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 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0606355N *I Warfare Innovation Management*							
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	0.000	31.977	38.958	52.060	-	52.060	39.233	33.020	20.473	20.792	Continuing	Continuing
0798: *Allied/Coalition Maritime Environment (ACME)*	0.000	1.176	1.188	1.261	-	1.261	1.282	1.301	1.322	1.344	Continuing	Continuing
2144: *Space & Elec Warfare Engineering*	0.000	18.587	24.623	27.149	-	27.149	14.686	16.699	3.858	3.896	Continuing	Continuing
2147: *ISR Architecture*	0.000	1.377	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.377
3020: *MIDS/JTRS*	0.000	0.000	0.000	9.800	-	9.800	8.500	0.000	0.000	0.000	0.000	18.300
3319: *Fleet Experimentation*	0.000	8.586	10.830	11.446	-	11.446	12.308	12.529	12.761	12.975	Continuing	Continuing
3320: *TRIDENT Warrior*	0.000	2.251	2.317	2.404	-	2.404	2.457	2.491	2.532	2.577	Continuing	Continuing
Program MDAP/MAIS Code: **Project MDAP/MAIS Code(s):** 554												

A. Mission Description and Budget Item Justification

Allied/Coalition Maritime Environment (ACME) 0798:
This project promotes interoperability with allied and coalition forces by facilitating maritime interoperability in both processes and communication systems, including emerging capabilities, to counter growing high-end asymmetric threats.

Space & Electronic Warfare (SEW) Engineering 2144:
This project is a systems engineering non-acquisition program to develop, test, implement Technical Authority (TA) products, and validate Naval Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), Business Information Technology (IT), and Space System architectures to support naval, Joint and Coalition missions across normal, contested, and degraded cyber/operational environments. The objective of this project is carried out by multiple tasks that ensure development and delivery of Naval Information Warfare (IW) capabilities that are well-integrated, interoperable, secure, and resilient to meet validated warfighting requirements.

The Intelligence, Surveillance, and Reconnaissance (ISR) Architecture 2147:
This project is intended to guide system of systems capability development and promote interoperability across Navy ISR programs, as well as interoperability and alignment with Department of Defense (DoD)-wide enterprise initiatives including Joint Information Environment (JIE) and Intelligence Community (IC) Information Technology Environment (ITE).

MIDS/JTRS 3020:

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy	Date: April 2022
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MIDS/JTRS is not a new start. FY23 funding requested in PE 0606355N is required for the development and experimentation of different communications throughput availability with Link 16 and Tactical Targeting Network Technology (TTNT) waveforms for a classified platform. The MIDS program will be developing the software for integration to determine the best delivery of communications. Separate and distinct MIDS program funding requested in PE0604280N Project 3020 provides for improvements to the TTNT Terminal Software and Waveform in order to out-pace the threat.

The Multifunctional Information Distribution System (MIDS) program office is the Performing Activity in the Navy (Lead Service for Department of Defense (DOD)) Link 16 capability and consists of two (2) product lines, MIDS Low Volume Terminal (LVT) (legacy hardware defined radio) and MIDS Joint Tactical Radio System (JTRS) (software (SW) defined radio).
The MIDS JTRS has four channels and adds capabilities such as Link 16 Enhanced Throughput (ET), Link 16 FR, SW programmability, CM, and Four Net Concurrent Multi-Netting with Concurrent Contention Receive (CMN-4).

MIDS JTRS TTNT, provides an Internet Protocol-based networking capability on tactical aircraft. TTNT is a low latency, high throughput waveform that has the capability to support data exchange between fast-moving tactical aircraft, weapons, and unmanned aircraft, in addition to air, land, and sea-based command and control nodes, in a variety of air-to-air and air-to-ground missions including time sensitive targeting, air warfare, close air support, non-traditional ISR, and anti-surface warfare. TTNT and MIDS JTRS CMN-4 directly supports Naval Integrated Fire Control (NIFC) capability requirements. These capabilities provide Joint Airborne Network-Tactical Edge functionality to run advanced mission applications in a cross-platform/cross-domain tactical network enterprise.

Fleet Experimentation 3319:
The U.S. Navy's Fleet Experimentation (FLEX) project advances/augments operational and tactical warfighter capabilities through the experimentation of high payoff initiatives, technologies and concepts, Fleet Concepts of Operations (CONOPS), doctrine, and new tactics, techniques and procedures (TTP). The main focus of FLEX between 2018 and 2024 is to operationalize "A Design For Maintaining Maritime Superiority" Blue Line of Effort (LOE) through the execution of Fleet Design materiel/ non-materiel capability employment.

Trident Warrior Project 3320:
The U.S. Navy's Trident Warrior (TW) experimentation campaign enables early delivery of capabilities to the warfighter via Fleet-directed Trident Warrior operational events with an emphasis on United States Fleet Forces/Commander Pacific Fleet (USFF/CPF) directed focus areas.

Maritime Communications Demonstration Project 3420:
Classified Project Maritime Communications Demonstration (MCD) funding was realigned from project 3319 FLEX in FY18. The Expeditionary SFOC Communications is developing and experimenting innovative concepts designed to validate both materiel and non-materiel methodologies to provide resilient command and control within the maritime domain. Identified previous work done within Office of the Secretary of Defense (OSD) channels, and will leverage lessons learned.

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 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0606355N *I Warfare Innovation Management*			
B. Program Change Summary ($ in Millions)	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**
Previous President's Budget	33.058	38.958	0.000	-	0.000
Current President's Budget	31.977	38.958	52.060	-	52.060
Total Adjustments	-1.081	0.000	52.060	-	52.060
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.081	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	-	-	52.060	-	52.060

Change Summary Explanation

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 / 6	R-1 Program Element (Number/Name) PE 0606355N / *Warfare Innovation Management*	Project (Number/Name) 0798 / *Allied/Coalition Maritime Environment (ACME)*	

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
0798: *Allied/Coalition Maritime Environment (ACME)*	0.000	1.176	1.188	1.261	-	1.261	1.282	1.301	1.322	1.344	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The ACME program advances Information Warfare (IW) (to include Command, Control, Communications, Computers; Intelligence, Surveillance and Reconnaissance (C4ISR); Electronic Warfare (EW); and Cyber Warfare), interoperability with Australia, Canada, New Zealand, United Kingdom, United States (AUSCANNZUKUS), North Atlantic Treaty Organization (NATO), and other Allied and Coalition partners. The program determines maritime operational gaps with our allies, identifies Doctrine, Organization, Training, Material, Leadership, Personnel, and Facilities (DOTMLPF) solutions with the potential to fill those gaps, and assesses these solutions and associated concepts of operation in laboratory and at-sea environments. The ACME program includes integration and testing in support of joint and Allied war fighting capabilities, including interoperability testing of IW equipment. Allied and joint interoperability is critical for future maritime operations, especially as the United States Navy (USN) expands Internet Protocol (IP) networking throughout the fleet via Consolidated Afloat Networks and Enterprise Services (CANES), Next Generation Networks (NGEN), Mission Partner Environment/ Future Mission Networking (MPE/FMN), the U.S. Battlefield Information Collection and Exploitation System - eXtended (BICES-X), and with the Joint Information Environment (JIE).

Currently, IP connectivity with AUSCANNZUKUS and other Allied/Coalition forces is limited, requiring extensive backhaul through ashore infrastructure. Higher bandwidth solutions suitable for use over tactical networks require development and assessment for emerging coalition and joint interoperability requirements, such as Maritime Domain Awareness (MDA), Network Operations Without Shore (NOWS), Satellite Communications (SATCOM) Denied, Degraded, Intermittent and Low-bandwidth (DDIL) operations, and to counter Anti-Access Area Denial (A2/AD) threats. Increases in data throughput are required for the effective exchange of rich IW data sets and services via Service Oriented Architectures (SOA) within the limitations of High Frequency (HF), Ultra-High Frequency (UHF), and other portions of the radio frequency spectrum, coupled with appropriate Information Assurance and Computer Network Defense (IA/CND) mechanisms. Development and assessment of potential solutions will integrate improved IP capabilities with the Advanced Digital Network Systems (ADNS) and existing international standards (e.g. Allied Communications Publication 200, NATO Standardization Agreements 5066 and 4691). The continued development and refinement of advanced tactical networking technologies and protocols, to include Low Probability of Intercept (LPI), Low Probability of Detection (LPD), and Anti-Jam (AJ) capabilities as well as Automatic Link Establishment (ALE) standards, will provide for a significant improvement in secure data sharing within, and between, coalition maritime elements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Advanced Relay Capabilities	1.176	1.188	1.261	0.000	1.261
Articles:	-	-	-	-	-
FY 2022 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 0798 / *Allied/Coalition Maritime Environment (ACME)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue to develop and evaluate secure, interoperable technologies and capabilities supporting Denied, Degraded, Intermittent and Low-bandwidth (DDIL) operations including Allied/Coalition Shared Situational Awareness, cross-domain and data labeling solutions in maritime tactical networking environments, and advanced Information Assurance and Computer Network Defense (IA/CND) solutions (with common and interoperable processes and technologies). - Continue to evaluate technologies for interoperable maritime networking. Solutions will address higher bandwidth, Low Probability of Intercept (LPI)/Low Probability of Detection (LPD)/Anti-Jam (AJ) technologies across the Radio Frequency (RF) and Optical spectrum and include airborne capabilities. Evaluation of electromagnetic spectrum management and visualization technologies, force-level Electronic Warfare/Electromagnetic Maneuver Warfare (EW/EMW) will also enhance interoperable Information Warfare (IW). - Continue to enhance Allied IW interoperability with other joint and maritime multi-national forums, such as the Combined Communications Electronic Board (CCEB), Multinational Maritime Information-system Interoperability Steering Group (M2I2) and Mission Partner Environment/ Future Mission Networking. - Continue to assess and validate individual technologies, integrated solutions, and associated Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) through experimentation, trials and demonstrations with Australia, Canada, New Zealand, United Kingdom, United States and other Allied/Coalition partners using live, virtual, constructive and operational venues, such as the United States Navy (USN) Rim of the Pacific (RIMPAC) or United Kingdom (UK) Joint Warrior events. - Continue to evaluate and make recommendations to the Information Warfare acquisition community for integration of Allied Partner Nations into the Secret and Below Releasable Environment (SABRE).					
FY 2023 Base Plans: - Continue to develop and evaluate secure, interoperable technologies and capabilities supporting Denied, Degraded, Intermittent and Low-bandwidth (DDIL) operations including Allied/Coalition Shared Situational Awareness, cross-domain and data labeling solutions in maritime tactical networking environments, and advanced Information Assurance and Computer Network Defense (IA/CND) solutions (with common and interoperable processes and technologies). - Continue to evaluate technologies for interoperable maritime networking. Solutions will address higher bandwidth, Low Probability of Intercept (LPI)/Low Probability of Detection (LPD)/Anti-Jam (AJ) technologies across the Radio Frequency (RF) and Optical spectrum and include airborne capabilities. Evaluation of electromagnetic spectrum management and visualization technologies, force-level Electronic Warfare/Electromagnetic Maneuver Warfare (EW/EMW) will also enhance interoperable Information Warfare (IW).					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 0798 / *Allied/Coalition Maritime Environment (ACME)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue to enhance Allied IW interoperability with other joint and maritime multi-national forums, such as the Combined Communications Electronic Board (CCEB), Multinational Maritime Information-system Interoperability Steering Group (M2I2), and Mission Partner Environment/ Future Mission Networking forums. - Continue to assess and validate individual technologies, integrated solutions, and associated Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) through experimentation, trials and demonstrations with Australia, Canada, New Zealand, United Kingdom, United States and other Allied/Coalition partners using Live, Virtual, Constructive, and Operational venues, such as the United States Navy (USN) Rim of the Pacific (RIMPAC), United Kingdom (UK) Joint Warrior events. - Continue to evaluate existing and emerging innovative technologies for value in increasing interoperability among US and Allied Nations as force multipliers in Distributed - Maritime Operations. - Continue to evaluate and make recommendations to the Information Warfare acquisition community for integration of Allied Partner Nations into the Secret and Below Releasable Environment (SABRE). -Continue collaboration with Overmatch Program to facilitate integration of Allied Nations into the architecture and operational construct. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.073M between FY22 and FY23 is attributed to the increase in support for Allied Information Warfare (IW) interoperability exercises with other joint and maritime multi-national forums.					
Accomplishments/Planned Programs Subtotals	1.176	1.188	1.261	0.000	1.261

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy											Date: April 2022	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0606355N / *Warfare Innovation Management*				Project (Number/Name) 2144 / *Space & Elec Warfare Engineering*			
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**
2144: *Space & Elec Warfare Engineering*	0.000	18.587	24.623	27.149	-	27.149	14.686	16.699	3.858	3.896	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

To support Navy objectives in advancing Information Warfare (IW) capabilities, the Space and Electronic Warfare (SEW) Engineering project provides three main functions:

(1) Perform System of Systems (SoS) Cybersecurity Engineering; develop the architectures, specifications and standards, tools, and processes to support a single integrated Navy plan for cybersecurity. These engineering artifacts provide Navy specific guidance to drive common and consistent implementation of security controls across current and future Navy Programs of Record/projects. This eliminates redundancies and inefficiencies characteristic of previous stove-pipe development efforts in which each system addressed security individually. These efforts enable a standardized approach to move out faster to improve the Navy's cyber resiliency. Provide the cybersecurity vulnerability and functional test capability, which supports cybersecurity test requirements and the Command, Control, Communications, Computers, Intelligence (C4I) components of Naval Information Warfare Systems Command (NAVWARSYSCOM) Information Warfare (IW) Capability Testing Lab (formerly USS SECURE). NAVWAR Cyber Security Testing Capability/Labs is a cyber assessment program within the Navy. This SoS (Afloat, Aloft, C4I & Shore) capability in a test laboratory environment provides a rapidly re-configurable capability that integrates maritime hardware systems into a virtual platform. This platform level SoS provides cybersecurity research, development, test and evaluation, and training, not otherwise possible. This combination of Systems Commands (SYSCOM) laboratories, cyber ranges, and Red Teams simulating Navy platforms in operational maritime environments is critical for effectively evaluating cyber threats against specified mission threads.

(2) Perform System of Systems (SoS) Capability Roadmapping and Engineering; define an integrated Enterprise Architecture to support design, development and delivery of integrated Navy Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR), Business Information Technology (IT), and Space System capabilities. This architecture reflects current (as-is) and future (target) end states to support technical analyses, program planning, and enterprise-level investment decisions across IW capabilities. Perform mission based system of systems analysis to ensure integration and interoperability, and validate end-to-end warfighting capabilities to quickly address emerging threats. Provides engineering tools and processes to drive rigorous Systems Engineering discipline across the acquisition lifecycle to support rapid development and delivery of secure and interoperable C4ISR, Business IT, and Space Systems capabilities that meet Fleet requirements. Conduct Systems Engineering Technical Reviews (SETRs) to provide independent, objective assessments of technical maturity and compliance with applicable architectures, specifications and standards across IW capabilities. The Coalition Warrior Interoperability eXploration, eXperimentation, eXamination, eXercise (CWIX) provides a means to demonstrate and evaluate the interoperability of United States (US), North Atlantic Treaty Organization (NATO), and coalition information sharing systems.

(3) Navy Additive Manufacturing (AM) technology aligns to CNO priorities to deliver revolutionary capabilities to improve fleet readiness. These enterprise solutions will provide the foundation to (a) enhance warfighter capability through new innovative system designs; (b) increase readiness through low volume production of hard to

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 2144 / *Space & Elec Warfare Engineering*

source items; and (c) improve warfighting capacity by enabling production at or near the point of need. Specific efforts include the development of an Enterprise Digital Manufacturing Architecture which addresses design and certification of AM capabilities for both afloat and ashore, development of Cyber Security Risk Management Profiles for devices and applications on operational networks, definition of a secure Technical Data Package to describe components that can be digitally manufactured, and the development of an overarching, enterprise-level Digital Manufacturing Thread (device management, digital rights management, licensing, configuration management, data storage rule/access and application programing interfaces).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Additive Manufacturing (AM)	4.318	2.296	2.559	0.000	2.559
Articles:	-	-	-	-	-
FY 2022 Plans: - Continue utilizing the Additive Manufacturing Test-Bed to develop specifications, standards, and architecture to drive interoperability across the Navy Enterprise Digital Thread for Additive Manufacturing. - Define a Defense-in-Depth Functional Implementation Architecture Network Transformation (DFIANT) architecture for additive manufacturing. - Continue to define the Digital Manufacturing Strategy for integration into logistics Digital transformation plan.					
FY 2023 Base Plans: - Continue utilizing the Additive Manufacturing Test-Bed to further develop specifications, standards, and architecture/models to drive interoperability across the Navy / Joint Enterprise Digital Thread for Additive Manufacturing. - Develop a systems engineering model to define the Additive Manufacturing Architecture that ties Logistics Information Technology (LOG IT) architecture and initial integration with the DoD Joint Additive Manufacturing Exchange (JAMEX) environment. - Continue development of the additive manufacturing data strategy. - Continue to define the Digital Manufacturing Strategy for integration into logistics Digital transformation plan.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: Increase of $0.263M between FY22 and FY23 is attributed to the development of the systems engineering model that ties LOG IT architecture and initial integration with the DoD Joint Additive Manufacturing Exchange (JAMEX) environment.					
Title: System of Systems (SoS) Cybersecurity Engineering	8.512	12.146	13.278	0.000	13.278
Articles:	-	-	-	-	-

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
FY 2022 Plans: - As the Navy's Cybersecurity (CS) Technical Authority (TA), continue key efforts to develop technical architectures, tools, standards, and best practices to advance the Navy's integrated plan for effective implementation of resilient cybersecurity. These critical CS TA artifacts: (1) leverage CS TA Cyber Risk Assessments (CRA) to account for emerging cyber threats and advances in technology, (2) drive the use of inheritance to reduce redundant cybersecurity investments, (3) ensure integration between cyber capabilities across Defensive Cyber Operations to support Navy-wide modernization efforts such as Integrated Navy Operations Command and Control System (INOCCS), and (4) enable uniform delivery of Fleet capabilities that are more easily operated by the sailor. - Perform holistic CRAs that evaluate Navy systems in the context of warfighting missions across tabletop, lab, and operational environments. The results of the CS TA Tabletop Mission Cyber Risk Assessments (TMCRA), which examine access vectors and likelihood of adversary exploit, are tested in NAVWAR's IW Capability Testing Lab (formerly USS SECURE), and are then used to support Navy-wide Live, Virtual, and Constructive (LVC) IW capability tests and Fleet experimentation. This holistic set of assessments allows Program Managers to mitigate existing risks across the system lifecycle as well as strengthen the cybersecurity design of future system variants. - Continue critical efforts to generate both evolutionary and revolutionary reform to the Navy Risk Management Framework (RMF) Reform process, with specific focus on elimination of actions that do not directly contribute to an improved depiction or management of operational risk. Leverage automation to streamline Navy RMF processes, which enables efficient resource prioritization and supports the Navy's transition to Continuous Monitoring and Continuous Authorization. - Continue rollout of the Cybersecurity Figure of Merit (CFOM) as a lightweight tool to quickly and objectively evaluate cybersecurity health during acquisition events (e.g., Gate Reviews, Systems Engineering Technical Reviews). CFOM is an independent, quantitative look at cybersecurity health that provides a simple, visual tool for Program Managers, Resource Sponsors, and Milestone Decision Authorities across the Navy to consistently prioritize cyber acquisition activities across a portfolio of systems. ***FY 2023 Base Plans:*** - Continue key efforts to develop technical architectures, tools, standards, and best practices to advance the Navy's integrated plan for effective implementation of resilient cybersecurity. These critical CS TA artifacts:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 2144 / *Space & Elec Warfare Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
(1) leverage CS TA Cyber Risk Assessments (CRA) to account for emerging cyber threats and advances in technology, (2) drive the use of inheritance to reduce redundant cybersecurity investments, (3) ensure integration between cyber capabilities across Defensive Cyber Operations to support Navy-wide modernization efforts such as Integrated Navy Operations Command and Control System (INOCCS), and (4) enable uniform delivery of Fleet capabilities that are more easily operated by the sailor. - Continue to Perform holistic CRAs that evaluate Navy systems in the context of warfighting missions across tabletop, lab, and operational environments. The results of the CS TA Tabletop Mission Cyber Risk Assessments (TMCRA), which examine access vectors and likelihood of adversary exploit, are tested in NAVWAR's IW Capability Testing Lab (formerly USS SECURE), and are then used to support Navy-wide Live, Virtual, and Constructive (LVC) IW capability tests and Fleet experimentation. This holistic set of assessments allows Program Managers to mitigate existing risks across the system lifecycle as well as strengthen the cybersecurity design of future system variants. - Continue rollout of the Cybersecurity Figure of Merit (CFOM) as a lightweight tool to quickly and objectively evaluate cybersecurity health during acquisition events (e.g., Gate Reviews, Systems Engineering Technical Reviews). CFOM is an independent, quantitative look at cybersecurity health that provides a simple, visual tool for Program Managers, Resource Sponsors, and Milestone Decision Authorities across the Navy to consistently prioritize cyber acquisition activities across a portfolio of systems. - Develop an automated RMF Authorization process, leveraging digital engineering models that will streamline data and provide efficiencies. The automated process includes integrating various RMF roles, data entry, and auditing/validating RMF steps (control selection, assessment, and authorization). ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $1.132M between FY22 and FY23 is attributed to the increased support for Risk Management Framework (RMF) reform, which supports the continuous monitoring capability that completes a cybersecurity Common Operational Picture (COP).					
Title: System of Systems (SoS) Capability Roadmapping and Engineering	5.757	10.181	11.312	0.000	11.312
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 2144 / *Space & Elec Warfare Engineering*

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: - Expand efforts to transformation digital engineering by developing and implementing integrated modeling environments and authoritative sources of truth across unclassified and classified enclaves. Enable the ability to share and reuse technical data by continuing development of the digital integrated dictionary and model-based systems engineering (MBSE) schema that provides an interoperable modeling framework. Increase the utility and effectiveness of digital models by developing and incorporating cybersecurity/Risk Management Framework and mission engineering schemas. These efforts provide the digital engineering infrastructure and standards that are foundational to enabling the Navy's transformation to modern engineering practices and automation, and enables an environment of continuous design, development, integration, testing, and fielding that pushes capabilities to the Fleet at the speed of technology. - Continue to leverage digital engineering and automation tools to enhance and perform complex, mission-based analyses of Information Warfare (IW) capabilities and systems to assess how well they operate together and deliver validated warfighting capabilities. Because NAVWAR-developed IW capabilities support all Navy operational missions and are integral to all kill chains, these assessments are critical in understanding capability gaps, overlaps, interoperability issues, and cybersecurity risks across end-to-end mission capabilities. These mission-based assessments provide technical solutions and recommendations that support key investment processes such as the Naval Capability Integrated Process for Information Warfare (NCIP-IW) delivered to PEO C4I and Portfolio Health Assessments delivered to OPNAV. FY22 mission-based SoS assessments will be expanded and accelerated to support efforts to define the Naval Tactical Grid and Naval Operational Architecture that connects, enables, and enhances the Distributed Maritime Operations (DMO) Concept of Operations identified as a top CNO priority. - Continue to perform Systems Engineering Technical Reviews (SETRs) across Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR) and Space Systems; Digital Enterprise Services; Manpower, Logistics, and Business Solutions programs to ensure compliance with statutory and regulatory directives, as well as implementing applicable Information Technology (IT) and Cybersecurity (CS) Technology Authority (TA) architectures, specifications, standards, policies, processes and profiles. Continue efforts to integrate digital engineering and artificial intelligence advances to accelerate and automate SETR reviews to better support programs leveraging Agile or DevSecOps frameworks to support the Adaptive Acquisition Framework pathways.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 2144 / *Space & Elec Warfare Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue to conduct Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) certifications and technical reviews of formal acquisition and engineering documentation through design and testing analysis, ensuring interoperability with platform, force level, and joint/ allied/coalition forces. - Continue Competency Development Model (CDM) development by defining roles and appropriate Knowledge Skills and Abilities (KSAs) for the Naval Information Warfare Systems Command (NAVWARSYSCOM) Engineering Competency required to shape the workforce to meet evolving mission requirements. Build upon and expand current Engineering CDM by incorporating digital engineering, data sciences, cybersecurity, and Agile and DevSecOps principles to further support the Navy's digital engineering transformation. - Continue to promote improved interoperability and information sharing through coalition engagement, technology, demonstrations, and assessments leading to improvements of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems within the Navy and in conjunction with Joint Services and Coalition efforts. Partners include the Multi-National Maritime Informational Technology and Interoperability Board (M2I2), Pacific Command (PACOM) and Southern Command (SOUTHCOM), and North Atlantic Treaty Organization (NATO). Partner feedback ensures effective planning and execution of Coalition Warrior Interoperability eXploration, eXperimentation, eXamination, eXercise (CWIX) and execution of the Mission Partner Environment (MPE) in the appropriate venues to support IW capability objectives. ***FY 2023 Base Plans:*** - Continue to expand efforts to transformation digital engineering by developing and implementing integrated modeling environments and authoritative sources of truth across unclassified and classified enclaves. Enable the ability to share and reuse technical data by continuing development of the digital integrated dictionary and model-based systems engineering (MBSE) schema that provides an interoperable modeling framework. Increase the utility and effectiveness of digital models by developing and incorporating cybersecurity/Risk Management Framework and mission engineering schemas. These efforts provide the digital engineering infrastructure and standards that are foundational to enabling the Navy's transformation to modern engineering practices and automation, and enables an environment of continuous design, development, integration, testing, and fielding that pushes capabilities to the Fleet at the speed of technology. - Continue to perform Systems Engineering Technical Reviews (SETRs) across Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR) and Space Systems;					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 2144 / *Space & Elec Warfare Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Digital Enterprise Services; Manpower, Logistics, and Business Solutions programs to ensure compliance with statutory and regulatory directives, as well as implementing applicable Information Technology (IT) and Cybersecurity (CS) Technology Authority (TA) architectures, specifications, standards, policies, processes and profiles. Continue efforts to integrate digital engineering and artificial intelligence advances to accelerate and automate SETR reviews to better support programs leveraging Agile or DevSecOps frameworks to support the Adaptive Acquisition Framework pathways. - Continue to conduct Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) certifications and technical reviews of formal acquisition and engineering documentation through design and testing analysis, ensuring interoperability with platform, force level, and joint/ allied/coalition forces. - Continue to promote improved interoperability and information sharing through coalition engagement, technology, demonstrations, and assessments leading to improvements of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems within the Navy and in conjunction with Joint Services and Coalition efforts. Partners include the Multi-National Maritime Informational Technology and Interoperability Board (M2I2), Pacific Command (PACOM) and Southern Command (SOUTHCOM), and North Atlantic Treaty Organization (NATO). Partner feedback ensures effective planning and execution of Coalition Warrior Interoperability eXploration, eXperimentation, eXamination, eXercise (CWIX) and execution of the Mission Partner Environment (MPE) in the appropriate venues to support IW capability objectives. - Create a Network Modernization Plan that will identify and prioritize Information Technology (IT), cloud and network technical requirements and integrate them into the Navy's Target Enterprise Architecture (TEA). The Navy's Network Modernization Plan, supported by TEA expansion, will identify capability gaps in programs such as NGEN/NEN and INOCCS that shape transformation opportunities and specify capability upgrades to the Navy's network infrastructure. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $1.131M between FY22 and FY23 is attributed to the creation of the Network Modernization Plan and the integration of technical requirements into expansion of the Target Enterprise Architecture that enables					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 2144 / *Space & Elec Warfare Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
the Navy's Information Superiority Vision and Logical Unified Network concepts into a high-level Naval MBSE reference architecture.					
Accomplishments/Planned Programs Subtotals	18.587	24.623	27.149	0.000	27.149

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / *Warfare Innovation Management*	Project (Number/Name) 2147 / *ISR Architecture*	

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
2147: *ISR Architecture*	0.000	1.377	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.377
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Integrated architectures provide a technical framework for assessing capability gaps and performance of individual systems and System of Systems (SoS) and their ability to effectively provide the desired effects to support warfighting missions. They also serve as a means to influence and drive Programs of Record (PoR) toward a common, more efficient state that promotes interoperability and security.

The Naval Intelligence, Surveillance, and Reconnaissance (ISR) Reference Architecture project is intended to guide system of systems capability development and promote interoperability across Navy ISR programs, as well as interoperability and alignment with Department of Defense (DoD)-wide enterprise initiatives including Joint Information Environment and Intelligence Community Information Technology Environment and Space & Naval Warfare Systems Command-wide Enterprise Architecture policies. This effort to develop integrated ISR architectures will instill systems engineering discipline and standardization across the Navy ISR Enterprise. These efforts will reduce Information Technology/ISR infrastructure complexity and variances, making it easier to manage, operate and defend our ISR capabilities, and help inform investment decisions across the Navy's ISR enterprise to support Assured Command and Control, Battlespace Awareness and Integrated Fires.

This effort will encompass the documentation and analysis of current ISR enterprise architectures to inform and guide requirements for target architecture development and performance requirements to support full use and incorporation of ISR capabilities to advance Navy operations afloat. The associated studies will produce both technical and non-technical implementation guidance across the Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities spectrum.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Intelligence, Surveillance, and Reconnaissance (ISR) Architecture	1.377	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2022 Plans: N/A					
FY 2023 Base Plans: N/A					
FY 2023 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.377	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 2147 / *ISR Architecture*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / *Warfare Innovation Management*	Project (Number/Name) 3020 / *MIDS/JTRS*	

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
3020: *MIDS/JTRS*	0.000	0.000	0.000	9.800	-	9.800	8.500	0.000	0.000	0.000	0.000	18.300
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 554

A. Mission Description and Budget Item Justification

The Multifunctional Information Distribution System (MIDS) program office is the Performing Activity in the Navy (Lead Service for Department of Defense (DOD)) Link 16 capability and consists of two (2) product lines, MIDS Low Volume Terminal (LVT) (legacy hardware defined radio) and MIDS Joint Tactical Radio System (JTRS) (software (SW) defined radio).
MIDS JTRS, designed as a Pre-Planned Product Improvement (P3I) and executed as an Engineering Change Proposal (ECP) to the production MIDS-LVT configuration, and is fully compatible with MIDS-LVT. The MIDS JTRS has four channels and adds capabilities such as Link 16 Enhanced Throughput (ET), Link 16 FR, SW programmability, CM, and Four Net Concurrent Multi-Netting with Concurrent Contention Receive (CMN-4).

MIDS JTRS Tactical Targeting Network Technology (TTNT), is a block upgrade to the MIDS JTRS CMN-4 Terminal providing an Internet Protocol-based networking capability on tactical aircraft. TTNT is a low latency, high throughput waveform that has the capability to support data exchange between fast-moving tactical aircraft, weapons, and unmanned aircraft, in addition to air, land, and sea-based command and control nodes, in a variety of air-to-air and air-to-ground missions including time sensitive targeting, air warfare, close air support, non-traditional ISR, and anti-surface warfare. TTNT and MIDS JTRS CMN-4 directly supports Naval Integrated Fire Control (NIFC) capability requirements. These capabilities provide Joint Airborne Network-Tactical Edge functionality to run advanced mission applications in a cross-platform/cross-domain tactical network enterprise.

FY23 funding is developing and experimenting different communications throughput availability with Link16 and Tactical Targeting Network Technology (TTNT) waveforms for a classified platform. MIDS will be developing the software for the integration and determining the best delivery of communications. Modeling and Simulation (M&S) scenarios will determine which comm will be utilized and provide the best payload to the platform. Networks will be designed and tested based on the initial M&S results. MIDS JTRS terminals (long lead items) for early integration and development testing will also be ordered.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: MIDS Integration New Platform	0.000	0.000	9.800	0.000	9.800
Articles:	-	-	-	-	-
FY 2022 Plans: N/A					
FY 2023 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 3020 / *MIDS/JTRS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
-Analyze the system requirements, technical performance data, and integration approaches to develop the required software for communications. -Begin Modeling and Simulation scenarios based on platform requirements to experiment and simulate different communication options. -Design networks based on the results and again run simulations to see the impact on the networks and payload variables. -Begin specification development and software development based on analysis and initial M&S results to provide best payload for communications for the platform. -Order MIDS JTRS terminals for early integration and development testing efforts. Conduct initial integration and test (I&T) and provide incremental software releases ensuring compatibility and integration with the platform to reduce risk for the classified platform. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase of $9.800M in FY23 (from $0.000) in this PE is due to additional work within the MIDS/JTRS project for development and experimentation on the communication payload for a new classified platform.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	9.800	0.000	9.800

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Multifunctional Information Distribution System Joint Tactical System (MIDS JTRS) development was initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. The U.S. prime contractors from the MIDS-LVT program, Data Link Solutions (DLS) and Viasat Inc., cooperatively designed and developed each of the MIDS JTRS terminal variants and Block Upgrade 2 for MIDS-LVT. The U.S. implemented a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS-LVT and MIDS JTRS production phases. This strategy has been successfully used on all MIDS variants.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / *Warfare Innovation Management*	Project (Number/Name) 3319 / *Fleet Experimentation*	

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
3319: *Fleet Experimentation*	0.000	8.586	10.830	11.446	-	11.446	12.308	12.529	12.761	12.975	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Mission: The FLEX program examines potential materiel and non-materiel solutions and develops recommendations to enhance the Fleet's ability to execute assigned missions through 12-15 major analytic activities annually, such as workshops, war-games, simulations, and live at-sea events, integrated into multi-year experiment campaigns aligned to priority capability gap areas.

Fleet Experimentation (FLEX) is co-led by Commanders U.S. Fleet Forces Command (CUSFFC), U.S. Commander Pacific Fleet (CPF), and Commander U.S. Naval Forces Europe - Africa (CNE-AF) to address priority Fleet warfighting gaps.

FLEX guidance is directly linked to the Jan 2021 CNO's Navigation Plan (NAVPLAN) guidance to continue refinement of concepts and capabilities through experimentation. FLEX planners collaborate with CNO NAVPLAN Naval Integration Framework (NIF) pillars to inform gap closure plans for Long Range Fires, C-C5ISRT, Navy Operational Architecture (NOA) / Overmatch (OM), and Unmanned Systems.

FLEX initiatives are tied to goals for CNO-approved naval concept Distributed Maritime Operations (DMO) and supporting concepts, (Expeditionary Advanced Based Operations (EABO), Littoral Operations in Contested Environments (LOCE), and others)). FLEX is aligned with National Defense Strategy lines of effort 1 and 3 as identified in the FY20-22 Business Operations Plan, which highlights the need to increase experimentation, war-games and exercises. FLEX supports the Tri-Service Maritime Strategy.

USFFC N8/N9-manages the FLEX investment to support planning, execution, analysis, and reporting for analytically rigorous experiments, leveraging small scale Limited Objective Experiments (LOE), scheduled fleet exercises, and high-end operational rehearsals such as Fleet Battle Problems (FBP) and Large Scale Exercises (LSE).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Fleet Experimentation (FLEX)	8.586	10.830	11.446	0.000	11.446
Articles:	-	-	-	-	-
Description: $10.8M in FY22 will fund experimentation event planning, execution, analysis, and reporting to assess initiatives to implement Distributed Maritime Operations (DMO) and other CNO-approved foundational warfighting concepts. Specific experimentation initiatives are listed in the FY22 Plans paragraph.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 3319 / *Fleet Experimentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Through experimentation, solutions to concept required capabilities are tested and refined, and experiment recommendations support acquisition strategies and inform procurement decisions. FLEX is a proven efficient approach to improving warfighting effectiveness. FLEX deliverables are focused on operational and tactical warfighting capabilities in the near term (within the Future Years Defense Plan) and prioritized by periodic Fleet (CUSFF, CPF, CNE-AF) Experimentation Commanders' Guidance to enhance warfighting capability across priority warfare areas. FLEX venues and initiatives supports the Chief of Naval Operations (CNO) directed Fleet Battle Problems (FBP) and Large Scale exercises (LSE) series as identified in the DMO concept and the CNO Navigation Plan (NAVPLAN) signed in January 2021. ***FY 2022 Plans:*** FY 2022 Base Plans: FY22 FLEX efforts will address Fleet warfighting priorities identified in the FY22-23 Commanders' FLEX Guidance message. FLEX will continue to focus on materiel and non-materiel solutions using appropriate experimentation venues including workshops, wargames, and operational shore-based and at-sea experiments. Alignment with Integrated Priority Capability Lists (IPCLs), Key Operational Problems (KOPs), DMO capability development and with NAVPLAN Capabilities objectives will drive experimentation efforts. The following venues have been or will be utilized in FY22 to host Fleet Experimentation efforts and additional details about each experiment including final experimentation reports can be provided on SIPR. FLEX in CSDS 1 SINKEX (.502) - supports all domain fires FLEX in International Maritime Exercise (.770) - supports Naval Operational Architecture (NOA) and unmanned systems FLEX in Fleet Battle Problem 22-USFF-1 (.720) - supports NOA, Naval Integration and CISR TET Clutch Blackrock Limited Objective Experiment (.570) - supports all domain fires Maritime Intelligence Surveillance and Reconnaissance and Targeting Exercise (.570) - supports NOA and unmanned systems FLEX in Rim of the Pacific (RIMPAC) Exercise (1.844) - supports all domain fires, CISR and unmanned systems FLEX in Enterprise Storm 22-1 (.370) - supports NOA FLEX in CNE SINKEX (.619) - supports all domain fires FLEX in Valiant Shield 22 (.900) - supports all domain fires FLEX in Scarlet Dragon 2 (.369) - supports all domain fires, NOA and Naval Integration Buzzer Beater Limited Objective Experiment (1.057) - supports all domain fires					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 3319 / *Fleet Experimentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
FLEX in FBP 22-USFF-2 (1.969) - NOA Naval Tactical Grid Enablers 22 Limited Object Experiment (.570) - supports NOA and Naval Integration					
FY 2023 Base Plans: FY 2023 Base Plans: FY23 FLEX efforts will address Fleet warfighting priorities identified in the FY22-23 Commanders' FLEX Guidance message. FLEX will continue to focus on materiel and non-materiel solutions using appropriate experimentation venues including workshops, wargames, and operational shore-based and at-sea experiments. Alignment with IPCLs, KOPs, DMO capability development and with NAVPLAN gap closure plans will drive experimentation efforts. Initiatives aligned to the CDR's guidance focus areas are currently being collected and reviewed. Proposed initiatives will be coordinated with the Fleet Commanders' staffs and other stakeholders in spring 2022, leading to 12 star approval of initiatives and potential experiment venues (together comprising the FY23 campaign) in early summer. FLEX Campaign strategic areas will include: ALL DOMAIN FIRES Focus area experiment details will be made available via SIPR once the FY23 Campaign Plan is approved by the supported Fleet Commander. COUNTER-INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE Focus area experiment details will be made available via SIPR once the FY23 Campaign Plan is approved by the supported Fleet Commander. NAVAL OPERATIONAL ARCHITECTURE Focus area experiment details will be made available via SIPR once the FY23 Campaign Plan is approved by the supported Fleet Commander. UNMANNED SYSTEMS Focus area experiment details will be made available via SIPR once the FY23 Campaign Plan is approved by the supported Fleet Commander. NAVAL INTEGRATION					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 3319 / *Fleet Experimentation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Focus area experiment details will be made available via SIPR once the FY23 Campaign Plan is approved by the supported Fleet Commander. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY23 increase of $0.616M will fund three (3) additional stand-alone at-sea experiments as compared to FY22. At-sea events provides the only operational experimentation environment to assess experimentation initiatives in order to rapidly deploy/transition DOTmLPF-P recommendations into new TTP, accelerate emerging technologies, develop Fleet Concepts of Operations (CONOPS) and to explore and evaluate innovative concepts.					
Accomplishments/Planned Programs Subtotals	8.586	10.830	11.446	0.000	11.446

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0606355N / *Warfare Innovation Management*	Project (Number/Name) 3320 / *TRIDENT Warrior*	

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
3320: *TRIDENT Warrior*	0.000	2.251	2.317	2.404	-	2.404	2.457	2.491	2.532	2.577	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

U.S. Navy's Trident Warrior (TW) experiment campaign enables early delivery of Information Warfare (IW) capabilities to the warfighter via Fleet-directed TW operational events. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Develops supporting concepts and Concept of Operations to improve warfighting effectiveness. Coordinates IW efforts with other Service/Joint/Department of Defense/National efforts to ensure Joint/Interagency/ Allied/Coalition applicability and interoperability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Trident Warrior	2.251	2.317	2.404	0.000	2.404
Articles:	-	-	-	-	-
FY 2022 Plans: - Evaluate Trident Warrior 2021 (TW21) executed experiments and recommend next steps to all stakeholders. - Promote broad participation in TW by researching advanced technology solution candidates, in conjunction with other services, and academic research in order to fill Information Warfare technology gaps. - In accordance with standardized procedures, lead TW participant efforts with the following: specific goal identification; risk identification; experiment plans (to include data requirements and collection); and required installation and security certifications, accreditations, and approvals. - Provide independent experts and Subject Matter Expertise to ensure compliance with experiment plans, lead analysis effort, and deliver unbiased assessments and results to government sponsors to support the program's engineering recommendations. - Plan and execute Trident Warrior 2022 (TW22) experiments with specific focus on Distributed Maritime Operations. - Begin Trident Warrior 2023 (TW23) planning, taking into consideration identified Naval Capability Gaps.					
FY 2023 Base Plans: - Continue to evaluate Trident Warrior 2022 (TW22) executed experiments and recommend next steps to all stakeholders.					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0606355N / *Warfare Innovation Management*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue to promote broad participation in TW by researching advanced technology solution candidates, in conjunction with other services, and academic research in order to fill Information Warfare technology gaps. - In accordance with standardized procedures, continue to lead TW participant efforts with the following: specific goal identification; risk identification; experiment plans (to include data requirements and collection); and required installation and security certifications, accreditations, and approvals. - Continue to provide independent experts and Subject Matter Expertise to ensure compliance with experiment plans, lead analysis effort, and deliver unbiased assessments and results to government sponsors to support the program's engineering recommendations. - Plan and execute Trident Warrior 2023 (TW23) with a continued focus on Distributed Maritime Operations. - Begin Trident Warrior 2024 (TW24) planning with a continued focus on Distributed Maritime Operations. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $0.087M between FY22 and FY23 is attributed to additional Subject Matter Expertise (SME) support for core ship services during the experimentation period.					
Accomplishments/Planned Programs Subtotals	2.251	2.317	2.404	0.000	2.404

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A