Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0401130F: *C-17 Aircraft*

COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	182.754	161.855	177.212	0.000	177.212	183.745	147.179	170.704	191.555	Continuing	Continuing
672569: C-17 Aircraft	182.754	161.855	177.212	0.000	177.212	183.745	147.179	170.704	191.555	Continuing	Continuing

Note

In FY02, 674886, LAIRCM, efforts transferred to PE 0401134F, LAIRCM.

A. Mission Description and Budget Item Justification

Mission Description: The C-17 can perform the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently in both strategic and theater environments. Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's National Military Strategy and constitutes the most responsive means of meeting U.S. mobility requirements. Specific tasks associated with the airlift mission include deployment, employment (airland and airdrop), sustaining support, retrograde, and combat redeployment. Not only can the C-17 deliver outsize cargo to austere tactical environments, but it also reduces ground time during airland operations. The C-17 will perform the airlift mission well into this century.

Budget Item Justification: RDT&E efforts support aircraft performance improvements. In addition, funding may be used to develop solutions to emergency obsolescence issues that impact the mission capability or continued support of the C-17 weapon system.

- FY 2009: Continued development and testing of C-17 aircraft performance improvements/ mandates to include projects such as, but not limited to Replacement Core Integrated Processor, Formation Flying System and Airdrop Improvements.
- FY 2010: Continued development and testing of C-17 aircraft performance improvements/ mandates to include projects such as, but not limited to Barometric/Vertical Navigation (Baro/VNAV) Capability, Replacement Heads-Up Display (RHUD), and Advanced Situational Awareness Countermeasures (ASACM).
- FY 2011: Continued development and testing of C-17 aircraft performance improvements/ mandates to include projects such as, but not limited to Next Gen Communication Navigation Surveillance (CNS)/ATM System Phase 1 Surveillance, Aidrop Improvements, Baro/VNAV Capability, RHUD, and ASACM.

This program is under Budget Activity 7, Operational System Development, since the program has completed Milestone III but is continuing to increase the operational capability of the C-17 through programmed modifications.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0401130F: *C-17 Aircraft*

B. Program Change Summary (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	235.407	161.855	0.000	0.000	0.000
Current President's Budget	182.754	161.855	177.212	0.000	177.212
Total Adjustments	-52.653	0.000	177.212	0.000	177.212
 Congressional General Reductions 		0.000			
 Congressional Directed Reductions 		0.000			
 Congressional Rescissions 	0.000	0.000			
 Congressional Adds 		0.000			
 Congressional Directed Transfers 		0.000			
 Reprogrammings 	0.000	0.000			
 SBIR/STTR Transfer 	0.000	0.000			
 Other Adjustments 	-52.653	0.000	177.212	0.000	177.212

Change Summary Explanation

FY09 Other Adjustments includes \$22.403M Congressional Rescission (FY10 Defense Appropriation Bill), \$2.0M Reprogramming, and \$28.25M SBIR Transfer.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

3600: Research, Development, Test & Evaluation, Air Force PE 0401130F: C-17 Aircraft 672569: C-17 Aircraft

BA 7: Operational Systems Development

	1				I						
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
672569: C-17 Aircraft	182.754	161.855	177.212	0.000	177.212	183.745	147.179	170.704	191.555	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Mission Description: The C-17 can perform the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently in both strategic and theater environments. Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's national security strategy and constitutes the most responsive means of meeting U.S. mobility requirements. Specific tasks associated with the airlift mission include deployment, employment (airland and airdrop), sustaining support, retrograde, and combat redeployment. Not only can the C-17 deliver outsize cargo to austere tactical environments, but it also reduces ground time during airland operations. The C-17 will perform the airlift mission well into this century.

Budget Item Justification: RDT&E efforts support aircraft performance improvements. In addition, funding may be used to develop solutions to emergency obsolescence issues that impact the mission capability or continued support of the C-17 weapon system.

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- FY 2011: Continued development and testing of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to Next Gen Communication Navigation Surveillance (CNS)/ATM System Phase 1 Surveillance, Airdrop Improvements, Baro/VNAV Capability, RHUD, and ASACM.

This program is under Budget Activity 7, Operational System Development, since the program has completed Milestone III but is continuing to increase the operational capability of the C-17 through programmed modifications.

B. Accomplishments/Planned Program (\$ in Millions)

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010 **PROJECT** APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE 3600: Research, Development, Test & Evaluation, Air Force PE 0401130F: C-17 Aircraft 672569: C-17 Aircraft BA 7: Operational Systems Development B. Accomplishments/Planned Program (\$ in Millions) FY 2011 FY 2011 FY 2011 **FY 2009 FY 2010** Base OCO Total MAJOR THRUST: Performance Improvement Development & Testing 94.481 85.699 98.412 0.000 98.412 FY 2009 Accomplishments: In FY 2009: Continued development of C-17 aircraft performance improvements for its avionics, aircraft and mission systems and the development of solutions to emergent obsolescence issues. FY 2010 Plans: In FY 2010: Continued development of C-17 aircraft performance improvements for its avionics, aircraft and mission systems and the development of solutions to emergent obsolescence issues. FY 2011 Base Plans: In FY 2011: Continued development of C-17 aircraft performance improvements for its avionics, aircraft and mission systems and the development of solutions to emergent obsolescence issues. FY 2011 OCO Plans: In FY2011 OCO: N/A. MAJOR THRUST: Systems Engineering/Program Management 49.548 43.081 41.000 0.000 41.000 FY 2009 Accomplishments: In FY 2009: Continuation of program infrastructure including technical studies, avionics and software development laboratory upkeep, software systems engineering investigations, pre-project planning, systems engineering analysis and requirements development and identification of future technology needs through the Technical Improvement Change Roadmap activities. Also includes mission support for USAF management of the C-17 program. FY 2010 Plans: In FY 2010: Continuation of program infrastructure including technical studies, avionics and software development laboratory upkeep, software systems engineering investigations, pre-project planning,

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systems engineering analysis and requirements development and identification of future technology

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

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

BA 7: Operational Systems Development

DATE: February 2010

R-1 ITEM NOMENCLATURE
PE 0401130F: C-17 Aircraft

672569: C-17 Aircraft

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
needs through the Technical Improvement Change Roadmap activities. Also includes mission support for USAF management of the C-17 program.					
FY 2011 Base Plans: In FY 2011: Continuation of program infrastructure including technical studies, avionics and software development laboratory upkeep, software systems engineering investigations, pre-project planning, systems engineering analysis and requirements development and identification of future technology needs through the Technical Improvement Change Roadmap activities. Also includes mission support for USAF management of the C-17 program.					
FY 2011 OCO Plans: In FY2011 OCO: N/A,					
MAJOR THRUST: Producibility Enhancement/Performance Improvement (PE/PI) Contractor Flight Test	28.575	21.275	25.800	0.000	25.800
FY 2009 Accomplishments: In FY 2009: Continuation of contractor testing of new capabilities as required. Costs include maintenance on the test aircraft, engine overhaul of the flight test aircraft unique engines, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution.					
FY 2010 Plans: In FY 2010: Continuation of contractor testing of new capabilities as required. Costs include maintenance on the test aircraft, engine overhaul of the flight test aircraft unique engines, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution.					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010 **PROJECT** APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE** 3600: Research, Development, Test & Evaluation, Air Force PE 0401130F: C-17 Aircraft 672569: C-17 Aircraft BA 7: Operational Systems Development B. Accomplishments/Planned Program (\$ in Millions) FY 2011 FY 2011 FY 2011 **FY 2009 FY 2010** Base OCO Total FY 2011 Base Plans: In FY 2011: Continuation of contractor testing of new capabilities as required. Costs include maintenance on the test aircraft, engine overhaul of the flight test aircraft unique engines, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution. FY 2011 OCO Plans: In FY2011 OCO: N/A, MAJOR THRUST: Producibility Enhancement/Performance Improvement (PE/PI) Government Flight Test 10.150 11.800 12.000 0.000 12.000 FY 2009 Accomplishments: In FY 2009: Continuation of the direct costs of flight testing. The costs include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay for when using Air Force flight test locations. FY 2010 Plans: In FY 2010: Continuation of the direct costs of flight testing. The costs include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay for when using Air Force flight test locations. FY 2011 Base Plans: In FY 2011: Continuation of the direct costs of flight testing. The costs include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay for when using Air Force flight test locations. FY 2011 OCO Plans: In FY2011 OCO: N/A.

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Accomplishments/Planned Programs Subtotals

182.754

161.855

177.212

0.000

177.212

R-1 Line Item #222 Page 6 of 12

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE PROJECT

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

PE 0401130F: *C-17 Aircraft* 672569: *C-17 Aircraft*

BA 7: Operational Systems Development

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

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			FY 2011	FY 2011	FY 2011					Cost To	
<u>Line Item</u>	FY 2009	FY 2010	<u>Base</u>	OCO	<u>Total</u>	FY 2012	FY 2013	FY 2014	FY 2015	Complete	Total Cost
• PE 0401130F: <i>C-17 MYP, BA02,</i>	2,488.079	2,580.251	128.683	0.000	128.683	104.268	84.628	164.265	158.581	0.000	0.000
APAF											
• PE 0401130F (1): <i>C-17 A/C</i>	332.417	471.932	351.614	224.450	576.064	255.555	341.966	383.903	485.685	0.000	0.000
Mods, BA05, APAF											
• PE 0401130F (2): <i>C-17</i>	0.000	11.000	38.947	0.000	38.947	152.370	208.358	91.100	0.000	0.000	0.000
Production Transition/Shutdown,											
BA07, APAF											
• PE 0401130F (3): <i>Organic</i>	20.364	26.522	21.344	0.000	21.344	6.534	2.621	0.000	0.000	0.000	0.000
Depot, APAF											
• PE 0401130F (4): <i>MilCon,</i>	12.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Facilities											

D. Acquisition Strategy

The C-17 Acquisition Strategy is based on several separate contracts to support the entire scope of the C-17 weapon system. These contracts are: 1) IDIQ contracts for the procurement of C-17s and engines beyond 180, including 43 aircraft included in the FY07 - FY10 Defense Appropriation Acts, and foreign orders that may materialize; 2) a Producibility Enhancement and Performance Improvement (PE/PI) contract to develop cost reduction changes, capability enhancements and design fixes to service-revealed problems - (RDT&E, APAF); 3) a Globemaster III Sustainment Partnership (field support) contract to support the current and future fielded aircraft - (O&M, TWCF); 4) an engine contract for Government Furnished Equipment (GFE) engines - (APAF); 5) a set of aircrew simulator and training contracts: one for aircrew simulators and one for training & concurrency upgrades; and 6) a maintenance training device contract for devices & concurrency upgrades. The simulator squadron is in the process of breaking out operations and maintenance services contracts for both aircrew and maintenance simulators - (APAF).

Two C-17 Defense Acquisition Board (DAB) decisions, contained in the 3 Nov 95 and 1 Feb 96 USD(A&T) Acquisition Decision Memoranda (ADM), directed the Air Force to proceed with a 120-aircraft production program. The Air Force proceeded with procuring 40 aircraft followed by an 80-aircraft MYP program (along with engines to support them). Sixty additional C-17s were programmed at the end of the 80-aircraft MYP to meet requirements not included in the 120 aircraft program. The FY07 Defense Appropriations Act provided funding for 10 aircraft to bring the total fleet number to 190 aircraft. The FY08 GWOT supplement included funding for 15 additional aircraft and most recently, FY09 and FY10 Congressional action funded an additional 8 and 10 aircraft, respectively. The current USAF program of record is 223 aircraft (note: 1 of the 223 aircraft became the United States contribution to the Strategic Airlift Capability (SAC) consortium).

Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force 3A 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0401130F: C-17 Aircraft	PROJECT 672569: C-17 Aircraft
E. Performance Metrics		
Please refer to the Performance Base Budget Overview Book for Force performance goals and most importantly, how they contribute		plied and how those resources are contributing to Air

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

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

PE 0401130F: C-17 Aircraft

672569: C-17 Aircraft

Product Development (\$ in Millions)

				FY 2	010	FY 2 Ba		FY 2		FY 2011 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
Boeing	Various	Boeing Long Beach, CA	7,118.161	140.464	Oct 2009	159.173	Oct 2010	0.000		159.173	612.954	8,030.752	0.000
		Subtotal	7,118.161	140.464		159.173		0.000		159.173	612.954	8,030.752	0.000

Remarks

Support (\$ in Millions)

	•												
				FY 2011 FY 2010 Base			FY 2011 OCO		FY 2011 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
Mission Support OGC	Various	Wright-Patterson AFB OH	118.029	9.591	Oct 2009	6.039	Oct 2010	0.000		6.039	29.629	163.288	0.000
		Subtotal	118.029	9.591		6.039		0.000		6.039	29.629	163.288	0.000

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

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

PE 0401130F: C-17 Aircraft

672569: C-17 Aircraft

Test and Evaluation (\$ in Millions)

					:010	FY 2011 Base			FY 2011 FY OCO 1				
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
Combined Test Force	РО	Edwards AFB CA	374.475	11.800	Oct 2009	12.000	Oct 2010	0.000		12.000	50.600	448.875	0.000
JPADS	РО	Various Various	4.350	0.000		0.000		0.000		0.000	0.000	4.350	0.000
SPRO (Army funds for testing)	PO	Various Various	11.061	0.000		0.000		0.000		0.000	0.000	11.061	0.000
AFRL	РО	Wright-Patterson AFB OH	0.265	0.000		0.000		0.000		0.000	0.000	0.265	0.000
	_	Subtotal	390.151	11.800		12.000		0.000		12.000	50.600	464.551	0.000

Remarks

	Total Prior Years Cost	FY 2010		2011 ase	FY 2	2011 CO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7,626.341	161.855	177.212		0.000		177.212	693.183	8,658.591	0.000

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Total Prior Years Cost may include only FY 2009 data.

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

APPROPRIATION/BUDGET ACTIVITY

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

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0401130F: *C-17 Aircraft*

PROJECT

672569: C-17 Aircraft

DATE: February 2010

C-17 Program Schedule

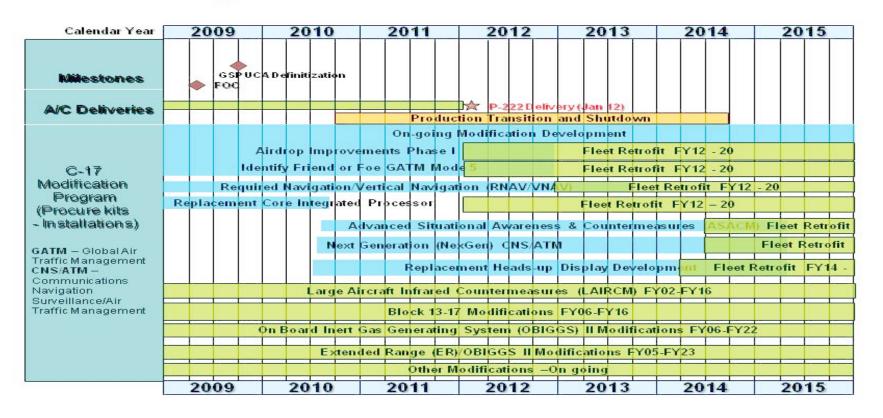


Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE PROJECT**

3600: Research, Development, Test & Evaluation, Air Force PE 0401130F: *C-17 Aircraft* 672569: C-17 Aircraft BA 7: Operational Systems Development

Schedule Details

	St	art	Eı	nd
Event	Quarter	Year	Quarter	Year
Incremental Funding of Ongoing Performance Improvement Projects (Boeing)	1	2009	3	2011
Adv Situational Awareness & Countermeasures (ASACM) Contract Award / Incremental Funding (FY11); responsibility for execution of the cross-platform ASACM project has moved to the LAIRCM Squadron	3	2010	1	2011
Replacement HUD Contract Award / Incremental Funding (FY11)	4	2010	1	2011
Next Gen CNS/ATM - Phase I Contract Award / Incremental Funding (FY11)	4	2010	1	2011
Incremental Funding of IFF CNS/ATM Mode 5 Contract	1	2009	1	2011
Incremental Funding of Rnav/Vnav & Baro Vnav Capability Contract	1	2009	1	2011
Incremental Funding of Flight Testing	1	2009	1	2011