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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development					PE 0607135A / Apache Product Improvement Program							
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	86.099	65.562	66.441	-	66.441	59.786	31.203	32.746	37.515	0.000	379.352
ES2: Apache Product Improvement Program	-	86.099	65.562	66.441	-	66.441	59.786	31.203	32.746	37.515	0.000	379.352

Note

Funds in this program were realigned in FY 2015 from Program Element 0203744A Aircraft Modifications/Product Improvement Programs, Project D17, for more efficient program management.

A. Mission Description and Budget Item Justification

The Fiscal Year (FY) 2017 budget request for Apache AH-64E, previously known as Apache Block III, will fund the non-recurring engineering (NRE), development, and testing work associated with the planned remanufacture and new build of 690 Apache aircraft in the AH-64E configuration (deliveries began in Oct 2011). The AH-64E program consists of two Major Defense Acquisition Programs (MDAP), AH-64E Remanufacture and AH-64E New Build. This project also addresses obsolescence and reliability challenges and provides increased combat capability to the aircraft. Upgrades include: Unmanned Aircraft System (UAS) Level III-IV Control, Improved Situational Awareness, Upgraded Communications Suite, Improved Drive and Propulsion Systems, Improved Targeting Capability, Increased Computer Processing Capability and Speed, Improved Navigation Systems, Improved Diagnostics and Maintainability, and Joint Air to Ground Missile (JAGM) integration. Upgrades are integrated as incremental block modifications. The program addresses operational shortfalls identified during real-world combat missions and meets Longbow Apache Capability Production Document (CPD) requirements for modernization.

B. Program Change Summary (\$ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	86.099	69.862	66.131	-	66.131
Current President's Budget	86.099	65.562	66.441	-	66.441
Total Adjustments	0.000	-4.300	0.310	-	0.310
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-4.300			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.310	-	0.310

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army										Date: February 2016		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0607135A / Apache Product Improvement Program					Project (Number/Name) ES2 / Apache Product Improvement Program		
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
ES2: Apache Product Improvement Program	-	86.099	65.562	66.441	-	66.441	59.786	31.203	32.746	37.515	0.000	379.352
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funds in this program were realigned in FY 2015 from Program Element 0203744A Aircraft Modifications/Product Improvement Programs Project ES2, Project D17, for more efficient program management.

A. Mission Description and Budget Item Justification

The Fiscal Year (FY) 2017 budget request for Apache AH-64E, previously known as Apache Block III, will fund the non-recurring engineering (NRE), development, and testing work associated with the planned remanufacture and new build of 690 Apache aircraft in the AH-64E configuration (deliveries began in Oct 2011). The AH-64E program consists of two Major Defense Acquisition Programs (MDAP), AH-64E Remanufacture and AH-64E New Build. This project also addresses obsolescence and reliability challenges and provides increased combat capability to the aircraft. Upgrades include: Unmanned Aircraft System (UAS) Level III-IV Control, Improved Situational Awareness, Upgraded Communications Suite, Improved Drive and Propulsion Systems, Improved Targeting Capability, Increased Computer Processing Capability and Speed, Improved Navigation Systems, Improved Diagnostics and Maintainability, and Joint Air to Ground Missile (JAGM) integration. Upgrades are integrated as incremental block modifications. The program addresses operational shortfalls identified during real-world combat missions and meets Longbow Apache Capability Production Document (CPD) requirements for modernization.

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

	FY 2015	FY 2016	FY 2017
Title: Product Development	75.377	62.628	56.551
Description: Funding is provided for the following efforts by Boeing and Longbow Limited Liability (LBL).			
FY 2015 Accomplishments: Developed, Integrated & Tested work associated with the planned remanufacture and new build of Apache aircraft in the AH-64E Version 6 configuration (joint interoperability, crashworthy fuel tank kits, embedded diagnostics, communications, mission processor, and navigation upgrades) and to enhance operational capabilities. Risk reduction for Version 6 CPD capabilities to include cognitive decision aiding, soldier radio waveform, modernized dayside assembly, modernized radio frequency interferometer, maritime targeting, and radar upgrades. Provided NRE for design of the Hydra Launcher Electronics Assembly for development of the Material Requirements List (MRL).			
FY 2016 Plans: Development, Integration & Testing work associated with the planned remanufacture and new build of Apache aircraft in the AH-64E Version 6 configuration (joint interoperability, crashworthy fuel tank kits, embedded diagnostics, communications, mission			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
processor, and navigation upgrades) and to enhance operational capabilities. Risk reduction for Version 6 CPD capabilities to include cognitive decision aiding, soldier radio waveform, modernized dayside assembly, modernized radio frequency interferometer, maritime targeting, and radar upgrades. FY 2017 Plans: Development, Integration & Testing work associated with the planned remanufacture and new build of Apache aircraft in the AH-64E Capability Version 6 configuration (cognitive decision aiding, soldier radio waveform, modernized dayside assembly, modernized radio frequency interferometer, maritime targeting, and radar upgrades) and to enhance operational capabilities, and JAGM integration.				
Title: Support Costs Description: Funding is provided for the following effort. FY 2015 Accomplishments: Government Furnished Equipment (GFE) supported Apache AH-64E tests and government Research and Development (R&D) Facilities FY 2016 Plans: GFE supporting Apache AH-64E tests and government R&D Facilities FY 2017 Plans: GFE supporting Apache AH-64E tests and government R&D Facilities.		1.726	1.000	1.129
Title: Test and Evaluation Description: Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation. FY 2015 Accomplishments: Funding was provided for Development Testing and Evaluation and Operational Test and Evaluation, Government test oversight, test ranges, flight hour costs for MRL testing. FY 2016 Plans: Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation, Government test oversight, test ranges, flight hour costs for MRL testing. FY 2017 Plans: Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation.		3.700	1.200	6.500
Title: Management Services		5.296	0.734	2.261

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Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0607135A / Apache Product Improvement Program	Project (Number/Name) ES2 / Apache Product Improvement Program
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
<p>Description: Funding is provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.</p> <p>FY 2015 Accomplishments: Funding was provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.</p> <p>FY 2016 Plans: Funding is provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.</p> <p>FY 2017 Plans: Funding is provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.</p>			
Accomplishments/Planned Programs Subtotals	86.099	65.562	66.441

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

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• AA6605: AH-64 Mods	181.869	116.153	137.883	-	137.883	238.141	144.892	133.029	91.698	580.576	1,624.241
• A05111: AH-64 Apache Block IIIA Reman	1,123.347	1,353.391	1,066.284	-	1,066.284	1,082.004	1,179.269	1,123.219	998.718	5,407.894	13,334.126

Remarks

D. Acquisition Strategy

The NRE will encompass subsystem integration and will utilize existing test aircraft, incorporate the technical insertions, and initiate appropriate qualification and operational flight-testing.

In FY14, a contract for Apache AH-64E Lot 3, initiating Full Rate Production, was awarded with options for Lot 4 and will continue to a total of 690 remanufactured and new build aircraft.

Training device concurrency will be maintained with each technical insertion. The Engineering/Manufacturing Design (EMD) effort is managed as Cost Reimbursable. Production efforts will be awarded as Fixed Price Incentive (FPI) and include the Advance Procurement requirements.

In FY13, FY14, and FY15 MRL NRE encompassed US Government (USG) design of the Hydra Launcher Electronics Assembly (LEA), modification of the M261 launcher, launcher fabrication, and launcher testing.

In FY15-FY18, Apache AH-64E Version 6 System Development and Demonstration (SDD) Contract.

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Multi-year production authority has been requested for the out years.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 7				PE 0607135A / Apache Product Improvement Program				ES2 / Apache Product Improvement Program							
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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
Management Services (In-House, Travel, etc.)	MIPR	PMO AAH Matrix Support AMCOM Express : Redstone Arsenal, AL	0.000	5.296		0.734	Oct 2015	2.261	Oct 2016	-		2.261	3.480	11.771	0
Subtotal			0.000	5.296		0.734		2.261		-		2.261	3.480	11.771	0.000
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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
The Boeing Company	SS/CPIF	Boeing Contracts : Mesa, AZ	0.000	54.377	Apr 2015	62.628	Oct 2015	56.551	Oct 2016	-		56.551	49.286	222.842	0
Longbow Limited Liability (LBL) Contracts	SS/CPIF	Longbow Limited Liability (LBL) Contracts : Orlando, FL	0.000	9.000	Aug 2015	-		-		-		-	0	9.000	0
Ground Fire Acquisition Development (GFAD)	SS/CPIF	TBD : TBD	0.000	12.000		-		-		-		-	0	12.000	0
Subtotal			0.000	75.377		62.628		56.551		-		56.551	49.286	243.842	0.000
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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
Program Support Activities	MIPR	Various : Various	0.000	1.726		1.000	Oct 2015	1.129	Oct 2016	-		1.129	1.568	5.423	0
Subtotal			0.000	1.726		1.000		1.129		-		1.129	1.568	5.423	0.000

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0607135A / Apache Product Improvement Program	Project (Number/Name) ES2 / Apache Product Improvement Program
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
NRE Contracts - Boeing	NRE Contracts - Boeing																											
NRE Contracts - Longbow Limited Liability	NRE Contracts - LB Limited Liability																											
(1) MRL Prototypes & CDR																	1											
Force Develop Test & Evaluation (FDTE III)																												
(2) Follow-On Test & Eval II																												
MRL Integration and Test																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0607135A / Apache Product Improvement Program	Project (Number/Name) ES2 / Apache Product Improvement Program

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
NRE Contracts - Boeing	1	2011	3	2018
NRE Contracts - Longbow Limited Liability	1	2011	4	2016
MRL Prototypes & CDR	4	2014	1	2015
Force Develop Test & Evaluation (FDTE III)	1	2017	2	2017
Follow-On Test & Eval II	2	2017	1	2018
MRL Integration and Test	2	2015	4	2015

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