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

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

2040: Research, Development, Test & Evaluation, Army

BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603801A: Aviation - Adv Dev

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	7.223	8.492	8.355	0.000	8.355	7.704	9.085	8.705	7.808	Continuing	Continuing
B32: ADV MAINT CONCEPTS/EQ	7.223	8.492	8.355	0.000	8.355	7.704	9.085	8.705	7.808	Continuing	Continuing

Note

Not applicable for this item

A. Mission Description and Budget Item Justification

This PE provides advanced development aviation support of tactical programs associated with air mobility, advanced maintenance concepts and equipment, and Aircrew Integrated Systems (ACIS). This program demonstrates the feasibility and maturity of new technology and gains understanding in order to evaluate utility of this technology to expedite delivery of new capabilities for Army Aviation rotary wing assets. Additionally, the Aviation Ground Support Equipment (AGSE) assets enhance the functionality of current and future aircraft by improving the effectiveness of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, improve aircraft maintenance processes, reduce Operation and Support (O&S) cost and insert diagnostics technologies to replace obsolete and unsupportable equipment.

B. Program Change Summary (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	9.822	8.537	8.399	0.000	8.399
Current President's Budget	7.223	8.492	8.355	0.000	8.355
Total Adjustments	-2.599	-0.045	-0.044	0.000	-0.044
 Congressional General Reductions 		-0.045			
 Congressional Directed Reductions 		0.000			
 Congressional Rescissions 	0.000	0.000			
 Congressional Adds 		0.000			
 Congressional Directed Transfers 		0.000			
 Reprogrammings 	-2.324	0.000			
• SBIR/STTR Transfer	-0.275	0.000			
 Adjustments to Budget Years 	0.000	0.000	-0.044	0.000	-0.044

DATE: February 2010

Exhibit K-2A, KD1 &E 110Ject Justincauon. 1 D 2011 Army						DATE. Peul	uary 2010				
APPROPRIATION/BUDGET ACTI	VITY			R-1 ITEM NOMENCLATURE			PROJECT				
2040: Research, Development, Test & H	Evaluation, Ar	my	PE 0603801A: Aviation - Adv Dev				B32: ADV MAINT CONCEPTS/EQ				
BA 4: Advanced Component Developm	ent & Prototy	pes (ACD&P))								
COST (\$ in Millions)	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To	
COST (# III MINIS)	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	Total Cost
B32: ADV MAINT CONCEPTS/EQ	7.223	8.492	8.355	0.000	8.355	7.704	9.085	8.705	7.808	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Exhibit R-2A RDT&F Project Justification: PR 2011 Army

This PE provides advanced development aviation support of programs that include advanced maintenance concepts and equipment. The FY 2011 budget request funds Aviation Advanced Development which supports Aviation Ground Support Equipment development prototypes that will enhance the functionality of current and future aircraft by improving the effectiveness of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, improve aircraft maintenance processes, reduce Operation and Support (O&S) cost, and insert diagnostics technologies to replace obsolete and unsupportable equipment. This program provides for development of rapid battle repair procedures, tools development to speed the return of aircraft to a full mission status and development of new equipment for aerial recovery of damaged aircraft. Included in this program are projects such as: diagnostics/prognostic monitoring systems, Battle Damage Assessment and Repair (BDAR) Block II procedures and tools, Flexible Engine Diagnostic System (FEDS), Unit Maintenance Aerial Recovery Kit (UMARK), Aviation Light Utility Mobile Maintenance Cart (ALUMMC), Shop Equipment Contact Maintenance (SECM), Aviation - Sets, Kits, Outfits and Tools (A-SKOT) redesign, development of the modular Aviation Ground Power Unit (AGPU), Hand Held Fire Extinguisher (HHFE), and development support for tools needed to provide maintenance support to modernized/future force aircraft.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	1.110	0.750	0.830	0.000	0.830
Hand Held Fire Extinguisher (HHFE)					
FY 2009 Accomplishments: FY 2009					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603801A: Aviation - Adv Dev		PROJECT B32: ADV M	PROJECT B32: <i>ADV MAINT CONCEPTS/EQ</i>		
B. Accomplishments/Planned Program (\$ in Millions)	'		1			
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #2		0.300	0.400	0.000	0.000	0.000
Battle Damage Assessment and Repair System (BDAR) Block II						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #3		0.450	0.000	0.000	0.000	0.000
Standard Aircraft Towing System (SATS)						

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603801A: Aviation - Adv Dev	PROJECT B32: ADV MAINT CONCEPTS/EQ
B. Accomplishments/Planned Program (\$ in Millions)		

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
rogram #4 Flexible Engine Diagnostics (FEDS)	1.542	3.079	0.400	0.000	0.400
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #5	1.056	0.219	1.290	0.000	1.290

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			1	DATE: Febr	ruary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603801A: <i>Aviation - Adv Dev</i>		PROJECT B32: ADV MAINT CONCEPTS/EQ			
B. Accomplishments/Planned Program (\$ in Millions)			1			
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Shop Equipment Contact Maintenance (SECM)						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #6		0.000	1.985	1.095	0.000	1.095
Aviation Ground Power Unit (AGPU)						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: Febr	uary 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603801A: Aviation - Adv Dev		PROJECT B32: ADV M	IAINT CONC	EPTS/EQ	
B. Accomplishments/Planned Program (\$ in Millions)			•			
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #7		0.000	0.224	0.705	0.000	0.705
Aviation Light Utility Mobile Maintenance Cart (ALUMMC)						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #8		0.900	0.604	1.898	0.000	1.898
Unit Maintenance Aerial Recovery Kit (UMARK)						
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						

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FY 2011 Base Plans: FY 2011 Base

FY 2011 OCO Plans: FY 2011 OCO

Exhibit R-2A, RDT&E Project Justification: PB 2011 Army					DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603801A: <i>Aviation - Adv Dev</i>			AINT CONC	CONCEPTS/EQ		
B. Accomplishments/Planned Program (\$ in Millions)							
				FY 2011	FY 2011	FY 2011	

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #9	1.163	0.000	1.117	0.000	1.117
Aviation - Sets, Kits, Outfits and Tools (A-SKOT)					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #10	0.354	0.146	0.501	0.000	0.501
Management Support Services					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army	DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	TEM NOMENCLATURE PROJECT		
2040: Research, Development, Test & Evaluation, Army	PE 0603801A: Aviation - Adv Dev	B32: ADV M	IAINT CONCEPTS/EQ	
BA 4: Advanced Component Development & Prototypes (ACD&P)				

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #11	0.112	0.273	0.317	0.000	0.317
Technical Engineering Services					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #12	0.236	0.575	0.202	0.000	0.202
RDTE Project Test Support					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army **DATE:** February 2010 APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE PROJECT**

2040: Research, Development, Test & Evaluation, Army

PE 0603801A: Aviation - Adv Dev

BA 4: Advanced Component Development & Prototypes (ACD&P)

B32: ADV MAINT CONCEPTS/EQ

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #13	0.000	0.237	0.000	0.000	0.000
Small Business Innovative Research (SBIR)/ Small Business Technology Transfer Programs (STTR)					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	7.223	8.492	8.355	0.000	8.355

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

			FY 2011	FY 2011	FY 2011					Cost To	
<u>Line Item</u>	FY 2009	FY 2010	Base	<u>OCO</u>	<u>Total</u>	FY 2012	FY 2013	FY 2014	FY 2015	Complete	Total Cost
• Ord. #1: Aircraft Procurement,	95.726	111.110	76.129	65.627	141.756	176.525	117.618	99.565	101.261	Continuing	Continuing
Army(APA) SSN AZ3100											

D. Acquisition Strategy

This project is an aggregate of advanced maintenance concepts related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program documentation for milestone decision is prepared, as appropriate, concurrently with the development effort.

APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P) 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 M	
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 M	CEPTS/EQ
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated M	2010
	ay 2010.

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

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603801A: Aviation - Adv Dev

B32: ADV MAINT CONCEPTS/EQ

Product Development (\$ in Millions)

				FY	2010	FY 2011 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
ННГЕ	C/Various	AEC Aberdeen Proving Ground, MD,AMCOM G-4, Redstone A	1.145	0.750		0.830		0.000		0.830	Continuing	Continuing	0
BDAR BLOCK II	С	AMRDEC Redstone Arsenal, AL.	0.230	0.400		0.000		0.000		0.000	Continuing	Continuing	.930
SATS	С	AMCOM Redstone Arsenal, AL; AATD, Ft Eustis, VA.	2.196	0.000		0.000		0.000		0.000	Continuing	Continuing	2.545
FEDS	C/Various	AMRDEC Redstone Arsenal AL; RTTC, Redstone Arsenal, AL.	1.837	3.079		0.400		0.000		0.400	Continuing	Continuing	6.858
SECM	C/Various	TACOM Detroit, MI; ATEC, Alexandria, VA; ARDEC, Picatin	3.653	0.219		1.290		0.000		1.290	Continuing	Continuing	0
ALUMMC	С	AATD Ft. Eustis, VA.	0.000	0.224		0.705		0.000		0.705	Continuing	Continuing	0
AGPU	C/Various	AMDREC Redstone Arsenal, AL;UAH, Huntsville, AL	10.236	1.985		1.095		0.000		1.095	Continuing	Continuing	0

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

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

2040: Research, Development, Test & Evaluation, Army

BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0603801A: Aviation - Adv Dev

PROJECT

B32: ADV MAINT CONCEPTS/EQ

Product Development (\$ in Millions)

				FY 2010		FY 2011 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
UMARK	C/Various	AMRDEC Redstone Arsenal, AL; UAH, Huntsville, AL	1.163	0.604		1.898		0.000		1.898	Continuing	Continuing	3.512
A-SKOT	C/Various	RDECOM Ft Monmouth NJ; AMRDEC, Redstone Arsenal, AL; BEL	1.040	0.000		1.117		0.000		1.117	Continuing	Continuing	0
		Subtotal	21.500	7.261		7.335		0.000		7.335			13.845

Remarks

Support (\$ in Millions)

T. P. C.				FY	2010		2011 ase		2011 CO	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
Technical Engineering Services	С	AATD Ft Eustis, VA	5.976	0.273		0.317		0.000		0.317	Continuing	Continuing	0
		Subtotal	5.976	0.273		0.317		0.000		0.317			0.000

Remarks

None

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

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603801A: Aviation - Adv Dev

B32: ADV MAINT CONCEPTS/EQ

Test and Evaluation (\$ in Millions)

FY 2010			FY 2011 FY 2010 Base			FY 2	2011 CO	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
RDT&E Project Test Support	С	AEC Aberdeen Proving Ground, MD	0.512	0.575		0.202		0.000		0.202	Continuing	Continuing	0
		Subtotal	0.512	0.575		0.202		0.000		0.202			0.000

Remarks

None

Management Services (\$ in Millions)

				FY :	FY 2010		FY 2011 Base		FY 2011 OCO				
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
Management Support Services	С	AGSE Redstone Arsenal, AL; Science Applications Intl C	2.549	0.146		0.501		0.000		0.501	Continuing	Continuing	0
SBIR/STTR Reductions	С	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.237		0.000		0.000		0.000	Continuing	Continuing	0
		Subtotal	2.549	0.383		0.501		0.000		0.501			0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603801A: Aviation - Adv Dev	PROJECT B32: ADV MAINT CONCEPTS/EQ
Management Services (\$ in Millions)		

				FY :	2010		2011 ase	FY O	2011 CO	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

Remarks

None

	Total Prior Years Cost	FY	2010	FY 2011 Base		2011 CO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
					_					0 0
Project Cost Totals	30.537	8.492		8.355	0.000		8.355			13.845

Remarks

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

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

2040: Research, Development, Test & Evaluation, Army BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603801A: Aviation - Adv Dev

B32: ADV MAINT CONCEPTS/EQ

	FY 2009		FY 2010			FY 2011			FY 2012			FY 2013			FY 2014			J	FY 2015									
	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
Aviation Light Utility Mobile Maintenance Cart					#	#	#	#	#	#	#	#	#	#	#													

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
2040: Research, Development, Test & Evaluation, Army	PE 0603801A: Aviation - Adv Dev	B32: ADV M	AINT CONCEPTS/EQ
BA 4: Advanced Component Development & Prototypes (ACD&P)			

Schedule Details

	Sta	art	End			
Event	Quarter	Year	Quarter	Year		
Aviation Light Utility Mobile Maintenance Cart	1	2010	3	2012		