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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army										Date: May 2017		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0607135A I Apache Product Improvement Program							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	62.964	66.441	59.977	-	59.977	0.180	0.171	0.175	0.000	0.000	189.908
ES2: Apache Product Improvement Program	-	62.964	66.441	59.977	-	59.977	0.180	0.171	0.175	0.000	0.000	189.908

**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.

Funding for FY19-21 will be moved to the PE 677145, Project FD5 line.

**A. Mission Description and Budget Item Justification**

The Fiscal Year (FY) 2018 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>
Previous President's Budget	65.562	66.441	59.786	-	59.786
Current President's Budget	62.964	66.441	59.977	-	59.977
Total Adjustments	-2.598	0.000	0.191	-	0.191
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-4.300	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	1.702	-			
• Adjustments to Budget Years	0.000	0.000	0.191	-	0.191

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Army										Date: May 2017		
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
ES2: Apache Product Improvement Program	-	62.964	66.441	59.977	-	59.977	0.180	0.171	0.175	0.000	0.000	189.908
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.

Funding for FY19-21 will be moved to the PE 677145, Project FD5 line.

**A. Mission Description and Budget Item Justification**

The Fiscal Year (FY) 2018 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)**

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>
<b>Title:</b> Product Development	60.030	56.551	55.316	-	55.316
<b>Description:</b> Funding is provided for the following efforts by Boeing.					
<b>FY 2016 Accomplishments:</b>					
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 processor, and navigation upgrades) and to enhance operational capabilities. Risk reduction for Version 6 CPD capabilities to include cognitive decision aiding, soldier radio					

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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				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
waveform, modernized dayside assembly, modernized radio frequency interferometer, maritime targeting, and radar upgrades. <b>FY 2017 Plans:</b> 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. <b>FY 2018 Base Plans:</b> 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.						
<b>Title:</b> Support Costs <b>Description:</b> Funding is provided for the following effort.  <b>FY 2016 Accomplishments:</b> GFE supporting Apache AH-64E tests and government R&D Facilities <b>FY 2017 Plans:</b> GFE supporting Apache AH-64E tests and government R&D Facilities.		1.000	1.129	-	-	-
<b>Title:</b> Test and Evaluation <b>Description:</b> Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation.  <b>FY 2016 Accomplishments:</b> Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation, Government test oversight, test ranges, flight hour costs for MRL testing. <b>FY 2017 Plans:</b> Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation. <b>FY 2018 Base Plans:</b>		1.200	6.500	2.100	-	2.100

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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				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Funding is provided for Development Testing and Evaluation and Operational Test and Evaluation.												
Title: Management Services								0.734	2.261	2.561	-	2.561
Description: Funding is provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.												
FY 2016 Accomplishments: Funding is provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.												
FY 2017 Plans: Funding is provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.												
FY 2018 Base Plans: Funding is provided for the following effort: Payroll, Travel, Support Contractors, Matrix Support.												
Accomplishments/Planned Programs Subtotals								62.964	66.441	59.977	-	59.977
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
• AA6605: AH-64 Mods	116.153	137.883	238.141	-	238.141	144.892	96.877	91.698	117.210	0.000	942.854	
• A05111: AH-64 Apache Block IIIA Reman	1,353.391	1,066.284	725.926	39.040	764.966	999.774	1,018.859	917.758	1,002.769	0.000	7,123.801	
• A05133: AH-64 Apache Block IIIB New Build	-	-	374.100	-	374.100	357.200	119.700	185.900	-	0.000	1,036.900	
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.												

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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
<p>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.</p> <p>In FY15-FY18, Apache AH-64E Version 6 System Development and Demonstration (SDD) Contract.</p> <p>Multi-year production authority has been approved.</p> <p><b>E. Performance Metrics</b> N/A</p>		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Army</b>												<b>Date: May 2017</b>			
<b>Appropriation/Budget Activity</b> 2040 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0607135A / Apache Product Improvement Program						<b>Project (Number/Name)</b> ES2 / Apache Product Improvement Program			
<b>Management Services (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Management Services (In-House, Travel, etc.)	MIPR	PMO AAH Matrix Support AMCOM Express : Redstone Arsenal, AL	5.296	0.734	Oct 2015	2.261		2.561	Oct 2017	-		2.561	0.000	10.852	0.000
<b>Subtotal</b>			5.296	0.734		2.261		2.561		-		2.561	0.000	10.852	0.000
<b>Product Development (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
The Boeing Company	SS/CPIF	Boeing Contracts : Mesa, AZ	54.377	60.030	Oct 2015	56.551		55.316	Oct 2017	-		55.316	0.000	226.274	0.000
Longbow Limited Liability (LBL) Contracts	SS/CPIF	Longbow Limited Liability (LBL) Contracts : Orlando, FL	9.000	-		-		-		-		-	0.000	9.000	0.000
Ground Fire Acquisition Development (GFAD)	SS/CPIF	PM AVIATION SYSTEMS Various Activities : Various	12.000	-		-		-		-		-	0.000	12.000	0.000
<b>Subtotal</b>			75.377	60.030		56.551		55.316		-		55.316	0.000	247.274	0.000
<b>Support (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Support Activities	MIPR	Various : Various	1.726	1.000	Oct 2015	1.129		-		-		-	0.000	3.855	0
<b>Subtotal</b>			1.726	1.000		1.129		-		-		-	0.000	3.855	0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Army</b>													<b>Date: May 2017</b>		
<b>Appropriation/Budget Activity</b> 2040 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0607135A / Apache Product Improvement Program				<b>Project (Number/Name)</b> ES2 / Apache Product Improvement Program					
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Operational Assessments, Test Integration Working Group (TWIG), TEMP, etc.	MIPR	Various : Various	3.700	1.200	Oct 2015	6.500		2.100	Oct 2017	-		2.100	0.000	13.500	0
<b>Subtotal</b>			3.700	1.200		6.500		2.100		-		2.100	0.000	13.500	0.000
			<b>Prior Years</b>	<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			86.099	62.964		66.441		59.977		-		59.977	0.000	275.481	-
<b>Remarks</b>															

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army																Date: May 2017																
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														
Event Name	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022							
	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	<div></div>																															
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NRE Contracts - Longbow Limited Liability	<div></div>																															
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Force Develop Test & Evaluation (FDTE III)	<div></div>																															
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(1) Follow-On Test & Eval II	<div></div>																															
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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> FY 2018 Army			<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 2040 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0607135A / <i>Apache Product Improvement Program</i>	<b>Project (Number/Name)</b> ES2 / <i>Apache Product Improvement Program</i>	

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
Force Develop Test & Evaluation (FDTE III)	4	2017	4	2017
Follow-On Test & Eval II	2	2018	2	2018