Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.800	0.898	0.315	-	0.315	0.387	0.370	0.331	0.145	Continuing	Continuing
106: *A/C COMPON IMPROV PROG*	-	0.800	0.898	0.315	-	0.315	0.387	0.370	0.331	0.145	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

The Aircraft Engine Component Improvement Program (CIP) is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. CIP is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.822	0.898	0.423	-	0.423
Current President's Budget	0.800	0.898	0.315	-	0.315
Total Adjustments	-0.022	0.000	-0.108	-	-0.108
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.022	-			
• Other Adjustments 1	-	-	-0.108	-	-0.108

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
106: *A/C COMPON IMPROV PROG*	-	0.800	0.898	0.315	-	0.315	0.387	0.370	0.331	0.145	Continuing	Continuing
Quantity of RDT&E Articles												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

The Aircraft Engine Component Improvement Program (CIP) is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: T700 Engine	0.321	0.349	0.100
Articles:	0	0	

Description: Majority of funding for this program has been reallocated to PE 273744. Previously, this program addressed flight safety and readiness problems that arise in the field by providing timely engineering support, continued the development of the T700-GE-701D, provided engineering support of fielded engines to enhance war fighting capability and improve durability and reliability while reducing cost of ownership.

FY 2012 Accomplishments:

Continued the overspeed and burst qualification test effort and finished the heat rejection report for the T700-GE-701D engine. Started the qualification report effort for the Improved Durability (Ruggedized) Blisk which will increase engine time on wing.

FY 2013 Plans:

Will start efforts to perform an instrumented engine test to measure gas generator turbine hardware metal temperatures. Will evaluate clean air combustor shield hardware for redesign effort

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Will continue an instrumented engine test to measure gas generator turbine hardware metal temperatures. Will evaluate clean air combustor shield hardware for redesign effort.			
Title: T55 Engine	0.299	0.349	0.100
Articles:	0	0	
Description: Provide timely support to field users, applying engineering effort to resolve unanticipated flight safety problems revealed in the field. Continue the engineering support of fielded engines to enhance war-fighting capability, improve durability and reliability while reducing CH-47 engine cost of ownership. ***FY 2012 Accomplishments:*** Continued the 1553 ECU effort for F Model incorporation. ***FY 2013 Plans:*** Will continue ECU Software Block Update to improve ECU functionality and address field software issues ***FY 2014 Plans:*** Will complete ECU Software Block Update to improve ECU functionality and address field software issues			
Title: GTCP36 Auxiliary Power Unit (APU)	0.030	0.030	0.015
Articles:	0	0	
Description: Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2012 Accomplishments:*** Addressed service revealed deficiencies that affect safe operation of the GTCP 36 series APUs. ***FY 2013 Plans:*** Will coontinue formulating correlation factors to published life limits and will address service revealed deficiencies that affect safe operation of the GTCP 36 APU ***FY 2014 Plans:*** Will complete formulating correlation factors to published life limits and will address service revealed deficiencies that affect safe operation of the GTCP 36 APU.			
Title: T62 Auxiliary Power Unit (APU)	0.030	0.030	0.020
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2012 Accomplishments:*** Finished the qualification tests for the Flex Fuel Manifolds. Address service revealed deficiencies affecting safe operation of the T-62T series APUs. ***FY 2013 Plans:*** Will continue to address service revealed deficiencies affecting safe operation of US Army APUs ***FY 2014 Plans:*** Will continue to address service revealed deficiencies affecting safe operation of US Army APUs.			
Title: UAV Shadow Engine	0.070	0.060	0.020
Articles:	0	0	
Description: UAV Shadow Engine Investigation at U.S. Army Research Laboratory (ARL) Cleveland: US Army Vehicle Technology Directorate (VTD) at ARL Cleveland. Provide research to support airworthiness, reliability and performance improvements of the Unmanned Aerial Vehicle (UAV) shadow engine. Investigate and research the technology challenges (i.e. engine performance, engine durability, engine life, and engine modifications) for reliable engine operation using JP-8 fuel and readily available MIL-spec lubricants. ***FY 2012 Accomplishments:*** Continued to research improvements to address service related deficiencies. ***FY 2013 Plans:*** Will continue to research improvements to address service related deficiencies to improve safety and reduce O&S costs. ***FY 2014 Plans:*** Will continue to research improvements to address service related deficiencies to improve safety and reduce O&S costs.			
Title: In-House Support	0.050	0.080	0.060
Articles:	0	0	
Description: In-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2012 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Provided in-house support for the CIP engineers and contracting support for CIP contracts. ***FY 2013 Plans:*** Will continue to provide in-house support for the CIP engineers and contracting support for CIP contracts ***FY 2014 Plans:*** Will continue to provide in-house support for the CIP engineers and contracting support for CIP contracts.			
Accomplishments/Planned Programs Subtotals	0.800	0.898	0.315

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Improved designs will be implemented via Engineering Change Proposal (ECP) and follow-on procurement or modification to a production contract to introduce the improved hardware.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house Engineering	WR	AMRDEC:Redstone Arsenal, AL	2.250	0.050	Dec 2011	0.080	Jan 2013	0.060	Jan 2014	-		0.060	Continuing	Continuing	Continuing
		Subtotal	2.250	0.050		0.080		0.060		0.000		0.060			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T700 Engine	SS/IDIQ	GE-Air:Lynn, MA	61.311	0.321	Feb 2012	0.349	Jan 2013	0.100	Jan 2014	-		0.100	Continuing	Continuing	Continuing
T55 Engine	SS/IDIQ	Honeywell:Phoenix, AZ	29.262	0.299	Feb 2012	0.349	Jan 2013	0.100	Jan 2014	-		0.100	Continuing	Continuing	Continuing
APU's	SS/IDIQ	Air Force:Kelly AFB, TX	13.647	-		-		0.015	Jan 2014	-		0.015	Continuing	Continuing	0.000
UAV Shadow Engine	Various	ARL-Vehicle Technology Directorate:TBD	0.067	0.070	Feb 2012	0.060	Jan 2013	0.020	Jan 2014	-		0.020	Continuing	Continuing	0.000
APU's	SS/IDIQ	Air Force:Hill AFB, UT	2.259	0.060	Feb 2012	0.060	Jan 2013	0.020	Jan 2014	-		0.020	Continuing	Continuing	Continuing
		Subtotal	106.546	0.750		0.818		0.255		0.000		0.255			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T-62T-2B Vibration Test	Various	Redstone Technical Text Center:Redstone Arsenal, AL	0.050	-		-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.050	0.000		0.000		0.000		0.000		0.000			0.000

Remarks

Not Applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	108.846	0.800		0.898		0.315		0.000		0.315			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

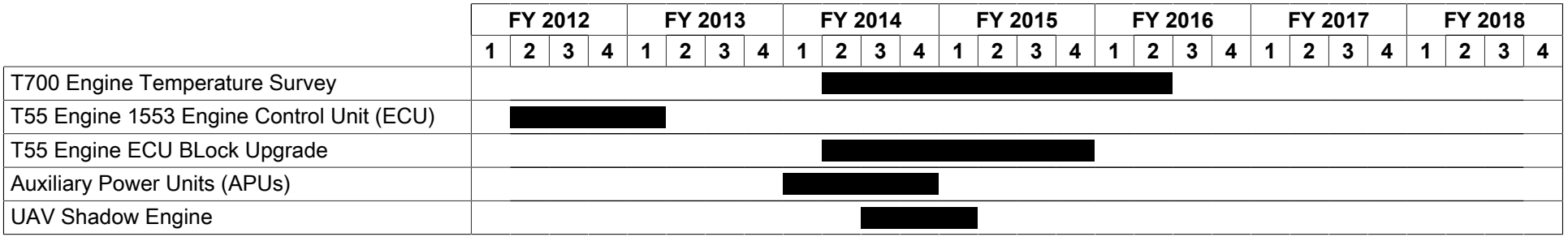

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
T700 Engine Temperature Survey	2	2014	2	2016
T55 Engine 1553 Engine Control Unit (ECU)	2	2012	1	2013
T55 Engine ECU BLock Upgrade	2	2014	4	2015
Auxiliary Power Units (APUs)	1	2014	4	2014
UAV Shadow Engine	3	2014	1	2015