Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army												Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0607315A *I Enduring Turbine Engines and Power Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	-	2.411	-	2.411	2.615	4.731	3.022	5.042	0.000	17.821
DD5: *Army Power Systems Modernization*	-	-	-	2.411	-	2.411	2.615	4.731	3.022	5.042	0.000	17.821

Note

Enduring Turbine Engines and Power Systems is a new start in FY 2024.

A. Mission Description and Budget Item Justification

This funding line is in support of the Electrical Power Systems (EPS) Modernization efforts, a key enabler for Army Aviation Modernization Priorities. EPS is a Tier 2 Army Aviation modernization priority effort and Major Systems Component (MSC) of the PEO Aviation Modular Open System Approach (MOSA) Strategy to address aging platform electrical systems architectures developed in the 1970's, current capability gaps, and future system requirements. EPS will increase capacity, enhance system capability, enable new technology insertions and improved systems supporting increased lethality and survivability in Multi-Domain Operations (MDO). EPS will provide a modernized common systems architecture, active power management capability, improved power generation, distribution, and storage thru new higher capacity and density common generators, airworthy supplemental power units, advanced common batteries, and improved conversion electronics capable of supporting the increased systems loads and demands. Benefits include improved platform safety and decreased pilot workload, improved design life, enhanced reliability, lower maintenance and sustainment costs, and a decreased logistics footprint. Additionally, EPS lays the foundations necessary for optionally piloted/increased autonomy, more electrified aircraft initiatives, and supports the US Army Climate Strategy to break the tether to fossil fuels. The program consists of systems engineering and program management, design engineering, design assurance, component development and testing, system level testing and qualification, and platform integration and qualification.

FY 2024 funding will initiate MOSA architecture and Systems Engineering efforts, and initiate EPS Platform Architecture Studies for the AH-64 and CH-47 aircraft. FY 2025 funding completes the AH-64 and CH-47 Platform Architecture Studies, initiates development of the Common EPS Architecture, and initiates the EPS Power Management Systems Integration Lab (SIL) development efforts. FY 2026 funding completes the Common EPS Architecture development efforts, continues the EPS Power Management SIL development, and initiates component testing efforts. FY 2027 funding continues the EPS Power Management SIL development and component testing efforts and initiates the Supplemental Power Unit (SPU) testing efforts. FY 2028 funding continues testing efforts and supports Project Convergence demonstration efforts.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army					Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0607315A *I Enduring Turbine Engines and Power Systems*		
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	2.411	-	2.411
Total Adjustments	0.000	0.000	2.411	-	2.411
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	2.411	-	2.411

Change Summary Explanation

Project DD5 (Army Power Systems Modernization) is a new start within PE 0607315A (Enduring Turbine Engines and Power Systems) beginning in FY 2024.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0607315A / *Enduring Turbine Engines and Power Systems*	Project (Number/Name) DD5 / *Army Power Systems Modernization*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DD5: *Army Power Systems Modernization*	-	-	-	2.411	-	2.411	2.615	4.731	3.022	5.042	0.000	17.821
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Army Power Systems Modernization is a new start within the Enduring Turbine Engines and Power Systems program in FY 2024.

A. Mission Description and Budget Item Justification

This funding line is in support of the Electrical Power Systems (EPS) Modernization efforts, a key enabler for Army Aviation Modernization Priorities. EPS is a Tier 2 Army Aviation modernization priority effort and Major Systems Component (MSC) of the PEO Aviation Modular Open System Approach (MOSA) Strategy to address aging platform electrical systems architectures developed in the 1970's, current capability gaps, and future system requirements. EPS will increase capacity, enhance system capability, enable new technology insertions and improved systems supporting increased lethality and survivability in Multi-Domain Operations (MDO). EPS will provide a modernized common systems architecture, active power management capability, improved power generation, distribution, and storage thru new higher capacity and density common generators, airworthy supplemental power units, advanced common batteries, and improved conversion electronics capable of supporting the increased systems loads and demands. Benefits include improved platform safety and decreased pilot workload, improved design life, enhanced reliability, lower maintenance and sustainment costs, and a decreased logistics footprint. Additionally, EPS lays the foundations necessary for optionally piloted/increased autonomy, more electrified aircraft initiatives, and supports the US Army Climate Strategy to break the tether to fossil fuels. The program consists of systems engineering and program management, design engineering, design assurance, component development and testing, system level testing and qualification, and platform integration and qualification.

FY 2024 funding will initiate MOSA architecture and Systems Engineering efforts, and initiate EPS Platform Architecture Studies for the AH-64 and CH-47 aircraft. FY 2025 funding completes the AH-64 and CH-47 Platform Architecture Studies, initiates development of the Common EPS Architecture, and initiates the EPS Power Management Systems Integration Lab (SIL) development efforts. FY 2026 funding completes the Common EPS Architecture development efforts, continues the EPS Power Management SIL development, and initiates component testing efforts. FY 2027 funding continues the EPS Power Management SIL development and component testing efforts and initiates the Supplemental Power Unit (SPU) testing efforts. FY 2028 funding continues testing efforts and supports Project Convergence demonstration efforts.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Electric Power Systems (EPS) Modernization Efforts	-	-	2.411
FY 2024 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0607315A / *Enduring Turbine Engines and Power Systems*	**Project (Number/Name)** DD5 / *Army Power Systems Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2024 funding will initiate MOSA architecture and System Engineering efforts, and initiate EPS Platform Architecture Studies for the AH-64 and CH-47 aircraft. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Establishment of New Funding Line			
Accomplishments/Planned Programs Subtotals	-	-	2.411

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Apache and Chinook Platform Architecture Studies will be awarded in FY 2024 to the Boeing Company thru the MOSA Transition Office AMTC OTA Contract. Following a successful completion of the Architecture Studies, in FY 2025 the integrator for the Common Architecture development efforts will be selected and contracted thru the MOSA Transition Office AMTC OTA Contract. In FY2025, development of the Government Owned power management Systems Integration Lab effort and execution will be accomplished as a Joint Effort with the US Army Combat Capabilities Development Command C5ISR Center.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0607315A / *Enduring Turbine Engines and Power Systems*	Project (Number/Name) DD5 / *Army Power Systems Modernization*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CSM Modeling	TBD	TBD : TBD	-	-		-		0.211		-		0.211	0.000	0.211	-
Apache Architecture	TBD	TBD : TBD	-	-		-		1.100		-		1.100	0.000	1.100	-
Chinook Architecture	TBD	TBD : TBD	-	-		-		1.100		-		1.100	0.000	1.100	-
		Subtotal	-	-		-		2.411		-		2.411	0.000	2.411	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		2.411		-		2.411	0.000	2.411	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0607315A / *Enduring Turbine Engines and Power Systems*	**Project (Number/Name)** DD5 / *Army Power Systems Modernization*

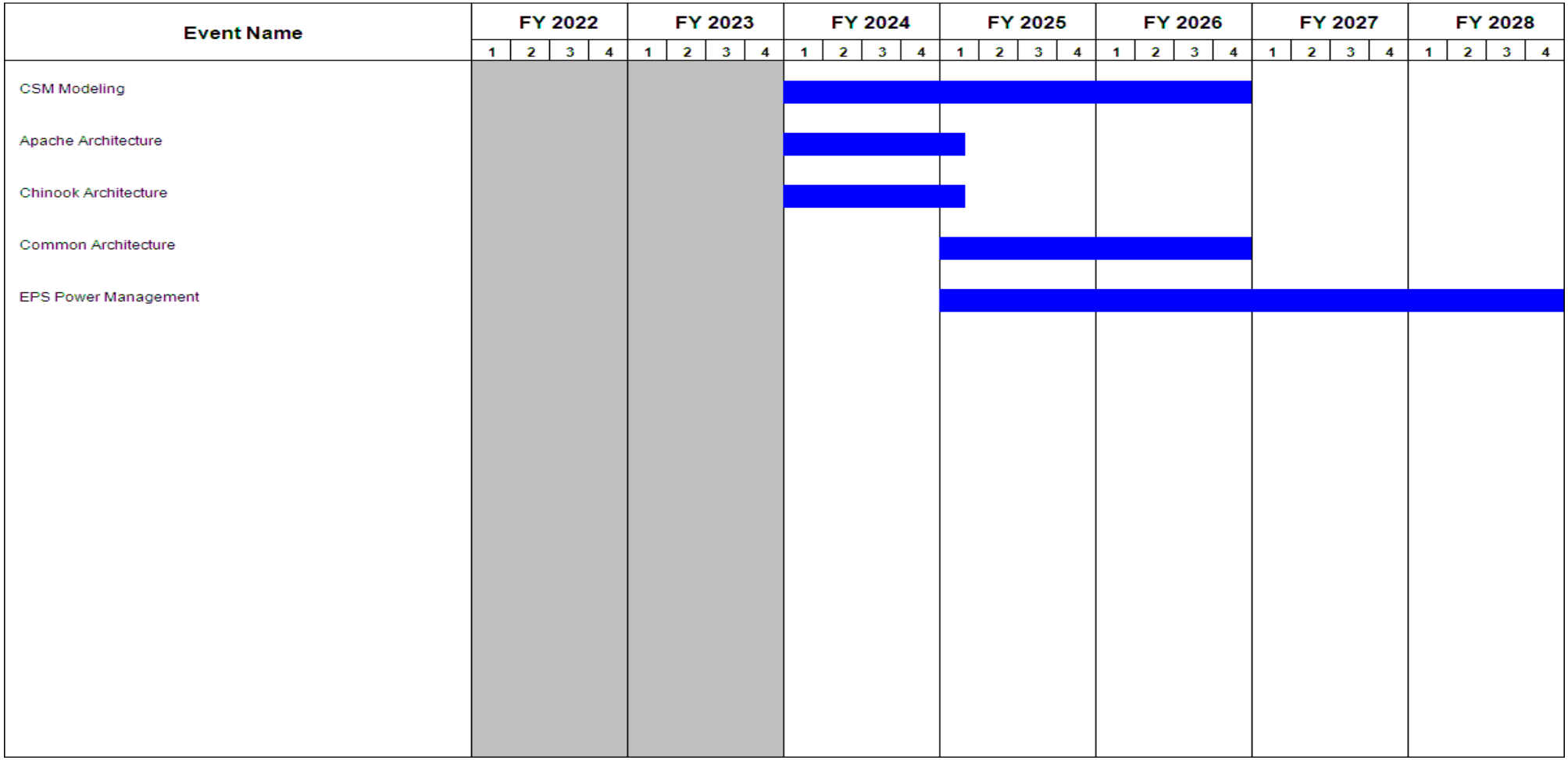

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0607315A / *Enduring Turbine Engines and Power Systems*	**Project (Number/Name)** DD5 / *Army Power Systems Modernization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CSM Modeling	1	2024	4	2026
Apache Architecture	1	2024	1	2025
Chinook Architecture	1	2024	1	2025
Common Architecture	1	2025	4	2026
EPS Power Management	1	2025	4	2028