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

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime
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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	170.860	83.336	0.000	83.336	11.812	12.079	12.061	6.442	Continuing	Continuing
640856: <i>AFWERX Operations and Support</i>	-	0.000	170.860	12.988	0.000	12.988	5.453	5.568	5.568	6.442	Continuing	Continuing
640858: <i>AFWERX Prime</i>	-	0.000	0.000	70.348	0.000	70.348	6.359	6.511	6.493	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The AFWERX mission is to transition agile, affordable, and accelerated capabilities by teaming innovative technology developers with Airmen and Guardian talent. AFWERX leverages Spark (the Airmen and Guardian talent base), AFVentures (the dual-use expanded technology base), and Prime (technology transitions) to scale and accelerate the capability. Funding in this project supports AFWERX research and development, innovation hubs, and information technology, public affairs, and marketing. The Spark mission is to inspire and enable Airmen and Guardians to unleash their potential and to drive capability development that increases the efficiency, effectiveness and quality of life of the warfighter. AFWERX uses Spark to discover and translate innovative talent into executable projects by facilitating stakeholder alignment through workshops and challenges. This connection brings together the creativity, innovation, and entrepreneurial spirit of our Airmen and Guardians to solve Air and Space Force technology and capability gaps.

The AFWERX Program reduces risk in emerging technology markets by partnering with industries through Prime investments and providing access to Government analysis, testing and certification capabilities. Prime investments focus on Government-Industry partnerships to influence and militarize emerging commercial capabilities to ensure US competitive advantage in key technology areas.

Next-Gen Large Aircraft aims to accelerate prototyping and widespread adoption of blended wing body aircraft for military and commercial applications, leveraging common goals among DOD and allied nations, commercial airlines and freight companies, other industry partners, and private investors. Cargo, tanker, and non-stealth bomber aircraft account for approximately 40% of DOD's total annual operational energy consumption, estimated to be about 1.2 billion gallons per year. Next-Gen Large Aircraft endeavors to meaningfully reduce fuel delivery logistical challenges, and prime the U.S. commercial aerospace sector to advance 21st century airframe designs in similar manner as military-developed aircraft primed commercial aircraft derivatives in the mid-20th century.

Funding for Project 640858 AFWERX Prime under Program 64858F Tech Transition transitioned to Project 640858 AFWERX Prime under this program beginning FY 2023 per Congressional direction.

Funding for Project 646030 AFWERX and Project 64317A Technology Transfer Add under Program 64317F Technology Transfer transitioned to Project 640856 AFWERX Operations and Support under this Program beginning in FY 2024.

The Blended Wing Body Next Generation Large Aircraft thrust was aligned to Project 640858 AFWERX Prime under this Program in FY 2023 and realigned to the Project 645351 Prototyping under Program 06040858F Tech Transition in FY 2024.

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This program element may include necessary civilian pay expenses required to manage, execute, and deliver Technology Transfer capabilities. 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.

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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	170.860	83.336	0.000	83.336
Total Adjustments	0.000	170.860	83.336	0.000	83.336
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	55.000			
• Congressional Directed Transfers	0.000	115.860			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	83.336	0.000	83.336

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

**Project:** 640856: *AFWERX Operations and Support*

    Congressional Add: *Program increase- supersonic aircraft technologies*

    Congressional Add: *Program increase- Agility Prime*

Congressional Add Subtotals for Project: 640856

Congressional Add Totals for all Projects

	<b>FY 2022</b>	<b>FY 2023</b>
	-	5.000
	-	50.000
	-	55.000
	-	55.000

**Change Summary Explanation**

FY 2023 funding increase of \$170.860 million due to congressionally directed AFWERX PE. It includes funding for AFWERX Prime and Core Operations and Support. Funding was realigned from Programs 0604858F Tech Transition and 0604317F Technology Transfer.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Air Force										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 3600 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime				<b>Project (Number/Name)</b> 640856 / AFWERX Operations and Support			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
640856: AFWERX Operations and Support	-	0.000	170.860	12.988	0.000	12.988	5.453	5.568	5.568	6.442	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The AFWERX mission is to transition agile, affordable, and accelerated capabilities by teaming innovative technology developers with Airmen and Guardian talent. AFWERX leverages Spark (the Airmen and Guardian talent base), AFVentures (the dual-use expanded technology base), and Prime (technology transitions) to scale and accelerate the capability. Funding in this project supports AFWERX research and development, innovation hubs, and information technology, public affairs, and marketing. The Spark mission is to inspire and enable Airmen and Guardians to unleash their potential and to drive capability development that increases the efficiency, effectiveness and quality of life of the warfighter. AFWERX uses Spark to discover and translate innovative talent into executable projects by facilitating stakeholder alignment through workshops and challenges. This connection brings together the creativity, innovation, and entrepreneurial spirit of our Airmen and Guardians to solve Air and Space Force technology and capability gaps.

Next-Gen Large Aircraft aims to accelerate prototyping and widespread adoption of blended wing body aircraft for military and commercial applications, leveraging common goals among DOD and allied nations, commercial airlines and freight companies, other industry partners, and private investors. Cargo, tanker, and non-stealth bomber aircraft account for approximately 40% of DOD's total annual operational energy consumption, estimated to be about 1.2 billion gallons per year. Next-Gen Large Aircraft endeavors to meaningfully reduce fuel delivery logistical challenges, and prime the U.S. commercial aerospace sector to advance 21st century airframe designs in similar manner as military-developed aircraft primed commercial aircraft derivatives in the mid-20th century.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> AFWERX	0.000	0.000	12.988
<b>Description:</b> Transition affordable and accelerated capabilities by teaming innovative technology developers with Airmen and Guardian talent.			
<b>FY 2023 Plans:</b> This effort was executed out of Project 646030 AFWERX and Project 64317A Technology Transfer Add under Program 64317F Technology Transfer in FY 2023. Funding transitioned to Project 640856 AFWERX Operations and Support under this Program beginning in FY 2024.			
<b>FY 2024 Plans:</b> Continue development and sustainment of the Acquisition Workforce and organizational capabilities. Funding levels provide for full operational capability for core operations. Core operations include civilian billets, expanded Spark engagement, and dynamic hub and site initiatives. Spark funding delivers development and fielding of Airmen and Guardian centric program management tools to connect the innovation ecosystem, establishes a Joint Spark innovation incubator. Dynamic hub and site initiatives seeks			

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<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640856 / AFWERX Operations and Support		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
to establish a dynamic hub/site posturing strategy that is consistent with the DIAL-In (Defense, Industry, Academia, and Local Government Investment) model, with phased expanded growth across the innovation/commercial ecosystem.  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> FY 2024 funding increase of \$12.988 million is due to a transfer of funding from Project 646030 AFWERX and Project 64317A Technology Transfer Add under Program 64317F Technology Transfer to Project 640856 AFWERX Operations and Support under this Program beginning in FY 2024.				
<b>Title:</b> AFWERX Prime  <b>Description:</b> Execution of efforts to explore and transition emerging dual-use technologies under this new acquisition approach to include evaluation of transformative vertical flight and agile logistics supporting distributed operations, autonomous capabilities, advanced energy and hybrid propulsion, and rapid commercial software capabilities. Activities include technical exchanges, research, development, certification, testing, and evaluation.  <b>FY 2023 Plans:</b> Continue risk reduction ground testing with multiple aircraft manufacturers including wind tunnel, environmental, cyber evaluation, and Electromagnetic Interference characterization. Continue prototype testing to characterize performance, handling qualities, and mission system effectiveness. Continue airworthiness assessments aimed at providing flight certified vehicles. Establish initial base charging and infrastructure, including advanced traffic management, to support expanded test operations. Establish initial training and beddown of government piloted crewed eVTOL operations, enabling flight tests in realistic operating environments and scenarios to provide data for business case analysis and fielding. Collaborate with the FAA on operations and technical progress and insight to support their civil certification efforts. Continue to perform initial research, development, testing, and evaluation of other potential technology sectors to follow this Prime acquisition paradigm, including autonomy and integration of capabilities.  <b>FY 2024 Plans:</b> FY 2024 AFWERX Prime funding was realigned to Project 640858 in this Program 64009F.  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> FY 2024 funding decrease of \$73.951 million due to the realignment of funding to Project 640858 AFWERX Prime under this Program in FY 2024.		0.000	73.951	0.000
<b>Title:</b> Blended Wing Body - Next Generation Large Aircraft  <b>Description:</b> In partnership with Defense Innovation Unit, allies, industry stakeholders, and private investors, Next-Gen Large Aircraft targets over a 30% increase in aerodynamic efficiency over traditional tube-and-wing large aircraft (given same engines). For military applications, initial analysis shows increases in combat capability greater than the percent increase in fuel efficiency for both aerial refueling and cargo aircraft productivity (e.g. 30% increase in fuel efficiency can equal 60% or more increased aerial		0.000	41.909	0.000

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>refueling fuel offload at range). Project goals include designing an aircraft that can cost-effectively scale up and down to enable acquisition by a broader community of government and industry stakeholders. Overall effort intends to manufacture a prototype large-scale aircraft for certification and testing. This project works in coordination with DOD's Chief Sustainability Officer and the Air Force Operational Energy office.</p> <p><b>FY 2023 Plans:</b> Execute prototype development of a blended wing body aircraft. Creation of digital environment for airframe design iteration and risk reduction. Manufacturing technology maturation and risk reduction, as well as design integration of advanced composites, non-cylindrical pressure vessel technology expanding on work done by NASA, flight control laws, and nacelle-airframe optimization., Continue airframe digital engineering design activities, demonstrate traceability between initial prototype aircraft and potential military and commercial derivatives, structural analysis and avionics and flight control system integration plan. Incorporate life-cycle sustainment cost considerations into design phase. Initial airworthiness and test planning for prototype aircraft.</p> <p><b>FY 2024 Plans:</b> This thrust was realigned to the Prototyping Project 645351 under Program 64858F Tech Transition in FY24.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> FY 2024 funding decrease of \$41.909 million due to the realignment of funding to the Prototyping Project 645351 under Program 0604858F Tech Transition in FY 2024.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	115.860	12.988

	<b>FY 2022</b>	<b>FY 2023</b>
<b>Congressional Add:</b> Program increase- supersonic aircraft technologies <b>FY 2023 Plans:</b> Conduct Congressionally directed effort.	-	5.000
<b>Congressional Add:</b> Program increase- Agility Prime <b>FY 2023 Plans:</b> Conduct Congressionally directed effort.	-	50.000
<b>Congressional Adds Subtotals</b>	-	55.000

<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A
<b>Remarks</b>

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Air Force		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / <i>AFWERX Prime</i>	<b>Project (Number/Name)</b> 640856 / <i>AFWERX Operations and Support</i>

**D. Acquisition Strategy**

The Innovation Hubs, products and training, and innovation facilitation are awarded through a combination of Partnership Intermediary Agreements and competitive contract vehicles, some of which are directly awarded by AFWERX and others are executed through federal partnerships as appropriate.

AFWERX Prime effort will proceed along the following path: 1) investigate details regarding potential commercial markets; 2) identify technologies that are likely to result in successful prototypes and support future DAF capability needs and Operational Imperatives ; 3) create collaborative test plans potentially offering test assets and expertise; 4) leverage this campaign for near-term airworthiness as well as preparation for procurement of hardware, software, data, or services. The intent is to accelerate learning to enable early adoption, procurement, and fielding.

Blended Wing Body plans to proceed along the following path: 1) perform digital engineering conceptual design sprints with multiple industry partners; 2) identify one or more industry partners to perform prototype aircraft detailed design activities; 3) perform prototype build and flight demonstration phases, in parallel with manufacturing technology maturation suitable for both military and commercial derivative aircraft; 4) create collaborative test plans and leverage this effort for future airworthiness activities to enable more rapid acquisition of military and commercial derivative aircraft. The intent is to leverage significant private and industry investment to accelerate future optionality for aerial tanker, cargo, bomber, and other large aircraft fleets.

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

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640856 / AFWERX Operations and Support
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<b>Product Development (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Agility Prime AOI 1 Performer A	C/FFP	Various : Various	-	-		11.127	Apr 2023	-		-		-	Continuing	Continuing	-
Agility Prime AOI 1 Performer B	C/FFP	Various : Various	-	-		3.128	Jun 2023	-		-		-	Continuing	Continuing	-
Agility Prime AOI 2 Performer A	C/FFP	Various : Various	-	-		10.902	Mar 2023	-		-		-	Continuing	Continuing	-
Agility Prime AOI 2 Performer B	C/FFP	Various : Various	-	-		3.223	Apr 2023	-		-		-	Continuing	Continuing	-
Agility Prime AOI 3 Performer A	C/FFP	Various : Various	-	-		7.127	Apr 2023	-		-		-	Continuing	Continuing	-
Agility Prime AOI 3 Performer B	C/FFP	Various : Various	-	-		9.133	Mar 2023	-		-		-	Continuing	Continuing	-
Air Race Partners	RO	Various : Various	-	-		5.255	Apr 2023	-		-		-	Continuing	Continuing	-
Next Gen Large Aircraft	MIPR	DUI : Mountain View, CA	-	-		38.000	Jun 2023	-		-		-	Continuing	Continuing	-
Congressional Add-Agility Prime	Various	Various : Various	-	-		50.000	Sep 2023	-		-		-	Continuing	Continuing	-
Congressional Add-AFWERX Prime Supersonic	Various	Various : Various	-	-		5.000	May 2023	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	-		142.895		-		-		-	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Modeling and Analytics Support	MIPR	Various : Various	-	-		1.537	Nov 2022	-		-		-	Continuing	Continuing	-
Government Test Support	WR	Various : Various	-	-		3.225	Dec 2022	-		-		-	Continuing	Continuing	-
Airworthiness and Test Support	Various	Various : Various	-	-		2.137	Nov 2022	-		-		-	Continuing	Continuing	-
Acquisition Workforce	Allot	Various : Various	-	-		-		12.988		-		12.988	Continuing	Continuing	-

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

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640856 / AFWERX Operations and Support
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<b>Support (\$ in Millions)</b>				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			
<b>Subtotal</b>			-	-		6.899		12.988		-		12.988	Continuing	Continuing	N/A

<b>Test and Evaluation (\$ in Millions)</b>				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			
Autonomy and Hybrid Stratfi	Various	Various : Various	-	-		5.258	Dec 2022	-		-		-	Continuing	Continuing	-
Autonomy and Hybrid Stratfi 2	Various	Various : Various	-	-		5.258	Feb 2023	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	-		10.516		-		-		-	Continuing	Continuing	N/A

<b>Management Services (\$ in Millions)</b>				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			
AFWERX Prime Management PMA	Various	Various : Various	-	-		6.641	Oct 2022	-		-		-	Continuing	Continuing	-
Next Generation Large Aircraft PMA	Various	Various : Various	-	-		3.909	Jul 2023	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	-		10.550		-		-		-	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	
<b>Project Cost Totals</b>		-	-	170.860	12.988	-	12.988	Continuing	Continuing	N/A

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640856 / AFWERX Operations and Support
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	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
<b>AFWERX Prime Product Development</b>																												
Innovative Capability Opening (Air Race)	██████████																											
Air Force Airworthiness Assessments (Part 1)	██████████																											
Air Force Airworthiness Assessments (Part 2)					██████████																							
Air Force Airworthiness Release	██████████																											
Federal Aviation Administration Certification													██████████															
Department of Defense Airworthiness Certification													██████████															
First Air Force Crewed Flights	██████████																											
Site Surveys	██████████																											
Bed-down Planning	██████████																											
Base Support Agreements					██████████																							
Bed-down									██████████																			
Autonomy - Advanced Air Mobility Assessments									██████████																			
Autonomy - Proving Group Operation									██████████																			
Integration and Cross Domain Kit Development									██████████																			
Software Integration Sprints									██████████																			
<b>Blended Wing Body- Next Generation Large Aircraft</b>																												
Vehicle Design, Airframe, Avionics and Flight Controls, Test					██████████																							

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Air Force		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640856 / AFWERX Operations and Support

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>AFWERX Prime Product Development</i></b>				
Innovative Capability Opening (Air Race)	1	2022	4	2022
Air Force Airworthiness Assessments (Part 1)	1	2022	3	2022
Air Force Airworthiness Assessments (Part 2)	2	2023	3	2023
Air Force Airworthiness Release	2	2022	3	2023
Federal Aviation Administration Certification	4	2024	4	2024
Department of Defense Airworthiness Certification	4	2024	4	2024
First Air Force Crewed Flights	2	2022	2	2022
Site Surveys	1	2022	1	2022
Bed-down Planning	2	2022	4	2022
Base Support Agreements	1	2023	1	2023
Bed-down	4	2023	4	2024
Autonomy - Advanced Air Mobility Assessments	1	2024	1	2025
Autonomy - Proving Group Operation	1	2024	4	2025
Integration and Cross Domain Kit Development	1	2024	2	2024
Software Integration Sprints	2	2024	4	2025
<b><i>Blended Wing Body- Next Generation Large Aircraft</i></b>				
Vehicle Design, Airframe, Avionics and Flight Controls, Test	1	2023	4	2023

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Air Force										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 3600 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime				<b>Project (Number/Name)</b> 640858 / AFWERX Prime			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
640858: AFWERX Prime	-	0.000	0.000	70.348	0.000	70.348	6.359	6.511	6.493	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

AFWERX Prime is a new acquisition approach that uses government-specific resources to reduce risk in emerging technology markets while partnering with investors, industry, interagency, and international partners for accelerated, affordable, and agile commercial and military capability. Initial efforts of AFWERX Prime Agility Prime program provides research, development, testing, and evaluation to field transformative vertical flight technology. These systems incorporate non-traditional electric or hybrid propulsion for manned or optionally manned missions, with onboard, remote, or eventually autonomous control. Agility Prime efforts leverages commercial investment in technologies that support mobility and sustainment in benign or contested environments to enable agile, lower-cost distributed logistics, humanitarian operations, disaster response operations, and communications capabilities.

Agility Prime leverages emerging vertical lift and logistics platforms, enabling resilient basing and sustainment options. Future Prime initiatives will use the same paradigm to leverage commercial technology and investment for high returns on government participation in this sector, achieving advanced, agile, and accelerated fielding of commercial and military capability bolstering national security and domestic technological dominance. AFWERX Prime autonomy efforts aim to accelerate enabling autonomy technologies and dual-use approaches to transition autonomous capabilities into fielded capabilities.

Funding for Project 640858 AFWERX Prime under Program 64858F Tech Transition transitioned to Project 640858 AFWERX Prime under this program beginning FY 2023 per Congressional direction.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> AFWERX Prime	-	0.000	70.348
<b>Description:</b> Execution of efforts to explore and transition emerging dual-use technologies under this new acquisition approach to include evaluation of transformative vertical flight and agile logistics supporting distributed operations, autonomous capabilities, advanced energy and hybrid propulsion, and rapid commercial software capabilities. Activities include technical exchanges, research, development, certification, testing, and evaluation.			
<b>FY 2023 Plans:</b> Continue Agility Prime risk reduction ground testing with multiple aircraft manufacturers including wind tunnel, environmental, cyber evaluation, and Electromagnetic Interference characterization. Continue prototype testing to characterize performance, handling qualities, and mission system effectiveness. Continue airworthiness assessments aimed at providing flight certified vehicles. Establish initial base charging and infrastructure, including advanced traffic management, to support expanded test operations. Establish initial training and beddown of government piloted crewed electric vertical take off and landing operations, enabling flight tests in realistic operating environments and scenarios to provide data for business case analysis and fielding.			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Air Force		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640858 / AFWERX Prime

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>Collaborate with the Federal Aviation Administration on operations and technical progress and insight to support their civil certification efforts. Continue to perform initial research, development, testing, and evaluation of other potential technology sectors to follow this Prime acquisition paradigm, including autonomy and software integration of capabilities.</p> <p><b>FY 2024 Plans:</b> Efforts include enabling technology risk reduction with multiple manufacturers for commercial and operations assessment. For Agility Prime, continue prototype testing to characterize performance, handling qualities, and mission system effectiveness. Continue facilitating airworthiness assessments aimed at initial flight certified vehicles. Initiate and complete flight tests in realistic operating environments and scenarios to provide data for business case analysis and fielding. Continue research, development, test and evaluation for key enabling technologies of autonomous operations and vehicle collaboration along with hybrid propulsion. For Autonomy Prime, initiate a low-cost pipeline and proving ground for evaluate, iterate, and mature of autonomous capabilities for industry and government organizations, including dual-use applications. Supports commercial advancement of overlapping autonomous mission capabilities and transitioning capabilities into major Air Force autonomy programs. With Integration Prime, initiate a multi-level environment to prototype and transition integrating software capabilities with industry and non-traditional solution providers and software integration stacks to enable rapid adaptability and scalability of mission threads along with a government owned open architecture toolkit for integrating applications onto multiple platforms.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> FY 2024 funding increase of \$70.348 million is due to the realignment of funding to Project 640858 AFWERX Prime under this Program in FY 2024.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	-	0.000	70.348

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

N/A

**Remarks**

**D. Acquisition Strategy**

AFWERX Prime effort will proceed along the following path: 1) investigate details regarding potential commercial markets; 2) identify technologies that are likely to result in successful prototypes and support future DAF capability needs and Operational Imperatives ; 3) create collaborative test plans potentially offering test assets and expertise; 4) leverage this campaign for near-term airworthiness as well as preparation for procurement of hardware, software, data, or services. The intent is to accelerate learning to enable early adoption, procurement, and fielding.

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

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640858 / AFWERX Prime
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<b>Product Development (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Agility Prime AOI 1 Performer A	C/FFP	Various : Various	-	-		-		5.000	Dec 2023	-		5.000	Continuing	Continuing	-
Agility Prime AOI 1 Performer B	C/FFP	Various : Various	-	-		-		1.000	Feb 2024	-		1.000	Continuing	Continuing	-
Agility Prime AOI 2 Performer A	C/FFP	Various : Various	-	-		-		5.000	Dec 2023	-		5.000	Continuing	Continuing	-
Agility Prime AOI 3 Performer A	C/FFP	Various : Various	-	-		-		3.500	May 2024	-		3.500	Continuing	Continuing	-
Agility Prime AOI 3 Performer B	C/FFP	Various : Various	-	-		-		3.500	May 2024	-		3.500	Continuing	Continuing	-
Autonomy Prime Line of Effort A	C/FFP	Various : Various	-	-		-		4.000	Dec 2023	-		4.000	Continuing	Continuing	-
Autonomy Prime Line of Effort B	C/FFP	Various : Various	-	-		-		4.000	Feb 2024	-		4.000	Continuing	Continuing	-
Autonomy Prime Line of Effort C	C/FFP	Various : Various	-	-		-		3.000	May 2024	-		3.000	Continuing	Continuing	-
Autonomy Prime Line of Effort D	C/FFP	Various : Various	-	-		-		4.000	Dec 2023	-		4.000	Continuing	Continuing	-
Integration Prime Capability Sprint A	C/FFP	Various : Various	-	-		-		3.500	Jan 2024	-		3.500	Continuing	Continuing	-
Integration Prime Capability Sprint B	C/FFP	Various : Various	-	-		-		3.500	Apr 2024	-		3.500	Continuing	Continuing	-
Integration Prime Capability Sprint C	C/FFP	Various : Various	-	-		-		3.500	Jul 2024	-		3.500	Continuing	Continuing	-
Integration Prime Open Architecture	C/FFP	Various : Various	-	-		-		3.000	Dec 2023	-		3.000	Continuing	Continuing	-
<b>Subtotal</b>			-	-		-		46.500		-		46.500	Continuing	Continuing	N/A

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

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640858 / AFWERX Prime
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<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Modeling and Analytics Support	MIPR	Various : Various	-	-		-		1.000	Nov 2023	-		1.000	Continuing	Continuing	-
Government Test Support	MIPR	Various : Various	-	-		-		5.000	Dec 2023	-		5.000	Continuing	Continuing	-
Airworthiness and Test Support	Various	Various : Various	-	-		-		2.000	Nov 2023	-		2.000	Continuing	Continuing	-
<b>Subtotal</b>			-	-		-		8.000		-		8.000	Continuing	Continuing	N/A

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Test Integration	Various	Various : Various	-	-		-		5.000	Feb 2024	-		5.000	Continuing	Continuing	-
Autonomy Test Capabilities	Reqn	Various : Various	-	-		-		4.848	Dec 2023	-		4.848	Continuing	Continuing	-
<b>Subtotal</b>			-	-		-		9.848		-		9.848	Continuing	Continuing	N/A

<b>Management Services (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
AFWERX Prime Management PMA	Various	Various : Various	-	-		-		6.000	Dec 2024	-		6.000	Continuing	Continuing	-
<b>Subtotal</b>			-	-		-		6.000		-		6.000	Continuing	Continuing	N/A

<b>Prior Years</b>	<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
-	-		-		70.348		-		70.348	Continuing	Continuing	N/A

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640858 / AFWERX Prime
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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

<b>AFWERX Prime Product Development</b>	
Innovative Capability Opening (Air Race)	██████████
Air Force Airworthiness Assessments (Part 1)	██████████
Air Force Airworthiness Assessments (Part 2)	██████████
Air Force Airworthiness Release	██████████
Federal Aviation Administration Certification	██████████
Department of Defense Airworthiness Certification	██████████
First Air Force Crewed Flights	██████████
Site Surveys	██████████
Bed-down Planning	██████████
Base Support Agreements	██████████
Bed-down	██████████
Autonomy - Advanced Air Mobility Assessments	██████████
Autonomy - Proving Ground Operations	██████████
Integration and Cross Domain Kit Development	██████████
Software Integration Sprints	██████████
<b>Blended Wing Body-Next Generation Large Aircraft</b>	
Vehicle Design, Airframe, Avionics and Flight Controls, Test	██████████

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2024 Air Force **Date:** March 2023

<b>Appropriation/Budget Activity</b> 3600 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604009F / AFWERX Prime	<b>Project (Number/Name)</b> 640858 / AFWERX Prime
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>AFWERX Prime Product Development</i></b>				
Innovative Capability Opening (Air Race)	1	2022	4	2022
Air Force Airworthiness Assessments (Part 1)	1	2022	3	2022
Air Force Airworthiness Assessments (Part 2)	2	2023	3	2023
Air Force Airworthiness Release	3	2022	3	2023
Federal Aviation Administration Certification	4	2024	4	2024
Department of Defense Airworthiness Certification	4	2024	4	2024
First Air Force Crewed Flights	2	2022	2	2022
Site Surveys	1	2022	1	2022
Bed-down Planning	2	2022	4	2022
Base Support Agreements	1	2023	1	2023
Bed-down	4	2023	4	2024
Autonomy - Advanced Air Mobility Assessments	1	2024	1	2025
Autonomy - Proving Ground Operations	1	2024	4	2025
Integration and Cross Domain Kit Development	1	2024	2	2024
Software Integration Sprints	2	2024	4	2025
<b><i>Blended Wing Body-Next Generation Large Aircraft</i></b>				
Vehicle Design, Airframe, Avionics and Flight Controls, Test	1	2023	4	2023