Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy											Date: April 2022	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605215N *I Mission Planning*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	167.253	77.804	88.128	71.107	-	71.107	43.155	41.319	41.985	42.490	Continuing	Continuing
2213: *Mission Planning*	126.593	66.658	76.932	58.873	-	58.873	31.066	29.140	29.609	29.948	Continuing	Continuing
2311: *Stores Planning and Weaponeering Module*	40.660	11.146	11.196	12.234	-	12.234	12.089	12.179	12.376	12.542	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Mission Planning PE is used to develop automated mission planning systems to support Naval Aviation.

The Joint Mission Planning System (JMPS) (Proj 2213) is the designated automated mission planning system for Naval Aviation, supporting over 40 Type/Model/Series (T/M/S) of U.S. Navy and Marine Corps aircraft and expeditionary forces. JMPS-M (Maritime) enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, conduct mission rehearsal, execute missions, and conduct post-mission analysis. JMPS-E (Expeditionary) is a scalable, tailorable, and collaborative web-based mission planning and execution monitoring tool for Amphibious Squadron staffs embarked with each Amphibious Ready Group and Expeditionary Strike Group. Electronic Kneeboard (EKB) is a mobile device configured with various software applications and features to support aircrew during pre-flight planning, in-flight re-planning and mission execution, and post-mission debriefing and analysis.

The Standardized Tester of Reprogrammable Munitions (STORM) system (Proj 2213) replaces the legacy Common Munitions Built-in-Test (BIT)/Reprogramming Equipment (CMBRE) and provides USN/USMC forces the critical capability to perform built-in test and programming/reprogramming of various advanced weapons. Funding through FY 2023 is for the research and the development of the STORM system to support advanced operational capabilities, address system obsolescence, enable cybersecurity requirements, and meet mission readiness requirements.

The Next Generation Naval Mission Planning System (NGNMPS) will address critical capability gaps and deficiencies in the legacy JMPS that are required for modern 21st century integrated mission-centric and collaborative multi-domain mission planning, execution and analysis. NGNMPS will replace Naval Aviation's legacy JMPS no later than FY 2027 while also affordably leveraging prior investments across the systems of systems to deliver integrated and collaborative capability. NGNMPS will affordably address technological obsolescence while also delivering collaborative and automated capabilities in an integrated virtual collaborative data environment. NGNMPS capability provides advanced multiple aircraft planning capabilities focused on emerging, high-threat mission areas. Current mission planning capabilities support individual aircraft and weapon initialization requirements. The emerging, near-peer threat environment demands a much more capable system that enables a team of aircraft to cooperate effectively across multiple mission areas, domains, and security levels. NGNMPS will also leverage service-oriented architecture to provide revolutionary improvements in workflow, usability, cybersecurity, information and decision aids needed to rapidly plan/employ/maximize effectiveness of aircraft/weapon/sensor/payload mission plans; perform advanced pre-mission rehearsal/analysis; provide functionality to load mission data into aircraft and weapons; enable dynamic replanning/retargeting against evolving threats in contested environments; perform integrated and advanced post-mission debrief/analysis; support cross-domain

capabilities; and support portability of mission planning, mission execution, and mission analysis functions to meet National Defense Strategy and Interim National Security Strategic Guidance key objectives.

The Stores Planning and Weaponeering Module, also referred to as Weaponeering and Stores Planning (WASP) (Proj 2311), is an integrated software product that allows aircrew to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage. The WASP program perform detailed weapons employment planning for F/A-18 and E/A-18G aircraft. The WASP program provides inherent safety checks which eliminate weapon delivery solutions that violate aircraft T/M/S specific safety-of-flight envelopes. FY 2022 and out include funding for the research and development in order to integrate WASP with 3-D mission rehearsal, provide dynamic Safe Escape Automation Layer (SEAL) calculations on Electronic Kneeboard (EKB), develop WASP for other Navy and Marine Corps platforms, and support WASP development and integration with Next Generation Mission Planning Systems (NGNMPS).

The total cost of the STORM Middle Tier of Acquisition effort is $43.3 million, including RDT&E and procurement of prototype units. The STORM program is fully funded across the Future Years Defense Program. STORM will transition from an MTA program being executed under 804 authority at the end of FY23.

The total cost of the NGNMPS Middle Tier of Acquisition effort is $195.37 million, including RDT&E and procurement of prototype units. The NGNMPS program is fully funded across the Future Years Defense Program. NGNMPS will transition from an MTA program being executed under 804 authority at the end of FY24.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT & DEMONSTRATION (SDD) because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	83.980	88.128	0.000	-	0.000
Current President's Budget	77.804	88.128	71.107	-	71.107
Total Adjustments	-6.176	0.000	71.107	-	71.107
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.002	0.000			
• SBIR/STTR Transfer	-4.174	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Adjustments to Budget Year	-	-	71.107	-	71.107

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy	Date: April 2022
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605215N *I Mission Planning*

Change Summary Explanation

FY2023 funding request was reduced by 2 million to account for the availability of prior year execution balances.

TECHNICAL: N/A

SCHEDULE: N/A

FY 2023 funding increase reflects the fact that the FY 2022 President’s Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy											Date: April 2022	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605215N / *Mission Planning*				Project (Number/Name) 2213 / *Mission Planning*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
2213: *Mission Planning*	126.593	66.658	76.932	58.873	-	58.873	31.066	29.140	29.609	29.948	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

JMPS-Maritime (JMPS-M) is the designated automated mission planning system for naval aviation, supporting over 40 T/M/S of U.S. Navy and Marine Corps aircraft. JMPS-M enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, conduct mission rehearsal, and conduct post-mission analysis. JMPS-M is a mission critical system which is a co-development effort between the United States Navy (USN) and United States Air Force (USAF). Common requirements are identified and core JMPS-M capabilities are developed and prioritized in an evolutionary approach. An individual JMPS-M Mission Planning Environment (MPE) requires the JMPS framework, common components, unique planning components (UPCs), federated applications, and the necessary system hardware required to satisfy mission planning objectives. Most tactical naval aviation platforms are dependent solely on JMPS-M to plan precision guided munitions, sensor systems, tactical data links, secure voice communications, and basic Safety of Flight functions. Common helicopter functionality has been developed for implementation in Joint Mission Planning System (JMPS). Common Helicopter components include, Weight and Power Calculators, Common Mission Data Loader, Weapon Employment Zone Overlays Tool and Point Selection Tool. The Mission Planning Program Element also includes Electronic Kneeboard (EKB) which is a mobile device configured with various software applications and features to support aircrew during pre-flight planning, in-flight re-planning and mission execution, and post-mission debriefing and analysis.

The Next Generation Naval Mission Planning System (NGNMPS) will address critical capability gaps and deficiencies in the legacy JMPS that are required for modern 21st century integrated mission-centric and collaborative multi-domain mission planning, execution and analysis. NGNMPS will replace Naval Aviation's legacy JMPS no later than FY 2027 while also affordably leveraging prior investments across the systems of systems to deliver integrated and collaborative capability. NGNMPS will affordably address technological obsolescence while also delivering collaborative and automated capabilities in an integrated virtual collaborative data environment. NGNMPS capability provides advanced multiple aircraft planning capabilities focused on emerging, high-threat mission areas. Current mission planning capabilities support individual aircraft and weapon initialization requirements. The emerging, near-peer threat environment demands a much more capable system that enables a team of aircraft to cooperate effectively across multiple mission areas, domains, and security levels. NGNMPS will also leverage service-oriented architecture to provide revolutionary improvements in workflow, usability, cybersecurity, information and decision aids needed to rapidly plan/employ/maximize effectiveness of aircraft/weapon/sensor/payload mission plans; perform advanced pre-mission rehearsal/analysis; provide functionality to load mission data into aircraft and weapons; enable dynamic replanning/retargeting against evolving threats in contested environments; perform integrated and advanced post-mission debrief/analysis; support cross-domain capabilities; and support portability of mission planning, mission execution, and mission analysis functions to meet National Defense Strategy and Interim National Security Strategic Guidance key objectives.

FY 2023 and out includes funding for STORM, which provides USN/USMC units with the critical capability to perform built-in-test and programming/reprogramming of various weapons. Funding will provide research and the development in order to develop the STORM system to support advanced operational capabilities, address system obsolescence, meet cyber security requirements, and meet mission readiness requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Joint Mission Planning System Expeditionary (JMPS-E)	1.235	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: JMPS Expeditionary (JMPS-E): JMPS-E provides a scalable, tailorable, mission planning and execution monitoring tool for Amphibious Squadron staffs. The primary focus of this system is to provide an automated capability to assist planners with mission analysis, course of action development and automated creation of doctrinal orders based on planning data in the system. JMPS-E provides a digital map enabling better response times to changing plans, easier distribution of planning artifacts and a reduction in human error during the planning process. The variety and geographically separated nature of forces involved with Ship to Objective Maneuver (STOM) amplifies the need for web-based technologies to enable collaborative planning, improve overall situational awareness and enable the monitoring of mission execution from different locations. The primary outputs are tasking orders, route plans, battlespace geometries and decision briefs. The system will also incorporate modeling and simulation tools to rehearse and deconflict mission plans. Beginning in FY 2022 JMPS-E was to be divested. That decision has recently been reversed and funding has been programmed in OPN BLI 2876 beginning in FY23 for SW modernization to align program for transition to NGNMPS. ***FY 2022 Plans:*** N/A ***FY 2023 Base Plans:*** N/A ***FY 2023 OCO Plans:*** N/A					
Title: Mission Planning Program Mgmt, Integration, and Test	12.615	12.725	9.992	0.000	9.992
Articles:	-	-	-	-	-
Description: Perform Mission Planning Program Management, and Integration and Test efforts supporting the Navy's system development, developmental testing/operational testing, integration, system-of-system testing, and managing Naval Mission Planning efforts. Life-cycle management efforts consist of development of program execution plans, development/integration of components provided by various developers into mission planning environments and testing of the integrated environment. ***FY 2022 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue mission planning integration and testing, project management and system engineering for over 40 T/M/S that are supported by legacy JMPS and by the Next Generation Naval Mission Planning System with a focus transitioning to NGNMPS. Test and verify capabilities to support multi-ship mission coordination and transition of components to services. Continue to update/validate fleet requirements in support of the Next Generation Naval Mission Planning System. Implement and improve fleet-priority functionality and cyber-security mandates. Conduct EKB studies, analyses, integrations, and tests to meet emergent fleet security and aircraft interface/data exchange requirements. ***FY 2023 Base Plans:*** Continue mission planning integration and testing, project management and system engineering for over 40 T/M/S that are supported by legacy JMPS and by the Next Generation Naval Mission Planning System with a focus transitioning to NGNMPS. Complete initial fleet requirement assessment in support of Next Generation Naval Mission Planning. Conduct studies, analyses, integration, and tests to move Naval Mission Planning Systems into a single Eco-System supporting fleet needs. Conduct additional studies, analyses, integrations, and tests to meet emergent fleet security and aircraft interface/data exchange requirements. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease from FY 2022 to FY 2023 due to JMPS-M scheduled sundown in FY27, driving a reduction in new development, integration and test efforts.					
Title: Mission Planning Framework (FW) and Common Components (CC) Development	8.784	8.829	6.988	0.000	6.988
Articles:	-	-	-	-	-
Description: As platform(s) requirements emerge for new and enhanced mission planning capabilities, the demand for more complex integrated applications and software products increases. The transition to a modern service-oriented architecture will increase the volume of integrated mission planning capability that will be required by complex integrated combat operations. This task continues development and integration of modernized mission planning software frameworks and architecture which provide the required core mission planning capabilities supporting all naval aircraft. Framework and architecture development tasks include: system engineering processes, management interface controls, software architectural analysis, requirements management and a centralized website for Mission Planning developers. Updating Common Component software into a modernized software environment and architecture will continue and also augment core mission planning capabilities supporting multiple T/M/S.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
FY 2022 Plans: Continue development, integration and testing of modernized framework capabilities and architecture. Introduce capability involving new business services, utilities and data types. Continue development activities which include implementing a modular, scalable service-oriented architecture to reduce development and sustainment costs while also supporting cyber security hardening and resilience for compliance with cyber mandates. Continue development and integration of common components to meet platform(s) requirements for new and enhanced mission planning capability required in a modernized and service-oriented architecture environment. Integration activities will continue as platforms deliver modernized unique planning capabilities for integration, testing and fielding. ***FY 2023 Base Plans:*** Continue development, integration and testing of modernized framework capabilities and architecture. Introduce capability involving new business services, utilities and data types. Continue development activities which include implementing a modular, scalable service-oriented architecture to reduce development and sustainment costs while also supporting cyber security hardening and resilience for compliance with cyber mandates. Continue development and integration of common components to meet platform(s) requirements for new and enhanced mission planning capability required in a modernized and service-oriented architecture environment. Integration activities will continue as platforms deliver modernized unique planning capabilities for integration, testing and fielding. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease from FY 2022 to FY 2023 due to capability migration from legacy JMPS-M Mission Planning Framework and Common Components to Next Generation Naval Mission Planning Systems framework and component architecture.					
Title: Next Generation Naval Mission Planning System (NGNMPS) Development	32.249	37.606	31.143	0.000	31.143
Articles:	-	-	-	-	-
Description: The Next Generation Naval Mission Planning System (NGNMPS) will address critical capability gaps and deficiencies in the legacy JMPS that are required for modern 21st century integrated mission-centric and collaborative multi-domain mission planning, execution and analysis. NGNMPS will replace Naval Aviation's legacy JMPS no later than FY 2027 while also affordably leveraging prior investments across the systems of systems to deliver integrated and collaborative capability. NGNMPS will affordably address technological					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
obsolescence while also delivering collaborative and automated capabilities in an integrated virtual collaborative data environment. NGNMPS capability provides advanced multiple aircraft planning capabilities focused on emerging, high-threat mission areas. Current mission planning capabilities support individual aircraft and weapon initialization requirements. The emerging, near-peer threat environment demands a much more capable system that enables a team of aircraft to cooperate effectively across multiple mission areas, domains, and security levels. NGNMPS will also leverage service-oriented architecture to provide revolutionary improvements in workflow, usability, cybersecurity, information and decision aids needed to rapidly plan/employ/maximize effectiveness of aircraft/weapon/sensor/payload mission plans; perform advanced pre-mission rehearsal/ analysis; provide functionality to load mission data into aircraft and weapons; enable dynamic replanning/ retargeting against evolving threats in contested environments; perform integrated and advanced post-mission debrief/analysis; support cross-domain capabilities; and support portability of mission planning, mission execution, and mission analysis functions to meet National Defense Strategy and Interim National Security Strategic Guidance key objectives. The NGNMPS will be integrating rapid prototyped capability developed under multiple S&T efforts (e.g., Future Naval Capability, Rapid Innovation Fund, Small Business Innovative Research) as those projects mature sufficiently to meet critical advanced warfighting needs. NGNMPS is currently utilizing a Middle Tier Acquisition approach, per Section 804 of the Fiscal Year (FY) 2016 National Defense Authorization Act (NDAA), as amended in FY 2017 NDAA (codified at 10 U.S.C. sub sec 2302 note) to prototype and deliver NGNMPS capabilities to Naval Aviation across multiple platforms. The NGNMPS program of record anticipated to start in FY24 ***FY 2022 Plans:*** Continue development, integration and testing of modernized framework capabilities and architecture. New capabilities will be developed to enable complex mission planning for the warfighter. The user interface will be updated to allow for ease of use and reduced time to plan a mission. Development activities will include implementing a modular, scalable service-oriented architecture to reduce development and sustainment costs while supporting cyber security hardening and resilience for compliance with cyber mandates. Continue to develop and integrate micro-services to meet platform(s) requirements for new and enhanced mission planning capability required in a modernized and service-oriented architecture environment. ***FY 2023 Base Plans:*** Continue development, integration and testing of the NGNMPS modernized framework capabilities and architecture. Continue development, integration, and test of mission planning capabilities enabling complex mission planning for the warfighter. Continue and expand a consolidated user interface for ease of use, reduced					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
time to plan, as well as reduced training requirements. Continue to implement data automation to improve time to plan, reduce errors, and allow aircrew to focus on critical decision making in the mission planning process. Continue to implement a modular, scalable service-oriented architecture to reduce development and sustainment costs while supporting cyber security hardening and resilience for compliance with cyber mandates. Continue to develop and integrate micro-services to meet platform(s) requirements for new and enhanced mission planning capability required in a modernized and service-oriented architecture environment. Demonstrate developmental software in operationally representative environments to ensure shipboard interoperability and collect aircrew feedback. Continue implementation of SecDevOps software production pipeline and processes to achieve continuous integration & continuous deployment. Prepare program documentation to transition NGNMPS into an established program of record. Selection of the most appropriate acquisition pathway and entry point will be documented the NGNMPS program of record acquisition strategy. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease from FY 2022 to FY 2023 due to the planned completion of main development and subsequent shift to test and integration efforts.					
Title: Standardized Tester of Reprogrammable Munitions (STORM) (previously titled: Next Generation Common Munitions BIT Reprogramming Equipment (CMBRE) ***Articles:*** ***Description:*** The technology inherent to the legacy CMBRE is obsolete and cannot be sustained beyond 2025. In addition to sustainability issues and cyber security concerns, the Fleet also requires a more transportable, lighter weight and rugged test set that has the ability to service existing and future weapons with increased data transfer capability in austere operating environments. Formerly named "CMBRE Next Generation" the Standardized Tester of Reprogrammable Munitions (STORM) efforts enhance mission readiness and security, generate improved flexibility, depth, and capacity for existing and emerging aviation weapon capabilities during the conduct of ship, shore, and ship-to-shore operations in both conventional and Distributed Aviation Operations environments. STORM will support current and future fleet weapon support requirements, CONOPS, and will comply with Cyber security mandates while affordably addressing legacy CMBRE system obsolescence.	11.775 -	17.772 -	10.750 -	0.000 -	10.750 -

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
STORM will utilize a Middle Tier Acquisition approach, per Section 804 of the Fiscal Year (FY) 2016 National Defense Authorization Act (NDAA), as amended in FY 2017 NDAA (codified at 10 U.S.C. sub sec 2302 note) to prototype and deliver STORM capability to USN/USMC forces. ***FY 2022 Plans:*** Continue development of STORM system. Continue prototype Munitions Application Program (MAP) software development. Continue assembly of STORM prototype hardware components. Conduct hardware/software system integration. Begin system-level test and evaluation. ***FY 2023 Base Plans:*** Continue development of STORM system. Complete prototype Munitions Application Program (MAP) software development. Complete assembly of STORM prototype hardware components. Conduct hardware/software system integration. Complete hardware/software system integration. Continue system-level test and evaluation. Prepare program documentation to transition STORM into an established program of record. Selection of the most appropriate acquisition pathway and entry point will be documented the STORM program of record acquisition strategy. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease from FY 2022 to FY 2023 due to completion of fabrication of STORM prototype hardware as well as completion of software associated with the 804 mid-tier acquisition program.					
Accomplishments/Planned Programs Subtotals	66.658	76.932	58.873	0.000	58.873

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• OPN/2876: *Mission Planning*	13.947	16.777	26.778	-	26.778	36.612	37.276	38.051	38.742	Continuing	Continuing

Remarks

D. Acquisition Strategy

The initial Joint Mission Planning System (JMPS) development effort was a phased evolutionary approach. JMPS is a post Milestone III program and Initial Operational Capability (IOC) occurred in December 2005. Cost Plus Award Fee (CPAF) and Cost Plus Incentive Fee (CPIF) contracts were awarded during initial development. During the down-select process, one contractor was selected to develop the JMPS architecture framework and Version 1.0 basic flight planning components. Additional

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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phases focused on strike planning requirements (i.e., support Precision Guided Missions and other tactical data intensive missions) in order to migrate platforms from legacy mission planning systems to JMPS. The USAF and USN continued the joint development of JMPS Frameworks via the USAF Mission Planning Enterprise Contract, which is used for JMPS Framework software development. The USN integration and fielding strategy supports a Mission Planning Environment (MPE) focus, where the JMPS Framework and other software components are integrated, tested, and fielded by T/M/S. As platforms plan their migration to newer versions of JMPS, the acquisition strategy, plan, and program baseline will be updated in order to divest legacy mission planning systems, meet the evolving requirements for integrated mission planning, and lower total life cycle cost. JMPS End of Life (EOL) is planned for 2027. This necessitates the development of a replacement system, Next Generation Naval Mission Planning System (NGNMPS).

NGNMPS will provide a modernized mission planning system which supports multi-domain mission planning, execution, management, and mission analysis capabilities required by the 21st century warfighter. NGNMPS will address critical capability gaps and deficiencies in the legacy JMPS that are required for modern 21st century integrated mission-centric and multi-domain collaborative mission planning, execution and analysis. NGNMPS will replace Naval Aviation's legacy JMPS no later than 2027 while also affordably leveraging prior investments across the systems of systems to deliver integrated and collaborative capability. NGNMPS will affordably address technological obsolescence while also delivering collaborative and automated capabilities in an integrated virtual collaborative data environment. NGNMPS will also leverage service-oriented architecture to provide revolutionary improvements in workflow, usability, cybersecurity, information and decision aids needed to rapidly plan/employ/maximize effectiveness of aircraft/weapon/sensor/payload mission plans; perform advanced pre-mission rehearsal/analysis; provide functionality to load mission data into aircraft and weapons; enable dynamic replanning/retargeting against evolving threats in contested environments; perform integrated and advanced post-mission debrief/analysis; support cross-domain capabilities; and support portability of mission planning, mission execution, and mission analysis functions.

NGNMPS will address shortfalls in the family of legacy systems (including JMPS) by modernizing the foundational software to a services based architecture that will improve composability of software applications to support advanced mission planning, dynamic re-planning, mission execution, and post-mission analysis that is required to support the National Defense Strategy and Interim National Security Strategic Guidance. Adopting composable infrastructure that includes computing, storage and network elements treated as individual services allows greater speed and flexibility when performing tasks, allows software applications to operate independently of a single hardware platform, and supports affordable component re-use and supportability across the family of systems.

The CMBRE program was designed to provide USN/USMC units with the critical capability to perform built-in-test and programming / reprogramming of various weapons. Because the legacy CMBRE is obsolete and cannot be sustained beyond 2025 a follow-on program, the Standardized Tester of Reprogrammable Munitions (STORM) will replace CMBRE and support current and future fleet weapon support requirements, CONOPS, and will comply with Cyber security mandates while affordably addressing legacy CMBRE system obsolescence. NGNMPS and STORM will utilize a Middle Tier Acquisition approach per Section 804 of the Fiscal Year (FY) 2016 National Defense Authorization Act (NDAA), as amended in FY 2017 NDAA(codified at 10 U.S.C. sub sec 2302 note) to deliver NGNMPS and STORM capability across multiple DoN platforms.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605215N / *Mission Planning*	Project (Number/Name) 2213 / *Mission Planning*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development/JMPS Expeditionary	C/CPFF	Leidos : Reston, VA	1.260	0.338	Feb 2021	0.000		0.000		-		0.000	0.000	1.598	1.618
Primary Software Development/JMPS Expeditionary	C/CPAF	BAE : San Diego, CA	1.559	0.605	Mar 2021	0.000		0.000		-		0.000	0.000	2.164	2.238
Primary Software Development, FW	C/CPFF	Northrop Grumman : Long Beach, CA	4.970	0.000	Feb 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Software Development/(Human Factors)	C/CPFF	Georgia Technical Research Institute (GTRI) : Atlanta, GA	2.583	0.714	Mar 2021	0.775	Mar 2022	0.685	Mar 2023	-		0.685	Continuing	Continuing	Continuing
Primary Software Development (SEIC)	C/CPFF	Leidos : Orlando, FL	12.421	3.611	Feb 2021	3.725	Feb 2022	3.152	Feb 2023	-		3.152	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	MTI : Park City, UT	1.395	1.400	Feb 2021	1.675	Feb 2022	1.465	Feb 2023	-		1.465	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	ATC : Eden Prairie, MN	0.260	0.000		0.000		0.000		-		0.000	0.000	0.260	0.260
Primary Software Development	C/CPFF	IDT : Arlington, VA	2.711	1.000	Jan 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	DCS : Alexandria, VA	2.781	1.520	Jan 2021	1.650	Jan 2022	1.412	Jan 2023	-		1.412	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	AMEWAS : California, MD	1.775	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Software Development	WR	NAWCWD : China Lake, CA	0.320	0.163	Dec 2020	0.166	Dec 2021	0.148	Dec 2022	-		0.148	Continuing	Continuing	Continuing
NGNMPS Primary Software Development	C/CPFF	John's Hopkins University : Laurel, MD	2.500	1.100	Jan 2021	1.122	Jan 2022	0.892	Jan 2023	-		0.892	Continuing	Continuing	Continuing
NGNMPS Primary Software Development	WR	NAWCWD : Point Mugu, CA	5.402	5.510	Nov 2020	5.732	Nov 2021	5.350	Nov 2022	-		5.350	Continuing	Continuing	Continuing
NGNMPS Primary Software Development	C/CPFF	VARIOUS : VARIOUS	1.217	4.908	Jan 2021	6.900	Jan 2022	0.000	Jan 2023	-		0.000	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NGNMPS Primary Software Development	C/CPFF	Northrop Grumman : Linthicum Heights, MD	8.738	3.209	Apr 2021	0.000		0.000		-		0.000	0.000	11.947	-
NGNMPS Primary Software Development	C/CPFF	Northrop Grumman : Mclean, VA	0.000	5.000	Jul 2021	11.000	Dec 2021	12.553	Dec 2022	-		12.553	0.000	28.553	-
STORM Development	MIPR	Dep Of Energy : Kansas City, MO	11.814	10.300	Nov 2020	9.233	Nov 2021	6.253	Nov 2022	-		6.253	Continuing	Continuing	Continuing
STORM MAP SW Development	C/CPFF	Raytheon : Tuscon, AZ	0.750	0.100	Jan 2021	2.250	Jan 2022	1.250	Jan 2023	-		1.250	Continuing	Continuing	Continuing
Primary Software Development	WR	NRL/Inc Lab : Washington DC	1.279	1.375	Nov 2020	1.502	Nov 2021	1.385	Nov 2022	-		1.385	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	Carnegie Mellon University : Pittsburgh, PA	0.490	0.508	Mar 2021	0.520	Mar 2022	0.499	Mar 2023	-		0.499	Continuing	Continuing	Continuing
Primary Software Development	WR	NIWC PAC : San Diego, CA	1.450	1.630	Nov 2020	1.780	Nov 2021	1.622	Nov 2022	-		1.622	Continuing	Continuing	Continuing
Primary Software Development	MIPR	Elmendorf AFB : Jber, AK	0.750	1.500	Jan 2021	1.825	Jan 2022	1.625	Jan 2023	-		1.625	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	2-Circle : Arlington, VA	0.600	0.750	Mar 2021	0.925	Mar 2022	0.850	Mar 2023	-		0.850	Continuing	Continuing	Continuing
		Subtotal	67.025	45.241		50.780		39.141		-		39.141	Continuing	Continuing	N/A

Remarks

FY 2023 NGNMPS prime development contract supports continued development of micro-services and continuous software integration supporting advanced mission planning, execution, dynamic re-planning, and analysis capabilities required to support lethality, survivability, supportability and responsiveness across the Naval Aviation Enterprise in direct support of the National Defense Strategy and Interim National Security Strategic Guidance.
FY 2023 continues to support incremental funding for JMPS Primary Software Development efforts awarded via multiple contracts for service oriented architecture development.
FY 2023 supports incremental funding for the NGNMPS Primary Software Development efforts awarded via a competitive 4th Qtr. FY 2021 contract award. Funding in FY 2023 supports NGNMPS program phasing required to transition legacy JMPS-M platforms to NGNMPS before JMPS-M end of life while also developing advanced mission planning, execution, dynamic re-planning, and analysis capabilities required to support the National Defense Strategy and Interim National Security Strategic Guidance. The performing activities and locations are currently various to support a competitive contracting strategy. Once awarded, the performing activities and locations will be updated to reflect the selected contractors.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

Support ($ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total			
Cost Category Item	**Contract Method & Type**	**Performing Activity & Location**	**Prior Years**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Cost To Complete**	**Total Cost**	**Target Value of Contract**
Integrated Logistics Support	WR	NAWCWD : Point Mugu, CA	0.858	0.212	Nov 2020	0.214	Nov 2021	0.180	Nov 2022	-		0.180	Continuing	Continuing	Continuing
Systems Eng & Integration	WR	NAWCWD : Point Mugu, CA	9.176	1.845	Nov 2020	1.860	Nov 2021	1.562	Nov 2022	-		1.562	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD : Patuxent River, MD	5.316	1.469	Nov 2020	1.475	Nov 2021	1.239	Nov 2022	-		1.239	Continuing	Continuing	Continuing
NGNMPS Systems Engineering	WR	NAWCAD : Patuxent River, MD	1.750	2.000	Nov 2020	2.020	Nov 2021	1.625	Nov 2022	-		1.625	Continuing	Continuing	Continuing
NGNMPS Integrated Logistics Support	WR	NAWCAD : Patuxent River, MD	0.250	0.255	Nov 2020	0.258	Nov 2021	0.220	Nov 2022	-		0.220	Continuing	Continuing	Continuing
NGNMPS Integrated Logistics Support	WR	NAWCWD : Point Mugu, CA	0.250	0.255	Nov 2020	0.258	Nov 2021	0.220	Nov 2022	-		0.220	Continuing	Continuing	Continuing
NGNMPS Systems Engineering	C/CPFF	Zenetex : Herndon, VA	1.166	1.356	Jan 2021	1.365	Jan 2022	1.151	Jan 2023	-		1.151	Continuing	Continuing	Continuing
Systems Engineering/ JMPS Expeditionary	WR	NAWCWD : Point Mugu, CA	0.448	0.292	Nov 2020	0.000		0.000		-		0.000	0.000	0.740	-
STORM Systems Engineering Support	WR	NAWCWD : Point Mugu, CA	0.000	0.800	Nov 2020	1.270	Nov 2021	0.825	Nov 2022	-		0.825	Continuing	Continuing	Continuing
STORM Integrated Logistics Support	WR	NAWCAD : Patuxent River, MD	0.000	0.575	Nov 2020	0.744	Nov 2021	0.480	Nov 2022	-		0.480	Continuing	Continuing	Continuing
Systems Engineering	MIPR	Hill AFB : Ogden, UT	0.050	0.050	Nov 2020	0.051	Nov 2021	0.045	Nov 2022	-		0.045	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	MITRE : Lexington Park, MD	0.362	0.739	Jan 2021	0.754	Jan 2022	0.650	Jan 2023	-		0.650	Continuing	Continuing	Continuing
		Subtotal	19.626	9.848		10.269		8.197		-		8.197	Continuing	Continuing	N/A

Remarks

FY 2023 supports NGNMPS systems engineering and design for ILS activities at multiple government and contractor sites. Funding in FY2023 support NGNMPS program phasing required to transition legacy JMPS-M platforms to NGNMPS before JMPS-M end of life while also developing advanced mission planning, execution, dynamic re-planning, and analysis capabilities required to support the National Defense Strategy and Interim National Security Strategic Guidance.

FY 2023 STORM funding supports the required complimentary support for critical government engineering, logistics, program management and cybersecurity activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	WR	NAWCWD : Point Mugu, CA	21.756	5.726	Nov 2020	5.728	Nov 2021	4.695	Nov 2022	-		4.695	Continuing	Continuing	Continuing
Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA	4.224	0.530	Nov 2020	0.538	Nov 2021	0.441	Nov 2022	-		0.441	Continuing	Continuing	Continuing
NGNMPS Test & Evaluation	WR	NAWCAD : Patuxent River, MD	1.490	1.519	Nov 2020	1.521	Nov 2021	1.247	Nov 2022	-		1.247	Continuing	Continuing	Continuing
STORM Test & Evaluation	WR	Dep Of Energy : Kansas City, MO	0.000	0.000		4.000	Nov 2021	1.732	Nov 2022	-		1.732	Continuing	Continuing	Continuing
STORM Test & Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.275	Nov 2021	0.210	Nov 2022	-		0.210	Continuing	Continuing	Continuing
		Subtotal	27.470	7.775		12.062		8.325		-		8.325	Continuing	Continuing	N/A

Remarks

Test and Evaluation: Funding in FY 2023 supports the continuation of STORM system test activities as well as NGNMPS program phasing required to transition legacy JMPS-M platforms to NGNMPS before JMPS-M end of life while also developing advanced mission planning, execution, dynamic re-planning, and analysis capabilities required to support the National Defense Strategy and Interim National Security Strategic Guidance.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support and Travel	WR	NAWCAD : Patuxent River, MD	9.615	2.473	Nov 2020	2.480	Nov 2021	2.083	Nov 2022	-		2.083	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Ausley Associates : Lexington Park, MD	2.371	0.825	May 2021	0.840	May 2022	0.706	May 2023	-		0.706	Continuing	Continuing	Continuing
Program Management Support and Travel	WR	NAWCWD : China Lake, CA	0.486	0.496	Nov 2020	0.501	Nov 2021	0.421	Nov 2022	-		0.421	Continuing	Continuing	Continuing
		Subtotal	12.472	3.794		3.821		3.210		-		3.210	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	126.593	66.658		76.932		58.873		-		58.873	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
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	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Prior to FY17, the Mission Planning PU 2213 was funded under PE 0604231N.

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

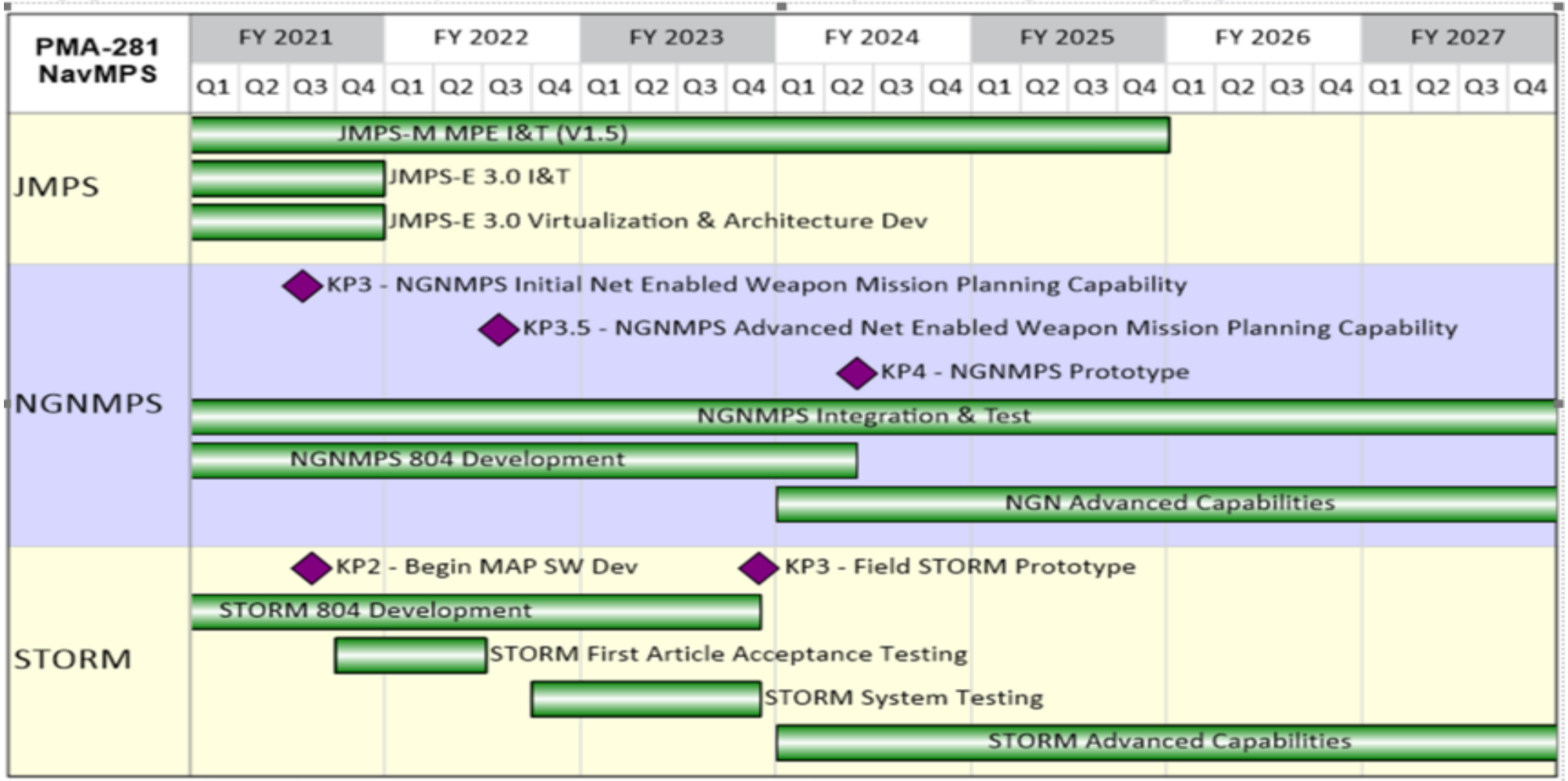

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2213 / *Mission Planning*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Joint Mission Planning Systems (JMPS)				
JMPS Mission Planning Environment (MPE) Development: JMPS MPE Integration and Test: MPE Integration (V1.5.X)	1	2021	4	2025
JMPS Mission Planning Environment (MPE) Development: JMPS MPE Integration and Test: JMPS-E 3.0 Integration and Test	1	2021	4	2021
JMPS Primary Software Development: JMPS-E 3.0 Virtualization and Architecture Development	1	2021	4	2021
Acquisition Milestones- Next Generation Naval Mission Planning System: KP3- Initial Net Enabled Weapon mission planning capability	3	2021	3	2021
Acquisition Milestones- Next Generation Naval Mission Planning System: KP3.5- Advanced Net Enabled Weapon mission planning capability	3	2022	3	2022
Acquisition Milestones- Next Generation Naval Mission Planning System: KP4- NGNMPS Prototype	2	2024	2	2024
NGNMPS Primary Software Development: NGNMPS Integration and Test	1	2021	4	2027
NGNMPS Primary Software Development: NGNMPS 804 Development	1	2021	2	2024
NGNMPS Primary Software Development: NGNMPS Advanced Capabilities	1	2024	4	2027
Acquisition Milestones- STORM: KP2- Begin MAP SW Dev	3	2021	3	2021
Acquisition Milestones- STORM: KP3- Field STORM Prototype	4	2023	4	2023
STORM Development: STORM 804 Development	1	2021	4	2023
STORM Development: STORM First Article Acceptance Testing	4	2021	2	2022
STORM Development: STORM System Testing	4	2022	4	2023
STORM Development: STORM Advanced Capabilities	1	2024	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
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COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2311: *Stores Planning and Weaponeering Module*	40.660	11.146	11.196	12.234	-	12.234	12.089	12.179	12.376	12.542	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Prior to FY 2017, Stores Planning and Weaponeering Module (PU 2311) was budgeted under Standards Development (PE 0604215N).

A. Mission Description and Budget Item Justification

The Weaponeering and Stores Planning (WASP) components are integrated software products that allow aircrew to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft Type/Model/Series (T/M/S) specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by NAVAIR Airworthiness and Cybersafe Office (formerly AIR 4.0P) as a flight clearance implementation system for the F/A-18 A, A+, A++, B, C, C+, D, D (RC), E, F, EA-18G. WASP includes potential support for other platforms to include F-35, P-8, AH-1, and other fixed wing and rotary wing platforms. WASP components will alert pilots if their planned weapon release conditions meet flight clearance limits, will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weapon employment planning is fundamental to the Joint Capability Area of Force Application and joint mission areas of Strike and Amphibious Warfare. WASP provides the Navy and Marine Corp with weaponeering capabilities that are critical requirements for Interdiction, Armed Reconnaissance and Close Air Support mission planning. Therefore, WASP product availability is critical to successful employment of the Joint Mission Planning System (JMPS) for the F/A-18 A-F and EA-18G. The WASP product encompasses a multitude of Government Furnished Information software components and tools including aircraft target maneuver simulations and weapon flyout models. WASP products will require updates as emergent requirements for new aircraft T/M/S, stores and weapons are approved, new flight clearances and flight restrictions are issued by Naval Air Systems Command and cyber security mandates are released. FY 2023 and out includes funding for the research and development in order to integrate WASP with 3-D mission rehearsal, provide dynamic Safe Escape Automation Layer (SEAL) calculations on Electronic Kneeboard (EKB), develop WASP for other Navy and Marine Corps platforms, and support WASP development and integration with the Next Generation Naval Mission Planning System (NGNMPS).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Product Development	5.352	5.422	5.637	0.000	5.637
Articles:	-	-	-	-	-
Description: Includes associated system engineering design, development, installation, integration and software development for Weaponeering and Stores Planning (WASP) components to support F/A-18 A-F and EA-18G. Provide domain engineering support for weapons separation, aircraft loads, flutter, fuzing and Safe Escape Automation Layer (SEAL)for application to WASP. Provide analysis of new requirements, allocation					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
of requirements, design oversight, and life cycle management of the WASP program. Develop new aircraft configuration, aircraft loading, store release and delivery planning components for F/A-18 A-F and EA-18G new flight clearances and flight restrictions issued by NAVAIRSYSCOM. Provide configuration management, system administration, quality assurance, documentation, metrics and software risk management for WASP. Acquire, integrate and modify numerous Government Furnished Information (GFI) software components and tools (aircraft target maneuver simulations, weapon flyout models, etc.) that are used for the WASP software development. Integrate WASP with Joint Standoff Weapon/Joint Direct Attack Munitions/Standoff Land-Attack Missile - Expanded Response and other weapons mission planning systems as required. ***FY 2022 Plans:*** Continue development of WASP 5.1 for an FY 2023 release to the fleet. Fund requirements definition and initial system development of WASP NGNMPS for an FY 2024 release to the Fleet. ***FY 2023 Base Plans:*** Continue development of WASP 5.1 for an FY 2023 release to the fleet with continuing database updates and defect correction in FY23 and out. Fund requirements definition and initial system development of WASP NGNMPS for an incremental release to the Fleet starting in FY 2024. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase in Product Development funding due to concurrent development of WASP 5.1, multiple database update versions and WASP NGNMPS initial system development.					
Title: Test and Evaluation (T&E) ***Articles:*** ***Description:*** Provide test and evaluation for unit and system level testing; functional qualification testing; safety of flight certification testing; integration and standards compliance testing for WASP versions. Provide JMPS-M and Next Generation Naval Mission Planning System Integration test support. Provide testing and test support to ensure all components (to include internally developed software, externally developed GFI) comply with Department of Navy (DoN) and Department of Defense (DoD) software mandates and directives. These include Integrated Shipboard Network System IT-21, and Cyber Risk Management Framework (RMF). All Fleet	2.437 -	2.465 -	3.221 -	0.000 -	3.221 -

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
released software must comply with DoN and DoD software directives to permit execution on ship Local Area Networks. ***FY 2022 Plans:*** Complete test and evaluations of multiple database updates to V5.0. Continue test and evaluation of WASP v5.1 to support an FY23 release to the Fleet. ***FY 2023 Base Plans:*** Complete test and evaluations of multiple database updates to V5.0. Continue test and evaluation of WASP v5.1 to support an FY23 release to the Fleet and automated test framework. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase in test and evaluation due to multiple database updates to WASP V5.0, continuing test and evaluation of WASP V5.1 for FY23 fleet release and initial investment into automated test framework.					
Title: Systems Engineering Support ***Articles:*** ***Description:*** Provide systems engineering support, which includes requirements definition and analysis, compliance with Naval Air Systems Command systems engineering technical review processes, acquisition documentation development, cost, schedule and performance management, and compliance with external directives. Provide travel for government personnel. ***FY 2022 Plans:*** Continue Systems Engineering support to the WASP for future software releases to the fleet. Develop integration plans with services architecture and NGNMPS. Provide continued support for multiple database releases. ***FY 2023 Base Plans:***	2.827 -	2.814 -	2.888 -	0.000 -	2.888 -

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue Systems Engineering support to the WASP for future software releases to the fleet and support legacy WASP. Develop integration plans with services architecture and NGNMPS. Provide continued support for multiple database releases. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase in Systems Engineering due to continued support and development of legacy WASP as well as the development of additional integration plans with services architecture and NGNMPS.					
Title: Program Management ***Articles:*** ***Description:*** Provide program management support, which includes requirements definition and analysis, compliance with Naval Air Systems Command systems engineering technical review processes, acquisition documentation development, cost, schedule and performance management, and compliance with external directives. Provide travel for government personnel. ***FY 2022 Plans:*** Continue project management support to the WASP for future software releases to the fleet. Develop integration plans with services architecture and NGNMPS. Provide continued support for multiple database releases. ***FY 2023 Base Plans:*** Continue project management support to the WASP for future software releases to the fleet. Develop integration plans with services architecture and NGNMPS. Provide continued support for multiple database releases. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease due to less contractor support in the out years.	0.530 -	0.495 -	0.488 -	0.000 -	0.488 -
Accomplishments/Planned Programs Subtotals	11.146	11.196	12.234	0.000	12.234

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
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C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Weaponeering and Stores Planning (WASP) products, delivered quarterly, are developed in-house by NAVAIR consisting of Naval Air Warfare Center Aircraft Division and Naval Air Warfare Center Weapons Division engineers and support contractors. The team has migrated to a smaller government team that provides functional expertise in aircraft safety-of-flight (air-vehicle stores compatibility, weapons separation, aircraft aerodynamic flutter, ground/flight loads, authorized fuze arm times, aircraft SEAL), and guided weapons employment, with the majority of the software development conducted by various contractors. The Government, engineering, test, and support teams (test facilities, functional qualification testing and certification/accreditation test) are supplemented with contractor labor.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	WR	Naval Air Warfare Center Aircraft Division NAWCAD : Patuxent River, MD	0.479	0.100	Nov 2020	0.100	Nov 2021	0.114	Nov 2022	-		0.114	Continuing	Continuing	Continuing
Product Development	MIPR	Air Force Seek Eagle : Hill Air Force Base, UT	0.278	0.000	Mar 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	DCS Corp : Alexandria, VA	2.367	0.000		0.000		0.000		-		0.000	0.000	2.367	2.367
Product Development (V4.X/V5.X)	C/CPFF	DCS Corp : Alexandria, VA	15.646	5.252	Mar 2021	5.322	Mar 2022	5.523	Mar 2023	-		5.523	Continuing	Continuing	Continuing
		Subtotal	18.770	5.352		5.422		5.637		-		5.637	Continuing	Continuing	N/A

Remarks

The FY 2023 Product Development for WASP Major Version (V5.X) effort increase from FY 2022 to FY 2023 is associated with the development of WASP V5 and multiple minor builds to support fielded WASP systems.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering and Program Support	WR	NAWCAD : Patuxent River, MD	4.668	1.321	Nov 2020	1.308	Nov 2021	1.613	Nov 2022	-		1.613	Continuing	Continuing	Continuing
Government Engineering Support: Guided Weapons	WR	Naval Air Warfare Center Weapons Division NAWCWD : China Lake, CA	0.241	0.025	Nov 2020	0.025	Nov 2021	0.000	Nov 2022	-		0.000	Continuing	Continuing	Continuing
Systems Engineering Support	C/CPFF	KBRwyle : Houston, TX	5.685	1.426	Mar 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering Support	C/CPFF	TBD : TBD	0.000	0.000		1.426	Mar 2022	1.553	Mar 2023	-		1.553	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Govt Engineering Support: Mission Planning Environment Integration	WR	NAWCWD : Point Mugu, CA	0.360	0.055	Nov 2020	0.055	Nov 2021	0.055	Nov 2022	-		0.055	Continuing	Continuing	Continuing
		Subtotal	10.954	2.827		2.814		3.221		-		3.221	Continuing	Continuing	N/A

Remarks

The Support costs in FY23 are associated with the development of WASP V5 and multiple minor builds to support fielded WASP systems. New System Engineering Support effort being competed through GSA OASIS to replace KBRwyle contract. Funding moved from NAWCWD China Lake to NAWCAD in FY23 to utilize available engineering and guided weapons expertise at Patuxent River.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation (Gov't)	WR	NAWCAD : Patuxent River, MD	4.343	0.815	Nov 2020	0.822	Nov 2021	0.990	Nov 2022	-		0.990	Continuing	Continuing	Continuing
Test & Evaluation (Contractor)	C/CPFF	DCS Corp : Alexandria, VA	3.720	0.715	Mar 2021	0.725	Mar 2022	0.765	Mar 2023	-		0.765	Continuing	Continuing	Continuing
Test & Evaluation (Contract)	C/CPFF	KBRwyle : Houston, TX	0.890	0.907	Mar 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Test & Evaluation (Contract)	C/CPFF	TBD : TBD	0.000	0.000		0.918	Mar 2022	1.133	Mar 2023	-		1.133	Continuing	Continuing	Continuing
		Subtotal	8.953	2.437		2.465		2.888		-		2.888	Continuing	Continuing	N/A

Remarks

The FY 2023 Test and Evaluation costs for WASP Major Version (V5.X) effort increased from FY 2022 to FY 2023 is associated with the development of WASP V5.0 and multiple minor builds to support fielded WASP systems. New Test & Evaluation (Contract) effort being competed through GSA OASIS to replace KBRwyle contract.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	Ausley Associates : Lexington Park, MD	1.513	0.295	May 2021	0.260	May 2022	0.253	May 2023	-		0.253	Continuing	Continuing	Continuing
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.405	0.210	Nov 2020	0.210	Nov 2021	0.210	Nov 2022	-		0.210	Continuing	Continuing	Continuing
Travel	Various	NAVAIR : Patuxent River, MD	0.065	0.025	Nov 2020	0.025	Nov 2021	0.025	Nov 2022	-		0.025	Continuing	Continuing	Continuing
		Subtotal	1.983	0.530		0.495		0.488		-		0.488	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	40.660	11.146		11.196		12.234		-		12.234	Continuing	Continuing	N/A

Remarks

Prior to FY17, PU 2311 was budgeted under PE 0604215N.

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

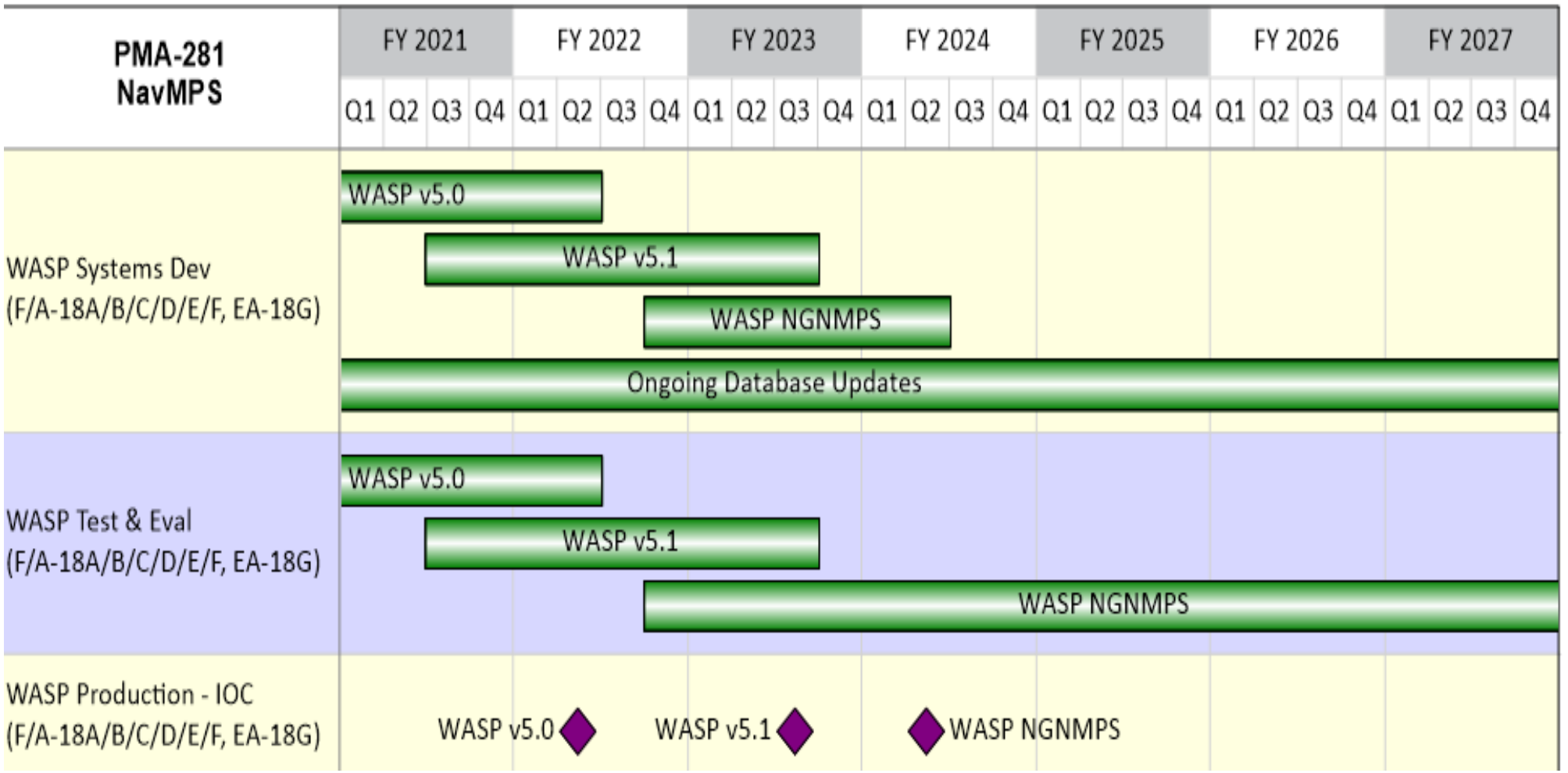

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605215N / *Mission Planning*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Stores Planning and Weaponeering Module				
Systems Development: WASP v5.0 (F/A-18A/B/C/D/E/F, EA-18G):	1	2021	2	2022
Systems Development: WASP v5.1 (F/A-18A/B/C/D/E/F, EA-18G):	3	2021	3	2023
Systems Development: WASP NGNMPS (F/A-18A/B/C/D/E/F, EA-18G):	4	2022	2	2024
Systems Development: WASP Ongoing Database Updates:	1	2021	4	2027
Test & Evaluation Milestones: WASP v5.0 (F/A-18A/B/C/D/E/F, EA-18G):	1	2021	2	2022
Test & Evaluation Milestones: WASP v5.1 (F/A-18A/B/C/D/E/F, EA-18G):	3	2021	3	2023
Test & Evaluation Milestones: WASP NGNMPS (F/A-18A/B/C/D/E/F, EA-18G):	4	2022	4	2027
Production Milestones: WASP v5.0 (F/A-18A/B/C/D/E/F, EA-18G) IOC::	2	2022	2	2022
Production Milestones: WASP v5.1 (F/A-18A/B/C/D/E/F, EA-18G) IOC::	3	2023	3	2023
Production Milestones: WASP NGNMPS (F/A-18A/B/C/D/E/F, EA-18G) IOC::	2	2024	2	2024