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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 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</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	-	61.915	154.300	75.051	0.000	75.051	0.000	0.000	0.000	0.000	Continuing	Continuing
640858: <i>AFWERX Prime</i>	-	0.000	154.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
640862: <i>Rapid Defense Experimentation Reserve</i>	-	61.915	0.000	75.051	0.000	75.051	0.000	0.000	0.000	0.000	Continuing	Continuing

Note
This program, BA 4, PE 0604025F, project , RDT&E Program Wide Activities, is a new start.

A. Mission Description and Budget Item Justification

RDER Efforts for FY 25:
-JRBL Cage: Consolidation of Best in Breed Podded technologies
-Classified Projects (more information available in appropriate forums)

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 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	0.000	154.300	0.000	0.000	0.000
Current President's Budget	61.915	154.300	75.051	0.000	75.051
Total Adjustments	61.915	0.000	75.051	0.000	75.051
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	64.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-2.085	0.000	75.051	0.000	75.051

Change Summary Explanation

FY 2025 decreased from FY 2024 by 79.249 million as RDER funding is provided via Program Directive Memorandum action during execution year, with no funds over the Future Years Defense Program (FYDP).

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>				Project (Number/Name) 640858 / <i>AFWERX Prime</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
640858: <i>AFWERX Prime</i>	-	0.000	154.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Department of the Air Force's component of the Rapid Defense Experimentation Reserve (RDER) is executed within this program element (PE). To facilitate rapid modernization of the force, the Rapid Defense Experimentation Reserve (RDER) initiative was established in the Defense Planning Guidance for Fiscal Years 2023-2027, to encourage multi-component experimentation through a campaign of learning. Services, Agencies, and other participating organizations are to identify "best of breed" capabilities developed among the DoD prototyping programs, and execute approved projects through large-scale, cross-service experiments in order to refine and/or validate the Joint Warfighting Concept (JWC). Organizations nominate proposals to the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) that are multi-component — involving Joint Services, International partners and/or other government agencies and link to one or more of the four key supporting concepts ("functional battles") of the Joint Warfighting Concept: Joint Concept for Fires, Joint Concept for Command and Control, Joint Concept for Contested Logistics, and Joint Concept for Information Advantage.

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

	FY 2023	FY 2024	FY 2025
Title: Rapid Defense Experimentation Reserve	0.000	154.300	0.000
<p>Description: The Department of Defense implement multiple RDER experimentation series through Service nominated projects with execution timelines ranging from one to two years. The USD (R&E) will review project progress, and recommend new focus areas at least annually with the goal of quickly incorporating the most promising innovative prototypes into experiments, and promptly terminating projects that fail to achieve expectations. To incentivize a disciplined approach to rapidly identify, incorporate, and execute projects largely through the Military Services, the Department will fund approved Service projects for the upcoming fiscal year out of the Department reserves. Funding decisions on additional funds in follow-on years for new projects, and funding decrements for project terminations will be incorporated in budgets annually based on emerging requirements and periodic assessments of project viability. Services will execute these funds under oversight of the OSD in a manner consistent with the experimentation scenario for which individual projects were selected. Service experimentation outcomes will be designed to validate required capabilities enabling the JWC by evaluating and integrating prototyped technologies in operationally relevant, multi-domain environments. Experimentation results will facilitate Joint Staff analysis in the evaluation of the Joint Warfighting Concept, assist the Joint Requirements Oversight Counsel in requirements determination, and inform the Deputy's Management Action Group to make budget decisions that effect changes throughout the Department.</p> <p>FY 2024 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>	Project (Number/Name) 640858 / <i>AFWERX Prime</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>RDER Efforts for 24-1:</p> <ul style="list-style-type: none"> - Extended Range Hybrid eVTOL: Leverages Agility Prime government / industry partnership developing hybrid eVTOL aircraft with increased range (500 mi). - Aerial Port of the Future APOF - Large Area Runway Repair Gone Expeditionary (LAARGE): Large crater runway repair using nanomaterials. - Rapid Infrastructure Deployment: Rapidly deployable "base" that leverages alternative energy sources, secure comms, and modular structures. - Amphibious Contested Logistics Solutions: C-130 modification to enable takeoff and landing from water and amphibious employment of SEAD/DEAD, comms/C2 and logistics - Software Programmable Agile RF Tactical Aerial Network (SPARTAN2): Enhance connectivity, agility, and robustness of localized comm networks with low-cost wideband electronically-steered antennae for SPARTAN Software Radio with air and ground configurations and new beacon discovery waveform. - Classified Projects (more information available in appropriate forums) <p>RDER Efforts for 24-2:</p> <ul style="list-style-type: none"> - Control Systems for Coordinated Operations (CoSyCo): Validated and rapidly field-able datalinks and C2 networks, along with CONOPS and TTPs, for coordinated Autonomous Collaborative Platform (ACP) operations. 10M or possibly - LTAMDS-V: Low cost (lower than 3DELRR or LTAMDS), smaller form factor, fire control sensor with extended detection range enabling longer distance engagements for NASAMS than standard Sentinel A3 radars. Has classified multi-mission capability. Leverages significant Raytheon investment and maintains all the benefits of the US Army PoR LTAMDS radar. - Joint Tactical Edge Network (JTEN): Persistent information sharing across dissimilar message formats and heterogeneous data links (both IP and non-IP). JTEN architecture modular, non-proprietary, and based on Open Mission Systems (OMS) and Universal Command and Control (UCI) standards - Low Cost Threat Emitter (LCTE): Tactical, multi-band, SDR-based threat emissions simulator (threat emitter) Portable, programmable, disposable, modular and 5G connected - (GLADIATR) Rapidly Deployable Hypervelocity Gun Weapon System: Cost curve flipping (100k per shot) counter cruise missile system (highly mobile, C-130 transportable) capable of addressing larger threat space than existing systems. Efforts will focus on integration of system radar and fire direction system with US Army IBCS. - Classified Projects (more information available in appropriate forums) <p><i>FY 2025 Plans:</i></p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>	Project (Number/Name) 640858 / <i>AFWERX Prime</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Current scheduled plans for FY 2025 include initiation of the collaborative joint best of breed podded solution as well as other classified efforts.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> FY 2025 decreased from FY 2024 by 79.249 million as RDER funding is provided during execution year, with no funds over the Future Years Defense Program (FYDP).			
Accomplishments/Planned Programs Subtotals	0.000	154.300	0.000

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
• RDTE 04 0604858F: <i>Tech Transition Program</i>	64.000	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Various

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 4				PE 0604025F / Rapid Defense Experimentation Reserve (RDER)				640858 / AFWERX Prime							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RDER 24-1 Extended Range Hybrid eVTOL	Various	Various : TBD	-	-		20.000	Dec 2023	-		-		-	Continuing	Continuing	-
RDER 24-1 Rapid Infrastructure Deployment	Various	Various : TBD	-	-		6.300	Oct 2023	-		-		-	Continuing	Continuing	-
RDER 24-1 Amphibious Contested Logistics Solutions	Various	Various : TBD	-	-		20.000	Oct 2023	-		-		-	Continuing	Continuing	-
RDER 24-1 Software Programmable Agile RF Tactical Aerial Network (SPARTAN 2)	Various	Various : TBD	-	-		6.700	Dec 2023	-		-		-	Continuing	Continuing	-
RDER 24-1 Classified	Various	Various : TBD	-	-		25.000	Oct 2023	-		-		-	Continuing	Continuing	-
RDER 24- 1 Aerial-Port of the Future	Various	Various : TBD	-	-		1.500	Dec 2023	-		-		-	Continuing	Continuing	-
RDER 24 -2 LTAMDS V	Various	Various : TBD	-	-		17.000	Nov 2023	-		-		-	Continuing	Continuing	-
RDER 24-2 Joint Tactical Edge Network (JTEN)	Various	Various : TBD	-	-		13.000	Oct 2023	-		-		-	Continuing	Continuing	-
RDER 24-2 GLADIATR Rapidly Deployable Hypervelocity Gun Weapon System	Various	Various : TBD	-	-		20.000	Dec 2023	-		-		-	Continuing	Continuing	-
RDER 24-2 Low Cost Threat Emitter	Various	Various : TBD	-	-		4.800	Dec 2023	-		-		-	Continuing	Continuing	-
RDER 24-2 Classified	Various	Various : TBD	-	-		10.000	Oct 2023	-		-		-	Continuing	Continuing	-
RDER 24-2 Control Systems for Coordinated Operations (CoSyCo)	Various	Various : TBD	-	-		10.000	Dec 2023	-		-		-	Continuing	Continuing	-
Subtotal			-	-		154.300		-		-		-	Continuing	Continuing	N/A
Project Cost Totals			-	-		154.300		-		-		-	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force							Date: March 2024			
Appropriation/Budget Activity 3600 / 4			R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>			Project (Number/Name) 640858 / <i>AFWERX Prime</i>				
	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>	Project (Number/Name) 640858 / <i>AFWERX Prime</i>

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

<i>Rapid Defense Experimentation Reserve</i>																												
RDER																												
Extended Range Hybrid eVTOL																												
Aerial Port of the Future																												
Large Area Runway Repair Gone Expeditionary																												
Rapid Infrastructure Deployment																												
Amphibious Contested Logistics Solutions																												
Software Programmable Agile RF Tactical Aerial Network																												
Classified																												
Control Systems for Coordinated Operations																												
LTAMDS V Low Cost																												
Joint Tactical Edge Network																												
Low Cost Threat Emitter																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>	Project (Number/Name) 640858 / <i>AFWERX Prime</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Rapid Defense Experimentation Reserve</i>				
RDER	1	2024	4	2024
Extended Range Hybrid eVTOL	1	2024	4	2024
Aerial Port of the Future	1	2024	4	2024
Large Area Runway Repair Gone Expeditionary	1	2024	4	2024
Rapid Infrastructure Deployment	1	2024	4	2024
Amphibious Contested Logistics Solutions	1	2024	4	2024
Software Programmable Agile RF Tactical Aerial Network	1	2024	4	2024
Classified	1	2024	4	2024
Control Systems for Coordinated Operations	1	2024	4	2024
LTAMDS V Low Cost	1	2024	4	2024
Joint Tactical Edge Network	1	2024	4	2024
Low Cost Threat Emitter	1	2024	4	2024

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

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / Rapid Defense Experimentation Reserve (RDER)	Project (Number/Name) 640862 / Rapid Defense Experimentation Reserve
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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
	640862: <i>Rapid Defense Experimentation Reserve</i>	-	61.915	0.000	75.051	0.000	75.051	0.000	0.000	0.000	0.000	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
This program, BA 4, PE 0604025F, project , RDT&E Program Wide Activities, is a new start.

A. Mission Description and Budget Item Justification

RDER Efforts for FY 25:
-JRBL Cage: Consolidation of Best in Breed Podded technologies
-Classified Projects (more information available in appropriate forums)

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

	FY 2023	FY 2024	FY 2025
Title: RDT&E Program Wide Activities	61.915	0.000	75.051
Description: RDER Efforts for FY 25: -JRBL Cage: Consolidation of Best in Breed Podded technologies -Classified Projects (more information available in appropriate forums)			
FY 2024 Plans: N/A. FY 2025 effort			
FY 2025 Plans: RDER Efforts for FY 25: -JRBL Cage: Consolidation of Best in Breed Podded technologies -Classified Projects (more information available in appropriate forums)			
FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 decreased from FY 2024 by \$79.249 million as RDER funding is provided during execution year, with no funds over the Future Years Defense Program (FYDP).			
Accomplishments/Planned Programs Subtotals	61.915	0.000	75.051

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / Rapid Defense Experimentation Reserve (RDER)	Project (Number/Name) 640862 / Rapid Defense Experimentation Reserve

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

Remarks

D. Acquisition Strategy

various

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>	Project (Number/Name) 640862 / <i>Rapid Defense Experimentation Reserve</i>

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

JRBLCage	
JRBLCage	██████████
Classified efforts	
Classified efforts	██████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604025F / <i>Rapid Defense Experimentation Reserve (RDER)</i>	Project (Number/Name) 640862 / <i>Rapid Defense Experimentation Reserve</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JRBLCage				
JRBLCage	1	2025	4	2025
Classified efforts				
Classified efforts	1	2025	4	2025