Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy												Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*							
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	5,804.736	213.010	235.204	333.783	-	333.783	332.802	291.089	237.464	243.172	Continuing	Continuing
1662: *F/A-18 Improvement*	4,759.817	134.252	173.710	323.420	-	323.420	320.717	278.449	225.610	231.078	464.249	6,911.302
2065: *F/A-18 Radar Upgrade*	768.422	7.540	11.246	8.683	-	8.683	10.884	11.806	11.005	11.226	Continuing	Continuing
2071: *F/A-18 Block III*	245.086	37.840	33.282	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	316.208
9099: *Physiological Episodes*	5.329	4.417	2.966	1.680	-	1.680	1.201	0.834	0.849	0.868	Continuing	Continuing
9999: *Congressional Adds*	26.082	28.961	14.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	69.043

A. Mission Description and Budget Item Justification

The F/A-18 is required to perform multiple missions. The continued F/A-18 E/F and EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Super Hornet next generation mission system capability to maintain the platform's tactical relevance in support of Navy Aviation Plan 2030.

Development continues for a platform solution to threat Advanced Electronic Attack (AEA) and Counter-Electronic Attack (CEA). F/A-18 solutions to CEA include upgrades to existing sensors such as F/A-18 Radar Upgrade, Infrared Search and Track Block I/II, and development of future tactical data fusion that follows previous Common Tactical Picture (CTP) risk reduction efforts. Tactical data fusion capability is the next step in expanding the F/A-18E/F contributions to the force war fighting capability by combining multiple aircraft and sensor inputs, that effectively extends the engagement range while maximizing sensors and weapons. Incremental improvements continue with Multi-System Integration (MSI), Multi-Ship Ranging (MSR), and other algorithm improvements that are driven by sensor advancements, and efforts designed to increase aircraft lethality and kill chain effectiveness. Development and fleet delivery of special purpose integrated solution designated by Speed to Fleet by commanders, such as PACFLT Tactical Edge Network Targeting in a Contested Long-range Environment (TENTaCLE), continue with dedicated resources and approved action plan. Software Modernization R&D efforts continue with new operating environment (hardware and software solutions) designed to take advantage of rapid software integration and security improvements that harden and protect the aircraft and weapon systems. The effort includes Model Based Systems Engineering (MBSE) tools that reduce future costs and schedule of technology insertion.

Capabilities of the F/A-18 weapon system and ancillary equipment require upgrades to accommodate and incorporate new and enhanced weapons and advances in technology to respond effectively to emerging future threats. Future integrated Carrier Air Wing Concept of Operations (CONOPS) demand changes to the base line Block II Super Hornet. Development and Operational Testing for Block III Super Hornet are required with incremental updates to mission computer software and fusion system will be required as fleet takes delivery of aircraft. Continuation of F/A-18 Block III development and improvements which will be incorporated in the near term with a combination of forward fit production line incorporation and retrofit modifications to the aircraft already planned as part of the Service Life Modification (SLM) Plan. Additionally, Block III system and other technology solution development will support NGAD risk reduction activities.

USMC upgrades to the platform are being developed; to include integration and capability expansion of Active Electronically Scanned Array (AESA) Radar for F/A-18 A-D, evaluation and development of an Automatic Ground Collision Avoidance System (AUTOGCAS) for all F/A-18 variants, development of increased sensor and

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204136N *I F/A-18 Squadrons*

Electronic Warfare (EW) capability for F/A-18 A-D, weapons carriage and employment capability expansion, and enhancement of Mission Computer (MC) processing and memory capability.

Funding for Naval Aviation Physiological Episode (PE) mitigation and root cause investigation in aircraft.

Funding for the Digital Video Map Computer-Upgrade (DVMC-U)/Advanced Crew Station (ACS) Improved Tactical Displays which will enable Panoramic "Big Picture" view of the Battle Space for improved weapons employment and engagement. Leveraging completed work from F/A-18A-D to include the development of an AUTOGCAS for the F/A-18E/F and EA-18G is a logical extension of the DVMC-Upgrade using modifications to the Terrain Avoidance Warning System (TAWS) resident in the existing DVMC in fatal mishap prevention.

Current F/A-18E/F EW suite will not keep pace against evolving threats. Advanced Electronic Warfare (ADVEW) provides increased survivability and enhanced SA throughout the EM spectrum against current, expanded and complex RF threats/environment. Incremental approach to collaborative detection/jamming initiatives and Common Tactical Picture concepts.

Network Cyber Defense provides for the development of a hardware and software based solution into the Distributed Target Processor - Network (DTP-N) in order for the network cyber defense to provide the F/A-18 E/F and EA-18G with a capability to detect an intrusion and prevent avionics terminals on the data from being corrupted by malicious software and identify when the software is not operating normally.

The Next Generation Naval Mission Planning System (NGNMPS) updates legacy Joint Mission Planning System (JMPS) into an integrated capability providing advanced multiple/dissimilar aircraft planning capabilities focused on emerging, high-threat mission areas (including complex, integrated kinetic/non-kinetic effects).

Live Virtual Constructive (LVC) Aircraft funds the testing of F/A-18 and EA-18G aircraft and trainers into the Live, Virtual, Constructive, blended training environment to close the Great Powers Competition training capability gap for mission rehearsal for the high end fight. F/A-18 and EA-18G are a critical part of the Aviation LVC System of Systems (SoS) training environment bringing already-developed capabilities together with new developmental efforts to form a cohesive architecture that accurately emulates the high end fight for warfighter training.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204136N *I F/A-18 Squadrons*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	219.224	238.974	247.944	-	247.944
Current President's Budget	213.010	235.204	333.783	-	333.783
Total Adjustments	-6.214	-3.770	85.839	-	85.839
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-17.770			
• Congressional Rescissions	-	-			
• Congressional Adds	-	14.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-6.214	0.000			
• Program Adjustments	0.000	0.000	101.498	-	101.498
• Rate/Misc Adjustments	0.000	0.000	-15.659	-	-15.659

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 9999: *Congressional Adds*		
Congressional Add: *Noise reduction research*	3.861	4.000
Congressional Add: *Training technology*	9.654	0.000
Congressional Add: *Civil instrument landing system*	2.896	0.000
Congressional Add: *Solid state light off detector*	7.723	0.000
Congressional Add: *Neural network algorithms on advanced processors*	4.827	0.000
Congressional Add: *Advanced beacon landing system upgrade*	0.000	10.000
Congressional Add Subtotals for Project: 9999	28.961	14.000
Congressional Add Totals for all Projects	28.961	14.000

Change Summary Explanation

Cost:

1662: The FY2024 funding request was increased by $94.939 million for Advanced Electronic Warfare (ADVEW), $20.000 million for Next Generation Mission Planning System (NGNMPS). The FY2024 funding request was decreased by $4.552 million for higher Navy priorities and $13.563 million for miscellaneous adjustments.

2065: The FY2024 funding request was decreased by $2.109 million for miscellaneous adjustments.

2071: The FY2024 funding request was decreased by $8.889 million for higher Navy priorities.

9099: The FY2024 funding request was increased by $.013 million for miscellaneous adjustments.
9999: Not Applicable

Technical:
1662: Not Applicable
2065: Not Applicable
2071: Not Applicable
9099: Not Applicable
9999: Not Applicable

Schedule:
1662:
- Updated MSI/CTP to add H22 Agile
- Updated USMC Capability Upgrades schedule to reflect revised acquisition strategy
- Updated DVMC-U Hardware Design and Development to begin Q4 FY22
- Updated ACS/DVMC-U Development to begin Q4 FY22
- Updated ACS/DVMC-U Integration to ACS/DVMC-U Integration (Lab Testing)
- Updated ACS/DVMC-U DT to begin Q2 FY24
- Updated ACS/DVMC-U IT&E to begin Q4 FY25
- Updated Flight Plan Software Fleet Releases to align with MSI/CTP schedule
- Added schedule for Network Cyber Defense
- Added schedule for Next Generation Mission Planning System (NGNMPS)
- Added schedule for Advanced Electronic Warfare (ADVEW)
- Added schedule for Live Virtual Constructive (LVC) Aircraft Integration

2065:
- Added H22 IOC in 4Q FY27
- Added H22 OT beginning in 4Q FY27
- Revised H18 release to begin 2Q FY23
- Revised H20 release to begin 2Q FY25
- Added 80 Series SW Interoperability beginning Q3 FY27
- Added Advanced SW Development beginning Q3 FY25
- Added WBR Deliveries beginning Q3 FY27

2071:

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204136N *I F/A-18 Squadrons*

- Revised schedule format to align with program plan to move funding to PU 1662 in FY24.

9099:
- Not Applicable

9999:
- Added schedules for Noise Reduction and Advanced Beacon Landing System Upgrade

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*	

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
1662: *F/A-18 Improvement*	4,759.817	134.252	173.710	323.420	-	323.420	320.717	278.449	225.610	231.078	464.249	6,911.302
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F/A-18 is required to perform multiple missions. The continued F/A-18 E/F and EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Super Hornet next generation mission system capability to maintain the platform's tactical relevance in support of Navy Aviation Plan 2030.

Development continues for a platform solution to threat Advanced Electronic Attack and Counter-Electronic Attack (CEA). F/A-18 solutions to CEA include upgrades to existing sensors such as F/A-18 Radar Upgrade, Infrared Search and Track Block I/II, and development of future tactical data fusion that follows previous Common Tactical Picture (CTP) risk reduction efforts. Tactical data fusion capability is the next step in expanding the F/A-18E/F contributions to the force war fighting capability by combining multiple aircraft and sensor inputs, that effectively extends the engagement range while maximizing sensors and weapons. Incremental improvements continue with Multi-System Integration (MSI), Multi-Ship Ranging (MSR), and other algorithm improvements that are driven by sensor advancements, and efforts designed to increase aircraft lethality and kill chain effectiveness. Development and fleet delivery of special purpose solutions designated by Speed to Fleet by commanders, such as PACFLT Tactical Edge Network Targeting in a Contested Long-range Environment (TENTaCLE), continue with dedicated resources and approved action plan. Software Modernization R&D efforts continue with new operating environment (hardware and software solutions) designed to take advantage of rapid software integration and security improvements that harden and protect the aircraft and weapon systems. The effort includes Model Based Systems Engineering (MBSE) tools that reduce future costs and schedule of technology insertion.

Capabilities of the F/A-18 weapon system and ancillary equipment require upgrades to accommodate and incorporate new and enhanced weapons and advances in technology to respond effectively to emerging future threats. Future integrated Carrier Air Wing Concept of Operations (CONOPS) demand changes to the base line Block II Super Hornet. Development and Operational Testing for Block III Super Hornet are scheduled to begin in FY22, with incremental updates to mission computer software and fusion system will be required as fleet takes delivery of aircraft. Continuation of F/A-18 Block III development and improvements which will be incorporated in the near term with a combination of forward fit production line incorporation and retrofit modifications to the aircraft already planned as part of the Service Life Modification (SLM) Plan. Additionally, Block III system will support NGAD risk reduction activities.

USMC upgrades to the platform are being developed; to include integration and capability expansion of AESA Radar for F/A-18 A-D, evaluation and development of an Automatic Ground Collision Avoidance System (AUTOGCAS) for all F/A-18 variants, development of increased sensor and Electronic Warfare (EW) capability for F/A-18 A-D, weapons carriage and employment capability expansion, and enhancement of Mission Computer (MC) processing and memory capability. The requirement for Automatic Ground Collision Avoidance System (Auto-GCAS and/or AGCAS) is documented in the F/A-18 C/D Automatic Ground Collision Avoidance System Requirement Letter, dated 20 July 2020: "Controlled Flight into Terrain (CFIT) has been the leading cause of F/A-18 aircraft loss and aircrew fatality. Protecting the lives of aircrew, and preserving Marine Corps' assets are vital to combat readiness. The F/A-18 community has consistently placed AGCAS as a top platform safety priority in Naval Aviation Readiness Groups, Operational Advisory Groups, and Systems Safety Working Groups. AGCAS aligns with Section 127 of the FY19 National Defense Authorization Act, which directs the Secretary of the Navy to mitigate the risk of pilot incapacitation posed by physiological episodes. Historically, USAF F-16 squadrons have experienced similar CFIT mishap rates. To address this, the F-16 community developed a variant of AGCAS, and has demonstrated real world success

in preventing CFIT with at least eight documented "saves." Due to this capability, the risk of CFIT has been effectively mitigated in the USAF F-16 community. Most importantly, AGCAS would have prevented multiple fatal F/A-18 CFIT mishaps based on simulation re-enactments of these events. The USMC F/A-18 community requires AGCAS. The system must be capable of providing an Initial Operating Capability no later than the end of Fiscal Year 2022."

Funding for the Digital Video Map Computer-Upgrade (DVMC-U)/Advanced Crew Station (ACS) Improved Tactical Displays which will enable Panoramic "Big Picture" view of the Battle Space for improved weapons employment and engagement. Including the development of an AUTOGCAS for the F/A-18E/F and EA-18G as a logical extension of the DVMC-Upgrade leveraging completed work from F/A-18A-D using modifications to the TAWS resident in the existing Super Hornet/Growler DVMC in fatal mishap prevention.

Funding for Naval Aviation Physiological Episode (PE) mitigation and root cause investigation in aircraft.

Aviation LVC addresses the capability gap for advanced, integrated training for the Great Powers Competition (GPC) high-end fight against a peer adversary. Live execution of the extremely complex GPC scenarios would require tremendous numbers of aircraft operating at ranges and classification levels that far exceed the size and capabilities of existing Tactical Training Ranges (TTR). LVC closes this capability gap with an integrated network of aircrew-operated simulators (Virtual) and computer-generated airborne and surface forces (Constructive) to augment the Live event. This effort will test integrated capabilities with advanced threat and weapon simulation systems, Virtual and Constructive inputs in the Live cockpit, Live and Constructive entities into the simulator cockpit, and modified Operational Flight Programs (OFP) on the F/A-18 and E/A-18G. The F/A-18 effort is associated with the LVC efforts in RDTEN 3093.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: F/A-18 Obsolescence Redesign	3.408	8.400	17.834	0.000	17.834
Articles:	-	-	-	-	-
Description: Develop and test modifications to address obsolescence issues. ***FY 2023 Plans:*** FY23 effort will include Flight Control Computer (FCC) Shop-Replaceable Assembly (SRA) level specification document development, SRA hardware design & development initiation, and software development initiation. The F/A-18E, F/A-18F and EA-18G FCC receives inputs from the aircraft sensors and provides full authority fly-by-wire aircraft control, true airspeed, true angle-of-attack, and relative air density to the Advanced Mission Computer (AMC). F/A-18E, F/A-18F and EA-18G FCCs are interchangeable. The FCC is currently impacted by multiple obsolete components; Processor Module SRA and Mezzanine Card currently have 11 obsolete components. Redesigning mitigates parts obsolescence by leveraging existing industry designs and incorporating more modern hardware and software technologies, incurring significant cost savings to the					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
program by eliminating O&S costs for older systems. The program will include FCC obsolescence mitigation hardware design changes, FCC software update, system and aircraft level testing. ***FY 2024 Base Plans:*** FY24 effort will include finalization of Flight Control Computer (FCC) Shop-Replaceable Assembly (SRA) level specification document development and approval, while continuing SRA hardware design & development, software development and Test Plan and Procedure development. The F/A-18E, F/A-18F and EA-18G FCC receives inputs from the aircraft sensors and provides full authority fly-by-wire aircraft control, true airspeed, true angle-of-attack, and relative air density to the Advanced Mission Computer (AMC). F/A-18E, F/A-18F and EA-18G FCCs are interchangeable. The FCC is currently impacted by multiple obsolete components; Processor Module SRA and Mezzanine Card currently have 11 obsolete components. Redesigning mitigates parts obsolescence by leveraging existing industry designs and incorporating more modern hardware and software technologies, incurring significant cost savings to the program by eliminating O&S costs for older systems. The program will include FCC obsolescence mitigation hardware design changes, FCC software update, system and aircraft level testing. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase from FY2023 to FY2024 of $9.434 million is due to an increase in contract design and development for FCC efforts.					
Title: USMC Capability Upgrades	21.201	7.778	15.322	0.000	15.322
Articles:	-	-	-	-	-
Description: USMC upgrades to the platform are being developed to include evaluation and development of an Automatic Ground Collision Avoidance System (AUTOGCAS) for all F/A-18 variants, development of increased sensor and EW capability for F/A-18 A-D, weapons carriage and employment capability expansion, and enhancement of MC processing and memory capability. AUTOGCAS will provide the F/A-18 with an auto recovery capability that maneuvers the aircraft away from the ground in case of pilot incapacitation from G-Loss of Consciousness or a Physiological Episode (PE) event. This is a significant aircraft safety improvement that could have prevented multiple fatal F/A-18 mishaps over the past two decades. The requirement for Automatic Ground Collision Avoidance System (Auto-GCAS and/or AGCAS) is documented in the F/A-18 C/D Automatic Ground Collision Avoidance System Requirement Letter, dated 20 July 2020: "Controlled Flight into Terrain (CFIT) has been the leading cause of F/A-18 aircraft loss and aircrew fatality.					

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Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Protecting the lives of aircrew, and preserving Marine Corps' assets are vital to combat readiness. The F/A-18 community has consistently placed AGCAS as a top platform safety priority in Naval Aviation Readiness Groups, Operational Advisory Groups, and Systems Safety Working Groups. AGCAS aligns with Section 127 of the FY19 National Defense Authorization Act, which directs the Secretary of the Navy to mitigate the risk of pilot incapacitation posed by physiological episodes. Historically, USAF F-16 squadrons have experienced similar CFIT mishap rates. To address this, the F-16 community developed a variant of AGCAS, and has demonstrated real world success in preventing CFIT with at least eight documented "saves." Due to this capability, the risk of CFIT has been effectively mitigated in the USAF F-16 community. Most importantly, AGCAS would have prevented multiple fatal F/A-18 CFIT mishaps based on simulation re-enactments of these events. The USMC F/A-18 community requires AGCAS. The system must be capable of providing an Initial Operating Capability no later than the end of Fiscal Year 2024." ***FY 2023 Plans:*** Continue AUTOGCAS Phase 2 Flight Control Computer (FCC) Operational Flight Programs (OFP) Update and platform integration and testing. ***FY 2024 Base Plans:*** Complete AUTOGCAS platform integration flight testing. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase from FY 2023 to FY 2024 by $7.544 million due to AUTOGCAS Integration Testing nd Mission Computer (MC) analysis efforts.					
Title: Digital Video Map Computer-Upgrade (DVMC-U)	22.585	36.726	41.315	0.000	41.315
Articles:	-	-	-	-	-
Description: Funds development of Digital Video Map Computer-Upgrade (DVMC-U) (formerly known as Advanced Capability Display Computer - ACDC) to leverage Large Area Displays (LAD) and Advanced Networking Infrastructure (ANI) in Block III to provide greater situational awareness and incorporate Tactical Decision Aids such as Common Tactical Picture. AUTOGCAS will provide the F/A-18 with an auto recovery capability that maneuvers the aircraft away from the ground in case of pilot incapacitation or Controlled Flight Into Terrain (CFIT) incidents. This is a significant aircraft safety improvement that could have prevented multiple fatal F/A-18 mishaps over the past two decades and aligns with Section 127 of the FY19 National Defense Authorization Act directing the Secretary of the Navy to mitigate the risk posed by CFIT. Modifications to					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
the Digital Mapping Computer (DMC), as well as the Terrain Avoidance Warning System (TAWS) and flight control laws to incorporate AUTOGCAS for the F/A-18A-D Hornet directly port over to incorporate this life-saving capability to the Super Hornet/Growler with reduced program development requirements. Including the development of an AUTOGCAS for the F/A-18E/F and EA-18G leveraging completed work from F/A-18A-D is scheduled to begin in FY22 as a logical extension of the DVMC-Upgrade using modifications to the TAWS resident in the existing DVMC in fatal mishap prevention. ***FY 2023 Plans:*** Continue design and development for the Digital Video Map Computer-Upgrade (DVMC-U) hardware & software that will enable Larger Area Display surface to be fully utilized with advanced graphical tactical displays and intuitive touch screen interface capabilities. During this time, the hardware design will be more mature so we expect the software development to ramp up. The software development will be for the internal DVMC operational program, aircraft integration via the mission computer, and enhanced displays. ***FY 2024 Base Plans:*** Continue design and development for the Digital Video Map Computer-Upgrade (DVMC-U) hardware & software that will enable Larger Area Display surface to be fully utilized with advanced graphical tactical displays and intuitive touch screen interface capabilities. During this time, the hardware design will be more mature so we expect the software development to ramp up. The software development will be for the internal DVMC operational program, aircraft integration via the mission computer, and enhanced displays. Developmental flight test efforts to begin. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase from FY 2023 to FY 2024 by $4.589 million due to the start of developmental testing efforts of ACS/ DVMC-U.					
Title: Multi-System Integration (MSI) / Common Tactical Picture (CTP)	84.068	78.982	64.461	0.000	64.461
Articles:	-	-	-	-	-
Description: Multi-System Integration (MSI), Multi-Ship Ranging (MSR), and IRIS algorithm continue to evolve and progress from baseline H16 SCS that continues incremental approach and improvements designed to optimize the system. Concurrently, H16 Block III Common Tactical Picture (CTP) continues with development and optimization of merge data fusion and sensors from single aircraft to multiple aircraft. Advanced Tactical Data Fusion represents an incremental approach to accelerating kill chains through multi aircraft sensor fusion,					

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Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
improved algorithms, automation, and aircrew decision aids. System Configuration Set (SCS) methodology of bundling capabilities and modifications into a single fleet mission computer Operational Flight Program (OFP) continue, but at an increased delivery rate to meet rapid speed to fleet demands. This is being accomplished with an incremental modernization of the F/A-18 & EA-18G software lifecycle that includes Scaled Agile Framework and Continuous Development & Integration (CD&I) methodology. ***FY 2023 Plans:*** Flight Plan continued improvements to MSI, MSR/IRIS, and development of Advanced Tactical Data Fusion that follows initial Block III Common Tactical Picture (CTP) capability. Modeling and simulation, engineering studies, and comprehensive evaluation and/or development of available tactical fusion systems designed to move from current level one category, to level four fusion for the F/A-18 & EA-18G. This includes the identification, evaluation and engineering analysis of the advanced tactical data fusion for F/A-18 & EA-18G, as well as providing Next Generation Air Dominance (NGAD) risk reduction. This effort includes improvements to mission computer, JMPS UPC, and weapon system software SCS updates associated with each incremental Block (H build) and to include ongoing Software Modernization, Cyber protections, and Speed to Fleet requirements. Advances in Super Hornet Air and Surface Warfare will continue with ongoing integration of weapons and sensors into advanced fusion, Display Improvements to enhance air-to-air and air-to-surface situational awareness and aircrew decision superiority, continued development of third party software applications and protocols for rapid fleet capability delivery, and Counter Electronic Attack enhancements to improve survivability and lethality. Increased engineering efforts for integration of active and passive kill chain capabilities and sensors associated with Flight Plan NIFC and OASuW FNC Target Identification transition efforts continues. Airwing interoperability requirements, development of follow on advanced tactical data fusion that enables aircraft division level sensor fusion and resource management, and developmental test efforts also increase at test activities, including ongoing modeling and simulation upgrades such as Net Enabled Weapon Controller Interface Model interoperability software and equipment, Live Virtual Constructive developmental efforts, and Fusion research and integration testing. Funding included for H18 Operational Test of MSI/MSR improvements. ***FY 2024 Base Plans:*** Development and Integration of Advanced Tactical Data Fusion for H20 for F/A-18 & EA-18G as well as providing Next Generation Air Dominance (NGAD) risk reduction. This effort includes improvements to mission computer, JMPS UPC, and weapon system software SCS updates associated with each incremental Block (H build) and to include ongoing Software Modernization, Cyber protections, and Speed to Fleet requirements. Advances in Super Hornet Air and Surface Warfare will continue with ongoing integration of weapons and sensors into advanced fusion, Display Improvements to enhance air-to-air and air-to-surface situational					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
awareness and aircrew decision superiority, continued development of third party software applications and protocols for rapid fleet capability delivery, and Counter Electronic Attack enhancements to improve survivability and lethality. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease from FY 2023 to FY 2024 by $14.521 million due to completion of H18 test events.					
Title: Flight Plan Engineering / System Configuration Set Development and Integration ***Articles:*** ***Description:*** Continue F/A-18 E/F and EA-18G "Flight Plan" spiral capability development, which is critical to the baseline of the Super Hornet next generation mission system capability. Funding will support the development, test, and integration efforts required to maintain tactical relevance in support of the Naval Aviation Plan 2030. ***FY 2023 Plans:*** Continue Flight Plan Engineering efforts to include F/A-18E/F improvements necessary for Super Hornet relevance and tactical supremacy, Software Modernization and Cyber, Navy Integrated Fire Control-Counter Air system configuration set requirements to support Navy Integrated Air and Missile Defense capability requirements and enhanced F/A-18 Cooperative Engagement Capability. Continue to support Trade Studies in these areas, as well as explore new technologies in areas such as Artificial Intelligence. ***FY 2024 Base Plans:*** Continue Flight Plan Engineering efforts to include F/A-18E/F improvements necessary for Super Hornet relevance and tactical supremacy, Software Modernization and Cyber, Navy Integrated Fire Control-Counter Air system configuration set requirements to support Navy Integrated Air and Missile Defense capability requirements and enhanced F/A-18 Cooperative Engagement Capability. Continue to support Trade Studies expanding technology and integration options in these areas, as well as explore new technologies in areas such as Artificial Intelligence. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase from FY 2023 to FY 2024 by $1.243 million due to flight plan development efforts.	2.990 -	2.724 -	3.967 -	0.000 -	3.967 -
Title: F/A-18 E/F/G Network Cyber Defense	0.000	11.200	16.132	0.000	16.132

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Articles:	-	-	-	-	-
Description: This funding provides for the development of a hardware and software based solution into the Distributed Target Processor - Network (DTP-N) in order for the network cyber defense to provide the F/A-18 E/F and EA-18G with a capability to detect an intrusion and prevent avionics terminals on the data from being corrupted by malicious software and identify when the software is not operating normally. The capability determines intrusion via traffic analysis. Air crew are alerted to malicious behavior with forensic data for maintenance for post flight repair. The capability quarantines the intrusion for safe failure across data networks and aircraft. This capability provides positive reliable means to ensure mission aircraft systems integrity during a cyber-attack and thus prevents cyber events from reducing aircraft availability. ***FY 2023 Plans:*** For FY2023 Network Cyber Defense effort will mature the Intrusion Detection Software (IDS) to Technology Readiness Level (TRL) 6. In FY2023, begin the contract for the IDS TRL 6 as well as the integration into the Mission Computer. Begin NAWCAD PAX River software integration efforts on unique Cyber test tool development to accelerate project to Fleet introduction. ***FY 2024 Base Plans:*** FY2024 Network Cyber Defense will perform detailed design and development efforts with a ramp-up in hardware prototyping and integration. Begin coding target system software, developmental test plans and test tool development. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase from FY 2023 to FY 2024 by $4.932 million is due to the start of Cyber software and Cyber integration test efforts.					
Title: Next Generation Mission Planning System (NGNMPS)	0.000	0.000	20.000	0.000	20.000
Articles:	-	-	-	-	-
Description: The Next Generation Naval Mission Planning System (NGNMPS) updates legacy Joint Mission Planning System (JMPS) into an integrated capability providing advanced multiple/dissimilar aircraft planning capabilities focused on emerging, high-threat mission areas (including complex, integrated kinetic/non-kinetic effects). Legacy Joint Mission Planning System-Maritime (JMPS-M) planning capabilities support individual aircraft and weapon initialization requirements. The emerging, near-peer threat environment is demanding					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
a much more capable system allowing a team of aircraft to cooperate effectively across multiple mission areas, domains, and security levels. The NGNMPS is the product of a Mid-Tier Acquisition, rapid prototyping effort which validates new concepts and design requirements necessary to support the emerging demanding environment. This issue sheet funds the ability to field the new, high-end capabilities within the current Air Wing construct. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** Provide support to transition the Airborne Electronic Attack (AEA) Unique Planning Component (UPC) to NGNMPS. Capabilities to be migrated from the Joint Mission Planning (JMPS) to NGNMPS under this effort include the following: JMPS/Next Generation Open Mission Systems (NOMS) data transfer, Order of Battle/ map visuals, ALQ-218/receiver planning, ALQ-99, ALQ-249/jammer planning, mission phase planning, and the associated Developmental Test (DT)/Operational Test (OT) testing for verification and validation. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase in FY2024 funding of $20.000 million to begin the implementation of Next Generation Naval Mission Planning System (NGNMPS).					
Title: F/A-18 Beyond Line Of Sight (BLOS) Comms	0.000	27.900	38.332	0.000	38.332
Articles:	-	-	-	-	-
Description: This capability provides joint, multi-domain connectivity for the distributed battlespace Beyond Line Of Sight (BLOS) tactical communication and puts a common tactical picture into the hands of the pilot. The capability also provides a resilient, real-time gateway between the 4th and 5th generation tactical aircraft with datalinks at the tactical edge with assured C2 and targeting from national and other off board sensors. The data is provided through multiple data paths and supports Long Range Fires in critical environments. Beyond Line Of Site (BLOS) also provides tactical communications for joint, multi-domain connectivity in support of distributed battlespace. This incremental approach allows for rapid, Speed-to-the-Fleet capability insertion as technology and solutions are developed. ***FY 2023 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Provide systems development BLOS/PACFLT upgrades for Increment 1. Solutions include new Receiver/ Transmitters (R/T), antennas and other resilient communications enablers. Provides aircraft SCS integration efforts to support Increment 1 testing. ***FY 2024 Base Plans:*** Provide systems development BLOS/PACFLT for Increment 1. Solutions include new Receiver/Transmitters (R/ T), antennas and other resilient communications enablers. Provides aircraft SCS integration efforts to support Increment 1 testing. Provide systems development for on-aircraft antenna and R/T integration for an increased resiliency of BLOS capability. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase from FY 2023 to FY 2024 by $10.432 million for development and integration of on-aircraft antenna.					
Title: Live Virtual Constructive (LVC) Aircraft Integration	0.000	0.000	5.000	0.000	5.000
Articles:	-	-	-	-	-
Description: Aviation LVC addresses the capability gap for advanced, integrated training for the Great Powers Competition (GPC) high-end fight against a peer adversary. Live execution of the extremely complex GPC scenarios would require tremendous numbers of aircraft operating at ranges and classification levels that far exceed the size and capabilities of existing Tactical Training Ranges (TTR). LVC closes this capability gap with an integrated network of aircrew-operated simulators (Virtual) and computer-generated airborne and surface forces (Constructive) to augment the Live event. This effort will test integrated capabilities with advanced threat and weapon simulation systems, Virtual and Constructive inputs in the Live cockpit, Live and Constructive entities into the simulator cockpit, and modified Operational Flight Programs (OFP) on the F/A-18 and E/A-18G. The F/A-18 effort is associated with the LVC efforts in RDTEN 3093. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** FY 2024 will commence testing of Live, Virtual, Constructive capability of the F/A-18 and EA-18G, including Tactical Combat Training System Increment II (TCTS II) development, and integration of Synthetic Inject to Live (SITL), ystem security modifications, and advanced integration with constructive inject systems, Navy Continuous Training Environment (NCTE), and other platforms. Additional capabilities tested include LVC					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
integration on the NCTE, using Next Generation Threat System (NGTS), and range live event display and debrief systems. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase in FY2024 funding of $5.000 million for Aviation LVC Live Aircraft Integration Phase 1 & Tactical Combat Training System (TCTS) II Acceleration.					
Title: Advanced Electronic Warfare (ADVEW) ***Articles:*** ***Description:*** This budget supports development and platform integration of a modernized, fully integrated, multi-spectral Electronic Warfare (EW) system to enhance platform survivability against near-peer threats. This new system called Advanced EW (ADVEW) replaces the outdated ALR-67 radar warning receiver (RWR) and the limited ALQ-214 self-protect jammer into a modern, combined EW suite providing automated EW processing in an Open System Architecture. The suite will enable both offensive and defensive capabilities for the F/A-18E/F, as well as interoperable EW effects across the Carrier Air Wing and joint forces. Funding will support multiple sensor enhancements to include the AN/APG-79 radar Wideband Receiver (WBR) upgrade providing instantaneous bandwidth and integration of EW signals into the ADVEW suite. When fielded in FY27, this system will provide all-aspect, high sensitivity detection of full spectrum complex/agile/cognitive Radio Frequency (RF) threats keeping the Super Hornet a highly capable strike fighter asset in the Great Power Competition through platform sundown in 2040. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** Funding will support multiple contracting efforts to include support of a Rapid Prototyping development effort. Funding will provide for government modeling and simulation to validate system performance of vendor prototypes. It will also support development to integrate the radar into the new ADVEW system as well as the radar Wideband Receiver hardware upgrade. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:***	0.000 -	0.000 -	101.057 -	0.000 -	101.057 -

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Increase in FY2024 funding of $101.057 million for Advanced Electronic Warfare (ADVEW) as it transitions from PU: 2071 to PU: 1662.					
Accomplishments/Planned Programs Subtotals	134.252	173.710	323.420	0.000	323.420

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• APN/0525: *F-18 SERIES*	327.000	461.118	640.236	-	640.236	724.628	953.615	1,068.998	1,153.697	2,988.897	21,847.456
• APN/0145: *FA-18E/F*	977.161	671.065	41.329	-	41.329	28.671	50.898	0.000	0.000	0.000	54,084.845
• APN/0505: *F-18E/F and EA-18G Modernization and Sustainment*	445.721	552.849	605.416	-	605.416	531.235	573.367	592.884	771.385	5,544.231	10,003.493

Remarks

D. Acquisition Strategy

The F/A-18 Improvement program consists of extensive spiral development efforts mapped out in the capability-based approach F/A-18 E/F "Flight Plan". These efforts are critical to the baseline of the Super Hornet next generation mission system capability and maintaining tactical relevance in support of the Naval Aviation Plan 2030. The major programs within the F/A-18 Improvement project are based on multiple Weapon System Capabilities including: Net Centric Operations/Battle Space Management, Sensor Integration, Air to Ground and Maritime Attack, and Air to Air Attack. The major efforts included in this project are: Dual Mode Weapons integration; Nirvana (next increment of Common Tactical Picture (CTP)); continued advanced development and F/A-18E/F Flight Plan engineering and analysis; continued enhanced software capabilities development; and engineering support to perform technical evaluations, modeling and simulations, and investigative flight testing. Nirvana capability is being developed under the NAWCWD System Configuration Set (SCS) Cost Plus Fixed Fee contract. AUTOGCAS will provide the F/A-18 with an auto recovery capability that maneuvers the aircraft away from the ground through automatic throttle control, flying to a pre-defined waypoint and circling until pilot recovery in case of pilot incapacitation or Controlled Flight Into Terrain (CFIT) incidents. Including the development of an AUTOGCAS for the F/A-18E/F and EA-18G leveraging completed work from F/A-18A-D is scheduled to begin in FY22 as a logical extension of the DVMC-Upgrade (formerly known as Advanced Capability Display Computer - ACDC) using modifications to the Terrain Awareness and Warning System (TAWS) resident in the existing Digital Video Map Computer (DVMC) in fatal mishap prevention.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*	

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
MSI/CTP Develop Sensor Integration	C/IDIQ	Boeing : St Louis, MO	44.476	9.157	Feb 2022	24.663	Feb 2023	20.730	Feb 2024	-		20.730	177.829	276.855	276.855
MSI/CTP - Develop Sensor Integration	WR	Raytheon : El Segundo, CA	0.000	6.079	Mar 2022	0.000		0.000		-		0.000	0.000	6.079	-
MSI/CTP Develop Sensor Integration	WR	NAWCWD : China Lake, CA	56.768	0.500	Nov 2021	12.066	Nov 2022	12.491	Nov 2023	-		12.491	181.109	262.934	-
MSI/CTP Development Support	WR	NSMA : Washingon, DC	3.500	2.000	Dec 2021	2.732	Dec 2022	2.781	Dec 2023	-		2.781	12.204	23.217	-
MSI/CTP Strike Accelerator ASUW ICP3	WR	NAWCWD : China Lake, CA	14.949	0.000		18.563	Nov 2022	3.071	Nov 2023	-		3.071	6.531	43.114	-
MSI/CTP Development Support	WR	NAWCAD : Pax River, MD	0.000	0.000		0.470	Nov 2022	0.280	Nov 2023	-		0.280	0.220	0.970	-
MSI/CTP - PMAT Minotaur Reach Edge (MRE)	C/CPFF	CACI, Inc : Reston, VA	1.031	2.680	Jun 2022	0.000		0.000		-		0.000	0.000	3.711	-
MSI/CTP - Software Architecture Demo (GIOS)	C/CPFF	CACI, Inc : Reston, VA	0.000	1.732	Jun 2022	0.000		0.000		-		0.000	0.000	1.732	-
USMC Upgrades - Software development & Integration	C/CPIF	Boeing : St Louis, MO	16.154	0.000		1.000	Jan 2023	0.000		-		0.000	0.000	17.154	17.154
USMC Upgrades - AUTOGCAS - Software development & Risk Reduction	WR	NAWCWD : China Lake, CA	7.855	1.340	Nov 2021	2.000	Nov 2022	0.914	Nov 2023	-		0.914	5.985	18.094	-
USMC Upgrades - AUTOGCAS	C/CPIF	Boeing : St Louis, MO	1.015	1.191	Jun 2022	0.000		11.025	Jun 2024	-		11.025	12.087	25.318	25.318
USMC Upgrades - AUTOGCAS - ATAWS software development	Various	PMA 209 Various : Various	3.607	0.000		0.000		0.000		-		0.000	0.000	3.607	-
USMC Data/Software Development	MIPR	DMEA : McLellan Park, CA	14.573	0.000		0.000		0.000		-		0.000	0.000	14.573	-
USMC Upgrades - TBD	C/CPFF	TBD : TBD	0.000	0.000		0.000		0.000		-		0.000	62.956	62.956	62.902
USMC Upgrades - Napie Pallet Mod	C/CPFF	CTsI : Lexington Park,MD	0.000	0.062	Jan 2022	0.000		0.000		-		0.000	0.000	0.062	0.062

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

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
USMC Upgrades - AUTOGCAS	WR	NAWCAD : Pax River, MD	0.000	8.549	Jan 2022	0.000		0.000		-		0.000	0.000	8.549	-
USMC Upgrades - Ordnance UUNS	WR	NAWCAD : Patuxent River, MD	0.000	0.375	Jun 2022	0.000		0.000		-		0.000	0.000	0.375	-
USMC Upgrades - AUTOGCAS - T	WR	FRC SW : North Island, CA	0.000	0.069	Jun 2022	0.000		0.000		-		0.000	0.000	0.069	-
USMC Upgrades - USMC UUNS Support	WR	NAWCWD : China Lake, CA	0.000	0.100	Jun 2022	0.000		0.000		-		0.000	0.000	0.100	-
USMC Upgrades - Telemetry Kits	MIPR	Eglin AFB : Eglin, FL	0.000	0.800	Mar 2023	0.000		0.000		-		0.000	0.000	0.800	-
USMC Upgrades - AMRAAM	MIPR	Eglin AFB : Eglin, FL	0.000	2.400	Mar 2023	0.000		0.000		-		0.000	0.000	2.400	-
DVMC-U (ACS) Improved Tactical Displays Development	C/CPIF	Boeing : St. Louis, MO	4.369	20.655	Jun 2022	27.586	Feb 2023	25.788	Feb 2024	-		25.788	124.201	202.599	202.599
DVMC-U Advance Capability Mission Computer (ACMC)	WR	NSMA : Washington, DC	3.100	0.000		0.000		0.000		-		0.000	0.000	3.100	-
DVMC-U Software Development	WR	NAWCWD : China Lake, CA	0.000	0.286	Nov 2021	4.731	Nov 2022	3.802	Nov 2023	-		3.802	211.886	220.705	-
Flight Plan - Development	C/CPFF	Bascom Hunter : Baton Rouge, LA	0.000	0.000		0.000		0.400	Jun 2024	-		0.400	0.000	0.400	0.400
Fligh Plan Development	C/CPFF	TBD : TBD	0.000	0.000		0.000		0.100	Jul 2024	-		0.100	3.500	3.600	3.600
Obsolescense Redesign (FCC)	C/IDIQ	Boeing : St. Louis, MO	0.000	0.000		7.919	Jul 2023	17.344	Jul 2024	-		17.344	28.726	53.989	53.989
Obsolescense Redesign - APN-245 MMA	WR	NAWCAD : St. Inigoes, MD	0.000	0.200	Apr 2022	0.000		0.000		-		0.000	0.000	0.200	-
Obsolescense Redesign - AN/ARA-63 Open Arch Landing Sys	C/CPFF	TBD : TBD	0.000	3.100	Aug 2022	0.000		0.000		-		0.000	0.000	3.100	3.100
Network Cyber Defense	C/IDIQ	Boeing : St. Louis, MO	0.000	0.000		5.215	Jan 2023	6.614	Jan 2024	-		6.614	8.970	20.799	20.799
Network Cyber Defense	C/IDIQ	NAWCWD : China Lake, CA	0.000	0.000		4.000	Jan 2023	3.818	Jan 2024	-		3.818	5.000	12.818	12.818

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

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
BLOS/PACFLT Development (Antenna)	C/CPFF	TBD : TBD	0.000	0.000		3.238	Jan 2023	5.390	Jan 2024	-		5.390	0.300	8.928	8.928
BLOS/PACFLT Development	C/FFP	Fuse : San Diego, CA	0.000	0.800	Jun 2022	2.800	Jan 2023	4.360	Jan 2024	-		4.360	0.300	8.260	8.260
BLOS/PACFLT Development (R/T)	C/CPFF	TBD : TBD	0.000	0.000		4.635	Jan 2023	8.268	Jan 2024	-		8.268	0.300	13.203	13.203
BLOS/PACFLT Development (Minotaur)	C/FFP	PMAT : Norfolk, VA	0.000	0.000		1.200	Jan 2023	1.060	Jan 2024	-		1.060	0.300	2.560	2.560
BLOS/PACFLT Development	C/IDIQ	Boeing : St. Louis, MO	0.000	0.000		3.142	Jan 2023	3.934	Jan 2024	-		3.934	0.200	7.276	7.276
LVC A/C Integration Phase 1 & TCTS II Acceleration	Various	TBD : TBD	0.000	0.000		0.000		3.001	Feb 2024	-		3.001	27.032	30.033	-
NGNMPS - Development	C/IDIQ	Boeing : St. Louis, MO	0.000	0.000		0.000		8.915	Dec 2023	-		8.915	21.579	30.494	30.494
NGNMPS - Development	WR	NAWCWD : Pt. Mugu, CA	0.000	0.000		0.000		6.565	Dec 2023	-		6.565	53.449	60.014	-
NGNMPS - Development	WR	NAWCWD : China Lake, CA	0.000	0.000		0.000		4.520	Dec 2023	-		4.520	10.972	15.492	-
ADVEW - Development	C/CPIF	Raytheon : El Segundo, CA	0.000	0.000		0.000		20.000	Jan 2024	-		20.000	20.151	40.151	40.151
ADVEW - Development	C/FPIF	Boeing : St. Louis, MO	0.000	0.000		0.000		2.300	Jan 2024	-		2.300	7.000	9.300	9.300
ADVEW - Development	C/CPFF	NSMA : Washington, DC	0.000	0.000		0.000		44.894	Dec 2023	-		44.894	114.712	159.606	159.606
Prior Year Prod Dev cost no longer funded in FYDP	Various	Various : Various	875.735	0.000		0.000		0.000		-		0.000	0.000	875.735	-
		Subtotal	1,047.132	62.075		125.960		222.365		-		222.365	1,097.499	2,555.031	N/A

Remarks

Increase from FY 2023 to FY 2024 for Live Virtual Constructive (LVC), Next Generation Mission Planning Systems (NGNMPS), Advanced Electronic Warfare (ADVEW), Digital Video Map Computer Upgrade (DVMC-U) and Flight Control Computer (FCC) primary hardware development efforts in FY2024.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*	

Support ($ 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
MSI/CTP Development Support - 31C SCS	WR	NSMA : Washington, DC	12.313	0.000		1.800	Mar 2023	1.832	Mar 2024	-		1.832	15.766	31.711	-
MSI/CTP Government Developmental Engineering Support	WR	Pt. Mugu : Pt. Mugu, CA	0.852	0.028	Nov 2021	0.452	Nov 2022	0.493	Nov 2023	-		0.493	3.916	5.741	-
MSI/CTP Gov't Engineering Support	WR	NAWCAD : Pax River, MD	13.242	7.762	Nov 2021	5.501	Nov 2022	6.852	Nov 2023	-		6.852	47.760	81.117	-
MSI/CTP Gov't Engineering Support	WR	NAWCWD : China Lake	38.106	11.313	Nov 2021	2.480	Nov 2022	2.531	Nov 2023	-		2.531	21.976	76.406	-
MSI/CTP Gov't Engineering Support Strike Accelerator	WR	NAWCWD : China Lake	6.787	0.000		2.333	Nov 2022	1.531	Nov 2023	-		1.531	0.931	11.582	-
MSI/CTP BIT SAR	WR	NAWCWD : China Lake, CA	0.000	2.000	Mar 2022	0.000		0.000		-		0.000	0.000	2.000	-
MSI/CTP Engineering Support	MIPR	US Army : Aberdeen, MD	0.000	0.311	Dec 2022	0.000		0.318	Dec 2023	-		0.318	2.350	2.979	-
USMC Capability Upgrades /AUTOGCAS Gov't Engineering Support	C/BA	NAWCWD : China Lake	4.132	0.157	Nov 2021	0.670	Nov 2022	0.363	Nov 2023	-		0.363	0.242	5.564	-
USMC Data/Software Engineering	WR	DMEA : McLellan Park, CA	0.188	0.000		0.000		0.000		-		0.000	0.000	0.188	-
DVMC-U Gov't Engineering Support	WR	NAWCAD : Pax River, MD	0.000	0.944	Nov 2021	0.545	Nov 2022	0.556	Nov 2023	-		0.556	2.881	4.926	-
Flight Plan/SCS Engineering Support	WR	NAWCAD : Pax River, MD	9.709	0.000		0.000		0.500	Nov 2023	-		0.500	3.500	13.709	-
Flight Plan/SCS Engineering Support	WR	NAWCAD : China Lake, CA	8.145	1.382	Nov 2021	0.000		1.450	Nov 2023	-		1.450	11.250	22.227	-
Obsolescence Redesign	Various	Various : Various	2.106	0.108	Nov 2021	0.481	Nov 2022	0.490	Nov 2023	-		0.490	1.435	4.620	-
Network Cyber Defense Gov't Engineering Support	WR	NAWCAD : Pax River, MD	0.000	0.000		0.250	Nov 2022	0.450	Nov 2023	-		0.450	0.750	1.450	-
BLOS/PACFLT Engineering/Logistics Support	WR	NAWCWD : China Lake	0.000	28.833	Mar 2022	8.500	Nov 2022	9.800	Nov 2023	-		9.800	0.800	47.933	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*	

Support ($ 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
BLOS/PACFLT Egineering Support	WR	NAWCAD : Pax River, MD	0.000	0.000		1.000	Nov 2022	1.400	Nov 2023	-		1.400	0.000	2.400	-
BLOS/PACFLT Engineering Support	WR	ONR : Arlington, VA	0.000	0.959	Mar 2022	1.000	Oct 2022	1.600	Nov 2023	-		1.600	0.000	3.559	-
LVC A/C Integration Support	WR	NAWCAD : Pax River, MD	0.000	0.000		0.000		0.350	Nov 2023	-		0.350	2.350	2.700	-
LVC A/C Integration Support	WR	NAWCTSD : Orlando, FL	0.000	0.000		0.000		0.250	Nov 2023	-		0.250	1.350	1.600	-
LVC A/C Integration Support	WR	NAWCAD : Pt Mugu, CA	0.000	0.000		0.000		0.250	Nov 2023	-		0.250	2.050	2.300	-
ADVEW Support	WR	NAWCAD : China Lake, CA	0.000	0.000		0.000		5.000	Nov 2023	-		5.000	10.000	15.000	-
ADVEW Support	WR	NSMA : Washington, DC	0.000	0.000		0.000		18.000	Feb 2024	-		18.000	60.950	78.950	-
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	3,127.950	0.000		0.000		0.000		-		0.000	0.000	3,127.950	-
		Subtotal	3,223.530	53.797		25.012		54.016		-		54.016	190.257	3,546.612	N/A

Remarks

Increase from FY 2023 to FY 2024 for Live Virtual Constructive (LVC), Beyond Line of Sight (BLOS) and Advanced Electronic Warfare (ADVEW).

Test and Evaluation ($ 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
Operational Test & Evaluation (OT&E)	WR	NAWCAD : Pax River, MD	2.042	0.000		1.415	Nov 2022	0.000		-		0.000	12.292	15.749	-
Operational Test & Evaluation (OT&E)	WR	OPTEVFOR : Norfolk, VA	44.445	8.200	Dec 2021	7.727	Dec 2022	7.759	Dec 2023	-		7.759	62.881	131.012	-
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Pax River, MD	13.189	6.016	Mar 2022	1.578	Nov 2022	8.048	Nov 2023	-		8.048	33.721	62.552	-
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	2.286	0.000		6.581	Nov 2022	25.149	Nov 2023	-		25.149	74.475	108.491	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

Test and Evaluation ($ 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
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : Pt. Mugu, CA	0.000	2.425	Mar 2022	0.000		0.000		-		0.000	0.000	2.425	-
Developmental Test & Evaluation (DT&E)	Various	Various : Various	209.122	0.000		0.000		0.000		-		0.000	0.000	209.122	-
		Subtotal	271.084	16.641		17.301		40.956		-		40.956	183.369	529.351	N/A

Remarks

Increase from FY 2023 to FY 2024 for Live Virtual Constructive (LVC), Advanced Electronic Warfare (ADVEW) and Digital Video Map Computer Upgrade (DVMC-U) flight test.

Management Services ($ 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
MSI/CTP- Program Management Support	WR	NAWCAD : Pax River, MD	10.986	0.388	Nov 2021	0.815	Nov 2022	1.141	Nov 2023	-		1.141	9.668	22.998	-
MSI/CTP PMMAC CSS	C/CPFF	Tekla : Pax River, MD	0.000	0.189	Apr 2022	1.009	Apr 2023	1.239	Apr 2024	-		1.239	10.698	13.135	13.135
MSI/CTP Travel	Various	NAVAIR : Pax River, MD	6.707	0.496	Oct 2021	0.520	Nov 2022	0.531	Nov 2023	-		0.531	3.873	12.127	-
USMC Capability Upgrades Program Management Support	WR	NAWCAD : Pax River, MD	1.641	0.000		0.718	Nov 2022	0.006	Nov 2023	-		0.006	4.828	7.193	-
USMC PMMAC CSS	C/CPFF	Tekla : Pax River, MD	0.441	0.000		0.720	Apr 2023	0.734	Apr 2024	-		0.734	5.569	7.464	7.464
USMC Travel	Various	NAVAIR : Pax River, MD	0.122	0.065	Nov 2021	0.000		0.000		-		0.000	0.000	0.187	-
DVMC-U Program Management Support	WR	NAWCAD : Pax River, MD	0.191	0.000		0.198	Nov 2022	0.645	Nov 2023	-		0.645	4.891	5.925	-
DVMC-U PMMAC CSS	C/CPFF	Tekla : Pax River, MD	0.225	0.397	Apr 2022	0.234	Apr 2023	0.686	Apr 2024	-		0.686	5.198	6.740	6.740
DVMC-U Systems Engineering	C/CPFF	SAIC : Lexington Park, MD	0.000	0.204	Mar 2022	0.000		0.000		-		0.000	0.000	0.204	0.204

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*	

Management Services ($ 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
DVMC-U Travel	Various	NAVAIR : Pax River, MD	0.000	0.000		0.000		0.018	Nov 2023	-		0.018	0.134	0.152	-
Flight Plan Engineering/ SCS Program Mgmt Support	WR	NAWCAD : Pax River, MD	46.806	0.000		0.435	Nov 2022	0.000		-		0.000	0.000	47.241	-
Flight Plan/SCS PMMAC CSS	C/CPFF	Tekla : Pax River, MD	0.838	0.000		0.438	Apr 2023	0.000		-		0.000	0.000	1.276	1.276
Network Cyber Defense Program Management	C/CPFF	MILCORP : Pax River, MD	0.000	0.000		0.250	Jan 2023	0.250	Jan 2024	-		0.250	0.750	1.250	1.250
BLOS/PACFLT Mgmt Support	C/CPFF	Tekla : Pax River, MD	0.000	0.000		0.100	Apr 2023	0.100	Apr 2024	-		0.100	0.100	0.300	0.300
LVC Aircraft Integration Mgmnt Support	C/CPFF	Tekla : Pax River, MD	0.000	0.000		0.000		0.250	Apr 2024	-		0.250	1.250	1.500	1.500
LVC Aircraft Integration Mgmnt Support	WR	NAWCAD : Pax River, MD	0.000	0.000		0.000		0.100	Nov 2023	-		0.100	0.500	0.600	-
LVC Aircraft Integration Mgmnt Support	WR	NAWCTSD : Orlando, FL	0.000	0.000		0.000		0.100	Nov 2023	-		0.100	0.500	0.600	-
LVC Aircraft Integration Mgmnt Support	WR	NAWCWD : China Lake, CA	0.000	0.000		0.000		0.100	Nov 2023	-		0.100	0.500	0.600	-
ADVEW Mgmnt Support	C/CPFF	Tekla : Pax River, MD	0.000	0.000		0.000		0.150	Apr 2024	-		0.150	0.468	0.618	0.618
ADVEW Mgmnt Support	Various	NAVAIR : Pax River, MD	0.000	0.000		0.000		0.033	Nov 2023	-		0.033	0.051	0.084	-
Prior Year Mgmnt cost no longer funded in FYDP	Various	Various : Various	150.114	0.000		0.000		0.000		-		0.000	0.000	150.114	-
		Subtotal	218.071	1.739		5.437		6.083		-		6.083	48.978	280.308	N/A

Remarks

Increase from FY 2023 to FY 2024 for Live Virtual Constructive (LVC) and Advanced Electronic Warfare (ADVEW) support services.

	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	4,759.817	134.252		173.710		323.420		-		323.420	1,520.103	6,911.302	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

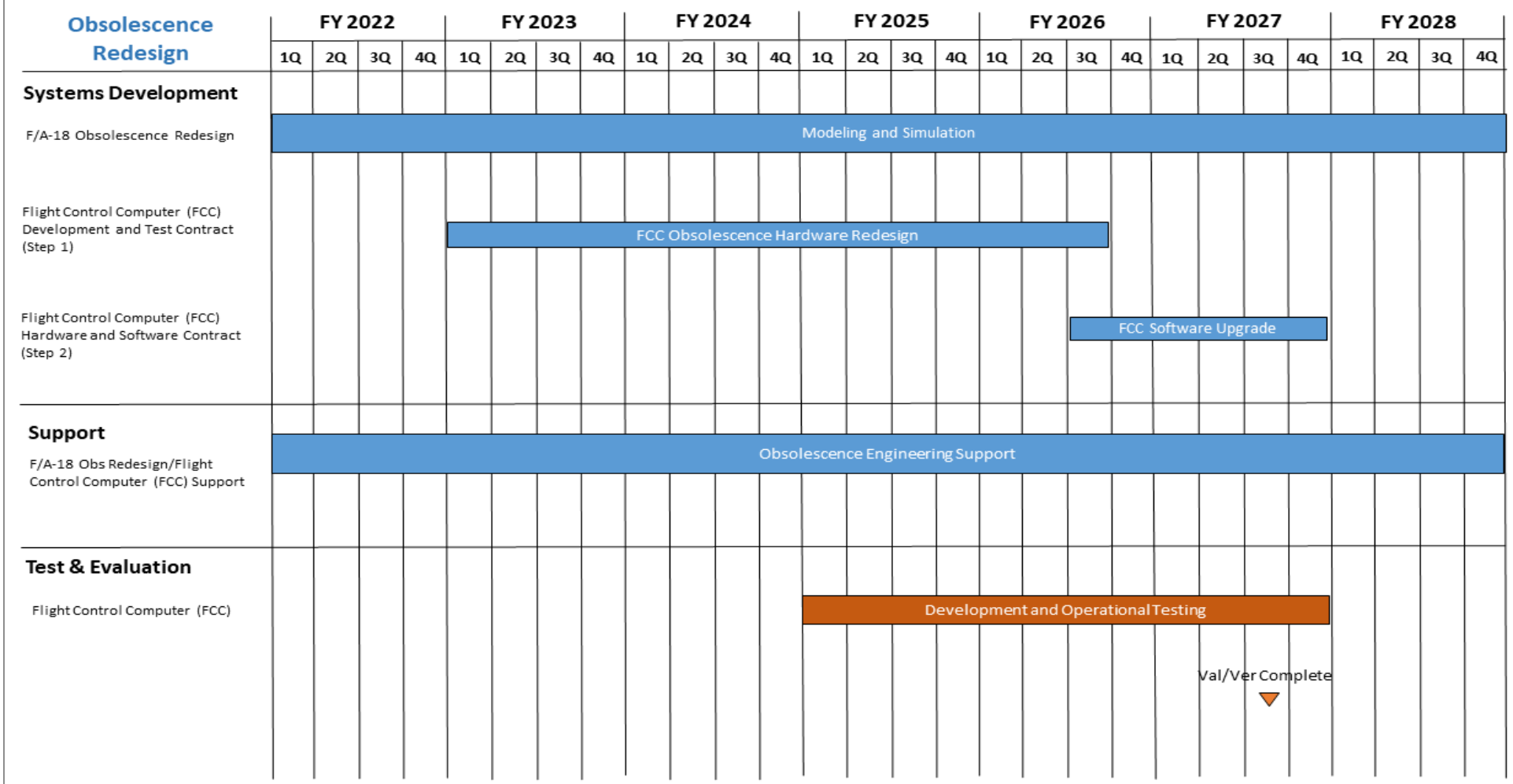

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

Multi-System Integration (MSI)/ Common Tactical Picture (CTP)/Advanced Tactical Data Fusion

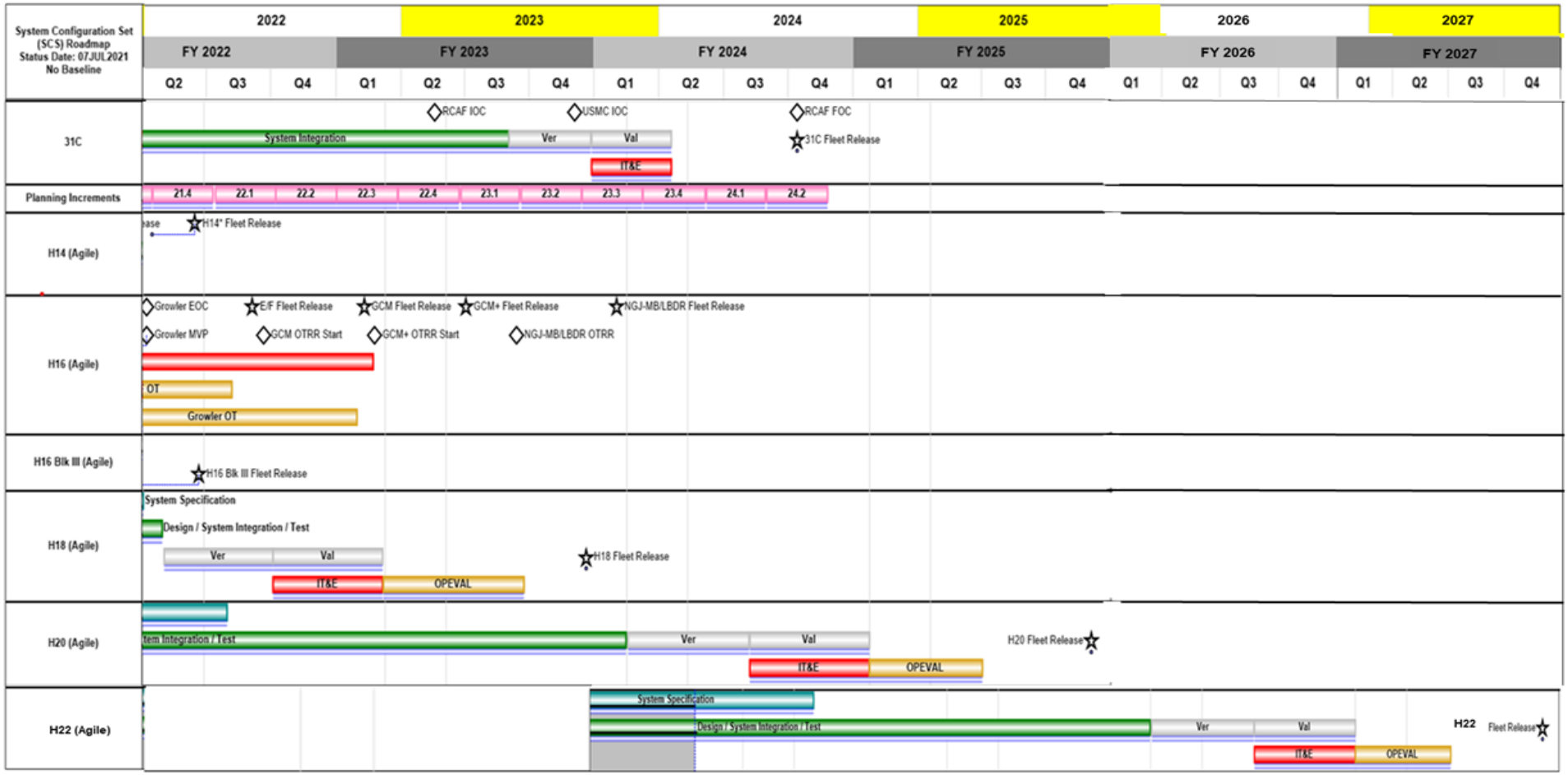

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

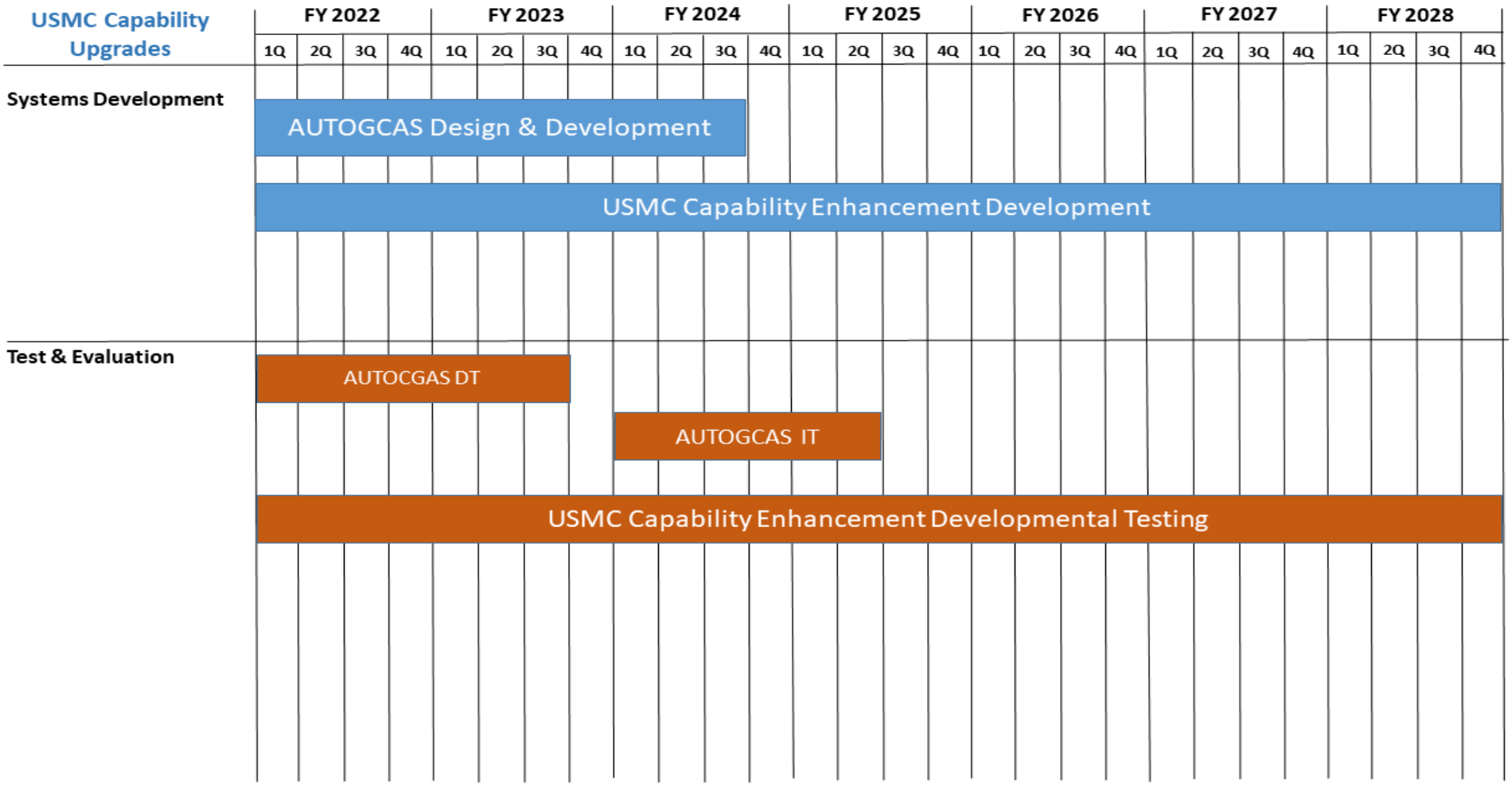

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

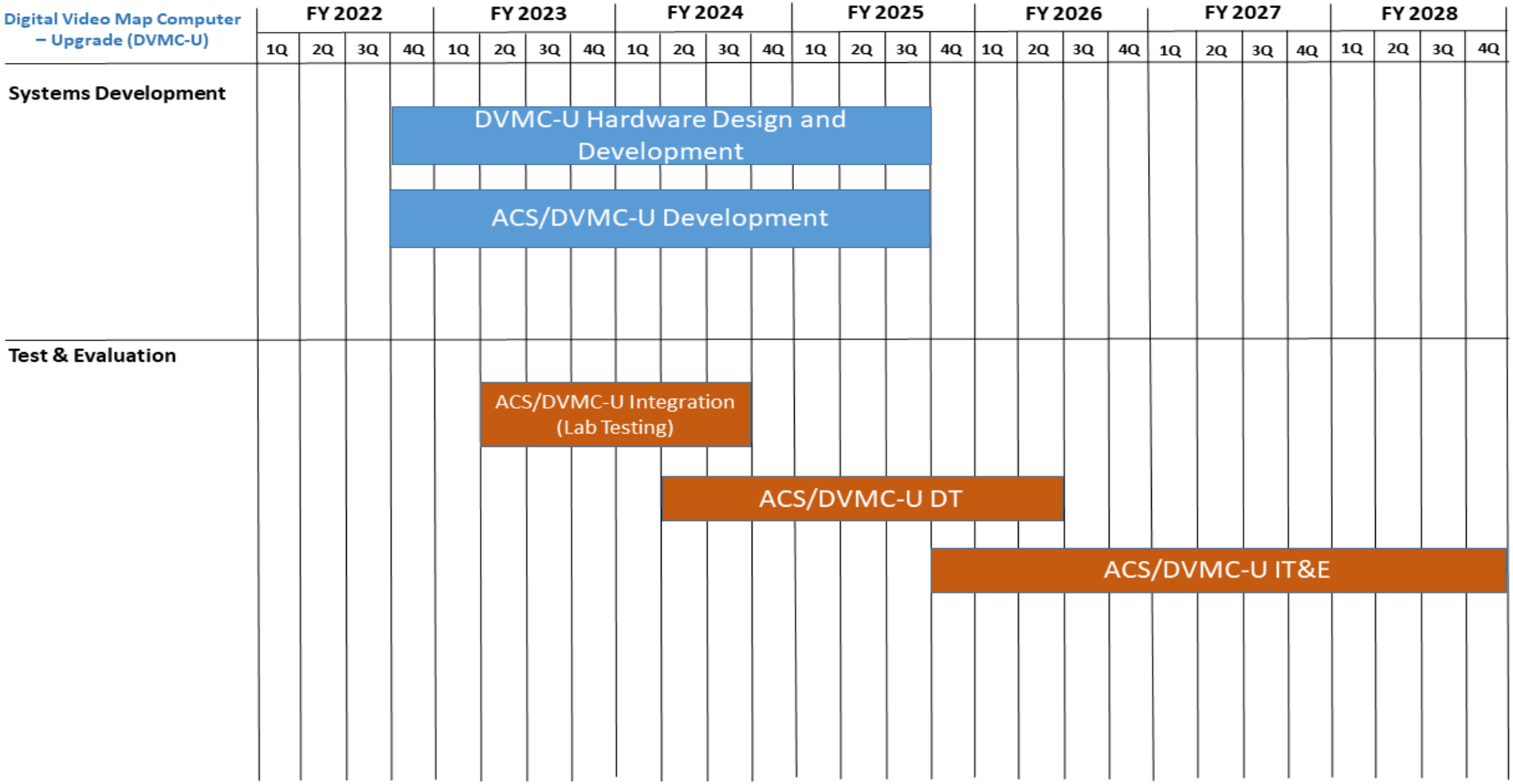

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

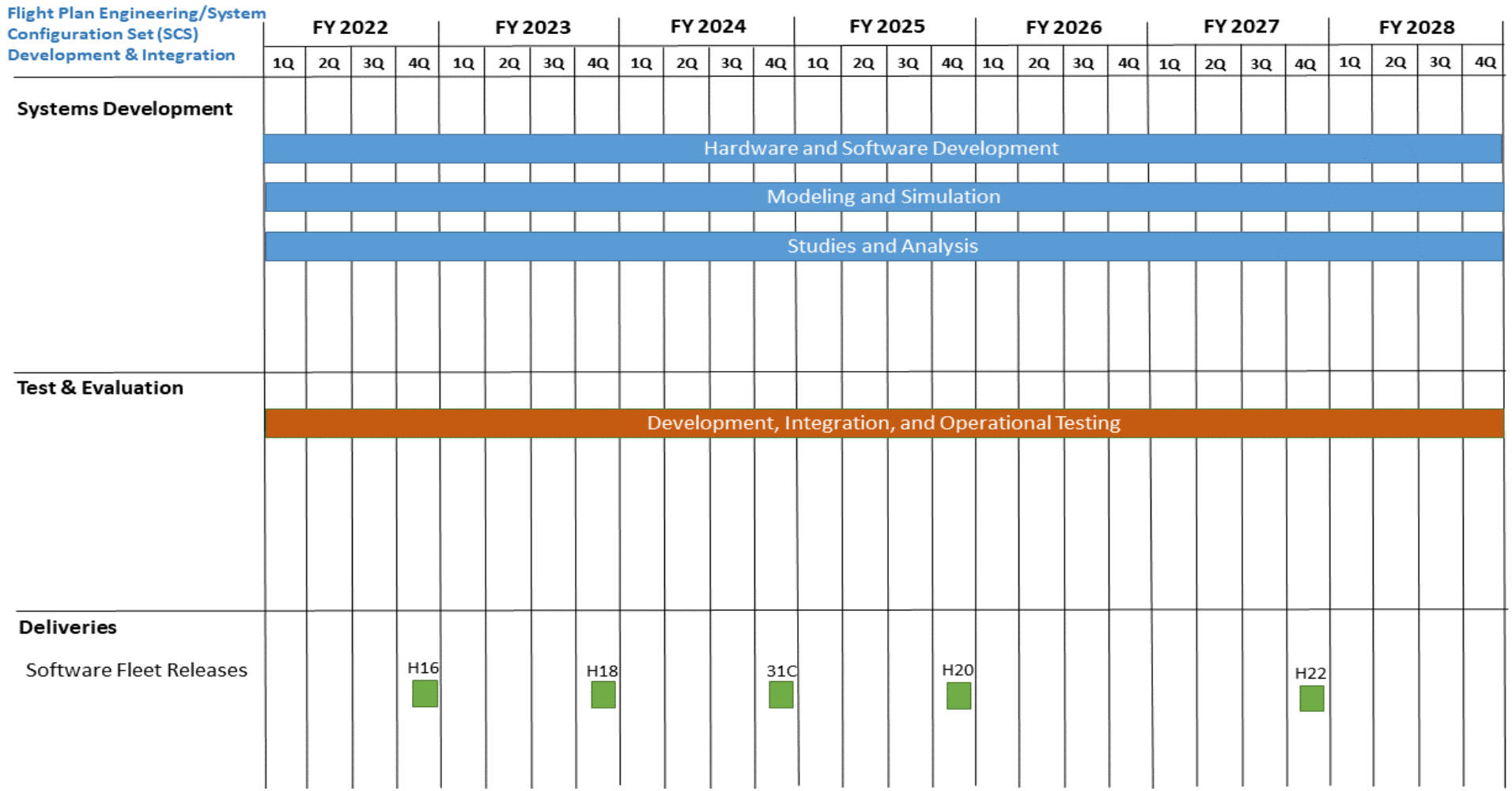

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

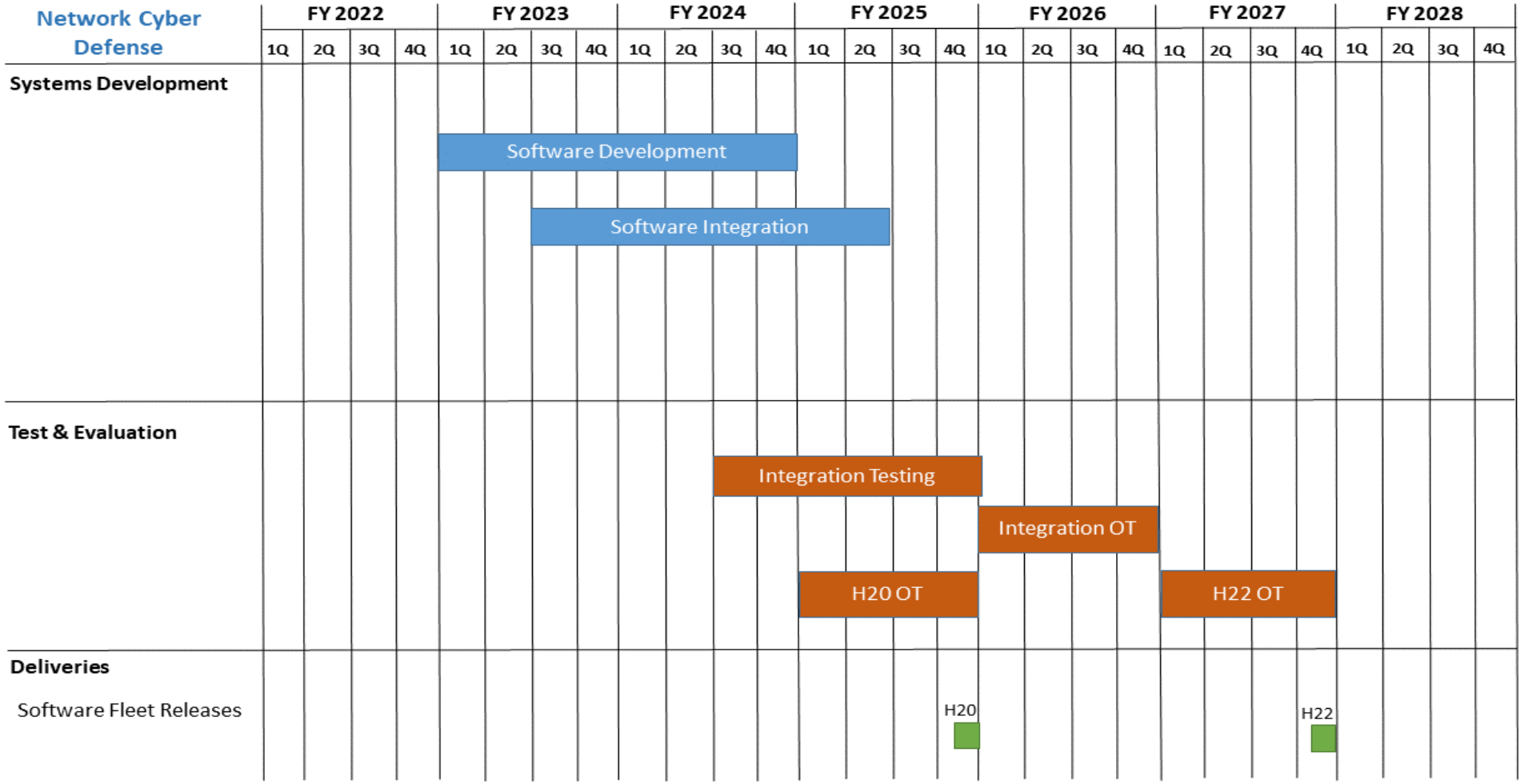

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

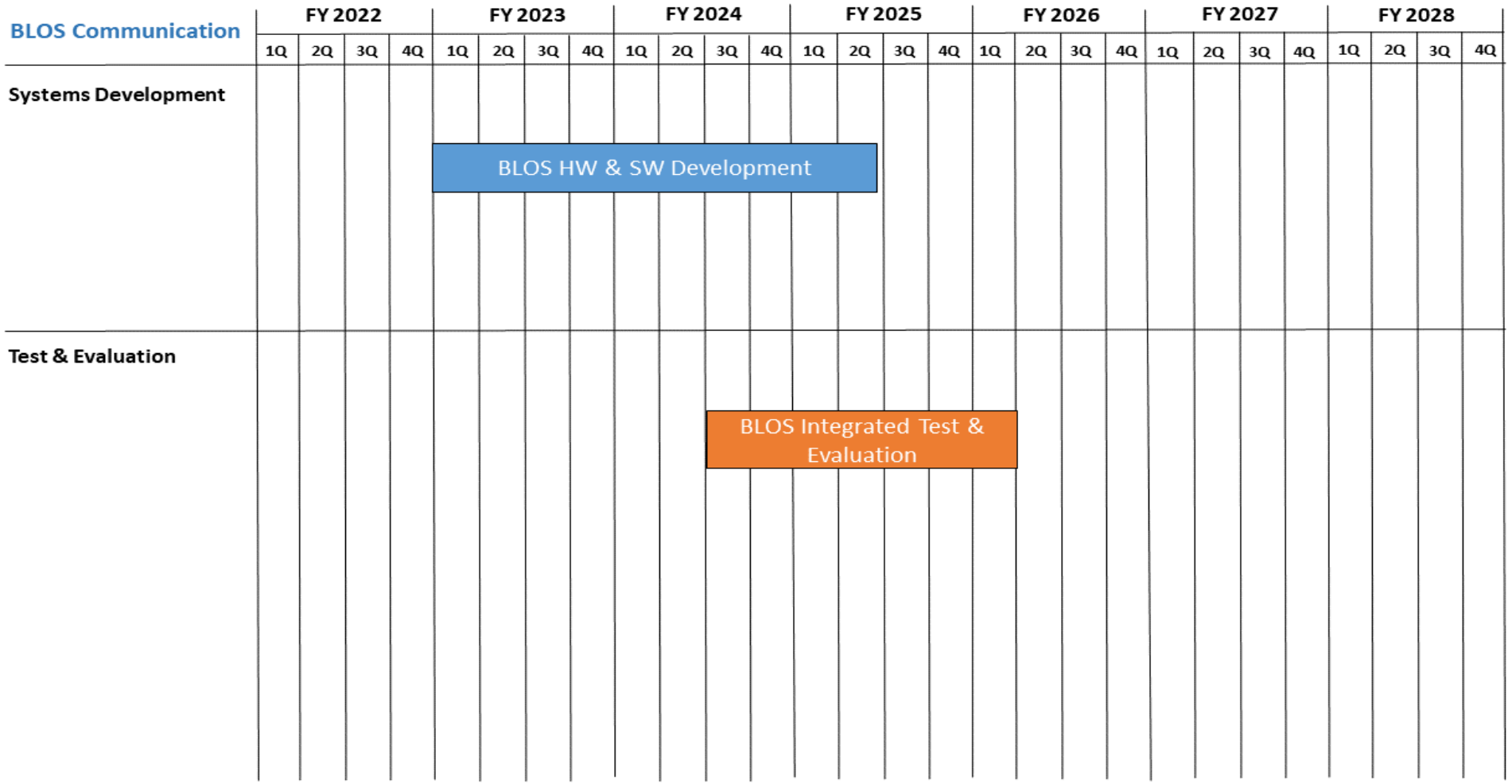

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

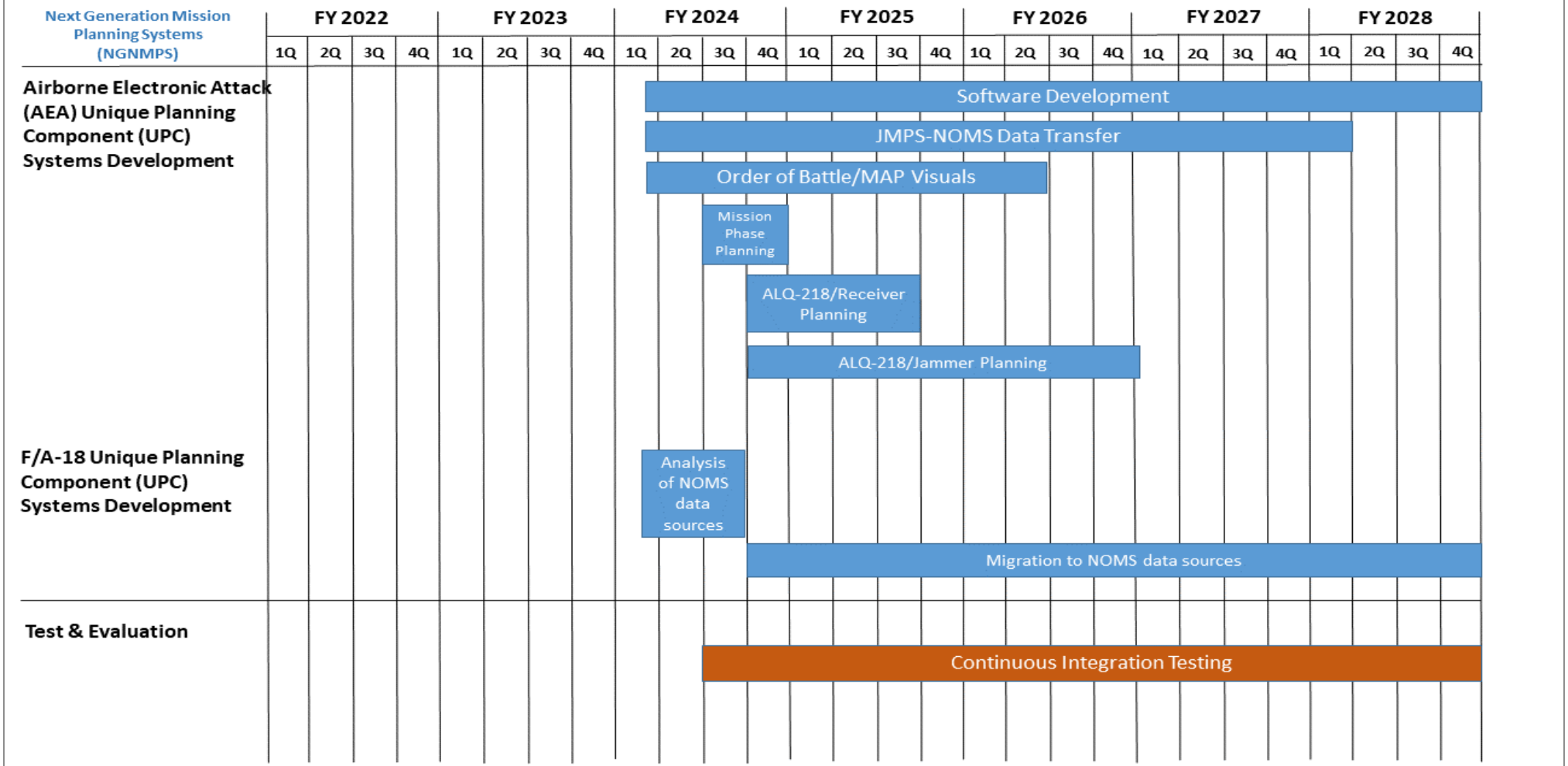

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

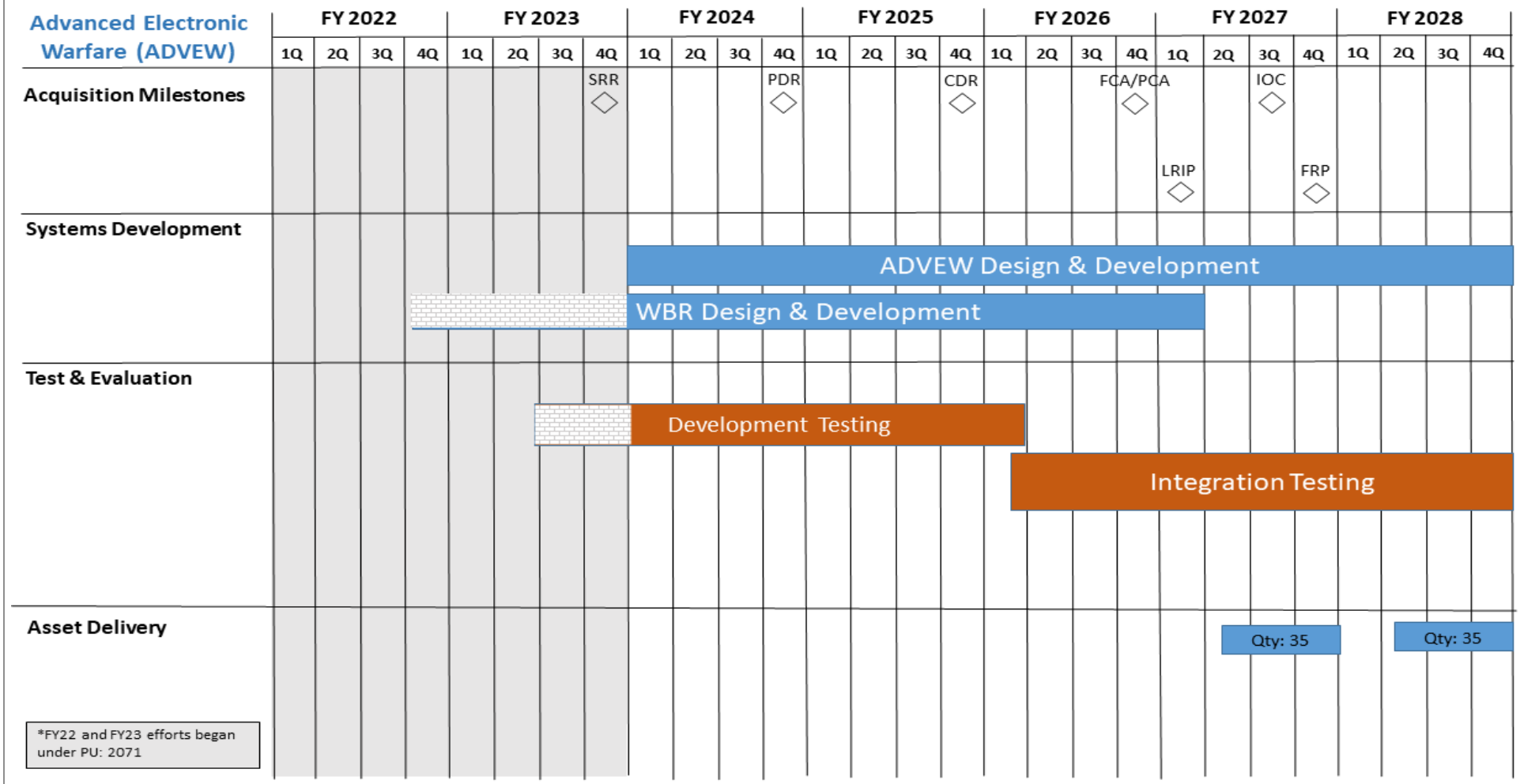

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

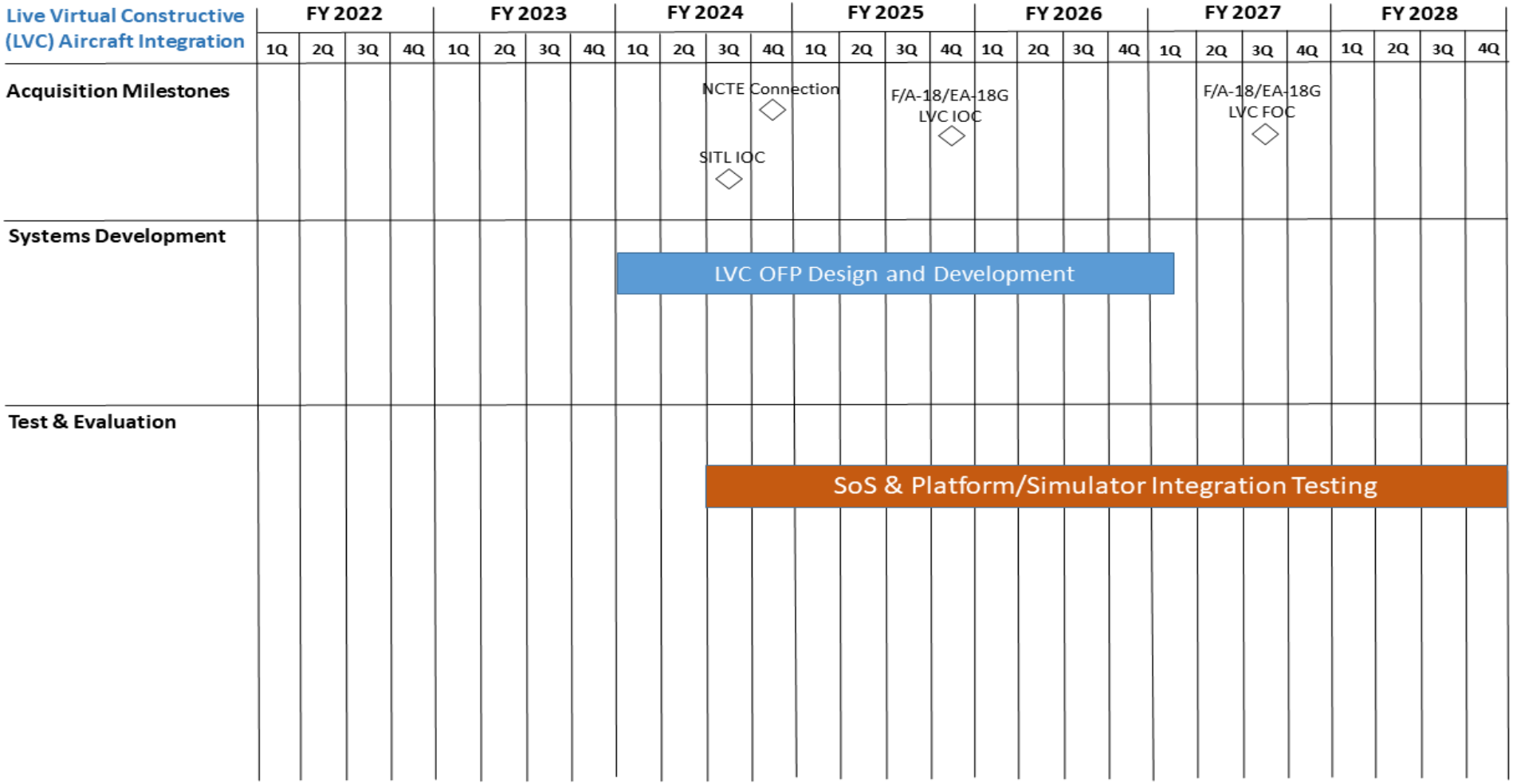

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Multi-System Integration / Common Tactical Picture				
Systems Development & Testing: 31C Development & Testing	1	2022	1	2024
Systems Development & Testing: H14 Agile Development & Testing	1	2022	2	2022
Systems Development & Testing: H16 Agile Development & Testing	1	2022	4	2022
Systems Development & Testing: H18 Agile Development & Testing	1	2022	3	2023
Systems Development & Testing: H20 Agile Development & Testing	1	2022	2	2025
Systems Development & Testing: H22 Agile Development & Testing	1	2024	4	2028
Flight Plan Engineering				
System Development: Hardware and Software Development	1	2022	4	2028
System Development: Modeling and Simulation	1	2022	4	2028
System Development: Studies and Analysis	1	2022	4	2028
Test and Evaluation: Developmental, Integration and Operational Testing	1	2022	4	2028
Deliveries: Software Fleet Release: H16 Fleet Release	4	2022	4	2022
Deliveries: Software Fleet Release: H18 Fleet Release	4	2023	4	2023
Deliveries: Software Fleet Release: 31C Fleet Release	4	2024	4	2024
Deliveries: Software Fleet Release: H20 Fleet Release	4	2025	4	2025
Deliveries: Software Fleet Release: H22 Fleet Release	4	2027	4	2027
Obsolescence Redesign				
System Development: F/A-18 Weapon System & Ancillary Equipment: Modeling and Simulation	1	2022	4	2028
System Development: Flight Control Computer (FCC): FCC Obsolescence Hardware Redesign	1	2023	3	2026
System Development: Flight Control Computer (FCC): FCC Software Upgrade	3	2026	4	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Support: Obsolescence Engineering Support	1	2022	4	2028
Test and Evaluation: Development and Operational Testing	1	2025	4	2027
Test and Evaluation: FCC Val/Ver Complete	3	2027	3	2027
USMC Capability Upgrade				
AUTOGCAS Design and Development	1	2022	3	2024
USMC Capability Enhancement Development	1	2022	4	2028
AUTOGCAS DT	1	2022	3	2023
AUTOGCAS IT	1	2024	2	2025
USMC Capability Enhancement Development Testing	1	2022	4	2028
Digital Video Map Computer - Upgrade				
System Development: DVMC-U Hardware Design and Development	4	2022	3	2025
System Development: ACS Situational Awareness w/ DVMC-U Development	4	2022	3	2025
Test and Evaluation: ACS Situational Awareness w/ DVMC-U SCS Integration (Lab Testing)	2	2023	3	2024
Test and Evaluation: ACS Situational Awareness w/ DVMC-U DT	2	2024	2	2026
Test and Evaluation: ACS Situational Awareness w/ DVMC-U IT&E	4	2025	4	2028
Network Cyber Defense				
Systems Development: Software Development	1	2023	4	2024
Systems Development: Software Integration	3	2023	2	2025
Test & Evaluation: Integration Testing	3	2024	4	2025
Test & Evaluation: H20 OT	1	2025	4	2025
Test & Evaluation: Integration Operational Test	1	2026	4	2026
Test & Evaluation: H22 OT	1	2027	4	2027
BLOS Communication				
Systems Development: BLOS Hardware & Software Development	1	2023	2	2025
Test & Evaluation: BLOS Integrated Test & Evaluation	3	2024	1	2026

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Next Generation Mission Planning System (NGNMPS)				
Airborne Electronic Attack (AEA) Uniquuie Planning Componenet (UPC) Systems Development: Software Development	1	2024	4	2028
Airborne Electronic Attack (AEA) Uniquuie Planning Componenet (UPC) Systems Development: JMPS-NOMS Data Transfer	1	2024	1	2028
Airborne Electronic Attack (AEA) Uniquuie Planning Componenet (UPC) Systems Development: Order of Battle/MAP Visuals	1	2024	1	2028
Airborne Electronic Attack (AEA) Uniquuie Planning Componenet (UPC) Systems Development: Mission Phase Planning	3	2024	4	2024
Airborne Electronic Attack (AEA) Uniquuie Planning Componenet (UPC) Systems Development: ALQ-218/Receiver Planning	4	2024	3	2025
Airborne Electronic Attack (AEA) Uniquuie Planning Componenet (UPC) Systems Development: ALQ-218/Jammer Planning	4	2024	4	2026
F/A-18 Unique Planning Component (UPC) Systems Development: Analysis of NOMS data sources	1	2024	3	2024
F/A-18 Unique Planning Component (UPC) Systems Development: Migration of NOMS data sources	4	2022	4	2028
Test & Evaluation: Integration Testing	3	2024	4	2028
Advanced Electronic Warfare (ADVEW)				
Acquistion Milestones: SRR	4	2023	4	2023
Acquistion Milestones: PDR	4	2024	4	2024
Acquistion Milestones: CDR	4	2025	4	2025
Acquistion Milestones: FCA/PCA	4	2026	4	2026
Acquistion Milestones: LRIP	1	2027	1	2027
Acquistion Milestones: IOC	3	2027	3	2027
Acquistion Milestones: FRP	4	2027	4	2027
Systems Development: ADVEW Design & Development	1	2024	4	2028
Systems Development: WBR Design & Development	1	2023	1	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: Development Testing	2	2023	1	2026
Test & Evaluation: Integration Testing	1	2026	4	2028
Asset Delivery: ADVEW Delivery 1 - Qty 35	2	2027	4	2027
Asset Delivery: ADVEW Delivery 2 - Qty 35	2	2028	4	2028
Live Virtual Contructive (LVC) Aircraft Integration				
Acquisition Milestones: SITL IOC	3	2024	3	2024
Acquisition Milestones: NCTE Connection	4	2024	4	2024
Acquisition Milestones: F/A-18/EA-18G LVC IOC	4	2025	4	2025
Acquisition Milestones: F/A-18/EA-18G LVC FOC	3	2027	3	2027
Systems Development: LVC OFP Design and Development	1	2024	1	2027
Systems Development: SoS & Platform/Simulator Integration Testing	3	2024	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy											Date: March 2023	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*				Project (Number/Name) 2065 / *F/A-18 Radar Upgrade*			
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**
2065: *F/A-18 Radar Upgrade*	768.422	7.540	11.246	8.683	-	8.683	10.884	11.806	11.005	11.226	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

F/A-18 Radio Detection and Ranging (RADAR) Upgrade: The F/A-18 RADAR Upgrade, Active Electronically Scanned Array (AESA) development program, which began in FY 1999, is the last of three pre-planned upgrades to the F/A-18 EF/EA-18G RADAR. The AESA system corrects operational test deficiencies noted in the AN/APG-73. It provides multi-target tracking, Synthetic Aperture RADAR (SAR) imagery, SAR Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides greater lethality than previous F/A-18 RADARs by allowing full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons and it significantly increases detection and tracking ranges. The AESA system provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy RADAR. The AN/APG-73 will be upgraded to AN/APG-79. This combat-proven AESA radar system substantially increases the power of the F/A-18E/F EA-18G from the front-end array to the back-end processor and operational software. This budget continues spiral capability development of AESA with increased efforts to address Phase II Operational Requirements Document requirements such as Counter-Electronic Attack (CEA) against multiple Radio Frequency Emitters, AESA Multi-Jammer Electronic Protection, Precision TLE Improvement, Monopulse and 5th/6th Channel development, and Air Combat Maneuvering/Short Range Search and Track development. This budget supports AN/APG-79 integration into the Advanced EW suite as a contributing wideband sensor. It also includes upgrades to RADAR Instrumentation, test and evaluation assets, threat assets, and upgraded modeling and simulation of both clean and Electronic Attack threat environments. This budget includes the overarching Anti-Surface Warfare (ASuW) software improvements, which includes Aided Target Recognition (AiTR), and Strike Accelerator/Kill Chain capabilities. This budget request supports development and testing of design modifications to address obsolescence issues with APG-65, APG-73 and APG-79 RADAR systems. USMC upgrades to the platform are being developed to include capability expansion of AESA Radar for F/A-18 A-D.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Title: Distributed Targeting - Counter-Electronic Attack (CEA) Software Development, Developmental Testing, Operational Testing, & Integration	7.092	10.819	8.496	0.000	8.496
Articles:	-	-	-	-	-
Description: Funding provided for the support of hardware (HW) and software (SW) capabilities development, integration and associated testing for AESA, ASuW, Wideband Receiver and Strike Accelerator.					
FY 2023 Plans: This budget request supports development to provide new instantaneous bandwidth capability in the AN/APG-79 through software upgrades. It supports the incorporation of correction of deficiencies for Anti-Surface Warfare (ASuW) software improvements, which includes Aided Target Recognition (AiTR), and Strike Accelerator/					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2065 / *F/A-18 Radar Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Kill Chain capabilities. Funding also supports development and testing of design modifications to address cybersecurity enhancements. ***FY 2024 Base Plans:*** Continuation of AN/APG-79 software upgrades. Supporting the incorporation of correction of deficiencies for Anti-Surface Warfare (ASuW) software improvements, which includes Aided Target Recognition (AiTR), and Strike Accelerator/Kill Chain capabilities. Funding also supports development and testing of design modifications to address cybersecurity enhancements. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY2023 to FY2024 decrease of $2.323 million for Distributed Targeting engineering support.					
Title: F/A-18 RADAR Obsolescence Redesign	0.448	0.427	0.187	0.000	0.187
Articles:	-	-	-	-	-
Description: Funding provided for development and design modifications to address obsolescence issues in the RADAR. ***FY 2023 Plans:*** FY2023 funding supports the development and testing of design modifications to address obsolescence issues and minor modifications to software for fleet operations in the APG-79 RADAR systems. ***FY 2024 Base Plans:*** FY2024 funding supports the development and testing of design modifications to address obsolescence issues and minor modifications to software for fleet operations in the APG-79 RADAR systems. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease from FY2023 to FY2024 of $0.240 million due to the ramp-down of Radar obsolescence redesign efforts.					
Accomplishments/Planned Programs Subtotals	7.540	11.246	8.683	0.000	8.683

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2065 / *F/A-18 Radar Upgrade*

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• APN/0525: *F-18 Series Mod (OSIP 002-07)*	327.000	461.118	640.236	-	640.236	724.628	953.615	1,068.998	1,153.697	2,988.897	21,847.456
• APN/0145: *FA-18E/F*	977.161	671.065	41.329	-	41.329	28.671	50.898	0.000	0.000	0.000	54,084.845

Remarks

D. Acquisition Strategy

The AESA program continues developmental efforts following a successful Full Rate Production milestone decision, after completing a two-phase Acquisition approach during the FY 1999 through FY 2007 timeframe. This strategy continues utilization of reform initiatives such as: early partnering with industry; leveraging industry investment; optimizing use of Commercial Off-The Shelf software and Non-Developmental Item, using Cost as an Independent Variable, and Electronic Data Deliverables. Basic Ordering Agreement orders are in place for Boeing, the airframe prime manufacturer/integrator, and Raytheon, the Radio Detection and Ranging RADAR manufacturer, for focused risk reduction and sustainment prior to developmental activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2065 / *F/A-18 Radar Upgrade*	

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
Distributed Targeting Systems Engineering - Capabilities	WR	NAWCWD : China lake, CA	7.281	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Distributed Targeting Systems Engineering	WR	NAWCAD : Pax River, MD	12.378	0.000		0.946	Nov 2022	0.300	Nov 2023	-		0.300	0.000	13.624	-
Distributed Targeting Product Development Aided Target Recongnition	WR	NAWCWD CL : China lake, CA	2.364	0.400	Nov 2021	0.000		0.600	Nov 2023	-		0.600	0.000	3.364	-
Distributed Targeting - ASuW	C/CPFF	Boeing : St. Louis, MO	0.204	5.346	Feb 2022	0.000		0.000		-		0.000	0.000	5.550	5.550
Radar Advanced Development	WR	NSMA : Washington, DC	82.953	0.246	Nov 2021	5.845	Dec 2022	4.419	Dec 2023	-		4.419	35.151	128.614	-
Prior Year Prod Dev Cost no longer funded in FYDP	Various	Various : Various	474.094	0.000		0.000		0.000		-		0.000	0.000	474.094	-
		Subtotal	579.274	5.992		6.791		5.319		-		5.319	Continuing	Continuing	N/A

Remarks

Decrease from FY2023 to FY2024 for engineering efforts in Distributed Targeting and Radar Advanced Development efforts.

Support ($ 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
Distributed Targeting Software Development (Instrumentation)	WR	NAWCWD : China Lake, CA	45.949	0.000		0.165	Nov 2022	0.385	Nov 2023	-		0.385	0.913	47.412	-
Radar Advanced Development Chamber Support	WR	NSMA : Washington, DC	0.520	0.000		0.551	Dec 2022	0.355	Dec 2023	-		0.355	2.902	4.328	-
Distributed Targeting Gov't Engineering Support	WR	NAWCAD : PAX River, MD	3.554	0.844	Nov 2021	1.770	Nov 2022	1.176	Nov 2023	-		1.176	9.276	16.620	-
Prior Year Support cost no longer funded in the FYDP	Various	Various : Various	4.684	0.000		0.000		0.000		-		0.000	0.000	4.684	-
		Subtotal	54.707	0.844		2.486		1.916		-		1.916	13.091	73.044	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2065 / *F/A-18 Radar Upgrade*

Support ($ 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

Remarks

Decrease from FY2023 to FY2024 for Distributed Targeting systems engineering at NAWCAD, Pax River.

Test and Evaluation ($ 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
Operational Test & Evaluation (OT&E)	WR	NAWCWD : China Lake, CA	3.481	0.000		0.910	Nov 2022	0.603	Nov 2023	-		0.603	4.225	9.219	-
Operational Test & Evaluation (OT&E)	WR	NAWCAD : PAX River, MD	0.210	0.448	Nov 2021	0.223	Nov 2022	0.150	Nov 2023	-		0.150	0.781	1.812	-
Prior Year Operational Test & Evaluation Not Funded FYDP (PYOT&E)	Various	Various : Various	112.086	0.000		0.000		0.000		-		0.000	0.000	112.086	-
		Subtotal	115.777	0.448		1.133		0.753		-		0.753	5.006	123.117	N/A

Remarks

Decrease from FY2023 to FY2024 for operational testing of Distributed Targeting and Radar obsolescence.

Management Services ($ 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
Distributed Targeting CSS Program Management Support	C/CPFF	Various : Various	9.585	0.231	Dec 2021	0.526	Dec 2022	0.564	Dec 2023	-		0.564	2.276	13.182	13.082
Distributed Targeting Gov't Program Management Support	WR	NAWCAD : Pax River, MD	2.370	0.000		0.069	Nov 2022	0.069	Nov 2023	-		0.069	0.365	2.873	-
Distributed Targeting Travel	Various	NAVAIR : Pax River, MD	1.845	0.025	Oct 2021	0.037	Oct 2022	0.025	Oct 2023	-		0.025	0.209	2.141	-
Radar Obsol Redesign CSS Support	C/CPFF	Various : Various	3.513	0.000		0.169	Dec 2022	0.000		-		0.000	0.000	3.682	4.237

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2065 / *F/A-18 Radar Upgrade*	

Management Services ($ 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
Radar Obsol Redesign Gov't Program Management	WR	NAWCAD : Pax River, MD	1.202	0.000		0.023	Nov 2022	0.024	Nov 2023	-		0.024	0.128	1.377	-
Radar Obsol Redesign Travel	Various	NAVAIR : Pax River, MD	0.149	0.000		0.012	Oct 2022	0.013	Oct 2023	-		0.013	0.074	0.248	-
		Subtotal	18.664	0.256		0.836		0.695		-		0.695	3.052	23.503	N/A

Remarks

Decrease from FY2023 to FY2024 for program travel and various program management contractor support servies.

	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	768.422	7.540		11.246		8.683		-		8.683	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2065 / *F/A-18 Radar Upgrade*

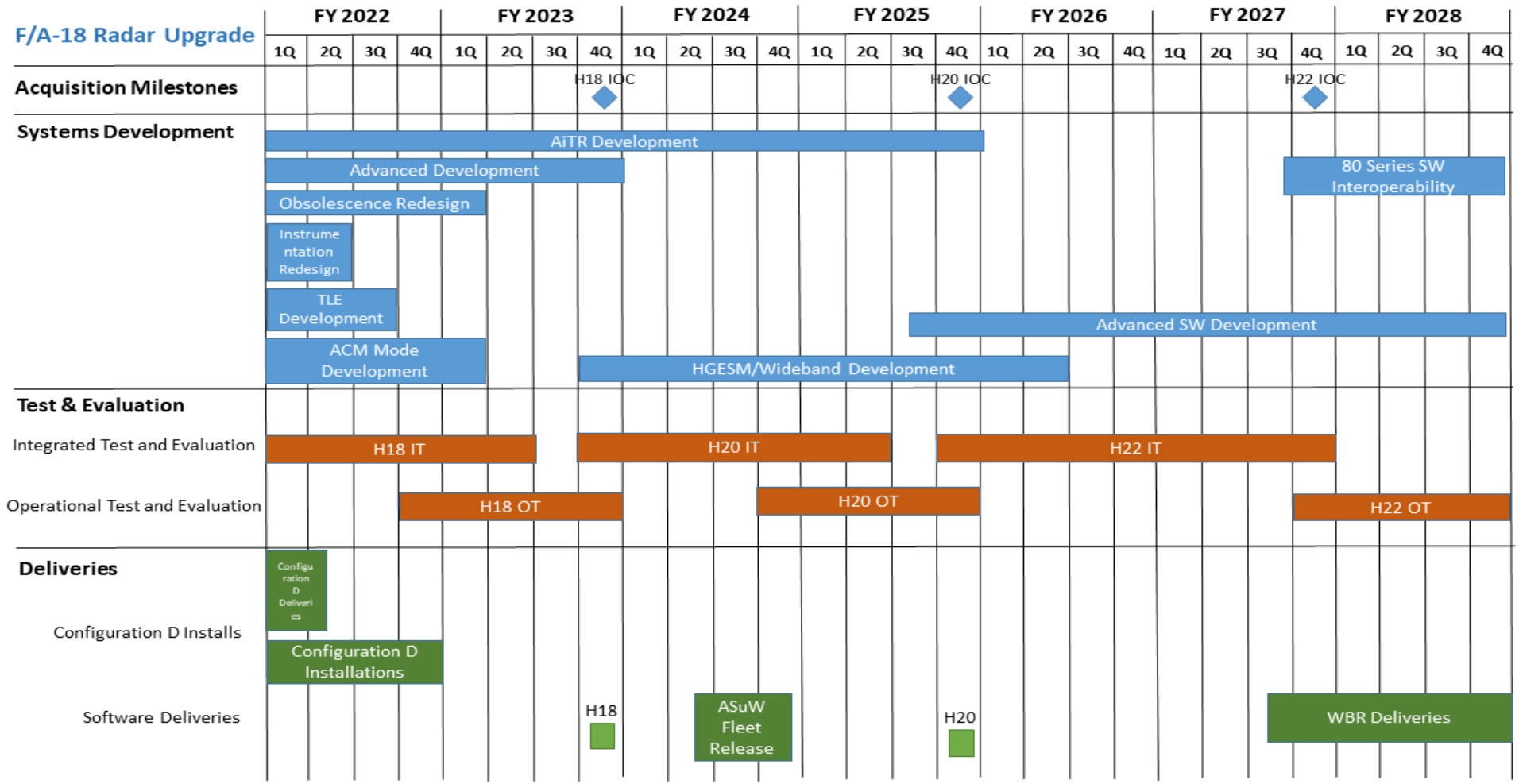

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2065 / *F/A-18 Radar Upgrade*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
F/A-18 Radar Ugrade				
Acquisition Milestones: Milestones: H18 IOC	4	2023	4	2023
Acquisition Milestones: Milestones: H20 IOC	4	2025	4	2025
Acquisition Milestones: Milestones: H22 IOC	4	2027	4	2027
Systems Development: Hardware/Software Development: AiTR Development	1	2022	4	2025
Systems Development: Hardware/Software Development: 80 Series SW Interoperability	3	2027	4	2028
Systems Development: Hardware/Software Development: Advanced Development	1	2022	4	2023
Systems Development: Hardware/Software Development: Obsolescence Redesign Development & Testing	1	2022	1	2023
Systems Development: Hardware/Software Development: Instrumentation Development	1	2022	2	2022
Systems Development: Hardware/Software Development: TLE Development	1	2022	3	2022
Systems Development: Hardware/Software Development: Advanced SW Development	3	2025	4	2028
Systems Development: Hardware/Software Development: ACM Mode Development	1	2022	1	2023
Systems Development: Hardware/Software Development: HGESM/Wideband Development	4	2023	2	2026
Test & Evaluation: Integrated Test & Evaluation: H18 Integration Testing	1	2022	2	2023
Test & Evaluation: Integrated Test & Evaluation: H20 Integration Testing	4	2023	2	2025
Test & Evaluation: Integrated Test & Evaluation: H22 Integration Testing	4	2025	4	2027
Test & Evaluation: Operational Test & Evaluation: H18 Operational Testing	4	2022	4	2023
Test & Evaluation: Operational Test & Evaluation: H20 Operational Testing	4	2024	4	2025
Test & Evaluation: Operational Test & Evaluation: H22 Operational Testing	4	2027	4	2028
Production Milestones: Deliveries: Configuration D Deliveries	1	2022	2	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2065 / *F/A-18 Radar Upgrade*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: Deliveries: Configuration D Installations	1	2022	4	2022
Production Milestones: Deliveries: H18 FLEET RELEASE	4	2023	4	2023
Production Milestones: Deliveries: ASuW Fleet Release	2	2024	4	2024
Production Milestones: Deliveries: H20 FLEET RELEASE	4	2025	4	2025
Production Milestones: Deliveries: WBR Deliveries	3	2027	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2071 / *F/A-18 Block III*	

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
2071: *F/A-18 Block III*	245.086	37.840	33.282	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	316.208
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

F/A-18 Block III is a series of development efforts that are required to deliver necessary combat capabilities to meet the objectives outlined in the National Defense Strategy and provide aircraft lethality and kill chain effectiveness. Enhancements under development include: Advanced EW upgrades, improved radar cross section, AESA Radar upgrades, alternative fire control solutions, and other improvements that enhance aircraft survivability, lethality, sensor fusion, networking effectiveness, and targeting upgrades at the tactical leading edge in highly contested environments. F/A18 Block III is a follow-on to Block II upgrades and the combined impact of these upgrades will ensure that the numerically predominant strike-fighter aircraft in the USN inventory remains lethal and survivable into the 2030's.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: F/A-18 Block III	37.840	33.282	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: F/A-18 Block III is a series of development efforts that are required to deliver necessary combat capabilities to meet the objectives outlined in the National Defense Strategy and provide aircraft lethality and kill chain effectiveness.					
FY 2023 Plans: Funding provides for continued advanced engineering development, specifically the engineering and manufacturing development of survivability enhancements to include upgrades to the ALQ-214 jammer and ALR-76 Radar warning receiver, AN/APG-79 Radio Frequency (RF) data integration into EW systems, and centralized RF processing into mission computers.					
FY 2024 Base Plans: N/A					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY2023 to FY2024 for $33.282 million due to realignment of requirements and funding to PU 1662 to continue Advanced Electronic Warfare (ADVEW).					
Accomplishments/Planned Programs Subtotals	37.840	33.282	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2071 / *F/A-18 Block III*

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• APN/0525: *F-18 Series*	327.000	461.118	640.236	-	640.236	724.628	953.615	1,068.998	1,153.697	2,988.897	21,847.456
• APN/0145: *FA-18E/F*	977.161	671.065	41.329	-	41.329	28.671	50.898	0.000	0.000	0.000	54,084.845
• APN/0505: *FA-18E/F & EA-18G Modernization & Sustainment*	445.721	552.849	605.416	-	605.416	531.235	573.367	592.884	771.385	5,544.231	10,003.493

Remarks

D. Acquisition Strategy

Block III capability upgrades will be incorporated into production line aircraft and retrofit through a series of Block III Engineering Change Proposals (ECPs). The ECPs will provide capability upgrades to Block II aircraft to give them Block III capabilities. Block II Fleet aircraft (Lots 26 and up) will receive capability upgrades when inducted for Service Life Modification (SLM) events.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2071 / *F/A-18 Block III*

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
Block III Primary Development (CFT)	Various	Boeing : St Louis, MO	212.311	2.760	Sep 2022	0.000		0.000		-		0.000	0.000	215.071	215.071
Block III Primary Development	Various	Boeing : St Louis, MO	0.926	1.840	Dec 2021	12.163	Dec 2022	0.000		-		0.000	0.000	14.929	-
PACFLT TENTaCLE	C/CPFF	Fuse Integration : San Diego, CA	0.000	3.681	Mar 2022	0.000		0.000		-		0.000	0.000	3.681	-
PACFLT TENTaCLE	WR	NAWCWD : China Lake, CA	0.000	11.136	Mar 2022	0.000		0.000		-		0.000	0.000	11.136	-
Large Aperature (LA+)	C/CPFF	NGC : Baltimore, MD	0.000	8.882	Sep 2022	0.000		0.000		-		0.000	0.000	8.882	8.882
Large Aperature (LA+) SOO	C/CPFF	NGC : Baltimore, MD	0.000	0.271	May 2022	0.000		0.000		-		0.000	0.000	0.271	0.271
Block III ADVEW Primary Development	Various	NSMA : Various	0.000	0.000		9.810	Aug 2023	0.000		-		0.000	0.000	9.810	-
Block III ADVEW Primary Development	C/CPFF	GTRi : Lexington Park, MD	0.000	0.000		0.910	Jun 2023	0.000		-		0.000	0.000	0.910	0.910
Block III ADVEW Primary Development	C/CPAF	Raytheon : El Segundo, CA	0.000	0.000		7.200	Jun 2023	0.000		-		0.000	0.000	7.200	7.200
		Subtotal	213.237	28.570		30.083		0.000		-		0.000	0.000	271.890	N/A

Remarks

Decrease from FY2023 to FY2024 due to funding moving from PU 2071 to PU 1662 for execution.

Support ($ 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
Development Support (AD)	WR	NAWCAD : Pax River, MD	16.550	0.026	Dec 2021	1.600	Dec 2022	0.000		-		0.000	0.000	18.176	-
Development Support (WD)	WR	NAWCWD : China Lake, CA	5.971	0.000		0.831	May 2023	0.000		-		0.000	0.000	6.802	-
BLK III Price Fighters	WR	NAVSUP : Philadelphia, PA	0.079	0.000		0.000		0.000		-		0.000	0.000	0.079	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2071 / *F/A-18 Block III*	

Support ($ 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
SAGE Simulation Study	MIPR	GSA FEDSIM : Washington DC	0.000	1.978	Jun 2022	0.000		0.000		-		0.000	0.000	1.978	-
Development Support	WR	NSMA : Various	0.000	0.000		0.018	May 2023	0.000		-		0.000	0.000	0.018	-
Development Support	WR	NAWCWD : Point Mugu, CA	0.000	0.000		0.297	Apr 2023	0.000		-		0.000	0.000	0.297	-
		Subtotal	22.600	2.004		2.746		0.000		-		0.000	0.000	27.350	N/A

Remarks

Decrease from FY2023 to FY2024 due to funding moving from PU 2071 to PU 1662 for execution.

Test and Evaluation ($ 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
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	MIPR	NASA : Moffett Field, CA	4.317	0.000		0.000		0.000		-		0.000	0.000	4.317	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	MIPR	NASA : Langley, VA	0.937	0.000		0.000		0.000		-		0.000	0.000	0.937	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NAWCAD : Pax River, MD	2.364	0.000		0.387	Nov 2022	0.000		-		0.000	0.000	2.751	-
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	0.000	6.964	Jan 2022	0.000		0.000		-		0.000	0.000	6.964	-
Developmental Test & Evaluation (DT&E)	WR	Booz Allen Hamilton : Lexington Park, MD	0.000	0.154	Jan 2022	0.000		0.000		-		0.000	0.000	0.154	-
		Subtotal	7.618	7.118		0.387		0.000		-		0.000	0.000	15.123	N/A

Remarks

Decrease from FY2023 to FY2024 due to funding moving from PU 2071 to PU 1662 for execution.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2071 / *F/A-18 Block III*

Management Services ($ 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
Seaport CSS/PMMAC	C/CPFF	Tekla : Pax River, MD	1.344	0.148	Apr 2022	0.066	Apr 2023	0.000		-		0.000	0.000	1.558	1.558
Prior Year cost no longer in FYDP	Various	Various : Various	0.287	0.000		0.000		0.000		-		0.000	0.000	0.287	-
		Subtotal	1.631	0.148		0.066		0.000		-		0.000	0.000	1.845	N/A

Remarks

Decrease from FY2023 to FY2024 due to funding move from PU 2071 to PU 1662 for execution.

	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	245.086	37.840		33.282		0.000		-		0.000	0.000	316.208	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2071 / *F/A-18 Block III*

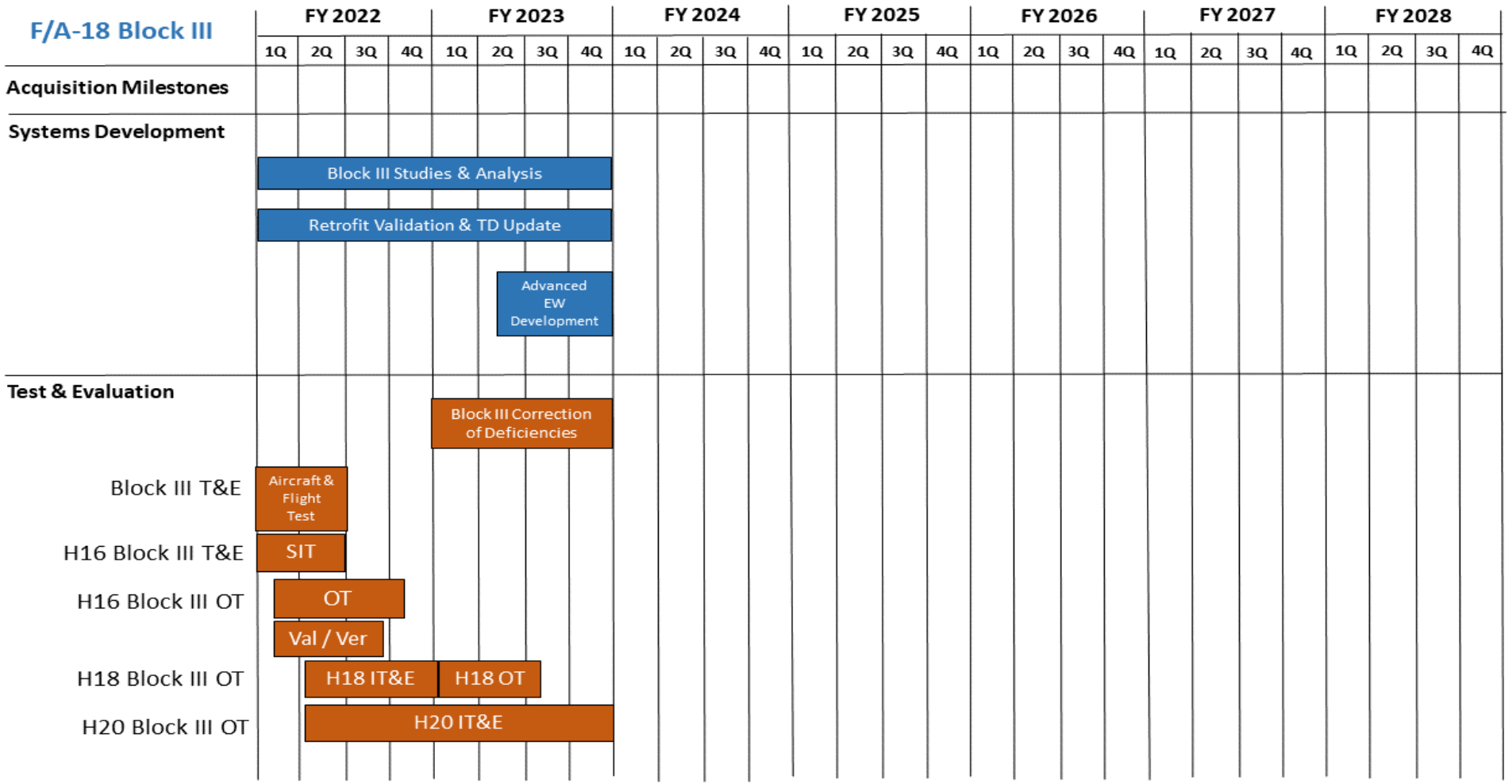

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2071 / *F/A-18 Block III*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
F/A-18 Block III				
System Development: Block III Studies & Analysis	1	2022	4	2023
System Development: Retrofit Validation &TD Update	1	2022	4	2023
System Development: Block III Advanced Development Engineering	2	2023	4	2024
Test & Evaluation: Block III Correction of Deficiencies	1	2023	4	2023
Test & Evaluation: Block III Flight Test	1	2022	2	2022
Test & Evaluation: H16 Block III SIT	1	2022	2	2022
Test & Evaluation: H16 Block III OT	1	2022	4	2022
Test & Evaluation: H16 Block III Val/Ver	1	2022	3	2022
Test & Evaluation: H18 IT&E	2	2022	1	2023
Test & Evaluation: H18 OT	1	2023	3	2023
Test & Evaluation: H20 IT&E	2	2022	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy											Date: March 2023	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*				Project (Number/Name) 9099 / *Physiological Episodes*			
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**
9099: *Physiological Episodes*	5.329	4.417	2.966	1.680	-	1.680	1.201	0.834	0.849	0.868	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Efforts funded under Project Unit 9099 were previously funded under Project Unit 1662 in FY2020 and prior.

A. Mission Description and Budget Item Justification

Funding provides for design, development, integration, and test of platform improvements for F/A-18A-F and EA-18G Weapon Systems, as determined through a Root Cause and Corrective Action (RCCA) process, to mitigate and reduce the occurrences of Physiological Episode (PE) in Naval Aviation.
Funds provided for a study of latent neurological effects of exposure to pressure fluctuations at altitude and determine if there are any indicators of neurological trauma following exposure.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Physiological Episode Mitigation	4.017	2.966	1.680	0.000	1.680
Articles:	-	-	-	-	-
Description: Funding provides for design, development, integration, and test of platform improvements for F/A-18A-F and EA-18G Weapon Systems, as determined through a Root Cause and Corrective Action (RCCA) process, to mitigate and reduce the occurrences of Physiological Episode (PE) in Naval Aviation.					
FY 2023 Plans: Completion of any directed studies from RCCA. Continued supports of the Hornet health Assessment and Readiness Tool (HhART), and development efforts for platform improvements in the F/A-18A-F and EA-18G Weapon Systems to include flight test. Continue required logistics and engineering support.					
FY 2024 Base Plans: Completion of RCCA investigation efforts and any directed studies from RCCA. Continued supports of the Hornet health Assessment and Readiness Tool (HhART), and development efforts for platform improvements in the F/A-18A-F and EA-18G Weapon Systems to include flight test. Continue required logistics and engineering support.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 9099 / *Physiological Episodes*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Decrease from FY2023 to FY2024 of $1.286 million is due to the completion of directed studies for RCCA.					
Title: Physiological Episode Studies & Analysis	0.400	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2023 Plans: N/A					
FY 2024 Base Plans: N/A					
FY 2024 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	4.417	2.966	1.680	0.000	1.680

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• APN/0525: *F-18 SERIES*	327.000	461.118	640.236	-	640.236	724.628	953.615	1,068.998	1,153.697	2,988.897	21,847.456

Remarks

D. Acquisition Strategy

The F/A-18 Physiological Episode PU consists of efforts in support of finalizing the Root Cause and Corrective Action Investigation process, as well as any additional design, development, integration, and testing that will be required to mitigate and reduce the occurrence of Physiological Episodes (PE).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 9099 / *Physiological Episodes*

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
PE Data Software Study	WR	NAWCTSD Orlando : Orlando, FL	2.617	3.496	Nov 2021	1.687	Nov 2022	1.103	Nov 2023	-		1.103	Continuing	Continuing	Continuing
		Subtotal	2.617	3.496		1.687		1.103		-		1.103	Continuing	Continuing	N/A

Remarks

Decrease from FY 2023 to FY 2024 for due to completion of directed studies for RCCA.

Support ($ 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
PE Developmental Engineering Support	Various	Various : Various	0.000	0.000	Nov 2021	0.000		0.000		-		0.000	0.000	0.000	-
PE Gov't Engineering Support	WR	NAWCAD : Pax River, MD	1.727	0.179	Nov 2021	0.375	Nov 2022	0.161	Nov 2023	-		0.161	0.178	2.620	-
Physiological Episodes Studies and Analysis	WR	NAMRU-D : Dayton, OH	0.000	0.400	Feb 2022	0.000		0.000		-		0.000	0.000	0.400	-
		Subtotal	1.727	0.579		0.375		0.161		-		0.161	0.178	3.020	N/A

Remarks

Decrease from FY 2023 to FY 2024 in government engineering support due to planned completion of Root Cause and Corrective Action (RCCA) engineering investigation efforts.

Test and Evaluation ($ 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
Developmental Test & Evaluation (DT&E)	WR	NSWC : Panama City, FL	0.125	0.000		0.000		0.000		-		0.000	0.000	0.125	-
Developmental Test & Evaluation (DT&E)	C/CPFF	BUMED : Silver Spring, VA	0.512	0.000		0.000		0.000		-		0.000	0.000	0.512	-
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Pax River, MD	0.000	0.000	Nov 2021	0.473	Nov 2022	0.185	Nov 2023	-		0.185	0.197	0.855	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9099 / *Physiological Episodes*

Test and Evaluation ($ 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
		Subtotal	0.637	0.000		0.473		0.185		-		0.185	0.197	1.492	N/A

Remarks

Decrease from FY 2023 to FY 2024 in Developmental Test and Evaluation due to the planned completion of Root Cause and Corrective Action (RCCA) investigation test efforts at NAWCAD, Pax River.

Management Services ($ 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
PE Program Management Support	WR	NAWCAD : Pax River, MD	0.329	0.000		0.069	Nov 2022	0.114	Nov 2023	-		0.114	0.077	0.589	-
PE Seaport CSS	C/CPFF	Wyle Lab : Pax River, MD	0.000	0.329	Dec 2021	0.000		0.000		-		0.000	0.000	0.329	0.328
PE PMMAC CSS	C/CPFF	Tekla : Pax River, MD	0.000	0.000		0.337	Apr 2023	0.092	Apr 2024	-		0.092	0.051	0.480	0.480
PE Travel	Various	NAVAIR : Pax River, MD	0.019	0.013	Oct 2021	0.025	Oct 2022	0.025	Oct 2023	-		0.025	0.050	0.132	-
		Subtotal	0.348	0.342		0.431		0.231		-		0.231	0.178	1.530	N/A

Remarks

Decrease from FY2023 to FY2024 in program office support needed for physiological episodes.

	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	5.329	4.417		2.966		1.680		-		1.680	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9099 / *Physiological Episodes*

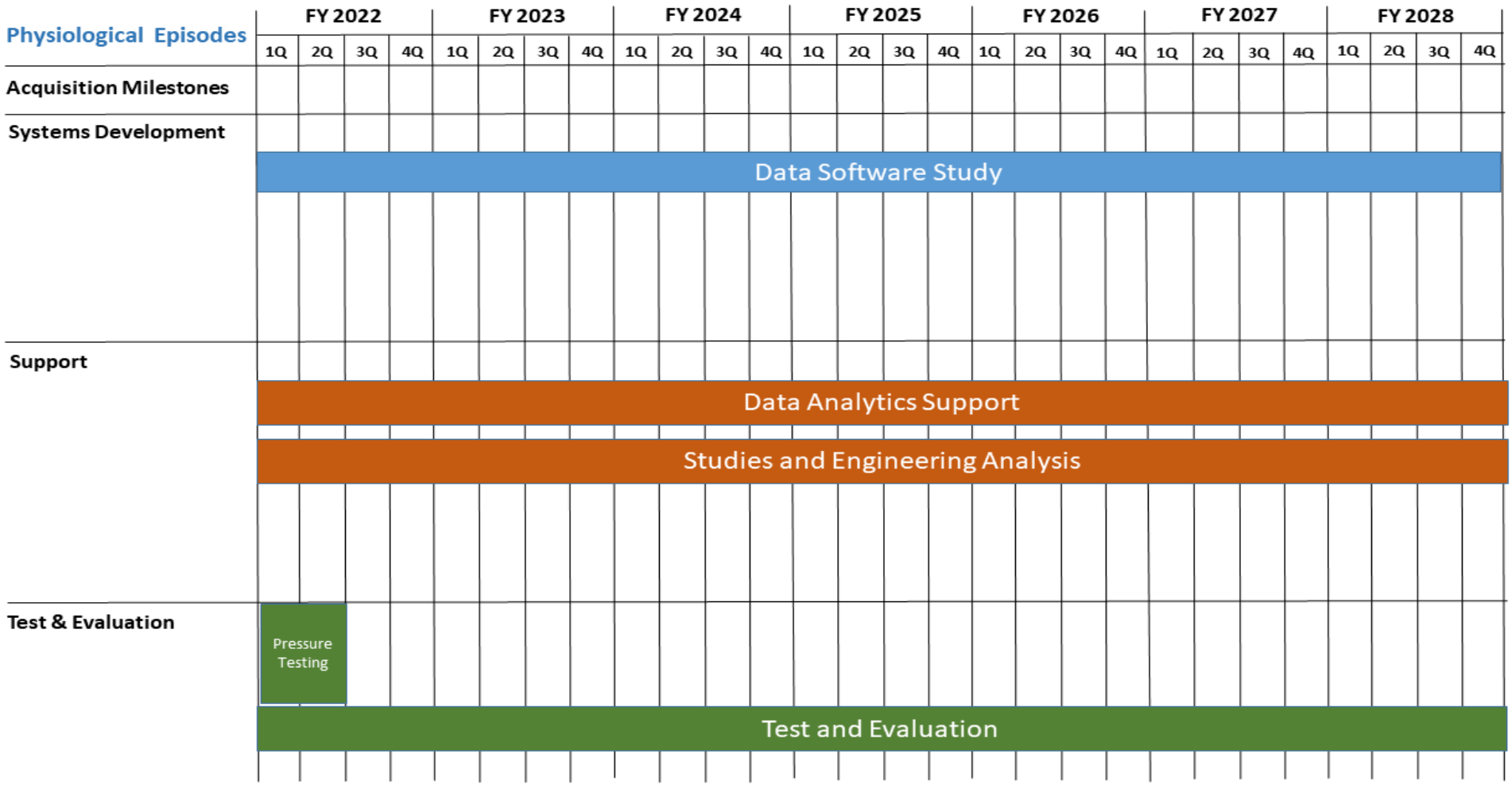

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9099 / *Physiological Episodes*

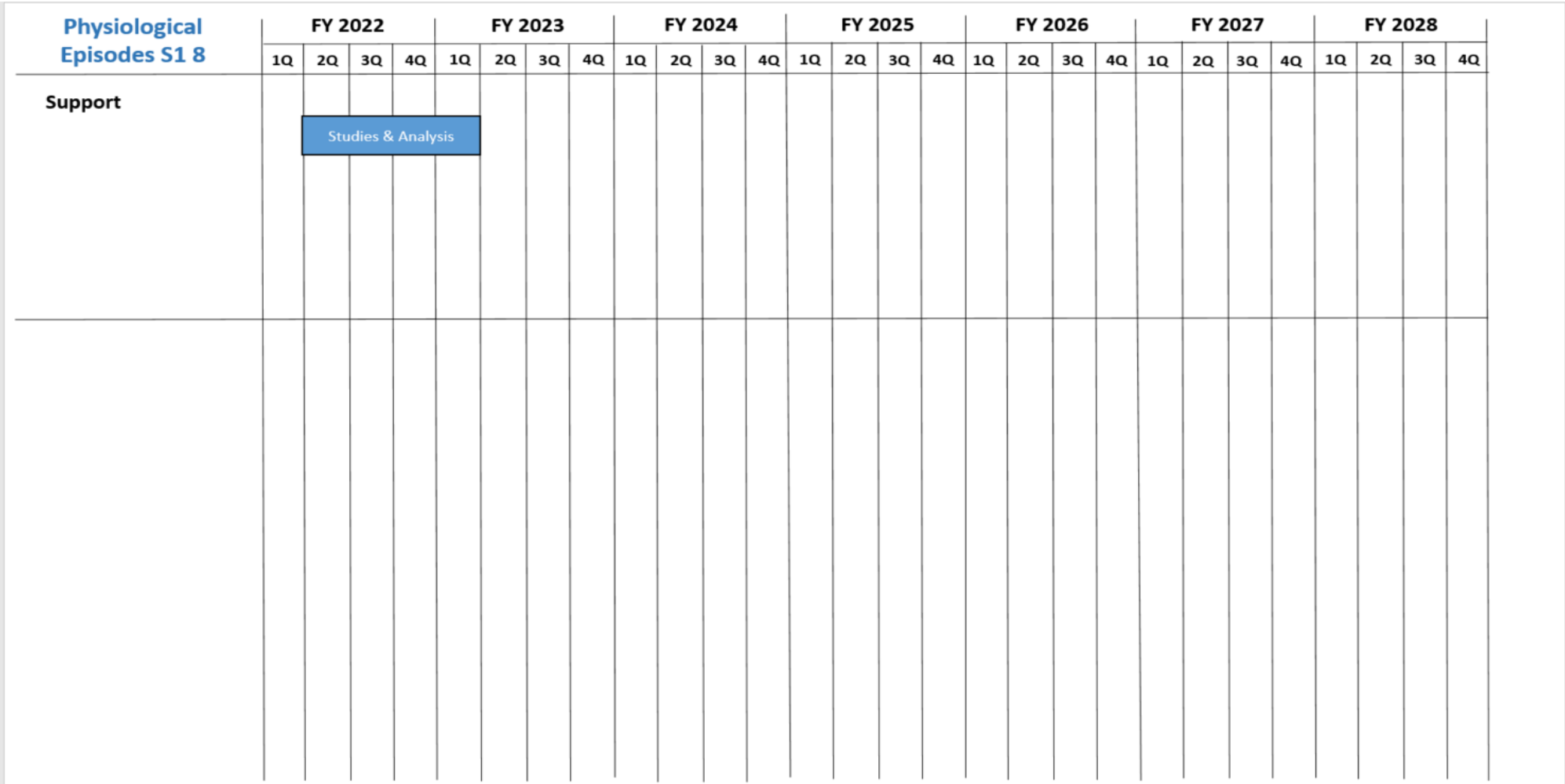

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9099 / *Physiological Episodes*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Physiological Episodes Mitigation				
System Development: Data Software Study	1	2022	4	2028
Support: Office of Naval Research Data Analytics Support	1	2022	4	2028
Support: Physiological Episodes Studies and Analysis Engineering	1	2022	4	2028
Test and Evaluation: Pressure Testing	1	2022	2	2022
Test and Evaluation: Physiological Episode Test and Evaluation	1	2022	4	2028
Physiological Episodes Studies and Analysis: Studies & Analysis	2	2022	1	2023

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*				Project (Number/Name) 9999 / *Congressional Adds*			
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**
9999: *Congressional Adds*	26.082	28.961	14.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	69.043
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Noise Reduction: Research, Development, Test and Evaluation (RDT&E) funding to support the redesign of Chevron seals to reduce engine exhaust plume noise. Numerous solutions have been evaluated. Chevron seals were determined to be the favorable solution for the F/A-18 and EA-18G. Previous testing of F414 chevrons demonstrated satisfactory noise reduction up to 80% power, but did not satisfy noise reduction requirements at full power. A possible cause of this problem has been identified. There are re-design options available to sustain noise reduction up to full power. Additional development and test will be required to finalize the Chevron design to achieve the desired noise reduction at all power levels. The subject funding will support the final design qualification efforts and ECP development of the downselected design. Other design options that will be explored are Contoured Inserts (COINs) that have had previous design work funded through ONR. Engine sets may be procured for follow on ground testing and evaluation.

Beacon Obsolescence Research: Research, Development, Test and Evaluation (RDT&E) funding to support APN-245 Automatic Carrier Landing System (ACLS) redesign needed due to obsolescence. The ACLS Radar Beacon enables long-range acquisition and precision guidance of F-18 to the carrier deck in all-weather conditions by providing a high-power, fixed, point-source radar return that eliminates radar scintillation noise.

Fifth Generation Sensor Fusion Study: Research, Development, Test and Evaluation (RDT&E) funding to support the maturation of the SLATE (Secure LVC Advanced Training Environment) technologies through an Advanced Technology Demonstration (ATD) effort. The ATD is expected to inform US Navy Programs of Record (POR) regarding technical and operational requirements for usable LVC (Live, Virtual, Constructive) capabilities and Joint Service PORs options for support to the warfighter.

Growler Noise Mitigation: Research, Development, Test and Evaluation (RDT&E) funding to support reduction of F414 noise by 3dB with no measurable impact to engine thrust.

Training Technology: Research Development Test & Evaluation (RDT&E) funding to facilitate the transition of DoD Joint Interoperable Effects Based Training enabled by Synthetic Inject To Live; Live Virtual Constructive (LVC) recently demonstrated during the Secure LVC Advanced Training Environment flight events at Pax River, MD. More specifically, these funds provide F-35 Sensor Fusion Study Phase II; the Coalition Cross Domain Solution (Encrypted LVC Integrated Training Environment - ELITE); which is the number one Coalition Warfighting Project for INDOPACOM with Royal Australian Air Force (RAAF). It also provides the Secure Live-Virtual-Constructive (LVC) Advanced Training Environment (SLATE) team's transition support into Tactical Combat Training System (TCTS) II PoR.

Civil Instrument Landing System: Research Development Test & Evaluation (RDT&E) funding provided to investigate alternatives to integrate Civilian Instrument Landing System or a Precision Approach Landing System into the F/A-18E/F and EA-18G aircraft. This capability is not available in the F/A-18E/Fs and it is limited to select EA-18Gs.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

Solid State Light Off Detector: Research Development Test & Evaluation (RDT&E) funding to explore design concepts to implement a solid state light-off detector in an F414 application. The program will identify concepts to explore in addition to a qualification and implementation plan to field the design into F414 Fleet assets.

Neural Network Algorithms on Advanced Processors: Research Development Test & Evaluation (RDT&E) Neural Network Algorithms funding on advanced processors will enable artificial intelligence and machine learning algorithm support for tactical decision making at increased speed and reduced aircrew workload in support of advance warfighting capabilities of the F/A-18 and EA-18G platforms. Neural network algorithms on advanced processors will be integrated into legacy processing systems with growth reserves that allows for capability upgrades without future hardware redesign during upgrades.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: Noise reduction research ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** N/A	3.861	4.000
Congressional Add: Training technology ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** N/A	9.654	0.000
Congressional Add: Civil instrument landing system ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** N/A	2.896	0.000
Congressional Add: Solid state light off detector ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** N/A	7.723	0.000
Congressional Add: Neural network algorithms on advanced processors ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** N/A	4.827	0.000
Congressional Add: Advanced beacon landing system upgrade ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** N/A	0.000	10.000
Congressional Adds Subtotals	28.961	14.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 9999 / *Congressional Adds*	

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
Beacon Obsolescence Research	C/CPFF	SNC : Lakehurst,NJ	2.646	0.000		0.000		0.000		-		0.000	0.000	2.646	2.646
Growler Noise Mitigation (Tollgate 3-6)	WR	NAVFAC : Norfolk, VA	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	0.500
Growler Noise Mitigation (Tollgate 6-9)	C/CPFF	GE Aviation : Lynn, Massachusetts	1.761	0.000		0.000		0.000		-		0.000	0.000	1.761	1.761
5th Gen Sensor Fusion	C/CPFF	Boeing : St. Louis, MO	2.387	0.000		0.000		0.000		-		0.000	0.000	2.387	2.387
5th Gen Sensor Fusion	C/CPFF	Cubic : Orlando, FL	3.838	0.000		0.000		0.000		-		0.000	0.000	3.838	3.838
5th Gen Sensor Fusion	C/CPFF	GTRi : Atlanta, GA	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	0.500
Noise Reduction	C/CPFF	GE Aviation : Lynn, Massachusettes	0.000	2.000	Aug 2022	0.000		0.000		-		0.000	0.000	2.000	2.000
Training Technology	C/CPFF	Boeing : St. Louis, MO	0.000	0.244	Jun 2022	0.000		0.000		-		0.000	0.000	0.244	0.244
Training Technology	C/CPFF	Collins Aerospace : California, MD	0.000	2.870	Jul 2022	0.000		0.000		-		0.000	0.000	2.870	-
Training Technology	C/CPFF	ACC FedLab : Hampton, VA	0.000	3.985	Aug 2022	0.000		0.000		-		0.000	0.000	3.985	-
Civil Instrument Landing System	C/CPFF	TBD : TBD	0.000	2.397	Aug 2022	0.000		0.000		-		0.000	0.000	2.397	2.397
Solid State Light Off Detector	C/CPFF	TBD : TBD	0.000	3.723	Aug 2022	0.000		0.000		-		0.000	0.000	3.723	4.000
Neural Network Algorithms	C/CPFF	TBD : TBD	0.000	4.000	Oct 2022	0.000		0.000		-		0.000	0.000	4.000	4.000
Noise Reduction	C/CPFF	GE Aviation : Lynn, Massachusetts	0.000	0.000		3.500	Aug 2023	0.000		-		0.000	0.000	3.500	3.500
Advanced Beacon Landing System Upgrade	C/CPFF	SNC : Lakehurst, NJ	0.000	0.000		6.976	May 2024	0.000		-		0.000	0.000	6.976	-
Advanced Beacon Landing System Upgrade	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.668	Dec 2023	0.000		-		0.000	0.000	0.668	-
Prior Year Prod Dev no longer funded in FYDP	Various	Various : Various	10.913	0.000		0.000		0.000		-		0.000	0.000	10.913	-
		Subtotal	22.545	19.219		11.144		0.000		-		0.000	0.000	52.908	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 9999 / *Congressional Adds*	

Support ($ 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
5th Gen Sensor Fusion	MIPR	MIT : Lexington, MA	0.120	0.000		0.000		0.000		-		0.000	0.000	0.120	-
5th Gen Sensor Fusion	C/CPFF	2 Circle : Arlington, VA	0.800	0.000		0.000		0.000		-		0.000	0.000	0.800	0.800
Training Technology	C/CPFF	Cubic : Orlando, FL	0.000	0.225	May 2022	0.000		0.000		-		0.000	0.000	0.225	0.225
Training Technology	WR	NSMA : Washington, DC	0.000	0.670	May 2022	0.000		0.000		-		0.000	0.000	0.670	0.670
Training Technology	C/CPFF	FTI : Washington DC	0.000	0.760	May 2022	0.000		0.000		-		0.000	0.000	0.760	0.760
Civil Instrument Landing System	WR	TBD : TBD	0.000	0.500	Aug 2022	0.000		0.000		-		0.000	0.000	0.500	-
Solid State Light Off Detector	WR	TBD : TBD	0.000	1.000	Aug 2022	0.000		0.000		-		0.000	0.000	1.000	-
Neural Network Algorithms	WR	NAWCAD : Patuxent River, MD	0.000	0.827	Jun 2022	0.000		0.000		-		0.000	0.000	0.827	-
Noise Reduction	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.500	Apr 2023	0.000		-		0.000	0.000	0.500	-
Prior Year Support no longer funded in FYDP	Various	Various : Various	0.200	0.000		0.000		0.000		-		0.000	0.000	0.200	-
		Subtotal	1.120	3.982		0.500		0.000		-		0.000	0.000	5.602	N/A

Test and Evaluation ($ 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
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NAWCAD : Patuxent River,MD	0.250	0.000		0.000		0.000		-		0.000	0.000	0.250	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NAWCAD : Patuxent River, MD	2.167	0.000		0.000		0.000		-		0.000	0.000	2.167	-
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Patuxent River, MD	0.000	5.760	Sep 2022	0.000		0.000		-		0.000	0.000	5.760	-
Developmental Test & Evaluation (DT&E)	C/CPFF	JF Taylor : Lexington Park, MD	0.000	0.000		2.356	Sep 2023	0.000		-		0.000	0.000	2.356	2.356

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 9999 / *Congressional Adds*	

Test and Evaluation ($ 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
Subtotal			2.417	5.760		2.356		0.000		-		0.000	0.000	10.533	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	26.082	28.961		14.000		0.000		-		0.000	0.000	69.043	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

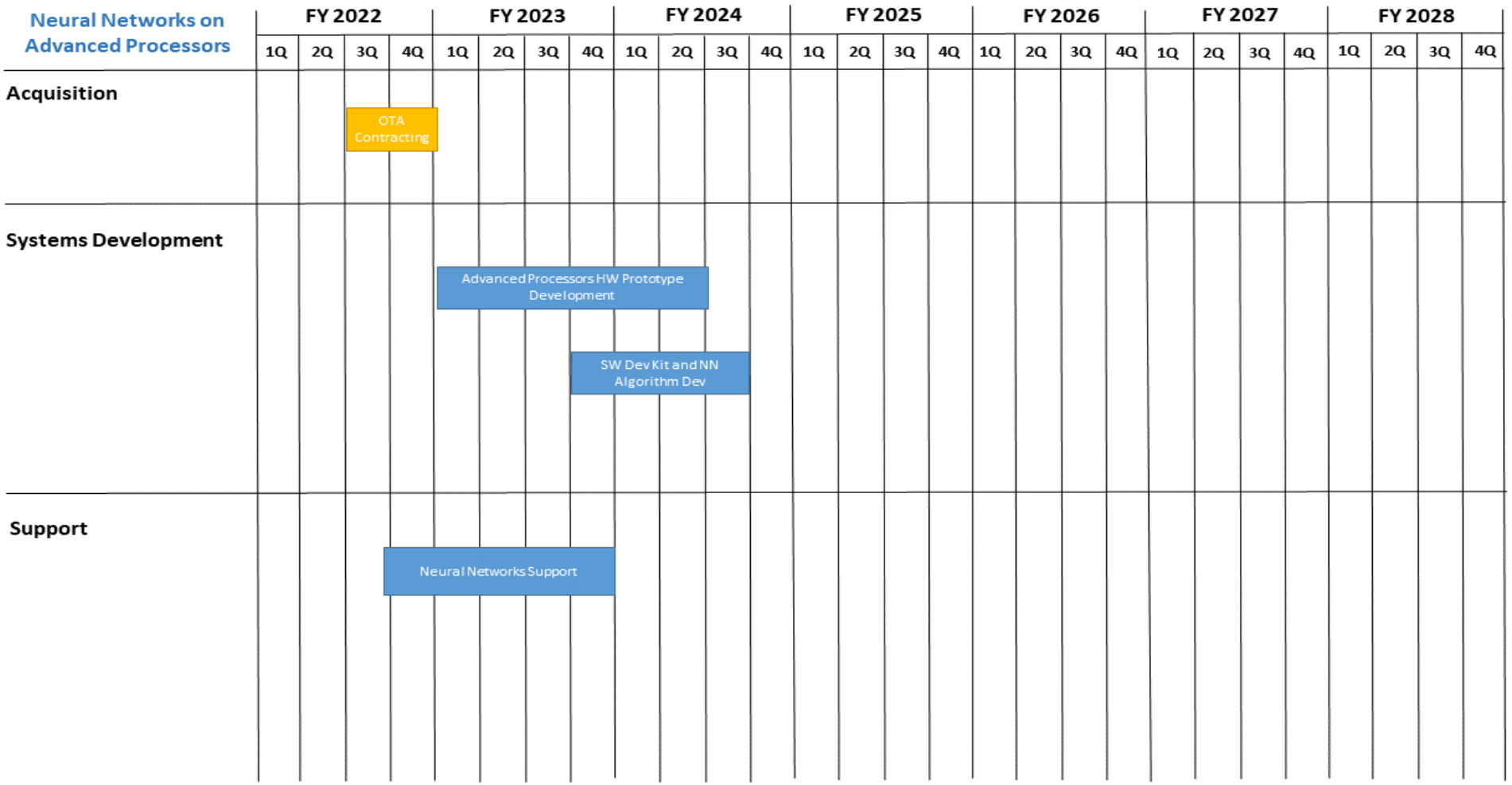

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

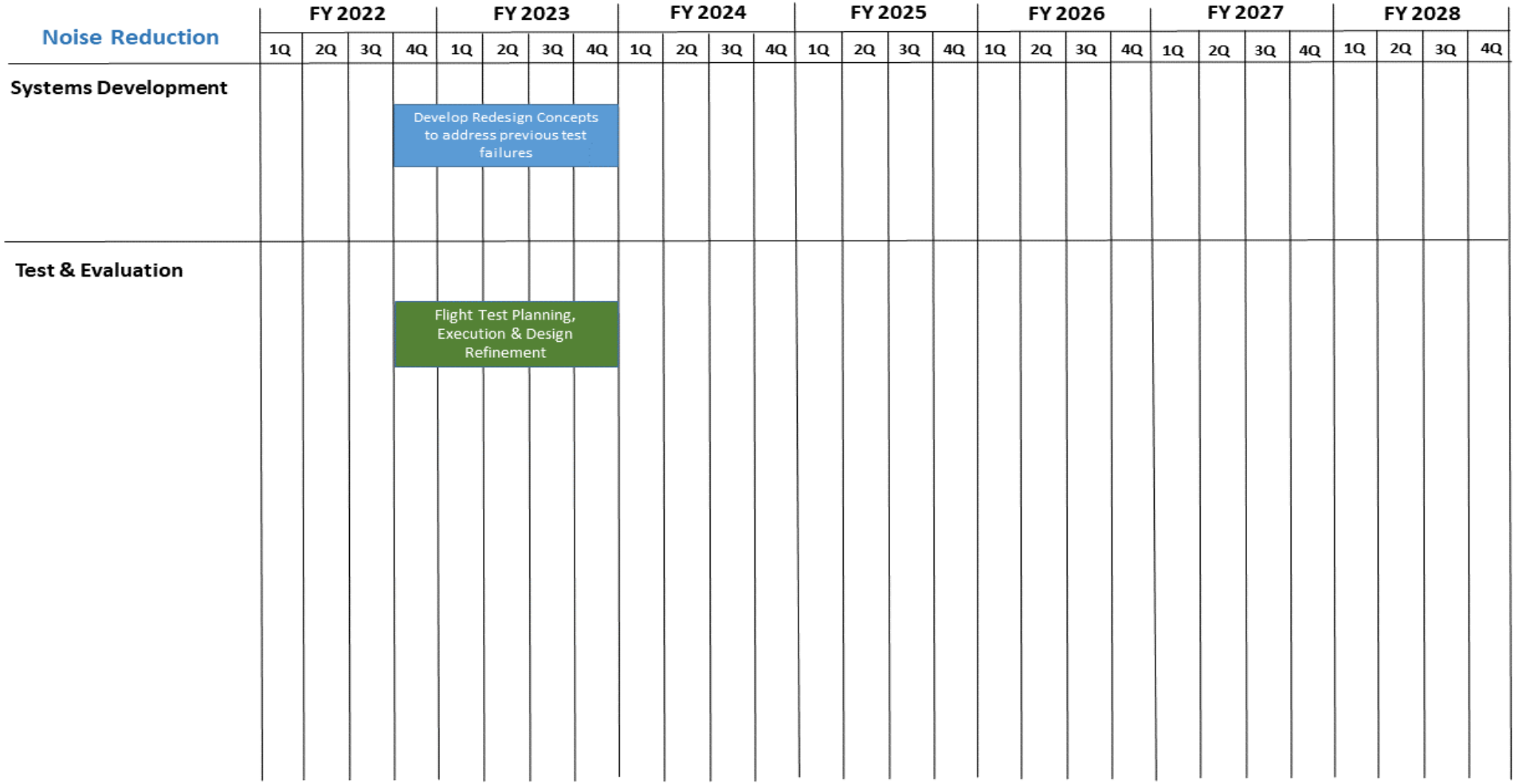

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

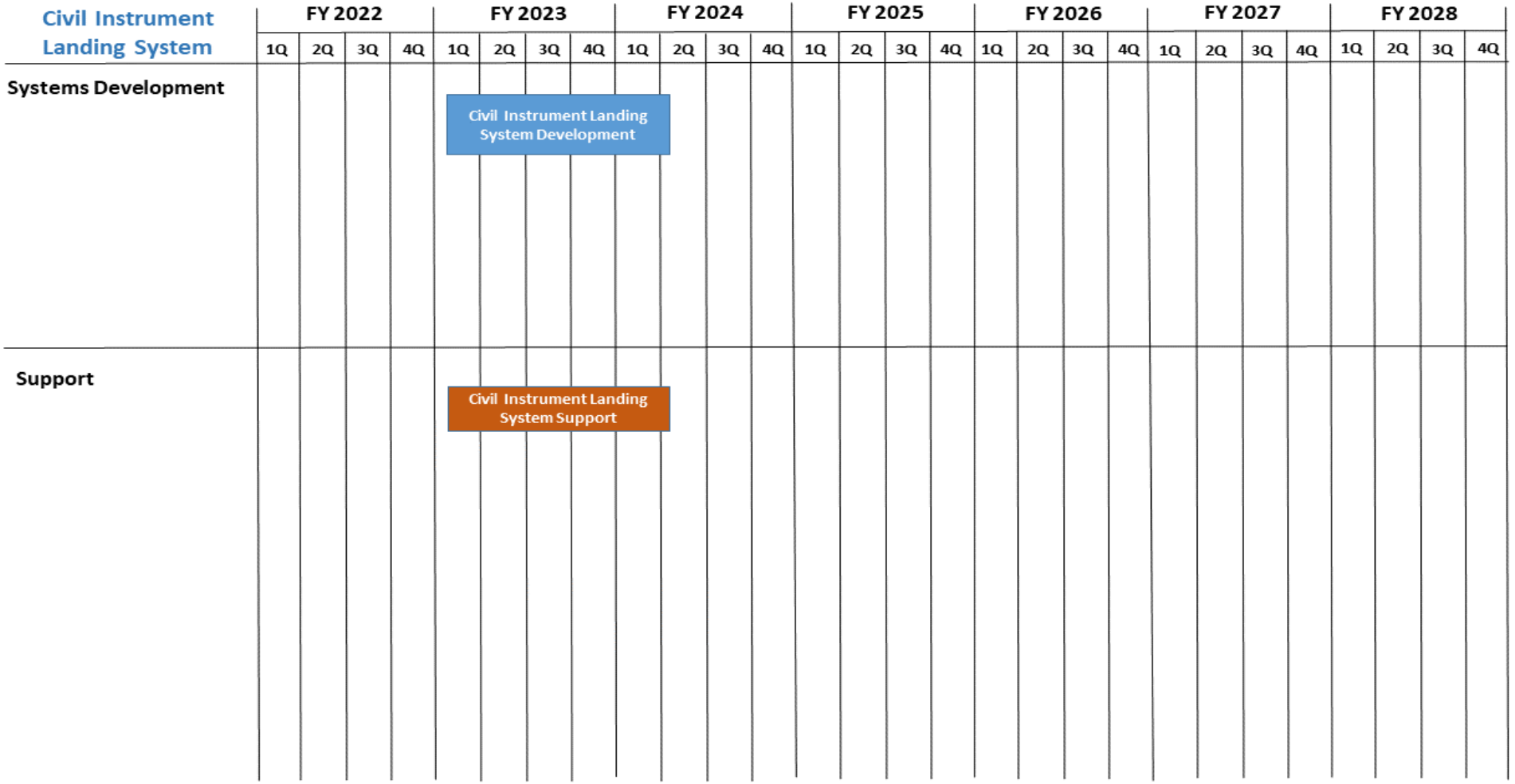

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

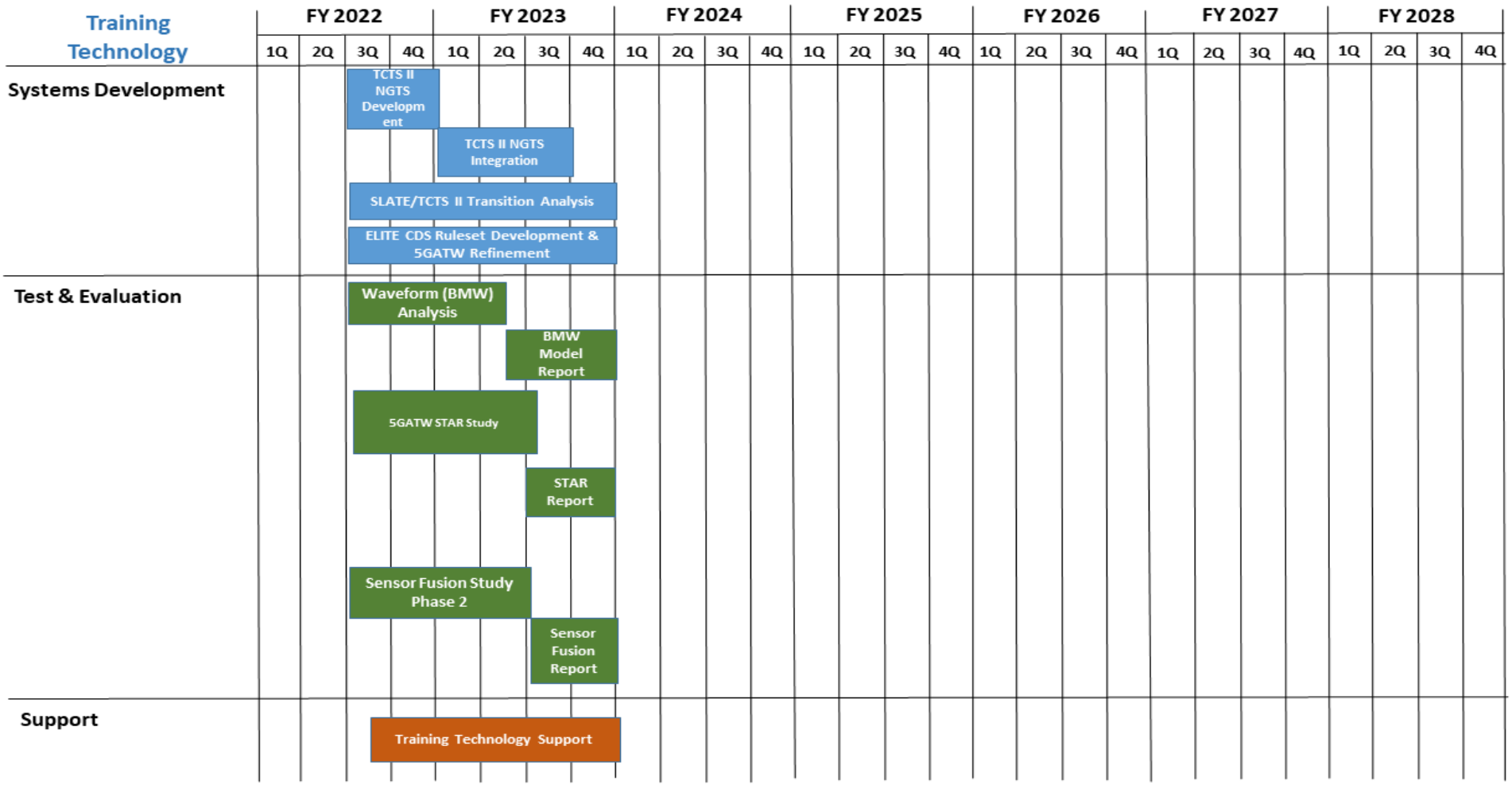

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

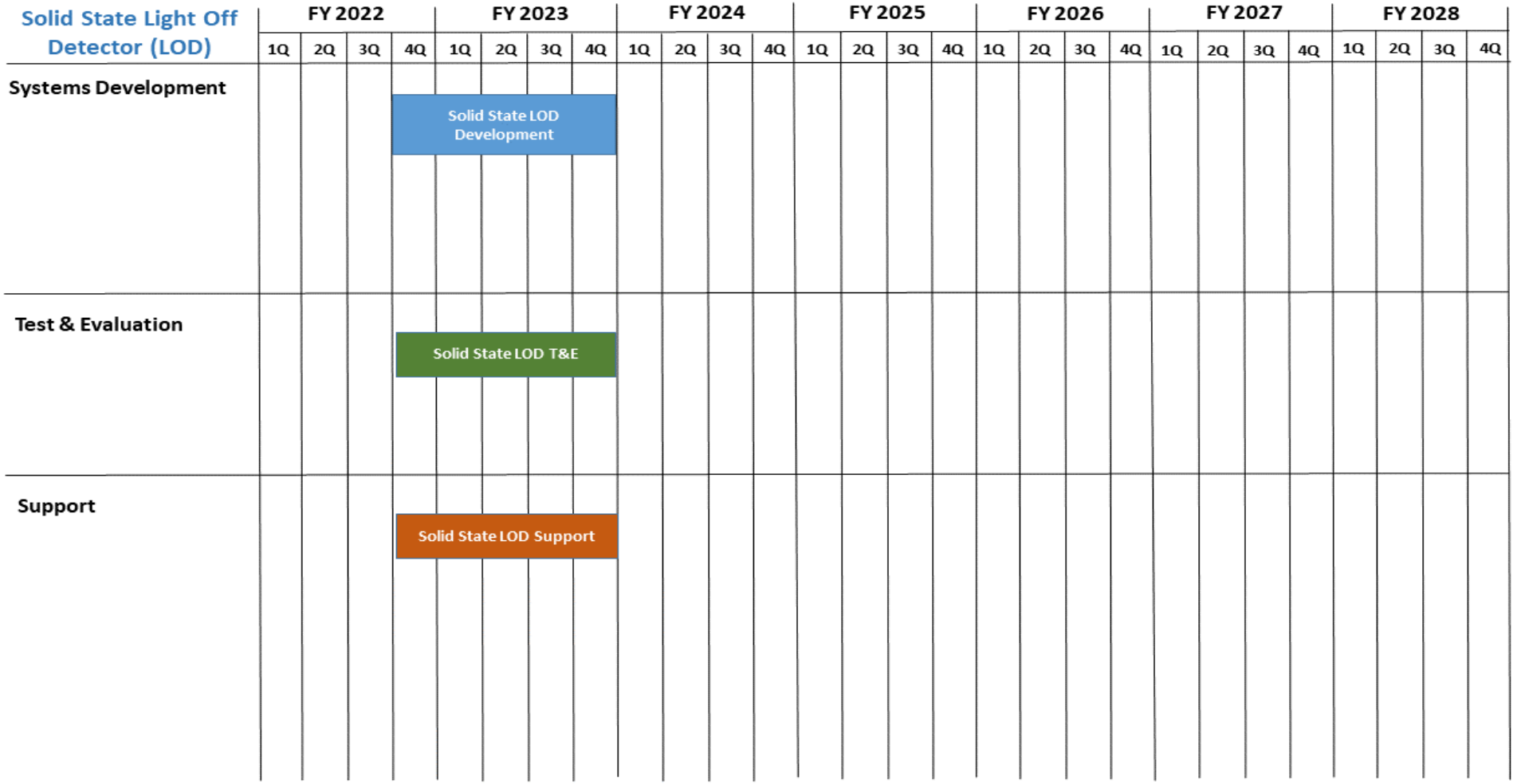

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

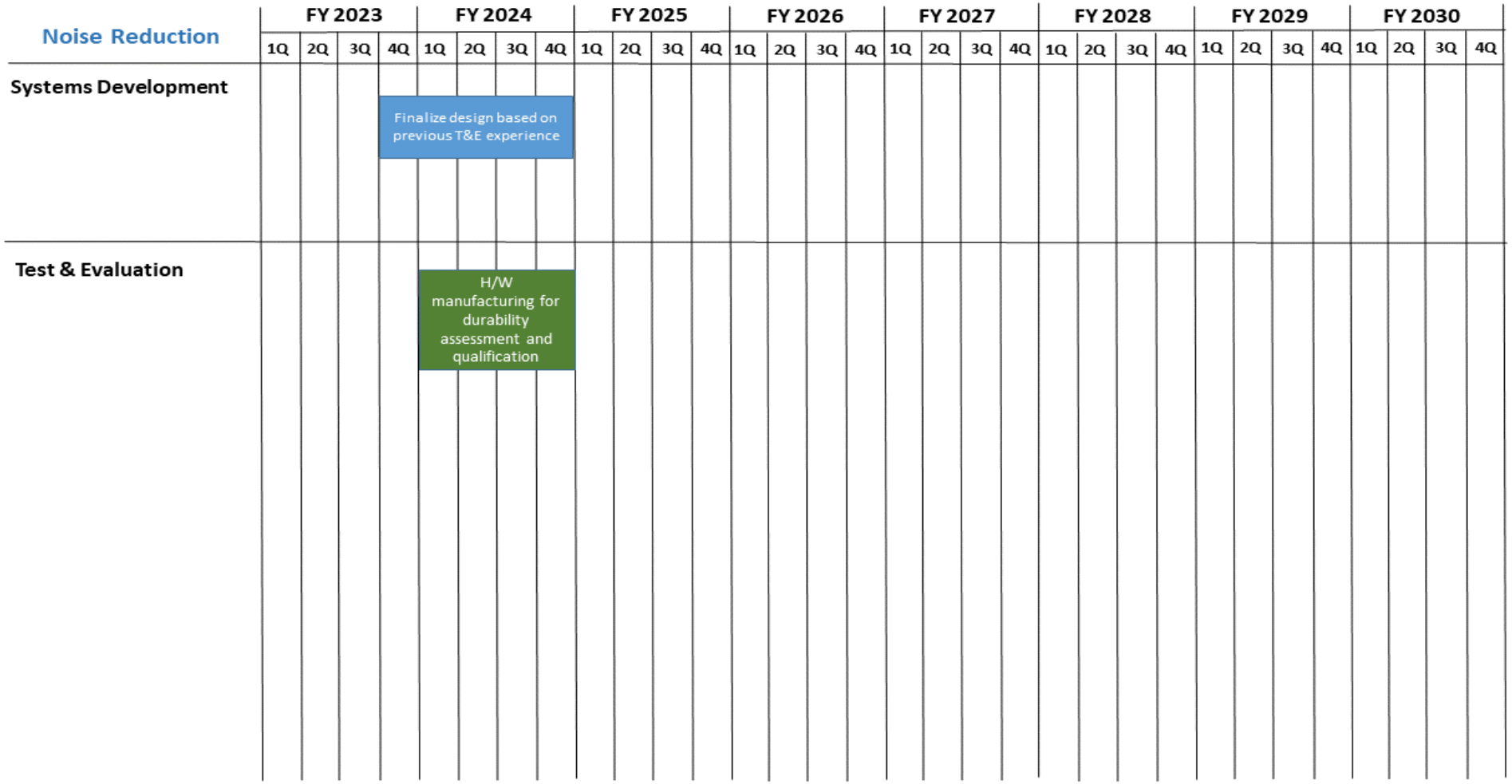

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

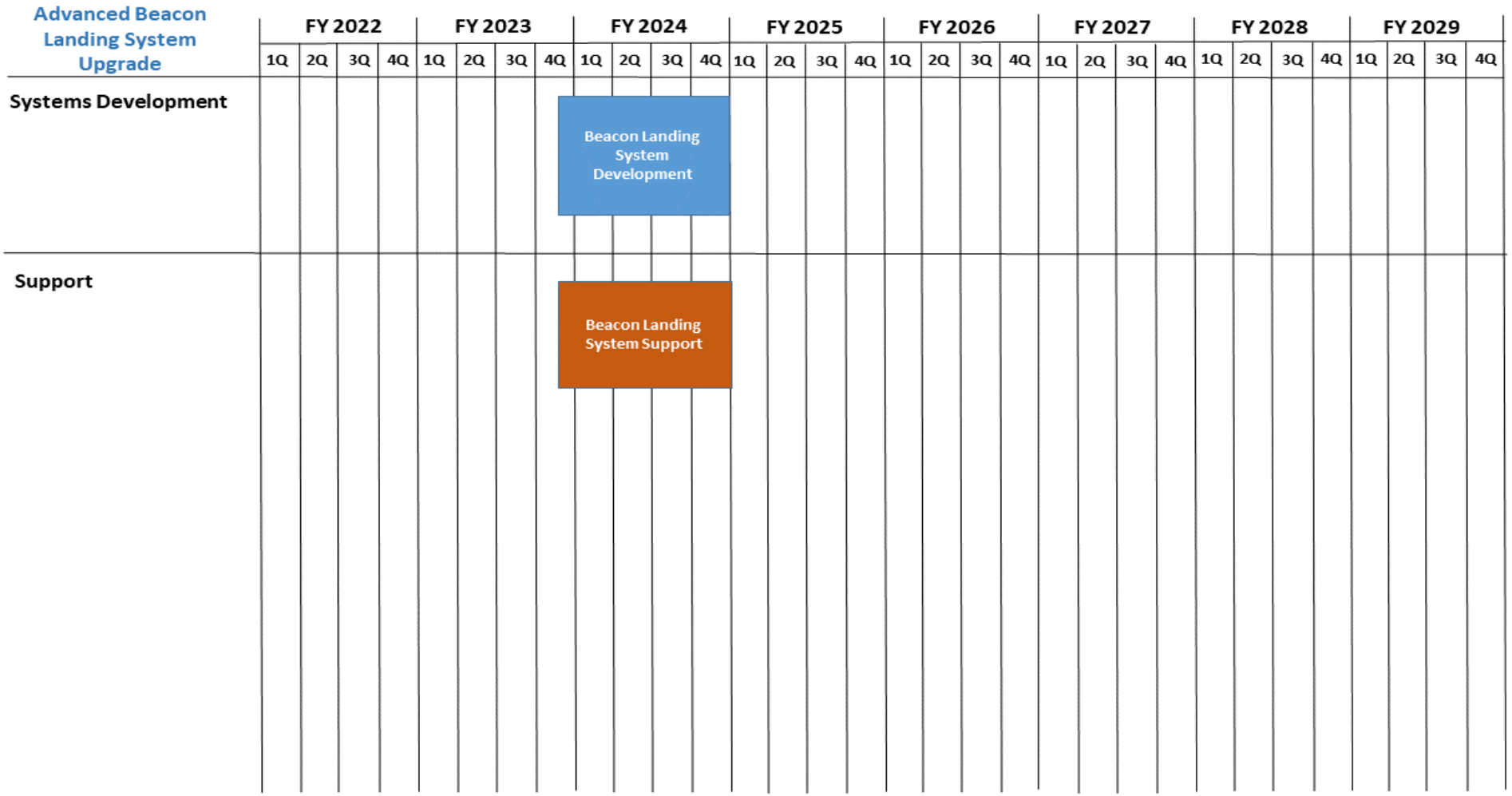

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Training Technology				
TCTS II NGTS Development	3	2022	4	2022
TCTS II NGTS Integration	1	2023	3	2023
SLATE/TCTS II Tranisition Analysis	3	2022	4	2023
ELITE CDS Ruleset Dev & 5GATW Refinement	3	2022	4	2023
Waveform (BMW) Analysis	3	2022	2	2023
BMW Model Report	2	2023	4	2023
5GATW Star Study	3	2022	3	2023
STAR Report	3	2023	4	2023
Sensor Fusion Study Phase 2	3	2022	2	2023
Sensor Fusion Study Demo	3	2023	4	2023
Training Technology Support	3	2022	4	2023
Neural Network on Advanced Processors				
Other Transactional Authority (OTA) Contract	3	2022	4	2022
Advanced Processors HW Development	1	2023	2	2024
SW Development Kit and NN Alogroithm Dev	4	2023	3	2024
Neural Network Algorithms Support	3	2022	4	2023
Civil Instrument Landing System				
Civil Instrument Landing System Development	1	2023	4	2023
Civil Instrument Landing System Support	1	2023	4	2023
Noise Reduction (FY22 Congressional Add)				
Noise Reduction Development	4	2022	4	2023
Noise Reduction T&E	4	2022	4	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 9999 / *Congressional Adds*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Solid State Light Off Detector				
Solid State Light Off Detector Development	4	2022	4	2023
Solid State Light Off Detector T&E	4	2022	4	2023
Solid State Light Off Detector Support	4	2022	4	2022
Noise Reduction (FY23 Congressional Add)				
Noise Reduction Development (FY23)	4	2023	4	2024
Noise Reduction T&E (FY23)	4	2023	4	2024
Advanced Beacon Landing System Upgrade				
Adv Beacon Landing System Upgrade Development	4	2023	4	2024
Adv Beacon Landing System Upgrade Support	4	2023	4	2024