015	FY 2016
Increment 3.2B Lab Test & Operations will continue to plan and conduct software builds, integration & testing on production representative hardware in the F-22 system integration laboratories: the Agile Integration Lab (AIL); the Raptor Integration Lab (RaIL); the Air Combat Simulation (ACS) Lab; the Vehicle Management System (VMS) Vehicle Integration Facility (VIF); and the Vehicle System Simulator (VSS). Increment 3.2B Lab Test & Operations will deliver the fully integrated Operational Flight Program (OFP) required to complete developmental flight test and resolve performance deficiencies in preparation for Air Force Operational Flight Test Evaluation.												
Accomplishments/Planned Programs Subtotals										88.268	173.647	140.640
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	
• RDT&E: BA07: PE 0207138F: F-22A Squadrons, RDT&E*	266.431	146.299	262.552	-	262.552	382.198	406.094	415.207	422.636	Continuing	Continuing	
• APAF: BA05: Line Item # F2232B: Increment 3.2B**	-	28.500	69.325	-	69.325	79.091	144.831	13.187	20.529	-	355.463	
• APAF: BA05: Line Item # F02200: F-22A***	358.268	301.426	129.251	-	129.251	285.014	218.692	222.923	275.407	Continuing	Continuing	
• APAF: BA056: 000999: Initial Spares	-	-	2.934	-	2.934	4.470	7.782	-	-	-	15.186	
• RDT&E: BA07: PE 0207163F: AIM-120D, AMRAAM T&E, RDT&E****	20.830	23.940	5.820	-	5.820	-	-	-	-	-	50.590	
Remarks												
NOTES:												
*F-22A Squadrons, RDT&E/PE 0207138F includes F-22A Squadrons modernization and development. Both PEs 0207138F and 0605213F share lab and Combined OTF Test Force infrastructure support costs across the F-22 enterprise.												
**Increment 3.2B, APAF/PE 0207138F, F2232B includes BP11 (Aircraft Modifications) for Increment 3.2B only.												
***F-22A Squadrons, APAF/PE 0207138F, F02200 includes BPs 11 (Aircraft Modifications), 13 (Post-Production Support), 16 (Initial Spares), and 19 (Depot Activation) for F-22 Squadrons only.												

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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
**** AIM-120D, AMRAAM RDT&E/PE 0207163F, funding provides for the AIM-120D development as a part of the F-22 Increment 3.2B effort.										
E. Acquisition Strategy										
The Raptor Enhancement Development & Integration (REDI) contract is an Indefinite Delivery/Indefinite Quantity Ordering contract that maximizes flexibility to start, stop, accelerate and decelerate projects as required. The REDI contract was established to be more responsive to evolving war fighter requirements. The REDI contract allows the issuance of orders for the highest priority war fighter capabilities in operationally meaningful capability increments, requirements analysis, contractor cost estimates and studies, development and demonstration of capability enhancements, and unanticipated future war fighter requirements. Each increment is broken into phases to initiate requirements analysis, the design phase and the development, integration and verification phase of a specific incremental development effort. The REDI II contract is a follow-on Indefinite Delivery/Indefinite Quantity contract to the initial REDI contract. REDI II provides maximum flexibility to manage various modernization projects. The REDI II contract allows for the issuance of orders for efforts associated with the planning, analysis, design, development, qualification, test and documentation of F-22 weapon system performance enhancements, life-cycle improvements, Operational Flight Program (OFP) upgrades, and associated efforts essential to accomplishing the F-22 mission.										
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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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force												Date: February 2015			
Appropriation/Budget Activity 3600 / 5						R-1 Program Element (Number/Name) PE 0605213F / F-22 Modernization Increment 3.2B				Project (Number/Name) 654785 / F-22 INCREMENT 3.2B					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Increment 3.2B	Various	Lockheed Martin : Ft. Worth, TX	107.877	75.028	Nov 2013	109.097	Nov 2014	79.640	Nov 2015	-		79.640	71.082	442.724	488.035
Subtotal			107.877	75.028		109.097		79.640		-		79.640	71.082	442.724	488.035
Remarks															
Target Value of Contract includes only active REDI/REDI II delivery orders DO 0070, DO 0071, and DO 0004. Target Value of Contract and Total cost do not match due to prior year costs executed in F-22 Squadrons PE 0207138F and other outside funded PE's as documented in the R-2A.															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Combined Test Force	Various	Various : Various,	0.660	3.730	Nov 2013	29.500	Dec 2014	27.500	Dec 2015	-		27.500	21.100	82.490	-
Laboratory Test Operations	SS/ Various	Lockheed Martin : Fort Worth, TX	1.895	9.510	Nov 2013	35.050	Nov 2014	33.500	Nov 2015	-		33.500	7.910	87.865	-
Subtotal			2.555	13.240		64.550		61.000		-		61.000	29.010	170.355	-
Remarks															
FY12 and prior year costs for Increment 3.2B are shown under PE 0207138F. FY13 and later are shown under PE 0605213F. The Combined Test Force and Laboratory Test & Operations costs appear to increase significantly starting in FY2013 due to the addition of Increment 3.2B test costs. The corresponding decrease in test costs are captured in PE 0207138F documentation.															

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Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	110.432	88.268		173.647		140.640		-		140.640	100.092	613.079	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force			Date: February 2015		
Appropriation/Budget Activity 3600 / 5			R-1 Program Element (Number/Name) PE 0605213F / <i>F-22 Modernization Increment 3.2B</i>		
			Project (Number/Name) 654785 / <i>F-22 INCREMENT 3.2B</i>		

	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
Increment 3.2B HW Development/Risk Reduction/Lab Equipment**																												
Increment 3.2B Code, Integration, and Test																												
Increment 3.2B Critical Design Review (CDR)																												
Increment 3.2B Milestone C																												
Increment 3.2B Initial Operational Test & Evaluation (IOT&E)																												
Increment 3.2B Fleet Release																												
Increment 3.2B Retrofit																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605213F / <i>F-22 Modernization Increment 3.2B</i>	Project (Number/Name) 654785 / <i>F-22 INCREMENT 3.2B</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment 3.2B HW Development/Risk Reduction/Lab Equipment**	1	2014	2	2015
Increment 3.2B Code, Integration, and Test	1	2014	1	2018
Increment 3.2B Critical Design Review (CDR)	1	2016	1	2016
Increment 3.2B Milestone C	3	2016	3	2016
Increment 3.2B Initial Operational Test & Evaluation (IOT&E)	2	2017	4	2017
Increment 3.2B Fleet Release	2	2018	2	2018
Increment 3.2B Retrofit	2	2018	4	2020