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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603036F / <i>Modular Advanced Missile</i>
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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	-	0.000	75.688	105.238	0.000	105.238	130.767	147.722	163.495	90.823	0.000	713.733
643036: <i>Armament Demonstration and Validation</i>	-	0.000	75.688	105.238	0.000	105.238	130.767	147.722	163.495	90.823	0.000	713.733
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program, BA 4, PE 0603036F Armament Demonstration and Validation, project 643036, Modular Advanced Missile (MAM) is not a new start. Work started in FY 2022 and this is a continuation of work conducted under a separate PE.

The Armament Demonstration and Validation Program Element provides key linkage between Research and Development, and fielding of advanced capabilities. It will develop, mature, and demonstrate new or emerging armament technologies, processes, interfaces, mission planning, special test equipment, and resources. Armament Demonstration and Validation will design, develop, and perform demonstrations of prototypes and technologies to inform future acquisition and production decisions. Efforts are focused on current and future requirements and technologies, reduce life-cycle costs, and increased competition for system capability upgrades. Activities leverage the efforts of the Science and Technology community. This effort will include lab, bench, integration, ground and air demonstrations and validation of emerging/evolving technologies and systems via weapon scalable/modular architecture and Weapon Government Reference Architecture (GRA) compliant system performance.

This effort will mature and demonstrate the tenants of model based systems engineering, modular open systems architecture, agile software development, modeling, simulation and analysis, and extend these tenants to improve manufacturing processes.

This effort implements Digital Acquisition tenants of Open, Agile, and Digital; builds and establishes industrial base innovation around the program's enterprise for modularity and adaptability for the life cycle of the weapons system. Leverages common component development, in collaboration with other weapon systems, to reduce redundant costs between systems with similar subsystems requirements. Invests in analytical, data management, digital environments, networks, facilities, and security infrastructure upgrades supporting development of this program's capabilities, while leveraging DoD and DAF enterprise IT solutions. Expands program office staff, facilities, and security infrastructure to support the required classification levels for this program's activities. Engages with DoD, DAF, and industry stakeholders to refine threat analysis, refine inventory requirements, and plan upgrade requirements. Capitalizes on and incorporates successful laboratory research and development efforts applicable to this program's capability.

"This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY \$0.000M was expended for civilian pay expenses in this program element, and in CY \$2.596M is forecasted for civilian pay expenses in this program element."

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This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary (\$ in Millions)	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	0.000	125.688	152.948	0.000	152.948
Current President's Budget	0.000	75.688	105.238	0.000	105.238
Total Adjustments	0.000	-50.000	-47.710	0.000	-47.710
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-50.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-47.710	0.000	-47.710

C. Accomplishments/Planned Programs (\$ in Millions)	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>
Title: Modular Advanced Missile (MAM)	0.000	74.688	105.238
Description: The Modular Advanced Missile (MAM) project will develop, mature, and demonstrate air launched modular missile technologies, processes, and resources. MAM will reduce risk to future air launched missile programs by designing, developing, integrating, and testing various modular missile subsystems and tools to inform future missile acquisition and production decisions.			
FY 2023 Plans: This program, BA 4, PE 0603036F Armament Demonstration and Validation, project 643036, Modular Advanced Missile (MAM) is not a new start. Continue progress toward a system preliminary design review level using an integrated digital environment. Continue to mature designs of modular missiles to reduce risk for future air launched and bench demonstrations. Initiate modeling of manufacturing processes for modular missile systems. Integrated Test Team will begin test planning with contractors. Planning and design activities related to weapon integration on test aircraft will occur. Rapidly respond to evolving warfighter priorities and emerging requirements.			
FY 2024 Plans:			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
In FY24 funding realigned to a different PE.				
FY 2023 to FY 2024 Increase/Decrease Statement: In FY24 funding realigned to a different PE.				
Title: Emerging & Enabling Armament Technology		0.000	1.000	-
Description: Conduct risk reduction and prototyping activities on emerging and enabling technologies to inform future acquisition and production decisions for the armament portfolio, informed by internal and external stakeholders.				
FY 2023 Plans: Perform risk reduction through prototyping of critical components.				
FY 2023 to FY 2024 Increase/Decrease Statement: In FY24 funding realigned to a different PE.				
Accomplishments/Planned Programs Subtotals		0.000	75.688	105.238
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
E. Acquisition Strategy				
Accomplish studies, analysis, concept demonstration, prototyping and engineering; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive contracts and/or other obligating documentation considered most appropriate by the obligating and performing agencies involved.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603036F / <i>Modular Advanced Missile</i>	Project (Number/Name) 643036 / <i>Armament Demonstration and Validation</i>
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Risk Reduction	C/FPIF	Various : TBD	-	-		64.405	Jun 2023	105.238		-		105.238	Continuing	Continuing	-
Emerging & Enabling Armament Technology	C/Various	Various : TBD	-	-		1.000	May 2023	-		-		-	Continuing	Continuing	-
Subtotal			-	-		65.405		105.238		-		105.238	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Other Government Costs	TBD	TBD : TBD	-	-		3.271	Jun 2023	-		-		-	Continuing	Continuing	-
Subtotal			-	-		3.271		-		-		-	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration	Various	Various : Various	-	-		7.012	May 2023	-		-		-	Continuing	Continuing	-
Subtotal			-	-		7.012		-		-		-	Continuing	Continuing	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			-	-	75.688	105.238	-	105.238	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603036F / <i>Modular Advanced Missile</i>	Project (Number/Name) 643036 / <i>Armament Demonstration and Validation</i>

FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
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

<i>Modular Advanced Missile</i>	
Risk Reduction	
Other Government Costs	
Program Management Administration	
<i>Emerging & Enabling Armament Technology</i>	
Emerging Technology	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603036F / <i>Modular Advanced Missile</i>	Project (Number/Name) 643036 / <i>Armament Demonstration and Validation</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Modular Advanced Missile</i>				
Risk Reduction	3	2023	2	2025
Other Government Costs	3	2023	2	2025
Program Management Administration	2	2023	2	2025
<i>Emerging & Enabling Armament Technology</i>				
Emerging Technology	3	2023	4	2028