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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
2040: <i>Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development</i>	PE 0607145A / <i>Apache Future Development</i>											
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	26.607	10.547	8.243	-	8.243	-	27.297	27.843	-	0.000	100.537
FD5: <i>Apache Product Improvement</i>	-	26.607	10.547	8.243	-	8.243	-	27.297	27.843	-	0.000	100.537

A. Mission Description and Budget Item Justification

The Apache Capabilities Enhancements (ACE) prioritizes, informs, influences, matures, tracks, statuses, and packages technologies and/or material solutions to address known capability gaps, identified during real-world combat missions and associated with current/emerging threats; for transition to Apache development for integration and implementation to the AH-64E fleet to increase combat capability.

B. Program Change Summary (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	25.074	10.547	0.000	-	0.000
Current President's Budget	26.607	10.547	8.243	-	8.243
Total Adjustments	1.533	0.000	8.243	-	8.243
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.900	-			
• SBIR/STTR Transfer	-0.367	-			
• Adjustments to Budget Years	-	-	8.243	-	8.243

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: FD5: *Apache Product Improvement*
 Congressional Add: *Modernization Efforts*
 Congressional Add: *Strap Down Pilotage*

	FY 2023	FY 2024
	10.000	-
	5.000	-
Congressional Add Subtotals for Project: FD5	15.000	-
Congressional Add Totals for all Projects	15.000	-

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<u>Change Summary Explanation</u> Additional funding in FY25 begins the development effort of the Oil-Cooled Generator. This is a new effort to design, integrate, and qualify an oil-cooled generator (OCG) for the AH-64E based on systemic quality issues with the current legacy air-cooled generator.		

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Army										Date: March 2024		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0607145A / Apache Future Development				Project (Number/Name) FD5 / Apache Product Improvement			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
FD5: Apache Product Improvement	-	26.607	10.547	8.243	-	8.243	-	27.297	27.843	-	0.000	100.537
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Apache Capabilities Enhancements (ACE) prioritizes, informs, influences, matures, tracks, statuses, and packages technologies and/or material solutions to address known capability gaps, identified during real-world combat missions and associated with current/emerging threats; for transition to Apache development for integration and implementation to the AH-64E fleet to increase combat capability.

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

	FY 2023	FY 2024	FY 2025
Title: Apache Improved Tail Rotor Drive System (ITRDS)	9.706	10.547	-
Description: Increase performance/safety as well as reducing logistics footprint of current Tail Rotor Drive System			
FY 2024 Plans: Apache Project Management Office (PMO) will continue to execute design level reviews, component drawing development and reliability/maintainability risk mitigation assessments and technical development analysis. The Critical Design Review (CDR) will serve as the end cap milestone for Phase II, locking down the Improved Tail Rotor Drive System (ITRDS) design. Once completed, Phase III will continue pre-qualification and risk reduction efforts to mature the approved system design from CDR. Concurrently, component fabrication and prototyping efforts for the design will commence.			
FY 2024 to FY 2025 Increase/Decrease Statement: The decrease in funding from FY24 to FY25 is due to the completion of the ITRDS Phase 3 Non-recurring Effort.			
Title: Oil Cooled Generator	1.901	-	8.243
Description: To design, integrate, and qualify an oil-cooled generator (OCG) for the AH-64E based on systemic quality issues with the current legacy air-cooled generator.			
FY 2025 Plans: Apache PMO will continue to work with the contractor and the Original Equipment Manufacturer (OEM) supplier to conduct Integrated Baseline Review (IBR) and System Readiness Review (SRR) activities. Contractor will also continue limited material procurement to minimize risk of long lead items to the overall qualification program.			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
The increase in FY25 funding starts the development effort for the Oil Cooled Generator.			
Accomplishments/Planned Programs Subtotals	11.607	10.547	8.243

	FY 2023	FY 2024
Congressional Add: Modernization Efforts	10.000	-
FY 2023 Accomplishments: The Congressional Add provides the ability to execute various component level analysis in accordance with Aeronautical Design Standard (ADS) 50 to bolster qualification testing level of effort (LOE) for the Improved Tail Rotor Drive System (ITRDS). ITRDS component level testing will also be performed in preparation for component and bench level qualification.		
Congressional Add: Strap Down Pilotage	5.000	-
FY 2023 Accomplishments: Development and demonstration of a prototype Strap Down (Staring) Pilotage test article to evaluate options for a next generation pilotage system.		
Congressional Adds Subtotals	15.000	-

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

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• A05111: AH-64 Apache Block IIIA Reman	787.773	828.938	570.655	-	570.655	1.753	1.612	1.609	1.625	5,763.012	7,956.977
• 0607145A: Apache Future Development	26.607	10.547	8.243	-	8.243	-	27.297	27.843	-	0.000	100.537
• AA6605: AH-64 MODS	85.840	113.127	81.026	-	81.026	94.530	122.083	107.678	114.776	Continuing	Continuing

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. FY 2020 - FY 2023, the Apache Capabilities Enhancements (ACE) delivers required capability enhancements supported by Apache's Modernization Strategy to ensure AH-64E maintains relevance and dominance throughout its expected service life.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0607145A / Apache Future Development	Project (Number/Name) FD5 / Apache Product Improvement

Event Name	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029							
	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				
ITRDS Activities	[Redacted]																															
Contract Award for SPIKE NLOS	[Redacted]																															
Strap Down Pilotage			[Redacted]																													
Crossbow	[Redacted]																															
Oil Cooled Generator					[Redacted]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ITRDS Activities	4	2022	4	2027
Contract Award for SPIKE NLOS	3	2021	2	2024
Strap Down Pilotage	3	2023	3	2025
Crossbow	3	2021	4	2023
Oil Cooled Generator	4	2023	1	2030