Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*

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	402.725	133.317	109.189	110.291	-	110.291	112.483	114.925	117.328	119.886	-	-
638: *Rapid Prototyping Program*	402.725	99.298	109.189	110.291	-	110.291	112.483	114.925	117.328	119.886	-	-
073: *Rapid Defense Experimentation Reserve*	0.000	34.019	-	-	-	-	-	-	-	-	-	-

Note

New Start (Y/N): No

Project 073, Rapid Defense Experimentation Reserve (RDER), was added to the Rapid Prototyping Program (RPP) Program Element starting in FY 2022. The FY 2023 appropriation transferred RDER to a new Program Element, PE 0604790D8Z.

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Defend the Homeland, Build Sustainable and Long-Term Advantage, and Build a Resilient Joint Force and Defense Ecosystem.

The Rapid Prototyping Program (RPP) supports the rapid development of prototypes required in 12-to-24 months (technical maturation TRL 7-9) to address urgent needs identified through ideation with the Joint Staff, Combatant Commands, or Secretary of Defense guidance. Prototype requirements are developed using threat-informed physics-based mission analyses and are evaluated under the Office of the Under Secretary for Research and Engineering (OUSD (R&E)) Mission Capabilities' (MC) campaign of experimentation, resulting in a military utility assessment. RPP may support the maturation of prototypes across the Department (to include those developed by the Strategic Capabilities Office (SCO), Defense Innovation Unit (DIU), Defense Advanced Research Projects Agency (DARPA), and the Services (TRL 5-6)) that have successfully demonstrated a required capability but have not been independently assessed in operational system of system architectures.

Overarching program goals include modernization of cross-cutting technology areas, providing fieldable end-to-end mission capabilities for Services and joint application, informing programs of record, and delivering capabilities more quickly than traditional acquisition. RPP develops prototypes that reduce technical and integration risk and accelerate capabilities to programs of record and future experimentation, including Rapid Defense Experimentation Reserve (RDER) Joint experiments. RPP project selection aligns to priority mission and technology areas including artificial intelligence / machine learning; autonomous systems; hypersonics; electronic warfare; sensors for intelligence, surveillance, and reconnaissance (ISR); and resilient communications. RPP rapidly develops and fields cross-cutting, prototype capabilities demonstrated in an operational environment to inform DoD and Service leadership.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	137.349	179.189	183.231	-	183.231
Current President's Budget	133.317	109.189	110.291	-	110.291
Total Adjustments	-4.032	-70.000	-72.940	-	-72.940
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-70.000			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.011	-			
• Program Adjustment	-0.021	-	-1.940	-	-1.940
• RDER Re-alignment to 0604790D8Z, Project 790	-	-	-71.000	-	-71.000

Change Summary Explanation

FY 2023 and out-year funding of Project Code 073, Rapid Defense Experimentation Reserve (RDER) is transferred to a new Program Element and Project Code, 0604790D8Z, Project 790.

FY 2024 Program Adjustment is comprised of a re-alignment of $2.442 million to support the Historically Black Colleges and Universities/Minority Serving Institutions program, which is a priority of the Under Secretary of Defense for Research and Engineering (USD(R&E)), $0.118 million to support departmental priorities, and $0.620 million for an economic assumption inflation increase

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604331D8Z / *Rapid Prototyping Program*	Project (Number/Name) 638 / *Rapid Prototyping Program*	

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
638: *Rapid Prototyping Program*	402.725	99.298	109.189	110.291	-	110.291	112.483	114.925	117.328	119.886	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Rapid Prototyping Program (RPP) develops prototypes to deliver capabilities, inform requirements, and bridge the gap between RDT&E activities and fieldable solutions. RPP facilitates and accelerates joint, cross-cutting prototyping efforts within the Services and Defense Agencies. This program has the agility to select, fund, and implement projects in the year of execution as new opportunities or threats emerge. In consultation with the Service Science and Technology (S&T) executives, selected projects generally receive a single year of funding to accelerate capability transition to Services' and Agencies' programs of record. Projects deemed critical by the Under Secretary of Defense for Research and Engineering (USD(R&E)) receive higher amounts of funding across multiple years. Planned funding supports the Joint Warfighting Concept (JWC), the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) critical technology areas, and Service and Agency needs to enable rapid response to emergent and time-sensitive threats.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Southern Cross Integrated Flight Research Experiment (SCIFIRE)	45.400	35.200	8.900
Description: SCIFIRE is a joint U.S.- Australia (AUS) partnership to develop and demonstrate an air-launched air-breathing hypersonic weapon prototype leveraging previous S&T investments in hypersonics. SCIFIRE will further mature hypersonic cruise missile technologies to engage time-critical, heavily defended, and high-value targets in a contested environment. The SCIFIRE form factor provides enhanced capability by allowing for integration on fighter aircraft. In FY 2022, a Weapons Open Systems Architecture (WOSA) framework was completed, enabling system evolution and modularity in a digital design environment. Systems architecture and preliminary design was completed, culminating in a successful Preliminary Design Review (PDR). Program risk assessments are complete. Program planning to progress from PDR design to detailed design, prototype build and testing is complete. ***FY 2023 Plans:*** Finalize detailed design and analysis of the prototype system. Complete integration design related to the F/A-18F aircraft. Complete wind tunnel testing on a subscale test article. Complete ground and flight test planning. Complete subsystem Critical Design Reviews (CDRs). Initiate parts and materials procurement. ***FY 2024 Plans:*** Transition project to U.S. Air Force Hypersonic Attack Cruise Missile (HACM) Program of Record for continued development and testing. ***FY 2023 to FY 2024 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
SCIFIRE ends in December 2023 and transitions to the U.S. Air Force for continued development.			
Title: Joint Affordable Kill-Chain Closure (JAKCC)	50.000	28.400	-
Description: JAKCC supports the National Defense Strategy's priorities to modernize key capabilities and evolve innovative operational concepts. This effort integrates the fully networked command, control, and communications (FNC3); autonomy; electronic warfare (EW); and intelligence, surveillance, and reconnaissance (ISR) prototypes developed on an autonomous platform. A series of incremental demonstration and experimentation activities are executed in coordination with the Services and Combatant Commands to validate the platform integrated prototype capability to accelerate development and adoption of cost effective and interoperable solutions for defense challenges. The JAKCC project leverages a government reference architecture developed in coordination with the Services and Combatant Commands to enable a Service agnostic prototype acquisition strategy. In FY 2022, the JAKCC project stood up a system integration laboratory (SIL) with an accredited project information technology (IT) network to complete prototype payload, mission software, platform software, and modeling and simulation development. Prototype hardware and software underwent testing in the SIL prior to integration onto the prototype autonomous platforms. The project completed the initial flight testing and executed two technology demonstrations. ***FY 2023 Plans:*** In FY 2023 the JAKCC project plans to conduct an additional technology demonstration in early FY 2023. The project will also be finalizing, in coordination with the Services and the Combatant Commands, the plans for the operational demonstration in the third quarter of FY 2023. Following the operational demonstration the findings will be compiled to define requirements that will inform the transition, and resulting acquisition plans, for multiple Service programs of record. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** JAKCC ends and transitions to the U.S. Air Force as lead Service for continued development.			
Title: Wolfpack	-	18.850	36.000
Description: Wolfpack will develop multi-domain prototypes that can deliver various payloads, both kinetic and non-kinetic, to a target from small, containerized launchers. Wolfpack leverages proven delivery platforms and integrates payloads to support ISR, kinetic, and decoy missions using attritable and swarming unmanned systems. ***FY 2023 Plans:*** Initiate effort and develop architecture for platform and payload integration. Conduct trade study and conceptual design of containerized system. ***FY 2024 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue system design and development. Integrate prototype payload with platform for system demonstration. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase funding between FY 2023 and FY 2024 is for system design towards initial demonstrations.			
Title: Stratospheric Payload Development and Maturation ***Description:*** This effort will mature platforms, and develop and integrate payloads, in support of stratospheric domain operations. High altitude payloads will enable and improve multi-domain communication and collaboration, and provide additional intelligence, surveillance, and reconnaissance (ISR) capabilities. ***FY 2023 Plans:*** Initial development of modular high frequency (HF) communication payload. ***FY 2024 Plans:*** Complete development and testing of three prototype payloads that to integrate into surrogate test platforms. Mature high altitude, long endurance platforms. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase funding between FY 2023 and FY 2024 is for system design towards initial demonstrations.	-	16.350	34.000
Title: Multifunction Radio Frequency Payload ***Description:*** Multifunction Radio Frequency Payload will develop and demonstrate non-kinetic effects from existing platforms. The multi-purpose payload development will advance aerial-delivered effects and capabilities to deceive, deny, degrade, disrupt and destroy adversary RF receivers and associated systems. This effort will leverage analysis of viable attack vectors on adversary systems from Defense Advanced Research Projects Agency (DARPA) and develop complimentary exploits. ***FY 2023 Plans:*** RPP anticipates supporting one additional waveform development and an in-flight waveform demonstration. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Payload development completes in FY 2023.	-	10.389	-
Title: Swarming Prototype Attack Unmanned Aerial Systems ***Description:*** This new start effort will develop and integrate novel payloads and capabilities into existing unmanned aerial systems (UAS) to aid in kill-chain closure at the tactical edge. Effects will focus on autonomous target recognition, identification, and terminal engagement. Prototypes will seek to provide identification, targeting, and battle damage assessment with kinetic and	-	-	15.771

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
non-kinetic effects. UAS will integrate swarm coordination and collaboration in multi-agent mission roles. Swarming Prototype Attack UAS will transition to the U.S. Navy. ***FY 2024 Plans:*** In FY 2024, the Swarming Prototype Attack UAS effort will develop and test three prototype payloads to aid in find, fix, track, target, engage, and assess mission. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Project starts in FY 2024 and will develop and test three prototype payloads to aid in find, fix, track, target, engage, and assess mission.			
Title: Asymmetric Air Defense ***Description:*** This effort will accelerate the development and maturation of modular payloads for ground launched effects in support of air defense. Prototypes will allow for distributed and layered air defense sub-systems operating against a range of threats. Small form factor interceptors will operate in contested environments against peer adversaries. ***FY 2024 Plans:*** In FY 2024, Asymmetric Air Defense will start payload and platform development, refining the modular architecture and prototyping first payload subsystem. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Project starts in FY 2024 and will start payload and platform development, refining the modular architecture and prototyping first payload subsystem.	-	-	15.620
Title: Advanced Prototyping to Support OUSD(R&E) Critical Technology Areas ***Description:*** This effort prototypes cutting-edge land, sea, undersea, air, and space capabilities critical to the Joint Warfighting Concept (JWC), critical technology areas and objectives of the Department of Defense (DoD). This effort matures and demonstrates with operationally representative prototypes of integrated network systems-of-systems; 5G; space; autonomy; hypersonics; cyber; directed energy; bio-technology; and machine learning systems to accelerate development and adoption of cost effective and interoperable solutions for defense challenges. Selected projects develop and demonstrate mature prototypes to Service programs of record; mitigate risk in DoD programs; and help characterize potential concepts of operations. Advanced prototyping activities seek to rapidly develop capabilities that can help maintain the U.S. technological edge. Demonstration of advanced prototypes will involve partnerships with the Services, industry, academia, and non-traditional DoD partners.	3.898	-	-
Accomplishments/Planned Programs Subtotals	99.298	109.189	110.291

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

RPP leverages the Services' and Defense Agencies' most efficient and effective acquisition approach for rapid prototyping. This includes using Other Transaction Authorities and new or existing contract vehicles.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

Product Development ($ 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
SCIFIRE	MIPR	Air Force Life Cycle Management Center : Eglin, FL	-	37.421		-		-		-		-	Continuing	Continuing	-
SCIFIRE	MIPR	MISC : Multiple	-	1.522		-		-		-		-	Continuing	Continuing	-
SCIFIRE	Option/ FP	Johns Hopkins University Applied Physics Laboratory : Laurel, MD	-	1.000		-		-		-		-	Continuing	Continuing	-
JAKCC	C/FP	Lead Systems Integrator : Multiple	-	39.823		-		-		-		-	Continuing	Continuing	-
JAKCC	C/FP	MULTI : MULTI	-	1.204		-		-		-		-	Continuing	Continuing	-
JAKCC	MIPR	MISC : Multiple	-	1.921		-		-		-		-	Continuing	Continuing	-
VARIOUS	MIPR	MULTI : MULTI	402.725	16.407	Sep 2022	109.189	Sep 2023	110.291	Sep 2024	-		110.291	Continuing	Continuing	-
		Subtotal	402.725	99.298		109.189		110.291		-		110.291	Continuing	Continuing	N/A

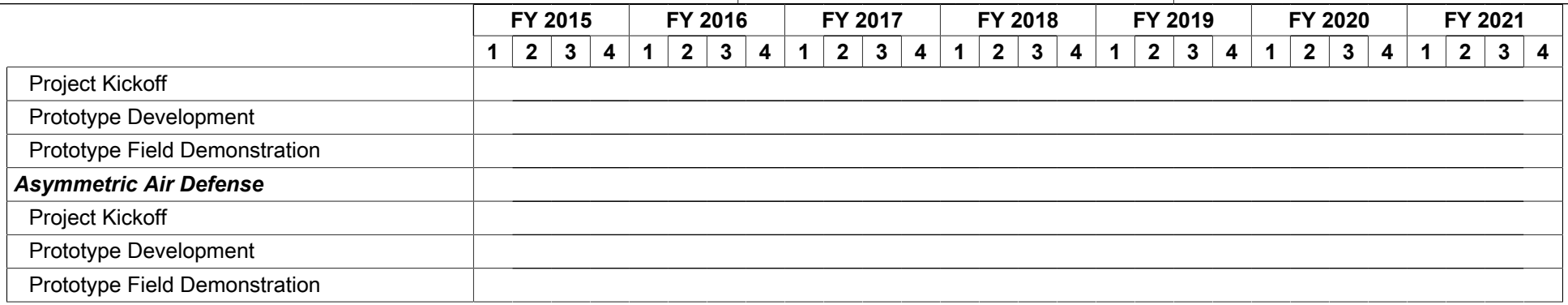
	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	402.725	99.298		109.189		110.291		-		110.291	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
SCIFIRE																												
Contract Award/Project Kickoff																												
Prototype Design Development																												
Prototype Development																												
Joint Affordable Kill-Chain Closure (JAKCC)																												
Project Kickoff																												
Prototype Design Development, Integration (Hardware/Software)																												
Prototype Field Demonstration																												
Wolfpack																												
Contract Award/Project Kickoff																												
Prototype Design Development, Integration (Hardware/Software)																												
Prototype Field Demonstration																												
Stratospheric Payload Development and Maturation																												
Project Kickoff																												
Prototype Design Development and Integration																												
Prototype Field Demonstration																												
Multifunction Radio Frequency Payload																												
Project Kickoff																												
Prototype Development																												
Prototype Field Demonstration																												
Swarming Prototype Attack UAS																												

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*



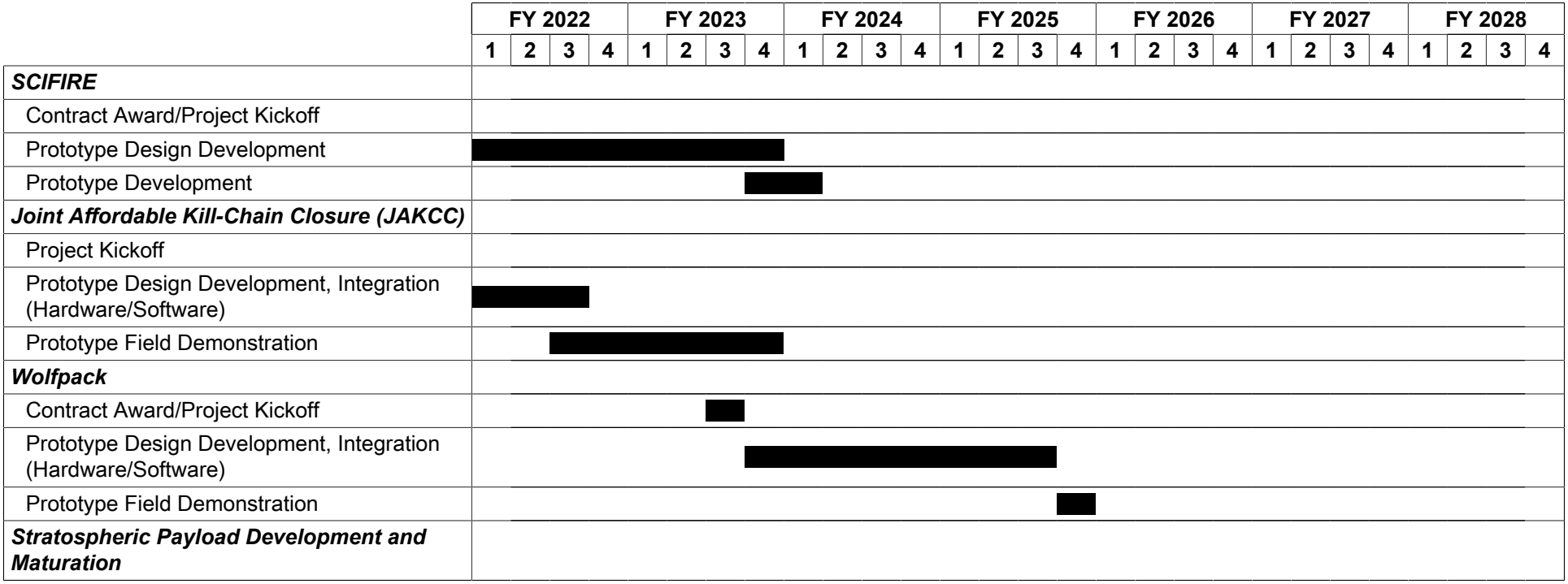


Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

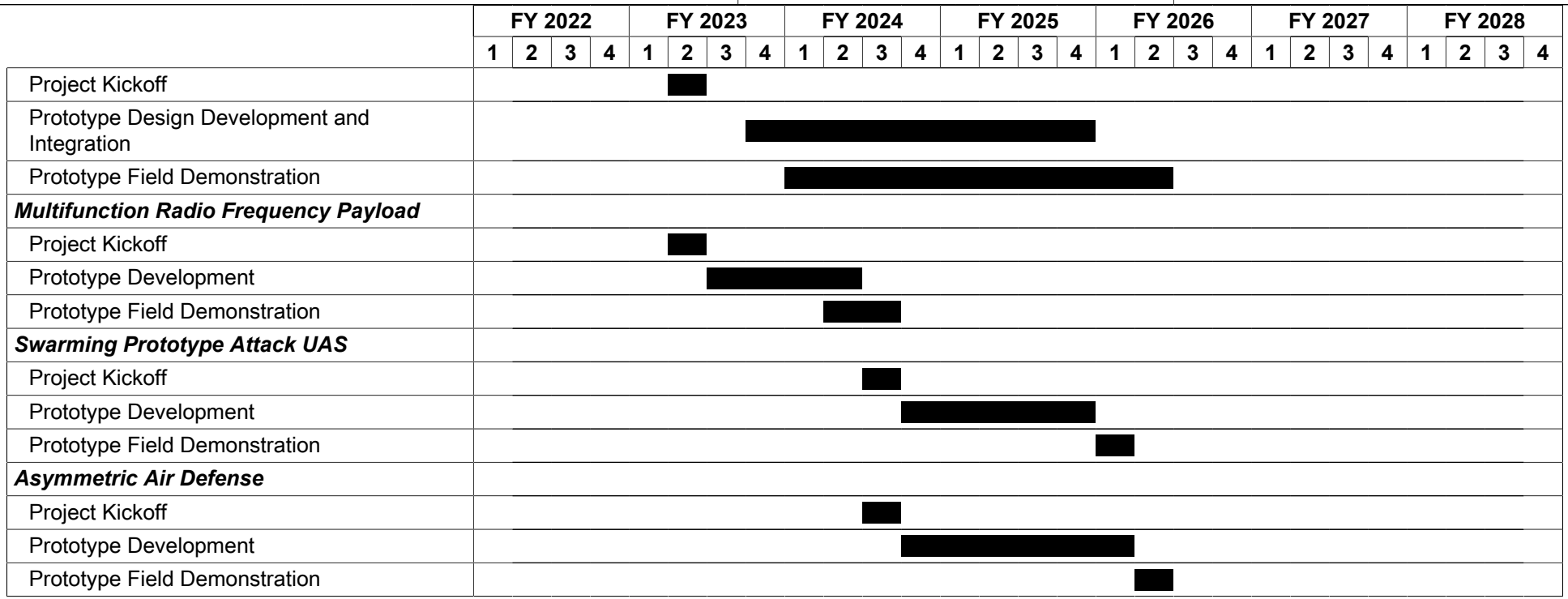


Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SCIFIRE				
Contract Award/Project Kickoff	1	2021	1	2021
Prototype Design Development	2	2021	4	2023
Prototype Development	4	2023	1	2024
Joint Affordable Kill-Chain Closure (JAKCC)				
Project Kickoff	4	2020	4	2020
Prototype Design Development, Integration (Hardware/Software)	1	2021	3	2022
Prototype Field Demonstration	3	2022	4	2023
Wolfpack				
Contract Award/Project Kickoff	3	2023	3	2023
Prototype Design Development, Integration (Hardware/Software)	4	2023	3	2025
Prototype Field Demonstration	4	2025	4	2025
Stratospheric Payload Development and Maturation				
Project Kickoff	2	2023	2	2023
Prototype Design Development and Integration	4	2023	4	2025
Prototype Field Demonstration	1	2024	2	2026
Multifunction Radio Frequency Payload				
Project Kickoff	2	2023	2	2023
Prototype Development	3	2023	2	2024
Prototype Field Demonstration	2	2024	3	2024
Swarming Prototype Attack UAS				
Project Kickoff	3	2024	3	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 638 / *Rapid Prototyping Program*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Prototype Development	4	2024	4	2025
Prototype Field Demonstration	1	2026	1	2026
Asymmetric Air Defense				
Project Kickoff	3	2024	3	2024
Prototype Development	4	2024	1	2026
Prototype Field Demonstration	2	2026	2	2026

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604331D8Z / *Rapid Prototyping Program*	Project (Number/Name) 073 / *Rapid Defense Experimentation Reserve*	

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
073: *Rapid Defense Experimentation Reserve*	0.000	34.019	-	-	-	-	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project 073, Rapid Defense Experimentation Reserve (RDER), was added to the Rapid Prototyping Program (RPP) Program Element starting in FY 2022. The FY 2023 appropriation transferred RDER to a new Program Element, PE 0604790D8Z.

A. Mission Description and Budget Item Justification

To facilitate rapid modernization of the force, the RDER initiative was established in the Defense Planning Guidance for Fiscal Year 2023-2027, to encourage multi-component experimentation through a campaign of learning. Fiscal Year 2022 funding for RDER was congressionally added to the RPP PE. RDER funding was transferred to PE 0604790D8Z in Fiscal Year 2023. Services, Agencies, and other participating organizations are to identify “best of breed” capabilities developed among DoD prototyping programs, and execute approved projects through large-scale experiments in order to refine and/or validate the Joint Warfighting Concept (JWC). Organizations are to 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. These proposals should 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.

The Department will implement multiple RDER experimentation series through Service nominated projects with execution timelines ranging from one to two years. The OUSD(R&E) will review project progress, recommend new projects at least annually with the goal of quickly incorporating the most promising innovative prototypes into experiments, and promptly terminate 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 Office of the Secretary of Defense (OSD) in a manner consistent with the experimentation scenario for which individual projects were selected.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Rapid Defense Experimentation Reserve (RDER) Experiment Proposal Shaping, Evaluation, and Process and Program Management	4.700	-	-
Description: RDER will execute threat informed system-of-systems experiments to fully address Joint capability gaps and serve as an integrating effort for DoD and Service prototyping capabilities. Funding provided for proposal shaping, evaluation, planning, coordination, alignment, and execution of RDER experimentation series into Joint large-scale exercises. Activities included			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
monitoring new technologies through the innovation stakeholder community (Service labs, industry, academia, and federally funded research and development centers) in order to identify those "best of breed" prototyped capabilities to be integrated in experiments and aligned to the Defense Planning Scenarios. The integration of multiple capabilities will assess their operational utility under the Joint Warfighting Concept (JWC). Execution will consist of a series of experimentation that is conducted with existing Service and joint exercise programs. In FY 2022, RDER prepared and planned for those experiments selected for funding in FY 2023. It executed a selection and recommendation process in two call cycles identified as RDER 24-1 and 24-2. A Deputy's Management Action Group (DMAG) decision was made for 24-1 and the 24-2 cycle was completed in October 2022.			
Title: Experiments Integration ***Description:*** RDER Experiments Integration uses combatant command and Service exercise venues already in place to reduce cost and to conduct experiments in operationally relevant environments. In FY 2022, these funds provided manpower to develop and integrate prototype platforms and capabilities into joint experimentation events.	1.000	-	-
Title: Experiment and Architectural Design ***Description:*** This funding provided support for the preemptive actions required for participation in upcoming experimentation events. Through both design and structural efforts, this event architecture assures the proper employment of prototype technologies at multiple venues and locations. In FY 2022, Experiment and Architectural Design integrated a government reference architecture into a Joint experiment to ensure technical maturity and system interoperability.	1.419	-	-
Title: Experimentation Operation Command and Control ***Description:*** This funding provided resources for RDER Operational Planning Teams who deploy simultaneously to multiple regional planning conferences throughout the year to integrate coalition experiments into joint force exercises. Deliverables included a mobile Sensitive Compartmented information Facility (SCIF) to assure the secure observation, transition, and execution of critical information on-site.	2.000	-	-
Title: Opposing Force (OPFOR) Threat Emulation ***Description:*** This line was used by RDER personnel to plan and conduct threat emulation to represent an opposing force during experiments. This provided a threat informed, operationally relevant environment to conduct experiments within, thereby increasing the value of information collected.	2.000	-	-
Title: Joint International Experimentation for the Indo-Pacific and Europe	1.200	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: This funding provided for planning and coordination cells in theater that work with services, allies, and partners to plan and execute the RDER experimentation campaign in the Indo-Pacific and European region. In FY 2022, the U.S. Indo-Pacific Command RDER experimentation planning and execution team was stood up. The team planned RDER experimentation efforts in the Indo-Pacific region in preparation for FY 2023 experiments.			
Title: High Altitude Balloons ***Description:*** This funding provided support for stratospheric efforts that enable all domains to leverage already developed prototypes to support experimentation in operationally relevant environments. Additional details provided in classified R2.	2.000	-	-
Title: End-to-End Mission Thread Studies and Analysis Support ***Description:*** This funding supported hypothesis and discovery efforts to better inform the capabilities required to enable the Joint Force to execute the Joint Warfighting Concept. Johns Hopkins University Applied Physics Lab (JHU APL) supported this effort. In FY 2022, Mission Engineering analysis, studies, and discovery experiments were executed to inform the identification of required warfighting capabilities and technologies to close warfighting gaps and support implementation of the Joint Warfighting Concept.	2.200	-	-
Title: RDER Experimentation Acceleration ***Description:*** This effort accelerated service led experimentation efforts that were selected as part of follow-on year experimentation. This is necessary to account for long lead items and ensure that capabilities will be available on risk reduction event and exercise timelines in the next fiscal year. Experiments that were provided with acceleration funding in FY 2022 included the Family of Integrated Targeting Cells (FITC), High Frequency Modernization, MQ-9 Enhancements, and Valkyrie Suppression of Enemy Air Defenses.	17.500	-	-
Accomplishments/Planned Programs Subtotals	34.019	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Service experimentation outcomes will be designed to validate and accelerate 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

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

Concept, assist the Joint Requirements Oversight Council in requirements determination, and inform the Deputy's Management Action Group to make budget decisions that effect changes throughout the Department.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*	

Product Development ($ 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
End to End mission thread studies and Analysis Support	MIPR	Washington Headquarters Services : Alexandria VA	-	2.000		-		-		-		-	-	-	-
Industry experimentation	MIPR	Air Force Life Cycle Management Center/ HBN : Hanscom AFB, MA	-	1.000		-		-		-		-	-	-	-
Industry experimentation	MIPR	DEVCOM Army Research Laboratory : Adelphi, MD	-	1.000		-		-		-		-	-	-	-
Joint International Experimentation for the Indo-Pacific and Europe	MIPR	MULTI : MULTI	-	1.800		-		-		-		-	-	-	-
RDER experimentation acceleration	MIPR	MULTI : MULTI	-	7.450		-		-		-		-	-	-	-
RDER experimentation acceleration	MIPR	SAF/FMBIB : Washington DC	-	2.000		-		-		-		-	-	-	-
RDER experimentation acceleration	MIPR	DLA Troop Support : Philadelphia, PA	-	1.233		-		-		-		-	-	-	-
RDER assessments and experiments	MIPR	Naval Air Warfare Center Aircraft Division : Patuxent River, MD	-	3.500		-		-		-		-	-	-	-
RDER experimentation acceleration	MIPR	NAVWAR Information Warfare Command : Pacific, San Diego, CA	-	1.000		-		-		-		-	-	-	-
RDER Experimentation Proposal shaping and support	MIPR	MISC : Multiple	-	4.170		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

Product Development ($ 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
High Altitude Balloons	MIPR	Navy Systems Management Activity : JBAB, DC	-	2.000		-		-		-		-	-	-	-
VARIOUS	MIPR	Naval Surface Warfare Center Dahlgren Division : Dahlgren, VA	-	2.000		-		-		-		-	-	-	-
VARIOUS	MIPR	MULTI : MULTI	-	4.866	Sep 2022	-		-		-		-	-	-	-
		Subtotal	-	34.019		-		-		-		-	-	-	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	-	34.019		-		-		-		-	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

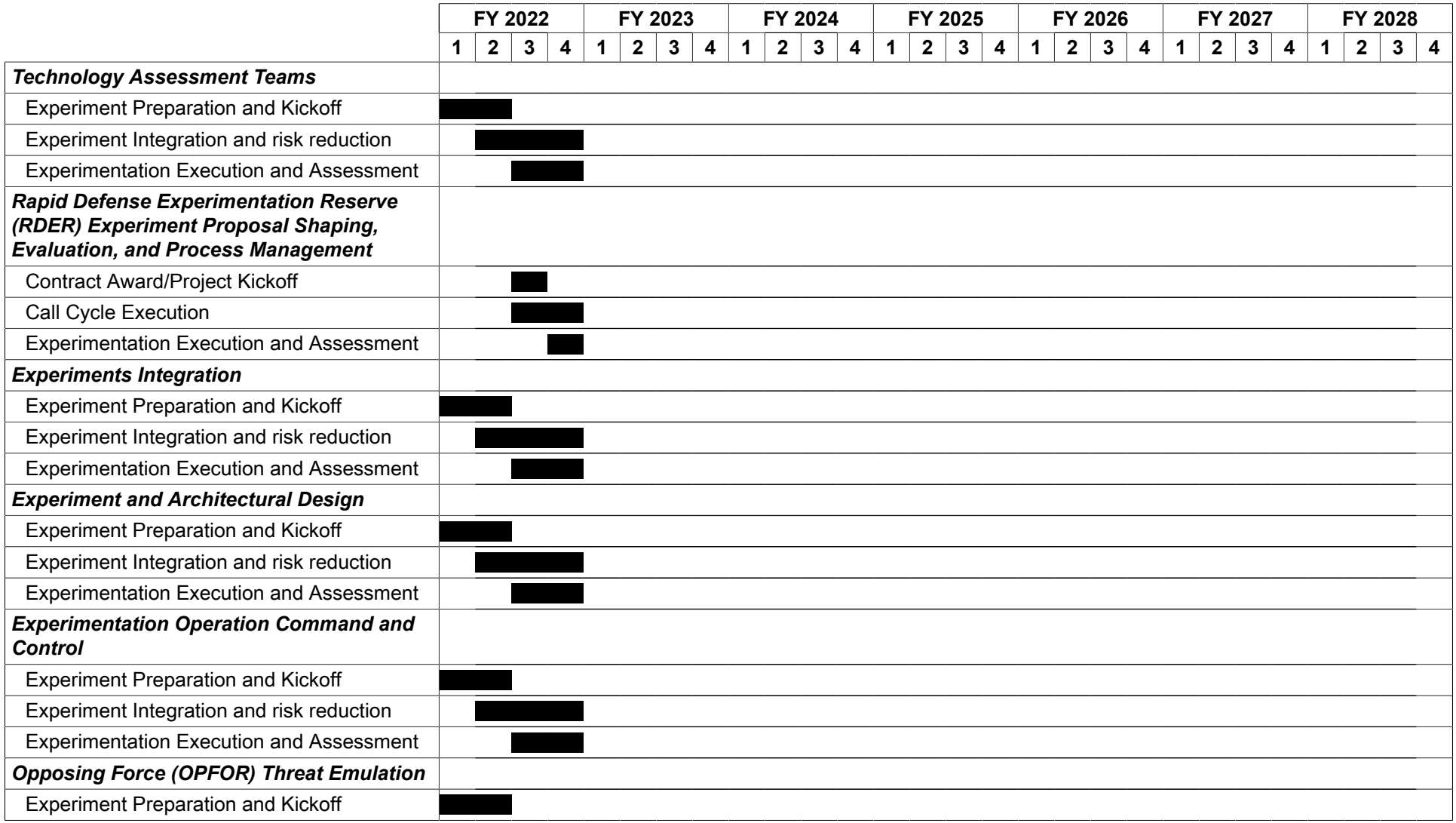


Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

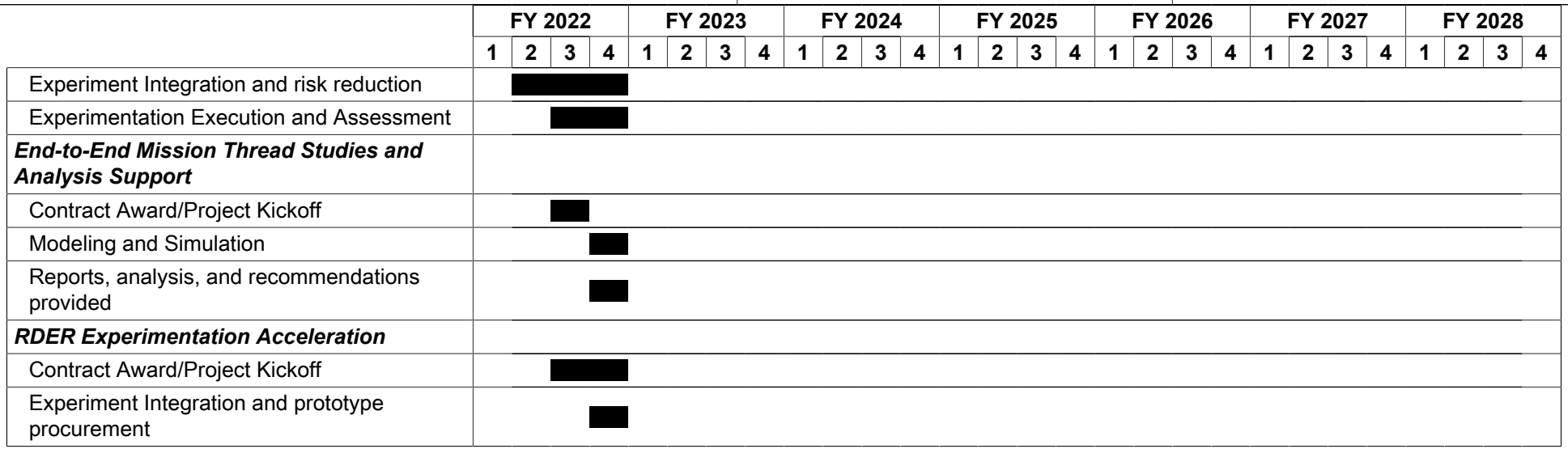


Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Technology Assessment Teams				
Experiment Preparation and Kickoff	1	2022	2	2022
Experiment Integration and risk reduction	2	2022	4	2022
Experimentation Execution and Assessment	3	2022	4	2022
Rapid Defense Experimentation Reserve (RDER) Experiment Proposal Shaping, Evaluation, and Process Management				
Contract Award/Project Kickoff	3	2022	3	2022
Call Cycle Execution	3	2022	4	2022
Experimentation Execution and Assessment	4	2022	4	2022
Experiments Integration				
Experiment Preparation and Kickoff	1	2022	2	2022
Experiment Integration and risk reduction	2	2022	4	2022
Experimentation Execution and Assessment	3	2022	4	2022
Experiment and Architectural Design				
Experiment Preparation and Kickoff	1	2022	2	2022
Experiment Integration and risk reduction	2	2022	4	2022
Experimentation Execution and Assessment	3	2022	4	2022
Experimentation Operation Command and Control				
Experiment Preparation and Kickoff	1	2022	2	2022
Experiment Integration and risk reduction	2	2022	4	2022
Experimentation Execution and Assessment	3	2022	4	2022
Opposing Force (OPFOR) Threat Emulation				

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604331D8Z / *Rapid Prototyping Program*	**Project (Number/Name)** 073 / *Rapid Defense Experimentation Reserve*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Experiment Preparation and Kickoff	1	2022	2	2022
Experiment Integration and risk reduction	2	2022	4	2022
Experimentation Execution and Assessment	3	2022	4	2022
End-to-End Mission Thread Studies and Analysis Support				
Contract Award/Project Kickoff	3	2022	3	2022
Modeling and Simulation	4	2022	4	2022
Reports, analysis, and recommendations provided	4	2022	4	2022
RDER Experimentation Acceleration				
Contract Award/Project Kickoff	3	2022	4	2022
Experiment Integration and prototype procurement	4	2022	4	2022