PE NUMBER: 0207268F
PE TITLE: Aircraft Engine Component Improvement Program (CIP)

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2005

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0207268F Aircraft Engine Component Improvement Program (CIP)

	Cost ($ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	169.947	164.150	153.265	151.722	155.692	158.632	162.996	167.425	Continuing	TBD
1012	Aircraft Engine Component Improvement Program	169.947	164.150	153.265	151.722	155.692	158.632	162.996	167.425	Continuing	TBD

The FY03 National Defense Authorization Act (NDAA) language directed T&E centers to charge only direct costs beginning in FY06; this resulted in a zero-balance (ZBT) of funding over the FYDP from the customer accounts (for indirect test costs) to T&E support, PE 65807F.

(U) A. Mission Description and Budget Item Justification

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical sustaining engineering support for in-service Air Force engines throughout their service life. The program's highest priority is to maintain flight safety. Engine CIP corrects service revealed deficiencies and reduces total ownership costs (RTOC). Additional goals include improved system Operational Readiness (OR) and Reliability and Maintainability (R&M). Historically, aircraft systems change missions, tactics, and environments to meet changing threats throughout their lives. Numerous new problems can develop in the engines through actual use and Engine CIP provides the only funds to develop fixes for these field problems. Engine CIP funding is driven by field events and types/maturity of engines, not by the total engine quantity. Engine CIP starts with delivery of the first production engine purchased with procurement funds, and continues over the engine's life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. Engine CIP addresses out-of-warranty usage/life and enables the Air Force to obtain additional warranties when manufacturers incorporate Engine CIP improvements into production engines. Since operational and safety problems arise throughout a system's service life, Engine CIP must be maintained at a level to provide the engineering support to make the changes essential for continued satisfactory system performance at affordable costs. Engine CIP ensures continued improvements in engine R&M factors, which reduce outyear support costs. Historically, R&M related Engine CIP efforts significantly reduce outyear Operations and Maintenance (O&M) and spares costs. Air Force Major Commands assume a viable Engine CIP effort is in place when submitting their budget requests for O&M and engine spares. Without the outyear cost avoidance provided by Engine CIP, outyear support funding would have to be significantly increased.

This program is in budget activity 7 - Operational System Development, because all efforts support fielded systems.

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207268F Aircraft Engine Component Improvement Program (CIP)

(U) B. Program Change Summary ($ in Millions)

		FY 2004	FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	178.582	165.609	186.996	166.113
(U)	Current PBR/President's Budget	169.947	164.150	153.265	151.722
(U)	Total Adjustments	-8.635	-1.459		
(U)	Congressional Program Reductions		-1.459		
	Congressional Rescissions				
	Congressional Increases				
	Reprogrammings	-3.239			
	SBIR/STTR Transfer	-5.396			

(U) Significant Program Changes:

FY2006 and FY2007 decreased to support higher Air Force priorities and the Test & Eval (T&E) Funding Realignment Policy.

Exhibit R-2a, RDT&E Project Justification

DATE: February 2005

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0207268F Aircraft Engine Component Improvement Program (CIP)

PROJECT NUMBER AND TITLE: 1012 Aircraft Engine Component Improvement Program

Cost ($ in Millions)		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
1012	Aircraft Engine Component Improvement Program	169.947	164.150	153.265	151.722	155.692	158.632	162.996	167.425	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical sustaining engineering support for in-service Air Force engines throughout their service life. The program's highest priority is to maintain flight safety. Engine CIP corrects service revealed deficiencies and reduces total ownership costs (RTOC). Additional goals include improved system Operational Readiness (OR) and Reliability and Maintainability (R&M). Historically, aircraft systems change missions, tactics, and environments to meet changing threats throughout their lives. Numerous new problems can develop in the engines through actual use and Engine CIP provides the only funds to develop fixes for these field problems. Engine CIP funding is driven by field events and types/maturity of engines, not by the total engine quantity. Engine CIP starts with delivery of the first production engine purchased with procurement funds, and continues over the engine's life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. Engine CIP addresses out-of-warranty usage/life and enables the Air Force to obtain additional warranties when manufacturers incorporate Engine CIP improvements into production engines. Since operational and safety problems arise throughout a system's service life, Engine CIP must be maintained at a level to provide the engineering support to make the changes essential for continued satisfactory system performance at affordable costs. Engine CIP ensures continued improvements in engine R&M factors, which reduce outyear support costs. Historically, R&M related Engine CIP efforts significantly reduce outyear Operations and Maintenance (O&M) and spares costs. Air Force Major Commands assume a viable Engine CIP effort is in place when submitting their budget requests for O&M and engine spares. Without the outyear cost avoidance provided by Engine CIP, outyear support funding would have to be significantly increased.

This program is in budget activity 7 - Operational System Development, because all efforts support fielded systems.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U) Continuing CIP tasks (such as, but not limited to, improvement, support equipment, and repair tasks)	148.676	130.970	141.150	132.809
(U) Continuing engine testing (such as, but not limited to, altitude, sea level, and flight tests) NOTE: FY06/07 test dollars decreased due to Test & Eval (T&E) Funding Realignment Policy (e.g. reduced FY06 $13.183M and FY07 $9.395M).	15.106	26.275	7.517	14.361
(U) Continuing mission support	6.165	6.905	4.598	4.552
(U) Total Cost	169.947	164.150	153.265	151.722

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

	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) AF RDT&E										
(U) Other APPN										

Exhibit R-2a, RDT&E Project Justification		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0207268F Aircraft Engine Component Improvement Program (CIP)**	PROJECT NUMBER AND TITLE **1012 Aircraft Engine Component Improvement Program**

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

RELATED ACTIVITIES:

(U) - PEs # 0604268A and #0604268N, Army/Navy Aircraft Engine CIPs for prior years

(U) - PEs # 0203752A and #0205633N, Army/Navy Aircraft Engine CIPs for FY 1996 and following years

(U) D. Acquisition Strategy

Contracts within this Program Element are awarded sole source to engine manufacturers, and CIP tasks are generally assigned to original engine manufacturers based on available funding and prioritization of candidate tasks.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2005**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0207268F Aircraft Engine Component Improvement Program (CIP)**

PROJECT NUMBER AND TITLE: **1012 Aircraft Engine Component Improvement Program**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development														
GE-Evandale, OH	CPAF			56.308	Jan-04	49.136	Jan-05	52.640	Jan-06	46.506	Jan-07	Continuing	TBD	
Pratt & Whitney	CPAF			80.298	Jan-04	72.685	Jan-05	77.858	Jan-06	75.064	Jan-07	Continuing	TBD	
GE-Lynn, MA	CPFF			5.798	Jan-04	4.736	Jan-05	4.789	Jan-06	4.227	Jan-07	Continuing	TBD	
Rolls Royce/Allison	CPFF			1.672	Jan-04	1.191	Jan-05	1.749	Jan-06	1.295	Jan-07	Continuing	TBD	
Teledyne	CPFF			1.569	Jan-04	0.769	Jan-05	0.657	Jan-06	0.754	Jan-07	Continuing	TBD	
Honeywell	CPFF			1.523	Jan-04	1.403	Jan-05	2.181	Jan-06	3.161	Jan-07	Continuing	TBD	
Williams International	CPFF			1.472	Jan-04	1.050	Jan-05	0.904	Jan-06	0.972	Jan-07	Continuing	TBD	
Hamilton/Sundstrand	CPFF			0.036	Jan-04	0.000	Jan-05	0.372	Jan-06	0.830	Jan-07	Continuing	TBD	
Subtotal Product Development			0.000	148.676		130.970		141.150		132.809		Continuing	TBD	0.000
Remarks:														
(U) Support														
In House Support/ Misc				6.165		6.905		4.598		4.552		Continuing	TBD	
Subtotal Support			0.000	6.165		6.905		4.598		4.552		Continuing	TBD	0.000
Remarks:														
(U) Test & Evaluation														
AFFTC-Edwards AFB, CA				3.656		5.950		0.000		1.964		Continuing	TBD	
AEDC-Arnold AFB, TN				11.450		20.325		7.517		12.397		Continuing	TBD	
Subtotal Test & Evaluation			0.000	15.106		26.275		7.517		14.361		Continuing	TBD	0.000
Remarks:														
(U) Management														
													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			0.000	169.947		164.150		153.265		151.722		Continuing	TBD	0.000

Footnote: Total prior to FY 2003 is not reflected above because the program was funded in procurement through FY 1979 and RDT&E funding began in FY 1980.

Exhibit R-4, RDT&E Schedule Profile		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0207268F Aircraft Engine Component Improvement Program (CIP)**	PROJECT NUMBER AND TITLE **1012 Aircraft Engine Component Improvement Program**

Not Applicable. Engine CIP is a continuing engineering support program that funds 300-400 separate engineering tasks per year.

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0207268F Aircraft Engine Component Improvement Program (CIP)**	PROJECT NUMBER AND TITLE **1012 Aircraft Engine Component Improvement Program**

(U) Schedule Profile

	FY 2004	FY 2005	FY 2006	FY 2007
(U) Not applicable. CIP is a continuing engineering support program that funds 300-400 separate engineering tasks per year.	1-4Q	1-4Q	1-4Q	1-4Q