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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604200F / <i>Future Advanced Weapon Analysis & Programs</i>
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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	-	11.641	9.757	7.205	0.000	7.205	36.879	253.209	262.374	267.555	Continuing	Continuing
653133: <i>Armament Subsystems</i>	-	11.641	9.757	7.205	0.000	7.205	36.879	253.209	262.374	267.555	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Future Advanced Weapon Analysis & Programs enables Air Force enterprise weapons capability planning through the generation and execution of requirements and trade space analysis. Inclusively, this necessitates the studies of emerging weapons system gaps and technology insertion for legacy systems, responsive design and development engineering, and emerging weapon system gaps and technology insertion for legacy systems. These studies also support the determination of feasible solutions through advanced technology prototype development. Additionally, projects in this program element implement the Digital Acquisition tenants of Open, Agile, and Digital in support of all Air Force weapons by conducting high fidelity Modeling, Simulation and Analysis (MS&A) to support the development, testing, and evaluation of future concept and legacy weapons.

Efforts under this program element explore new concept developments and analyses in response to stakeholder engagements, technology transitions and common enterprise needs, experimentation, fieldable demonstrations, and the delivery of quick reaction solutions. The overall objective is to identify methods to improve weapon system performance, develop potential future designs, mitigate evolving threats, and reduce life cycle costs. These projects will also develop and expand MS&A and experimental platforms for weapon qualification activities, improve safety, identify technology gaps, and ensure viability and durability of future weapons programs.

The FY2025 funding request was reduced by \$2.518 million to account for the availability of prior year execution balances

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. In PY \$86K was expended for civilian pay expenses in this program element. In CY \$149K is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

UNCLASSIFIED

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	9.879	9.757	9.710	0.000	9.710
Current President's Budget	11.641	9.757	7.205	0.000	7.205
Total Adjustments	1.762	0.000	-2.505	0.000	-2.505
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	1.762	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-2.505	0.000	-2.505

Change Summary Explanation

FY23 funding increase for a FAWAP reprogramming

FY25 funding was reduced by \$2.505 million to account for the availability of prior year execution balances.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: Capability Strategy Development	7.675	5.631	4.158
Description: Plans and executes early Systems Engineering, concept studies, trade space analyses, modeling & simulation (M&S), portfolio acquisition planning, agile acquisition strategies, common enterprise solutions, and risk reduction activities for future advanced weapon systems to defeat evolving threat scenarios and environments. Provides security, workspace/seating, and information technology capabilities to support mission needs. Collaborate with all program stakeholders to develop technical and investment strategies for future weapons. Create and develop a weapons operational reference architecture. Develops and maintains technology and capability roadmaps to inform strategy development.			
FY 2024 Plans: Conduct experiments and demonstrations of kinetic and directed energy weapon concepts to prove feasibility and facilitate transition in air to air, long range strike, and maritime strike mission areas. Evaluate industrial base implementation of agile acquisition initiatives like open systems architecture and digital engineering for future capabilities.			
FY 2025 Plans:			

UNCLASSIFIED

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Conduct experiments and demonstrations of kinetic and directed energy weapon concepts to prove feasibility and facilitate transition in air to air, long range strike, and maritime strike mission areas. Evaluate industrial base implementation of agile acquisition initiatives like open systems architecture and digital engineering for future capabilities.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 funding request was reduced by \$1.444 million to account for the availability of prior year execution balances.</p>				
<p>Title: Rapid Prototyping Demonstrations</p> <p>Description: Enables the conduct of rapid acquisition/prototyping efforts and MS&A validation through integration of empirical data derived from prototypes and demonstrations, shaped by stakeholder engagements.</p> <p>FY 2024 Plans: Prototyping weapon concepts to demonstrate feasibility of key attributes and initiate test planning with key stakeholders. Developing armament concepts that are appropriately played in wargames/flag exercises.</p> <p>FY 2025 Plans: Prototyping weapon system and subsystem concepts to demonstrate and assess feasibility of key attributes and initiate test planning with key stakeholders. Developing armament concepts with effects that are appropriately represented in wargames/flag exercises.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 funding request was reduced by \$0.627 million to account for the availability of prior year execution balances.</p>		2.288	2.444	1.805
<p>Title: Digital Foundation</p> <p>Description: Provides model-based systems engineering, M&S, data analysis tool suites, and associated software engineering expertise to support weapons capability strategy development and rapid prototyping. Provides Validation & Verification (V&V) of contractor M&S models and tools. Develops guidance, Navigation, and Control (GNC) and weapon survivability analysis capabilities. Creates and maintains a searchable electronic weapons database. Develops and evaluates future weapon open system architectures, to include common enterprise solutions, and the employment of digital engineering tools to create future acquisition strategies.</p> <p>FY 2024 Plans: Conduct lethality analysis to support the development, testing, and evaluation of legacy and future weapon concepts. Work includes physics, engineering, engagement/mission level MS&A and efforts to characterize complex systems, provide independent analysis in mission areas such as long range strike.</p> <p>FY 2025 Plans:</p>		0.539	0.628	0.464

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Conduct lethality analysis to support the development, testing, and evaluation of legacy and future weapon concepts. Work includes physics, engineering, engagement/mission level MS&A and efforts to characterize complex systems, provide independent analysis in mission areas such as long-range strike.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 funding request was reduced by \$0.161 million to account for the availability of prior year execution balances.</p>				
<p>Title: Industry Connectivity/Technology Transitions</p> <p>Description: Enables Air Force outreach to small and large businesses to solicit innovative and relevant common material solutions for future weapon initiatives. This includes planning and execution activities for the development of campaign analysis, rapid innovation events, communicating technology needs at industry conferences (i.e. Weapons Conference, Air Force Association Symposium), and evaluating industry submissions for innovative technologies. Demonstrate potential utility of innovative technologies from Small Business Innovation Research (SBIR) contracts, studies, campaign analyses, experiments, and prototypes. Ensure alignment of S&T activities, acquisition efforts, and warfighter requirements for air-delivered munitions with Air Force, government, and industry stakeholders to enable technology transitions.</p> <p>FY 2024 Plans: Demonstrate utility of innovative technologies for SBIR contracts, studies, campaign analysis and experiments, as well as management of the digital outreach required to meet these objectives. Examine how new digital acquisition programs can meet air to air, long range strike, and maritime strike mission areas to fulfill urgent warfighter requirements focusing on network collaborative autonomous, guidance and control, test and training, and direct attack.</p> <p>FY 2025 Plans: Demonstrate utility of innovative technologies for SBIR contracts, studies, campaign analysis and experiments, as well as management of the digital outreach required to meet these objectives. Examine how new digital acquisition programs can meet air to air, long range strike, and maritime strike mission areas to fulfill urgent warfighter requirements focusing on network collaborative autonomous, guidance and control, test and training, and direct attack.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 funding request was reduced by \$0.271 million to account for the availability of prior year execution balances.</p>		1.139	1.054	0.778
Accomplishments/Planned Programs Subtotals		11.641	9.757	7.205
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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E. Acquisition Strategy
Accomplish studies, analyses, concept development and engineering, as well as test and evaluation; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive contracts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604200F / <i>Future Advanced Weapon A nalysis & Programs</i>	Project (Number/Name) 653133 / <i>Armament Subsystems</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Affordable Mass & Concept Studies	C/Various	Various : Various	-	3.966	Nov 2022	4.605	Apr 2024	2.984	Apr 2025	-		2.984	Continuing	Continuing	-
Future Weapons Open System Architecture	Various	Various : Various	-	3.063	Dec 2022	0.569	Dec 2023	0.117	Nov 2024	-		0.117	Continuing	Continuing	-
Subtotal			-	7.029		5.174		3.101		-		3.101	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Systems Engineering & Studies Support	C/Various	AFRLCMC/EB : Eglin AFB, FL	-	0.459	Dec 2022	1.594	Apr 2024	2.034	Apr 2025	-		2.034	Continuing	Continuing	-
Modeling & Simulation Licenses & Support	C/Various	AFRLCMC/EB : Eglin AFB, FL	-	0.178	Nov 2022	0.187	May 2024	0.243	May 2025	-		0.243	Continuing	Continuing	-
Direct Cite Authority Civilian Pay	Allot	AFRLCMC/EBZ : Eglin AFB, FL	-	0.086	Oct 2022	0.149	Oct 2023	0.155	Oct 2024	-		0.155	Continuing	Continuing	-
Subtotal			-	0.723		1.930		2.432		-		2.432	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Government Test and Evaluation	PO	Various : Various	-	0.080	Sep 2023	0.021	Apr 2024	0.025	Apr 2025	-		0.025	Continuing	Continuing	-
Subtotal			-	0.080		0.021		0.025		-		0.025	Continuing	Continuing	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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			
Government Program Management Administration	Various	Various : Eglin AFB, FL	-	3.809	May 2023	2.632	Oct 2023	1.647	Oct 2024	-		1.647	Continuing	Continuing	-
Subtotal			-	3.809		2.632		1.647		-		1.647	Continuing	Continuing	N/A

Remarks
Includes A&AS contract, IT requirements, travel, and office supplies.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	11.641	9.757	7.205	-	7.205	Continuing	Continuing	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
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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

Capability Strategy Development	
Air Superiority, Global Precision Attack, and Base Defense Requirements Analyses	
Future Weapons Open System Architecture	
Trade Space Analysis Framework	
Common Enterprise Solutions	
Technology and Capability Roadmaps	
Rapid Prototyping	
Global Precision Attack Weapon Demos	
Base Defense Weapon Demos	
Capability Demonstrations	
Digital Foundation	
Lethality, GNC & Survivability Modeling, Simulation and Analysis	
Analysis Database Repository	
Model-Based Systems Engineering Foundation	
Weapon Open System Architecture Built-In	
Industry Connectivity	
Futures Workshops, Concepts Studies	
Threat Day Events, Innovation Days	

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Capability Strategy Development				
Air Superiority, Global Precision Attack, and Base Defense Requirements Analyses	2	2023	4	2029
Future Weapons Open System Architecture	2	2023	4	2029
Trade Space Analysis Framework	2	2023	4	2029
Common Enterprise Solutions	2	2023	4	2029
Technology and Capability Roadmaps	2	2023	4	2029
Rapid Prototyping				
Global Precision Attack Weapon Demos	2	2023	4	2029
Base Defense Weapon Demos	2	2023	4	2029
Capability Demonstrations	2	2023	4	2029
Digital Foundation				
Lethality, GNC & Survivability Modeling, Simulation and Analysis	2	2023	4	2029
Analysis Database Repository	2	2023	4	2029
Model-Based Systems Engineering Foundation	2	2023	4	2029
Weapon Open System Architecture Built-In	2	2023	4	2029
Industry Connectivity				
Futures Workshops, Concepts Studies	2	2023	4	2029
Threat Day Events, Innovation Days	2	2023	4	2029