Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy											Date: March 2023	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604755N *I Ship Self Def (Detect & Cntrl)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	801.789	139.580	156.426	158.426	-	158.426	154.086	149.747	146.627	148.015	Continuing	Continuing
2178: *QRCC*	732.601	124.514	142.896	146.699	-	146.699	137.224	134.525	133.525	135.062	Continuing	Continuing
3172: *Joint Non-Lethal Weapons*	25.589	3.083	3.798	3.580	-	3.580	3.223	3.283	3.347	3.417	Continuing	Continuing
3358: *SSDS Training Improvement Program*	43.599	11.983	9.732	8.147	-	8.147	13.639	11.939	9.755	9.536	Continuing	Continuing

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification

This program element provides Aircraft Carriers and Amphibious Class ships Ship Self Defense System (SSDS) MK 2 Combat System upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. Examples of captured advanced technologies are: advanced information assurance and cyber defense; Fire Control Loop Improvement Project (FCLIP); Identification Friend or Foe (IFF) Mode 5 to include Far-Term Interoperability Improvement Project (FTIIP); and other command and control systems, advanced sensors, and weapon integration, all of which require corresponding SSDS MK 2 changes. The program element also includes the SSDS integrated Combat System project for embedded shipboard training, Common Aviation Command and Control System Afloat (CAC2S Afloat) integration, and the Non-Lethal weapons project in support of anti- terrorism/force protection missions.

QRCC project (PU 2178) - implements an evolutionary acquisition of improved ship self-defense capabilities against Anti-Ship Cruise Missiles (ASCMs) and improved multi-warfare capabilities for Aircraft carriers and Amphibious Class ships. SSDS MK 2 integrates a diverse set of fire control loop sensors and weapons (SPY-6(V)2, SPY-6(V)3, SLQ-32(V)6 SEWIP, RAM Block 2A/2B, ESSM Block 2, CIWS) and C4I systems (CANES) for each ship class (CVN68/78, LHA6, LHD1, LPD17, and LSD 41/49). SSDS MK 2 provides combat direction, and joint interoperability via the Cooperative Engagement Capability (CEC) Increment 1 and 2 and Tactical Digital Information Link (TADIL)-J/Link 16. System design emphasizes commonality and a single source software library that are major mechanisms for cost control and avoidances. SSDS uses a physically distributed, open system architecture computer network consisting of common hardware such as the Common Processor System (CPS), the Common Display System (CDS) and the common Computing Infrastructure configuration. SSDS MK 2 integrates new combat system war-fighting capabilities and improvements, as well as DoD and Navy-mandated enhanced cybersecurity capabilities via incremental capability packages and computing infrastructure (previously Technology Insertion (TI)) improvement deliveries. Capabilities beyond SSDS Build 12 will begin to transition to development to by third party software developers and a common Software construct. PU 2178 efforts are divided into two major functional areas: SSDS Product Development/Combat Systems Integration, and Test and Evaluation/Certification.

Joint Non-Lethal Weapons (PU 3172) - provides a long range laser warning and dazzle system, maritime vessel stopper (MVS) system, and combined effects (light, laser, and sound) system for use in the maritime environment. Optical warning and distraction has been identified by the services as a possible technology solution to mitigate and/or address several known joint nonlethal capability gaps.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604755N *I Ship Self Def (Detect & Cntrl)*

Visual Augmentation Systems (VAS) supports research, development, and testing of material solutions for VAS capability gaps encountered during missions in combat zones. Expeditionary force lacks the ability to detect and recognize potential threat craft at the maximum possible range and at the earliest time in all-weather environments during day and night. In addition, the warfighter needs the ability to record both audio/video encounters and incidents for after action reporting

SSDS Training Improvement Program (PU 3358) - provides enhancements and upgrades to the SSDS Total Ship Training Capability (TSTC) components within the combat system, combat system elements, Battle-Force Tactical Training (BFTT), and Advanced Training Domain (ATD), to address needs for increased training capability and functionality in conjunction with SSDS MK 2 capability improvements, IFF Mode 5 (to include FTIIP), Task Force Cyber Awakening (TFCA) Boundary Defense Capability (BDC), and Technical Insertion efforts under PU 2178 (QRCC). These enhancements will address current and future training requirements by implementing new functionality to enable the individual warfighter, through distributed battle group events, to engage in more complex training scenarios to support fleet required training certification events. Capability Development and integration are related to Self Defense, Underwater, Surface, and other warfare areas. Capability enhancements and upgrades include development of re-useable common components that can be leveraged by other combat systems, and/or integration of re-usable common components developed by the TSTC/BFTT Program and AEGIS Advanced Training Domain (ATD)/Total Ship Training Capability (TSTC) projects to meet AEGIS combat system training requirements. TSTC continues to integrate and update, as new tactical capabilities are being introduced, to enable crew operator proficiency training for basic and sustainment level training events, through distributed strike group certification, fleet synthetic training (FST) events, and including COMPTUEX FST at sea integration into a Live, Virtual and Constructive (LVC) environment. Continued development is required to integrate new capabilities and interfaces to provide training for SSDS combat system capability upgrades, and to address the Fleet's LVC Fleet Training Wholeness initiative. Additionally, modernization is needed to support the DoD Training Transformation Plan, the Chief of Naval Operations Fleet Response Plan and Commander United States Fleet Forces Command Fleet Readiness Training Plan.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	142.595	159.426	159.410	-	159.410
Current President's Budget	139.580	156.426	158.426	-	158.426
Total Adjustments	-3.015	-3.000	-0.984	-	-0.984
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-3.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.015	0.000			
• Program Adjustments	0.000	0.000	-1.709	-	-1.709
• Rate/Misc Adjustments	0.000	0.000	0.725	-	0.725

Change Summary Explanation

- FY 2023 budget was reduced by -3.000M for Historical Under Execution (PU2178, -2.330M / PU3358, -0.472M / PU3172, -0.198M)

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604755N *I Ship Self Def (Detect & Cntrl)*

FY2023 to FY2024 Funding Changes by PU:
PU 2178: Increase of +$3.803M from FY2023 to FY2024 provides for increased efforts associated with transition to Common Computing infrastructure and Common Software construct development efforts and slight increase in required testing in FY2024. As well as the CAC2S Afloat design, development, integration, test, and certification efforts for the Shipboard C5I efforts.

PU 3172: Funding decreased from FY2023 to FY2024 by -$0.218M due to ending vessel drogue effort as possible interim solution.

PU 3358: Decrease of -$1.585M from FY 2023 to FY 2024 is due due to completion of SPQ-9B integration.

R-4 PROGRAM SCHEDULE CHANGES:
The FY 2024 PU 2178 and PU 3358 Program Schedule R4 changes reflect the completion of SSDS Build Testing for SSDS MK2 Build 12-CP2, Computing Infrastructure, EPIC Development, SSDS MK2 IPR 6-8, PI 5-8, SSDS MK2 Build Test CP2 FSIT & FQT, Cyber Security Testing CTT #2, Vul #1, and SSDS MK2 IPR 9.

The FY 2024 PU 3172 program schedule change reflects the determination that Maritime Vessel Stopping Occlusion Technology (MVSOT) interim solution of Drogue systems was deemed insufficient to meet requirements. The current schedule shows the intent to release an RFP for the Production and Assembly of Synthetic Slime (PASS) to meet MVS requirement.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 2178 / *QRCC*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
2178: *QRCC*	732.601	124.514	142.896	146.699	-	146.699	137.224	134.525	133.525	135.062	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification

The QRCC project (PU 2178) implements an evolutionary acquisition of improved ship self-defense capabilities against Anti-Ship Cruise Missiles (ASCMs), and improved multi-warfare capabilities, for Aircraft Carriers and Amphibious Class ships. SSDS MK 2 integrates a diverse set of fire control loop sensors and weapons and C4I systems for each ship class (CVN68/78, LHA6, LHD1, LPD17, and LSD41/49). SSDS MK 2 provides combat direction, and joint interoperability via the Cooperative Engagement Capability (CEC) and Tactical Digital Information Link (TADIL)-J/Link 16. System design emphasizes commonality and a single source software library that are major mechanisms for cost control and avoidances. SSDS uses a physically distributed, open system architecture computer network consisting of common hardware such as the CPS/CDS and common Computing Infrastructure. SSDS MK 2 integrates new combat system war-fighting capabilities and improvements via incremental capability packages and computing infrastructure (previously Technology Insertion) improvement deliveries. PU 2178 efforts are divided into two major functional areas: SSDS Product Development/Combat Systems Integration, and Test and Evaluation/Certification.

SSDS Product Development encompasses systems engineering efforts, technology and capability insertion/integration, and cyber-security, including the development and integration of SSDS Build 10 with the required Technology Insertion TI12/12H computing and display configuration and the development and integration of SSDS Build 12 with the required TI16 computing and display configuration. SSDS Product Development will provide warfighter upgrades including implementation of common software components for System Track Management; integration of CPS and CDS; expansion of SSDS MK 2 Local Area Network (LAN) to a Combat System LAN; integration of new Combat System/C4I elements (SPY-6(V)2, SPY-6(V)3, SLQ-32(V)6 SEWIP, RAM Block 2A/2B, ESSM Block 2, CIWS, and CANES); implementation of shared, inheritable CS-level cybersecurity capabilities and Total Ship Training Capability. Capabilities beyond SSDS Build 12 will begin to transition to development by third party software developers and a Common Software construct.

SSDS Build 10 is fielded on CVN 78, CVN 72, LHD 2, LSD 46 and LHD 6. To improve efficiency and reduce SW build proliferation, the SSDS design is migrating an initial release of Build 12 with Advanced Training Domain capability to the TI-16 hardware configuration for initial installation on the CVN 73. SSDS Build 12 development will continue with additional releases to implement SSDS improvements to integrate the SPY-6 variants, ESSM Block 2, SEWIP Softkill Coordination Subsystem (SKCS) and Global Positioning System (GPS) based Positioning, Navigation, and Timing Service (GPNTS) and includes system engineering, critical experiments, software development, operating environment, cyber-security software, hardware/software integration, factory qualification testing, land-based engineering testing, system/ software Test, Analyze, and Fix (TAAF) effort in support of CS, logistics products and ashore training course development. FY 2023/2024 includes continuing ongoing transition to production for the next SSDS hardware configuration, establishing a Common Computing Infrastructure allowing for targeted obsolescence and computing scaling upgrades vice wholesale modernization for ships so equipped. Capability development beyond SSDS Build 12 begins to explore utilization of a Common Software construct for development activities and scales with development capacity availability.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

Cybersecurity, initiatives under PU 2178 will provide the SSDS MK 2 Combat System (CS) layered protect and detect functionality and will introduce critical response functionality to respond to and recover from cyber-attacks. SSDS Cybersecurity is a phased multi-year effort to define, develop, and integrate DoD and Navy mandated enterprise Combat System cybersecurity solutions. Continuing ongoing efforts in FY 2024, SSDS is collaborating to establish enterprise cyber accreditation processes for continuous and persistent certifications of hardware and software developed within a common software development environment. These solutions enhance the cybersecurity framework pillars of Identify, Protect, React, and Restore and expand force level cyber defense capabilities for the Carrier and Amphibious Fleet against actions by sophisticated adversaries.

System engineering efforts for Joint Strike Fighter (JSF) F35B&C integration Onboard LHA, LHD and CVN Class ships will provide improved F35 interoperability via Link 16 and integration of the Target Package Generator (TPG), a NAVAIR application. Systems engineering efforts will also provide improved land domain command and control for the Amphibious Readiness Group/Marine Air Ground Task Force (ARG/MAGTF) commanders and staffs through integration of USMC Common Aviation Command and Control System (CAC2S) program of record with LHA/LHD CEC and C5I systems. CAC2S Afloat also provides access to Variable Message Format (VMF) communications network and provides both Maritime and Land Situational Awareness for the ARG/MAGTF commanders and Ship Self Defense System operators.

Combat System Integration under PU 2178 encompasses Combat System (CS) System-of-Systems modeling and simulation, system analysis/engineering (including Model-Based System Engineering), and system/software development for integration of sensors, weapons and C4I systems with SSDS MK 2 in Aircraft Carrier and Amphibious Class Ships. It also provides the system of systems engineering and development/integration of continued fire control loop improvements beyond FCLIP Phase 2 for tracking, weapon scheduling and engagement control with ESSM Block 2 missile; SEWIP Block 2 Soft kill Coordination Subsystem (SKCS), along with additional capability integration for GPNTS, and RAM Block 2B. (Integration of SEWIP Block 3 Electronic Attack has been deferred due to deferral of SEWIP Block 3 fielding to CVNs.)
FTIIP is the second phase of the corrective action plan for the resolution of the strike group interoperability issues. FTIIP includes implementation of Tactical Data Link (TADIL) IFF Mode 5 identification capabilities, F/A-18 Digital Air Control (Phase 1) in support of F/A-18 and F-35 Joint Strike Fighter initial deployment, integration of the Shipboard Gridlock System/ Automatic Correlation (SGS/AC) system into the SSDS MK2 TI-16 configuration, and implementation of other high priority software.

CAC2S Afloat-CEC integration provides capability to directly network with F-35, F/A-18 E/F, E/A-18G (and other joint tactical aircraft) and to downlink aircraft track and target data for enhanced command and control and force mission execution. It also provides a means to provide realtime aircraft mission status (weapons deployment, battle damage assessment, mission status, flight data and activity, communication channels, fuel state, time on station) and execution information at multiple locations onboard all networked ships and shore sites for force coordination of mission activity and coordination of remote fires for over the horizon (OTH) weapons. Ultimately, this integration effort will enable the ARG/MAGTF the ability to properly execute expeditionary advanced base operation and operate in a contested littoral environment. CAC2S Afloat integration encompasses system analysis/engineering, and system/software development for integration of multiple shipboard C5I system interfaces to include interfaces to GCCS-M, DCGS-N, JADOCS, TBMCS, SSDS, CEC, Minotaur FoS/MTC-A, and the OTH Missile Launching System (OTH MLS).

Test and Evaluation/Certification under PU 2178 encompasses SSDS MK 2 Developmental Test and Evaluation (DT&E) providing for comprehensive testing and certification of the integrated CS for the CVN 68, CVN 78, LPD 17, LHD1, LHA 6 and LSD41/49 ship classes. This includes Land-Based testing at Wallops Island and At-Sea testing for the lead ships for the new CS configurations, and Live Fire testing on the Self-Defense Test Ship (SDTS) and land-based and shipboard cyber testing.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
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The DT&E encompasses test planning, preparation, test conduct, data collection and analysis, and resolution and verification of deficiency corrections. The SSDS MK 2 T&E/Certification supports Combat System certification, the SSDS Test and Evaluation Master Plan (TEMP) execution and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP execution which includes continuation of DT and FOT&E events for the CVN 78 SSDS MK 2 Mod 6C configuration with the DBR, SEWIP Block 2 ES, ESSM Block 1 with JUWL up-link, and RAM Block 2.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: SSDS MK2 Product Development/Combat Systems Integration	101.897	119.495	123.111	0.000	123.111
Articles:	-	-	-	-	-
FY 2023 Plans: For Build 12+ -Continue/start systems engineering efforts for the following capability insertions, to include requirements development/updates, use cases, trade studies, and conduct SETR events as required: -RAM Block 2B -Common Display Architecture -SSDS containerization and merge with the Integrated Combat System (ICS) -Integration of ICS applicable Battle Decision Aids -Complete Design and Development of CAC2S Afloat with one way interface with SSDS -Continue/Complete CAC2S Afloat design, development, integration, test, and certification efforts for the Shipboard C5I interfaces in support of Long Range Surface Warfare (LRSUW) including SSDS, OTH MLS/ NMESIS, IBS, Minotaur (two-way interface), DCGS-N, TBMCS-R, JADOCS Next, CEC and AN/PRC-158 direct VMF interface. -Continue integration/lifecycle engineering efforts in support of the following capability insertions: + AN/SPY-6(V)2/3 integration, including CVN 74 + AN/SLQ-32(V)7 (Electronic Warfare Improvement) + GPNTS/GEDMS + CAC2S-SSDS-NSM -Continue Build 12 Integrated Combat System integration engineering activities. -Provide required Build 12 CP 3 TAAF to support CVN 79, LHA 8, and LPD 29 and LHD 3 ship installation, test and certification events. -Conduct and complete CCI configuration transition to production activities.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Continue designing, developing and implementing Cybersecurity capability improvements to secure the combat system enclave. ***FY 2024 Base Plans:*** For Build 12+ - Start/complete systems engineering, design, and qualification of common computing infrastructure components/designs supporting SSDS platforms. - Continue/start systems engineering efforts for the following capability insertions, to include requirements development/updates, use cases, trade studies and conduct SETR events as required: + CEC Increment 2 + Electrical Optical/Infrared generic (EO/IR) sensor adapter/interface + Netted Track Source adapter/interface +RAM Block 2B +Integration of applicable common software including Battle Decision Aids - Complete engineering efforts for the following capability insertions, to include requirements development/ updates, use cases, trade studies and conduct SETR events as required: +Common Display Architecture -Continue/Complete CAC2S Afloat design, development, integration, test, and certification efforts for the Shipboard C5I interfaces in support of Long Range Surface Warfare (LRSUW) including OTH MLS/NMESIS, IBS, Minotaur/MTC-A (two-way interface), DCGS-N, TBMCS-R, JADOCS Next, CEC and AN/PRC-158 direct VMF interface. -Continue integration/lifecycle engineering efforts in support of the following capability insertions: + AN/SPY-6(V)2/3 integration, including CVN 74 + AN/SLQ-32(V)7 (Electronic Warfare Improvement) + GPNTS/GEDMS +SSDS containerization -Continue Build 12 Integrated Combat System integration engineering activities.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Provide required Build 12 CP3 and CP 4 TAAF to support CVN 79, CVN 74, LHA 8, LHD 3, LHD 4, LHD 5 and LPD 29, LPD 30, LPD 31 ship installation, test and certification events. -Continue designing, developing and implementing Cybersecurity capability improvements to secure the combat system enclave. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY2023 to FY2024 increase (+3.616M) is due to increased efforts associated with transition to Common Computing infrastructure and Common Software construct development efforts. As well as the CAC2S Afloat design, development, integration, test, and certification efforts for the Shipboard C5I efforts. Continue integration/lifecycle engineering efforts in support of the following capability insertions. Continue Build 12 Integrated Combat System integration engineering activities, ship installation, test and certification events.					
Title: SSDS MK2 Development Test & Evaluation	22.617	23.401	23.588	0.000	23.588
Articles:	-	-	-	-	-
FY 2023 Plans: -Complete Build 12 Capability Package 3 FSIT and conduct Capability Package 3/4 FQT -Conduct Build 12 Capability Package 3 Land Based Testing for CVN 71- SVR, PCP and CSCP. LHD 7 LBTs-CSITs . -Conduct Capability Package 3 Land Based Testing for LHA 8 configurations- SIEs, FSIT, CSIT LBT for LHA 3-CSIT. -Conduct Land Based Testing CP 4 for CVN 79- SIE, CSIT,LBDT -Conduct USS Secure Testing: Cooperative Vulnerability Identification event on CP3/4 -Continue Build 12 Cyber Table Top (CTT) for Capability Packages 3/4 - Complete Test and certification of CAC2S Afloat - SSDS one way interface For SSDS Build 10					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Conduct USS Secure Testing: CVN78 Cyber OT: Cooperative Vulnerability Penetration Assessment (CVPA) and Adversarial Assessment (AA) at Wallops Island ***FY 2024 Base Plans:*** Continue LBDT and begin Sea Based Developmental Test (SBDT) for Test and Evaluation Master Plan (TEIN 1910) in support of SSDS Baseline 12 Platforms. -Complete BL 12 CP 3 SIEs for CVN 79 and LHA 8 -Complete BL 12 CP 3 Factory System Integration Test (FSIT) and conduct Formal Qualification Test (FQT) -Conduct BL 12 CP 3 SBDTs for LPD 29, CVN 79 and LHA 8 -Complete BL 12 CP 4 SIE for LPD 30, LPD 31, CVN 74, CVN 79, LHD 4 and LHD 5. Cyber T&E in support of SSDS BL 12 Platform -Conduct CVI for BL 12 CP 3 & CP4 Continue testing for Objective Quality Evidence for SSDS BL 6, SSDS BL 9 and BL 10 CS configurations - Conduct BL 10 CSIT - Conduct BL 9 CSIT -Provide test execution support for CVN 78 Enterprise Lead Ship testing (TEMP 1714 Enterprise Test Event 10) ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY2023 to FY2024 Increase (+0.187M) is due to slight increase in required testing in FY2024 Accomplishments/Planned Programs					
Accomplishments/Planned Programs Subtotals	124.514	142.896	146.699	0.000	146.699

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPN/ BLI 5231 (SSDS): *SSDS*	89.544	95.166	102.115	-	102.115	103.749	100.381	102.505	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

D. Acquisition Strategy

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A sole source follow-on Cost Plus Incentive Fee (CPIF) Level of Effort (LOE) contract, N00024-14-C-5128, was awarded 18 December 2013 with a Period of Performance (PoP) from FY14-FY17 for the development, test, certification of SSDS MK2 (ACB 12/TI-12) for CVN78, CVN72, LHD2, and the software migration of ACB 12 to TI-12H/TI-16 for CVN 68, LHD 1, LPD 17 ship classes. This contract was extended to June 2020 and an additional extension to Q2 FY21 is planned to provide continued support of the SSDS MK 2 to complete the contract scope requirements for CVN and Amphibious ship Modernization ACB 12 on TI-12 and TI-12H (SSDS Software Build 10).

The competitive contract for the SSDS Combat System Engineering Agent (CSEA)/Software Design Agent (SDA) was awarded in FY 2019 with a ten (10)-year PoP from FY19-FY29. This contract provides support for the Aircraft Carrier and Amphibious Ship Class SSDS Combat System (CS) element development of SSDS Software Build 12 and follow-on technology upgrades based on the evolution of the SSDS MK 2 Combat Systems Build 10 (ACB 12/TI-12/TI-12H). The current requirements include systems and software engineering support, development of engineering products to support combat system integration, configuration control, developmental test/operational test (DT/OT) support, training and logistics support, and field technical support for the SSDS ICS.

For SSDS MK2 TI-12H/TI-16 hardware, the SSDS program uses competitive build-to-specification production contracts, and leverages common enterprise COTS products for computing, storage, display, network, conversion, and cyber security. SSDS Common Computing Infrastructure will utilize an Other Transaction Agreement vehicle to prototype and transition to production equipment for ship installations.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PD - Build 12//TI-16 - SW Dev CSEA	C/CPIF	CSEA Contract : Moorestown, NJ	24.729	23.273	Dec 2021	21.535	Dec 2022	30.313	Dec 2023	-		30.313	0.000	99.850	-
PD - Build 12/TI-16 - SE Spt	C/CPFF	JHU/APL : Laurel, MD	3.882	3.250	Dec 2021	1.831	Dec 2022	2.302	Dec 2023	-		2.302	Continuing	Continuing	Continuing
PD - Build 12//TI-16/Trng Course/Dev	WR	NSWC PHD : Pt Hueneme, CA	2.032	0.450	Nov 2021	0.253	Nov 2022	0.318	Nov 2023	-		0.318	Continuing	Continuing	Continuing
PD - Build 12//TI-16/ Metrics/On Site spt	WR	NSWC Corona : Corona, CA	0.589	0.500	Nov 2021	0.282	Nov 2022	0.354	Nov 2023	-		0.354	Continuing	Continuing	Continuing
PD - Build 12//TI-16 - SE spt	WR	NSWC DD : Dahlgren, VA	4.632	4.000	Nov 2021	2.254	Nov 2022	2.834	Nov 2023	-		2.834	Continuing	Continuing	Continuing
PD - Build 12//TI-16-SE spt	C/CPFF	Gryphon : Washington, DC	1.450	1.250	Dec 2021	0.704	Nov 2022	0.885	Nov 2023	-		0.885	Continuing	Continuing	Continuing
PD - Cyber Resiliency / BDC REQT & ENG	SS/CPFF	JHU/APL : Laurel, MD	12.157	3.500	Nov 2021	1.972	Nov 2022	2.479	Nov 2023	-		2.479	Continuing	Continuing	Continuing
PD - Cyber Resiliency / BDC HW EDM	WR	CDSA DN : Dam Neck, VA	1.432	0.750	Oct 2021	0.423	Oct 2022	0.532	Oct 2023	-		0.532	Continuing	Continuing	Continuing
PD - Cyber Resiliency / BDC ILS	WR	NSWC PHD : Port Hueneme, CA	1.620	0.225	Oct 2021	0.127	Oct 2022	0.160	Oct 2023	-		0.160	Continuing	Continuing	Continuing
PD - Cyber Resiliency / BDC SEIT	C/CPIF	Gryphon/DELTA : Washington DC	2.632	1.000	Nov 2021	0.563	Nov 2022	0.708	Nov 2023	-		0.708	Continuing	Continuing	Continuing
PD - Cyber Resiliency / BDC CSEA	C/CPIF	CSEA Contract : Moorestown NJ	36.973	8.552	Dec 2021	4.817	Oct 2022	6.055	Oct 2023	-		6.055	Continuing	Continuing	Continuing
PD - Cyber Resiliency / BDC CSTK DEV'T	C/CPIF	Progeny Systems Corp : Manassas, VA	9.325	1.100	Oct 2021	0.620	Oct 2022	0.779	Oct 2023	-		0.779	Continuing	Continuing	Continuing
PD-Cyber Resiliency / BDC SE	WR	NSWC - DD : Dahlgren, VA	6.449	1.439	Oct 2021	0.811	Oct 2022	1.020	Oct 2023	-		1.020	Continuing	Continuing	Continuing
PD - TI-16TR/TI22 - HW Engineering	C/CPFF	Gryphon : Washington DC	2.207	1.575	Nov 2021	0.887	Nov 2022	1.115	Nov 2023	-		1.115	Continuing	Continuing	Continuing
PD - TI-16TR/TI22 -HW Engineering	WR	NSWC-DD : Dalhgren, VA	22.878	7.250	Oct 2021	4.084	Nov 2022	5.134	Nov 2023	-		5.134	Continuing	Continuing	Continuing
PD - HQ Travel	Various	PEO IWS : Washington DC	1.023	0.200	Dec 2021	0.113	Nov 2022	0.142	Nov 2023	-		0.142	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 2178 / *QRCC*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PD - F35B Integration / LHA / LHD	C/CPFF	JHU/APL : Laurel, MD	9.867	1.906	Nov 2021	1.074	Nov 2022	1.350	Nov 2023	-		1.350	Continuing	Continuing	Continuing
PD - F35B Integration / LHA / LHD	WR	NSWC DD : Dalhgren, VA	12.202	2.000	Oct 2021	1.821	Nov 2022	2.289	Nov 2023	-		2.289	Continuing	Continuing	Continuing
PD - F35B Integration / LHA / LHD	C/CPIF	SEI&T : Washington DC	4.196	0.400	Dec 2021	0.360	Nov 2022	0.453	Nov 2023	-		0.453	Continuing	Continuing	Continuing
PD - F35B/C - ICS Link 16 Integration	C/CPFF	JHU/APL : Laurel, MD	4.234	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
PD - F35B Integration / LHA / LHD	TBD	PEO LS : Quantico, VA	11.532	2.100	Dec 2021	1.905	Nov 2022	2.395	Nov 2023	-		2.395	Continuing	Continuing	Continuing
PD - F35B/C - ICS Link 16 Integration	WR	NSWC DD : Dalhgren, VA	4.122	1.250	Oct 2021	0.704	Nov 2022	0.885	Nov 2023	-		0.885	Continuing	Continuing	Continuing
PD - F35B Integration / LHA / LHD	C/CPIF	CSEA : Moorestown NJ	9.129	2.888	Oct 2021	1.627	Nov 2022	2.045	Nov 2023	-		2.045	Continuing	Continuing	Continuing
PD - F35B/C - ICS Link 16 Integration	C/CPIF	SEI&T : Washington DC	1.867	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
PD - F35B Integration / LHA / LHD	TBD	PEO C4I : San Diego, CA	3.435	1.250	Dec 2021	1.159	Nov 2022	1.457	Nov 2023	-		1.457	Continuing	Continuing	Continuing
PD - PM Prod Development	C/CPIF	various : various	45.623	3.300	Dec 2021	1.859	Nov 2022	2.337	Nov 2023	-		2.337	Continuing	Continuing	Continuing
CSI - Build 12 (Less SPY-6 Var) - SE	WR	NSWC DD : Dalhgren, VA	17.895	3.000	Oct 2021	1.690	Nov 2022	2.124	Nov 2023	-		2.124	Continuing	Continuing	Continuing
CSI - Build 12 (Less EASR) - SEI&T	C/CPFF	Gryphon : Washington DC	7.703	0.500	Dec 2021	0.282	Nov 2022	0.354	Nov 2023	-		0.354	Continuing	Continuing	Continuing
CSI - Build 12 (Less SPY-6 Var) - SE	SS/CPFF	JHU/APL : Laurel, MD	15.496	3.250	Nov 2021	1.830	Nov 2022	2.300	Nov 2023	-		2.300	Continuing	Continuing	Continuing
CSI - Build 12 (Less SPY-6 Var) - SE	C/CPIF	CSEA Contract : Moorestown NJ	19.687	4.358	Dec 2021	2.455	Nov 2022	3.086	Nov 2023	-		3.086	Continuing	Continuing	Continuing
CSI - FTIIP - SE	WR	NSWC-DD : Dahlgren, VA	10.074	1.500	Oct 2021	0.845	Nov 2022	1.062	Nov 2023	-		1.062	Continuing	Continuing	Continuing
CSI - FTIIP - SE	WR	CDSA DN : Dam Neck, VA	1.229	0.500	Oct 2021	0.282	Nov 2022	0.354	Nov 2023	-		0.354	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 2178 / *QRCC*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CSI - FTIIP - SE	WR	NSWC PHD : Port Hueneme, CA	1.696	1.000	Oct 2021	0.563	Nov 2022	0.708	Nov 2023	-		0.708	Continuing	Continuing	Continuing
CSI - FTIIP - SEI&T	C/CPFF	Gryphon : Washington DC	6.162	1.150	Dec 2021	1.049	Nov 2022	1.319	Nov 2023	-		1.319	Continuing	Continuing	Continuing
CSI - ICS SE - SEI&T	C/CPFF	Gryphon : Washington DC	9.498	1.250	Dec 2021	0.704	Nov 2022	0.885	Nov 2023	-		0.885	Continuing	Continuing	Continuing
CSI - ICS SE	SS/CPFF	JHU/APL : Laurel, MD	10.003	1.500	Nov 2021	0.845	Nov 2022	1.062	Nov 2023	-		1.062	Continuing	Continuing	Continuing
CSI - SPY-6 Var / ERS SE	C/CPIF	CSEA Contract : Moorestown NJ	15.256	5.295	Oct 2021	2.983	Nov 2022	3.750	Nov 2023	-		3.750	Continuing	Continuing	Continuing
CSI - SPY-6 Var / ERS SE	WR	NSWC PHD : Port Huneme, CA	1.285	0.339	Nov 2021	0.191	Nov 2022	0.241	Nov 2023	-		0.241	Continuing	Continuing	Continuing
CSI - SPY-6 Var / ESS SE	SS/CPFF	JHU/APL : Laurel, MD	7.922	0.568	Dec 2021	0.320	Nov 2022	0.403	Nov 2023	-		0.403	Continuing	Continuing	Continuing
CSI - SPY-6 Var / ESS SE	WR	NSWC DD : Dalhgren, VA	10.825	1.832	Nov 2021	1.032	Nov 2022	1.297	Nov 2023	-		1.297	Continuing	Continuing	Continuing
CSI - SPY-6 Var / ESS / SEI&T	C/CPFF	Gryphon : Washington DC	9.074	1.600	Dec 2021	0.901	Nov 2022	1.132	Nov 2023	-		1.132	0.000	12.707	-
PD - ACB12/TI-16/TI12H - Navy Link Cert/Cross-Domain Sprt	WR	SPAWAR : San Diego, CA	0.326	0.385	Oct 2021	0.351	Nov 2022	0.441	Nov 2023	-		0.441	0.000	1.503	-
PD - F35B/C - ICS LINK 16 Integration	C/CPFF	NAWC China Lake : Ridgecrest, CA	0.000	0.000		0.221	Nov 2022	0.278	Nov 2023	-		0.278	0.000	0.499	-
CSI - FTIIP - SE	WR	NAWC China Lake : Ridgecrest, CA	0.000	0.000		0.138	Oct 2022	0.173	Oct 2023	-		0.173	0.000	0.311	-
PD - ICS Development / SW	TBD	TBD Contractor : TBD	0.000	0.000		16.560	Nov 2022	10.969	Nov 2023	-		10.969	0.000	27.529	-
PD - ICS Development / SW	WR	NSWC DD : Dahlgren, VA	0.000	0.000		6.095	Nov 2022	4.038	Nov 2023	-		4.038	0.000	10.133	-
PD - ICS Development / SE Spt / MBSE	WR	NSWC DD : Dahlgren, VA	0.000	0.000		8.078	Nov 2022	5.351	Nov 2023	-		5.351	0.000	13.429	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PD - ICS Development / SW Ecosystem	WR	NSWC DD : Dahlgren, VA	0.000	0.000		8.078	Nov 2022	5.351	Nov 2023	-		5.351	0.000	13.429	-
PD - ICS Development & SE Spt	C/CPFF	TBD Contract : TBD	0.000	0.000		1.123	Nov 2022	0.744	Nov 2023	-		0.744	0.000	1.867	-
PD-Cyber Resiliency (ICS) / SW	TBD	TBD Contract : TBD	0.000	0.000		5.520	Nov 2022	3.656	Nov 2023	-		3.656	0.000	9.176	-
PD-Cyber Resiliency (ICS) / SW	WR	NSWC DD : Dahlgren, VA	0.000	0.000		0.000	Nov 2022	0.000		-		0.000	0.000	0.000	-
PD-Cyber Resiliency / SE Spt / MBSE	WR	NSWC DD : Dahlgren, VA	0.000	0.000		2.787	Nov 2022	1.846	Nov 2023	-		1.846	0.000	4.633	-
PD-Cyber Resiliency / SF Ecosystem	WR	NSWC DD : Dahlgren, VA	0.000	0.000		2.787	Nov 2022	1.846	Nov 2023	-		1.846	0.000	4.633	-
		Subtotal	384.348	101.435		119.495		123.111		-		123.111	Continuing	Continuing	N/A

Remarks

The FY2023 to FY2024 increase (+3.616M) is due to increased efforts associated with transition to Common Computing infrastructure and Common Software construct development efforts. As well as the CAC2S Afloat design, development, integration, test, and certification efforts for the Shipboard C5I efforts

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	NSWC PHD : Port Hueneme, CA	128.046	4.025	Oct 2021	4.081	Nov 2022	4.114	Nov 2023	-		4.114	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	SCSC-WI : Wallops Is, VA	99.075	7.750	Nov 2021	7.858	Nov 2022	7.921	Nov 2023	-		7.921	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	SS/CPFF	JHU/APL : Laurel, MD	36.639	1.550	Nov 2021	1.572	Nov 2022	1.585	Nov 2023	-		1.585	Continuing	Continuing	Continuing
Operational Test & Evaluation (OT&E)	WR	NSWC Corona : Corona, CA	23.891	1.500	Oct 2021	1.521	Nov 2022	1.533	Nov 2023	-		1.533	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	NSWC DD : Dahlgren, VA	48.182	4.504	Oct 2021	4.567	Nov 2022	4.603	Nov 2023	-		4.603	Continuing	Continuing	Continuing
Operational Test & Evaluation (OT&E)	WR	OPTEVFOR : Norfolk, VA	9.788	0.750	Oct 2021	0.760	Nov 2022	0.766	Nov 2023	-		0.766	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	C/CPIF	SAIC : Reston, VA	1.450	1.500	Nov 2021	1.521	Nov 2022	1.533	Nov 2023	-		1.533	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	C/CPFF	CSEA : Moorestown, NJ	0.000	1.500	Dec 2021	1.521	Dec 2022	1.533	Dec 2023	-		1.533	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	SS/CPIF	RSC (5128) : San Diego, CA	1.182	0.000		0.000		0.000		-		0.000	0.000	1.182	-
		Subtotal	348.253	23.079		23.401		23.588		-		23.588	Continuing	Continuing	N/A

Remarks

The FY2023 to FY2024 increase (+0.187M) is due to slight increase in required testing in FY2024

Accomplishments/Planned Programs

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	732.601	124.514		142.896		146.699		-		146.699	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

Ship Self Defense System Schedule

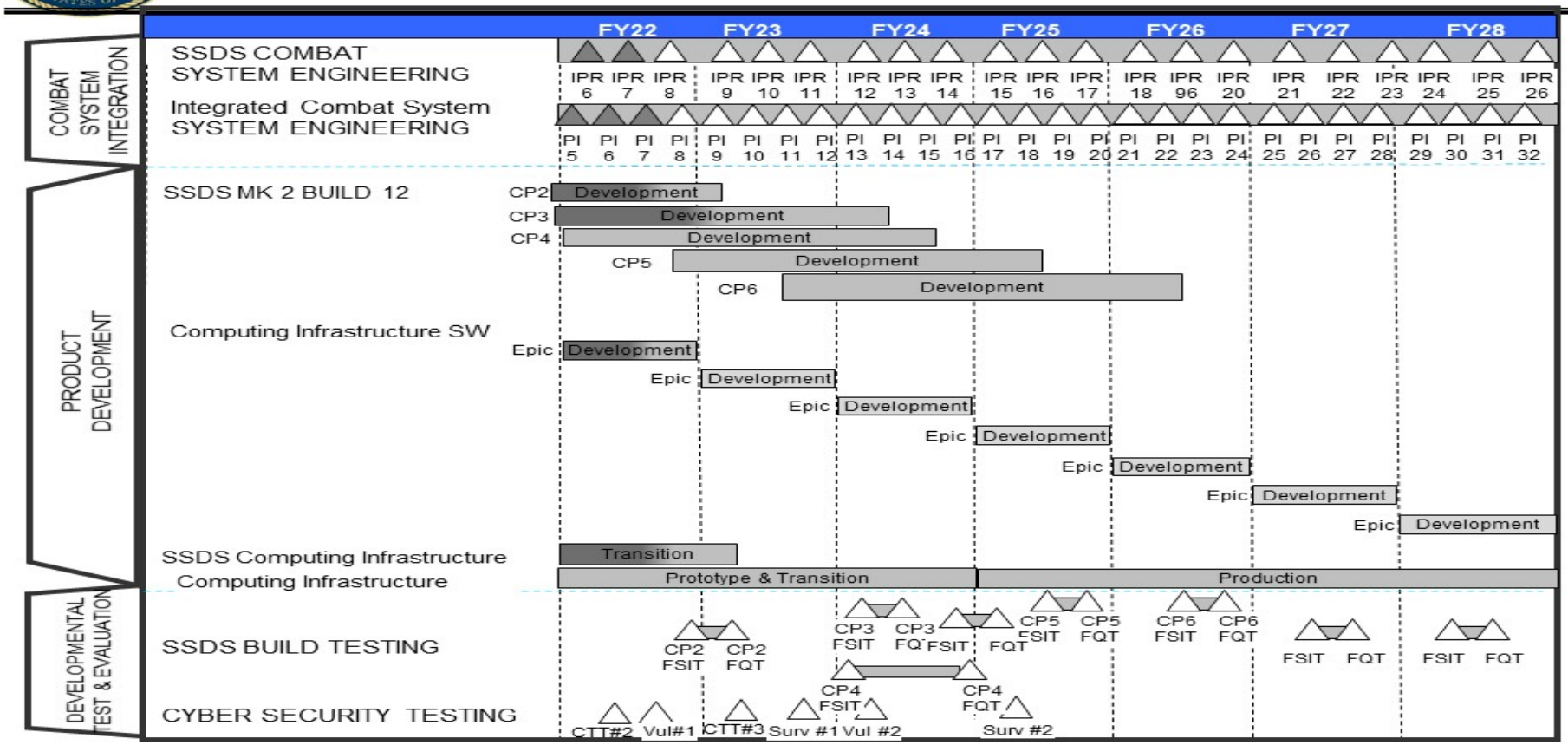

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2178				
SSDS MK 2 BUILD 12 - CP 3	1	2022	2	2024
SSDS MK 2 BUILD 12 - CP 4	1	2022	3	2024
COMPUTING INFRASTRUCTURE	1	2022	4	2028
SSDS MK 2 BUILD 12 - CP 5	3	2022	2	2025
* EPIC Development	1	2023	4	2023
SSDS MK 2 - IPR 10	3	2023	3	2023
SSDS MK 2 - IPR 11	4	2023	4	2023
PI 10	2	2023	2	2023
PI 11	3	2023	3	2023
PI 12	4	2023	4	2023
SSDS MK 2 BUILD 12 - CP 6	2	2023	2	2026
SSDS MK 2 BUILD TEST - CP 3 FSIT	1	2024	1	2024
SSDS MK 2 BUILD TEST - CP 3 FQT	3	2024	3	2024
SSDS MK 2 BUILD TEST - CP 4 FSIT	1	2024	1	2024
SSDS MK 2 BUILD TEST - CP 4 FQT	4	2024	4	2024
CYBER SECURITY TESTING - Surv # 1	4	2023	4	2023
# EPIC Development	1	2024	4	2024
SSDS MK 2 - IPR 12	1	2024	1	2024
SSDS MK 2 - IPR 13	3	2024	3	2024
SSDS MK 2 - IPR 14	4	2024	4	2024
PI 13	1	2024	1	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
PI 14	2	2024	2	2024
PI 15	3	2024	3	2024
PI 16	4	2024	4	2024
SSDS MK 2 BUILD TEST - CP 5 FSIT	2	2025	2	2025
SSDS MK 2 BUILD TEST - CP 5 FQT	3	2025	3	2025
CYBER SECURITY TESTING - Vul # 2	2	2024	2	2024
CYBER SECURITY TETSTING - SURV # 2	2	2025	2	2025
EPIC Development *	1	2025	4	2025
SSDS MK 2 - IPR 15	1	2025	1	2025
SSDS MK 2 - IPR 16	3	2025	3	2025
SSDS MK 2 - IPR 17	4	2025	4	2025
PI 17	1	2025	1	2025
PI 18	2	2025	2	2025
PI 19	3	2025	3	2025
PI 20	4	2025	4	2025
SSDS MK 2 BUILD TEST - CP 6 FSIT	2	2026	2	2026
SSDS MK 2 BUILD TEST - CP 6 FQT	3	2026	3	2026
EPIC Development @	1	2026	4	2026
SSDS MK 2 - IPR 18	1	2026	1	2026
SSDS MK 2 - IPR 19	3	2026	3	2026
SSDS MK 2 - IPR 20	4	2026	4	2026
PI 21	1	2026	1	2026
PI 22	2	2026	2	2026
PI 23	3	2026	3	2026
PI 24	4	2026	4	2026

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SSDS MK 2 BUILD TEST - FSIT	4	2024	4	2024
SSDS MK 2 BUILD TEST - FQT	1	2025	1	2025
+ EPIC Development	1	2027	4	2027
SSDS MK 2 - IPR 21	1	2027	1	2027
SSDS MK 2 - IPR 22	3	2027	3	2027
SSDS MK 2 - IPR 23	4	2027	4	2027
PI 25	1	2027	1	2027
PI 26	2	2027	2	2027
PI 27	3	2027	3	2027
PI 28	4	2027	4	2027
#SSDS MK 2 BUILD TEST -- FSIT	2	2027	2	2027
#SSDS MK 2 BUILD TEST -- FQT	3	2027	3	2027
#EPIC Development	1	2028	1	2028
SSDS MK 2 - IPR 24	1	2028	1	2028
SSDS MK 2 - IPR 25	3	2028	3	2028
SSDS MK 2 - IPR 26	4	2028	4	2028
PI 29	1	2028	1	2028
PI 30	2	2028	2	2028
PI 31	3	2028	3	2028
PI 32	4	2028	4	2028
#SSDS MK 2 BUILD TEST -- FSIT FY28	2	2028	2	2028
#SSDS MK 2 BUILD TEST -- FQT FY28	3	2028	3	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 3172 / *Joint Non-Lethal Weapons*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3172: *Joint Non-Lethal Weapons*	25.589	3.083	3.798	3.580	-	3.580	3.223	3.283	3.347	3.417	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Develop non-lethal weapon systems in support of anti-terrorism/force protection missions. Technologies include, but are not limited to: ocular interrupters, vessel propeller occlusion systems, and acoustic hailing devices. Current efforts are focused on the Long-Range Ocular Interrupter (LROI), Maritime Vessel Stopping (MVS) technologies, and Acoustic Hailing Devices (AHD).

The LROI is intended to provide the U.S. Navy with the capability to deliver a bright light producing a dazzling or glare effect on a closing target to warn and/or suppress potential threats through increasing levels of visual degradation. LROI will generate a non-lethal, eye safe laser that will provide warning and suppression effects. The extended range capability of LROI will effectively increase tactical decision-making time in support of escalation of force (EoF) tactics, techniques and procedures (TTP) across a broad range of military operations (ROMO). Further, the LROI will enhance Joint Force operations in determining the intent of a potential threat as early as possible.

The MVS technologies are systems designed to temporarily disable, slow, or stop waterborne vessels of varying degrees of size and different propulsion types in order to effectively execute escalation of force and intent determination procedures. The MVS technologies will provide the U.S. Navy with lightweight, compact, and reversible solution which will stop or slow marine platforms by occlusion of any type of marine propeller or propulsion.

Acoustic Hailing Devices project intelligible speech out to extended ranges. In addition to long-range projection of speech for warning or instructional purposes, the devices are also capable of transmitting loud tones that can distract or deter personnel from approaching U.S. positions or vessels.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Joint Non-Lethal Weapons Development	3.083	3.798	3.580	0.000	3.580
Articles:	-	-	-	-	-
FY 2023 Plans: The NNLE program will prioritize the development and testing of synthetic materials for Maritime Vessel Stopping. Studies and analysis will be conducted on the ability to industrialize the manufacturing of synthetic materials to scale. Development of packaging and deployment methods for synthetic material will begin. Small scale testing will continue on propulsion systems and at-sea testing will occur, contingent upon sufficient					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
synthetic material being available for testing. LROI system will be conducted to ensure efficacy of system ranging capability. ***FY 2024 Base Plans:*** The NNLE program will prioritize the development and testing of synthetic materials for Maritime Vessel Stopping. Studies of the industrialization of synthetic slime manufacturing will be analyzed. Development of packaging and deployment methods for synthetic material will begin, including at-sea testing. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease in funding due to Maritime Vessel Stopping synthetic material concluding evaluation and testing of industrial capacity to produce synthetic material at scale required for at-sea testing and future fielding. Continuing efforts will focus on at-sea testing, development of packaging options, and assessment of deployment options.					
Accomplishments/Planned Programs Subtotals	3.083	3.798	3.580	0.000	3.580

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Navy Non-Lethal Effects (NNLE) Family of Systems (FoS) ACAT IVM Program of Record will focus on development efforts on the Maritime Vessel Stopping and technical data and logistics development for LROI.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering NNLE	WR	NSWC Panama City : Panama City, FL	6.075	1.717	Nov 2021	2.326	Dec 2022	1.981	Dec 2023	-		1.981	Continuing	Continuing	Continuing
System Engineering NNLE	WR	NSWC Dahlgren : Dahlgren, VA	17.841	0.300	Jan 2023	0.248	Dec 2022	0.448	Oct 2023	-		0.448	Continuing	Continuing	Continuing
		Subtotal	23.916	2.017		2.574		2.429		-		2.429	Continuing	Continuing	N/A

Remarks

FY23 to FY24 decrease -$0.145M due to completion of vessel drogue and Long Range Ocular Interrupter systems engineering efforts.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	NSWC Panama City : Panama City, FL	0.404	0.657	Nov 2021	0.624	Dec 2022	0.551	Dec 2023	-		0.551	0.000	2.236	-
Developmental Test & Evaluation (DT&E)	WR	NSWC Crane : Crane, IN	0.800	0.000		0.000		0.000		-		0.000	0.000	0.800	-
		Subtotal	1.204	0.657		0.624		0.551		-		0.551	0.000	3.036	N/A

Remarks

Decrease of -$0.073M due to adjusted cost estimate of Marine Vessel Stopping test and evaluation in FY24. Marine Vessel Stopping packaging and deployment method solution testing begins in FY24.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management NNLE	WR	NSWC Panama City : Panama City, FL	0.125	0.409	Nov 2021	0.600	Dec 2022	0.600	Dec 2023	-		0.600	0.000	1.734	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management VAS	WR	NSWC Crane : Crane, IN	0.344	0.000		0.000		0.000		-		0.000	0.000	0.344	-
		Subtotal	0.469	0.409		0.600		0.600		-		0.600	0.000	2.078	N/A

Remarks

Long Range Ocular Interrupter delivery order 2 fielding occurs in FY24, sunset and disposition of existing fielded systems managed in parallel with fielding.

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.589	3.083		3.798		3.580		-		3.580	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

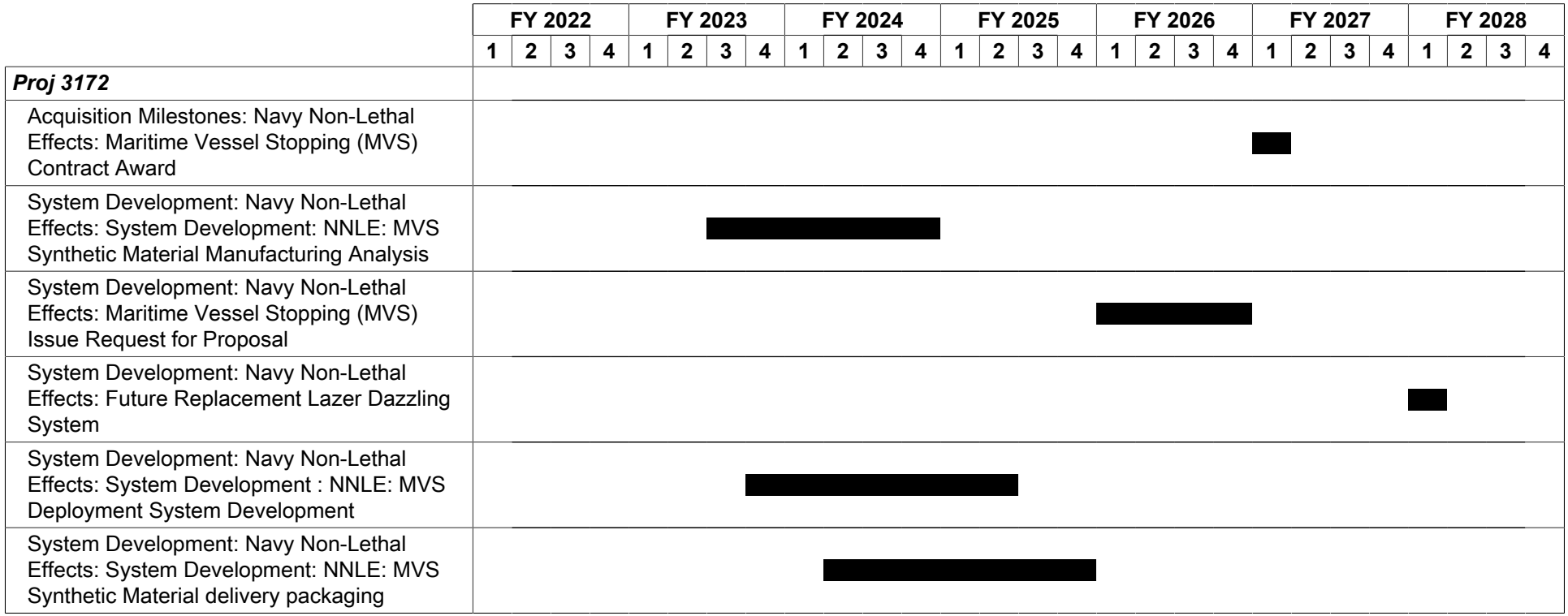

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3172				
Acquisition Milestones: Navy Non-Lethal Effects: Maritime Vessel Stopping (MVS) Contract Award	1	2027	1	2027
System Development: Navy Non-Lethal Effects: System Development: NNLE: MVS Synthetic Material Manufacturing Analysis	3	2023	4	2024
System Development: Navy Non-Lethal Effects: Maritime Vessel Stopping (MVS) Issue Request for Proposal	1	2026	4	2026
System Development: Navy Non-Lethal Effects: Future Replacement Lazer Dazzling System	1	2028	1	2028
System Development: Navy Non-Lethal Effects: System Development : NNLE: MVS Deployment System Development	4	2023	2	2025
System Development: Navy Non-Lethal Effects: System Development: NNLE: MVS Synthetic Material delivery packaging	2	2024	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 3358 / *SSDS Training Improvement Program*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3358: *SSDS Training Improvement Program*	43.599	11.983	9.732	8.147	-	8.147	13.639	11.939	9.755	9.536	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

SSDS Training Improvement Program provides enhancements and upgrades to the SSDS Total Ship Training Capability (TSTC) components within the combat system, combat system elements, Battle-Force Tactical Training (BFTT), and Advanced Training Domain (ATD) to address needs for increased training capability and functionality in conjunction with SSDS MK2 incremental capability packages, Far-Term Interoperability Improvement Project (FTIIP), Task Force Cyber Awakening (TFCA) Boundary Defense Capability (BDC), and Technical Insertion efforts under PU 2178 (QRCC). These enhancements will address current and future training requirements by implementing new functionality to enable the individual warfighter through distributed battle group events to engage in more complex training requirements to support fleet required training certification events. Capability Development and integration are related to Self Defense, Underwater, Surface, and other warfare areas. Capability enhancements and upgrades include development of re-useable common components that can be leveraged by SSDS MK2 combat systems, and/or integration of re-usable common components developed by the TSTC/BFTT Program and AEGIS Advanced Training Domain (ATD)/TSTC Total Ship Training Capability (TSTC) projects to meet AEGIS combat system training requirements. TSTC continues to integrate and update, as new tactical capabilities are being introduced, to enable crew operator proficiency training for basic and sustainment level training events, through distributed strike group certification fleet synthetic training (FST) events and including COMPTUEX FST at-Sea integration into Live, Virtual and Constructive (LVC) environment. Continued Development is required to integrate new capabilities and interfaces to provide training for AEGIS and SSDS combat system capability upgrades, and to address the Fleet's Live, Virtual and Constructive (LVC) Fleet Training Wholeness initiative. Additionally, modernization is needed to support the DoD Training Transformation Plan, the Chief of Naval Operations Fleet Response Plan and Commander United States Fleet Forces Command Fleet Readiness Training Plan. Ships Defense Simulator upgrade developments to provide new capability for Operator training.

The Advanced Training Domain (ATD) is being developed to combine BFTT and the AEGIS Combat Training System (ACTS) into a common system that integrates with AEGIS BL 9.2.2AF, and SSDS BL 12xAF. ATD is being hosted along with the AEGIS and SSDS combat system on TI-16 common processing and display hardware. ATD is being designed to be the core of the Total Ship Training Capability, and is projected to be more reliable, simpler to use, and architecturally extensible to meet interoperability and capability enhancement challenges in the future.

BFTT is being updated to maintain integration and capability enhancements developed for the Cooperative Engagement Capability (CEC), Surface Electronic Warfare Improvement Program (SEWIP), and the Carrier Tactical Support Center (CV-TSC), and SSDS Fire Control Loop Improvement Program.

TSTC provides realistic joint warfare training across the spectrum of armed conflict, realistic unit level team training in all warfare areas (e.g. NIFC-CA and BMD missions to support IAMD). TSTC provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organization, the Tactical Training Groups and C2F/C3F FST/LVC events.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

Continue develop and integrate MH-60R simulator to enable embedded shipboard training in support of basic and sustainment training, as well as establishes the pathway to support pier-side Fleet Synthetic Training (FST) events.

Continue development and integration of Cooperative Engagement Capability (CEC) Enhanced Training (CET) to support basic and sustainment level training, as well as provide ability to distribute and establish CEC data link during pier-side fleet synthetic training exercises. CET is an enabler for proficiency training of NIFC-CA capability.

Complete development of Identification Friend or Foe (IFF) simulator to enable training of Modes 1, 2, 3A, 4, C, 5 and S on both AEGIS and SSDS ships. Capability will enable training of AEGIS and SSDS IFF MODE 5/S, and address Mode 4 Inoculation.

Develop and integrate commensurate training improvements to SSDS ACB 20 for Enhanced Sea Sparrow Missile (ESSM) and Electronic Warfare (EW) tactical improvements.

Integrate Navy Continuous Training Environment (NCTE) networking and cyber security upgrades to maintain authorization to participate in distributed shipboard training events.

TSTC integrated on SSDS provides the capability to complete system and operational level testing of the combat system.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: SSDS Total Ship Training Capability	11.983	9.732	8.147	0.000	8.147
Articles:	-	-	-	-	-
FY 2023 Plans: -Complete LVC SPQ-9B sensor improvements for SSDS MK2, allowing for Real vs. Synthetic target discrimination at the sensor level. -Continue AN/SPS-73(V)18 and AN/SPS-48G with the Training Sensor Interface LVC sensor improvements for SSDS MK2, allowing for Real vs. Synthetic target discrimination at the sensor level. (Extended into FY24. Interface is dependent on tactical interface integration.) -Continue AN/SPY-6 training integration. (Extended into FY24. Interface is dependent on tactical interface integration.) -Continue integration of Advanced Training Domain (ATD) for SSDS BL 12.x. Continue integration with SSDS BL12 with TI12, TI12H, and TI16 when appropriate ICDs developed.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Continue integration and testing of Strike Group Cooperative Engagement Capability (CEC) Underway capability onto SSDS Combat Systems Baselines. (Extended into FY24. Interface is dependent on tactical interface integration.) -Complete integration, testing and certification for Identification Friend or Foe (IFF) simulation capability coordinating impacted Program Offices to enable training of Modes 1, 2, 3A, 4, C, 5 and S on both AEGIS and SSDS ships. Capability will enable training of AEGIS and SSDS IFF MODE 5/S, and address Mode 4 Inoculation. -Continue Anti-Submarine Warfare (ASW) Training improvements with CV-TSC FCR 5 to support multi-warfare integrated training on SSDS, including the MH-60R Simulator supporting dual-helo operations and integration with the electronic warfare system, SLQ-32(V)6. Support MH-60R Sim capability enhancements for AOEW when funded. (Extended into FY24. Interface is dependent on tactical interface integration.) -Test LINK 16 TADIL capability for training to allow simulated LINK 16 message transmission between the training domain to the SSDS combat system supporting Digital Air Control and particularly AOEW training simulation when funded. -Continue integration of ATD with the SLQ-32(V) 7 training capability. The introduction of SLQ-32(V) 7 on SSDS may defer the need for this capability. -Complete requirements for Phase 1 of PHALANX Close-In Weapon System (CIWS) simulation capability with SSDS Build 12.X. to include integration of the OASIS CIWS Simulator in support of Fire Control Loop Modernization (FCLM) in SSDS BL12 CP4. -Continue integration of upgrades to ATD to support training for RAM 2B and ESSM Blk 2 with SSDS. (Extended into FY24. Interface is dependent on tactical interface integration.) ***FY 2024 Base Plans:*** -Complete AN/SPS-73(V)18 and AN/SPS-48G with the Training Sensor Interface LVC sensor improvements for SSDS MK2, allowing for Real vs. Synthetic target discrimination at the sensor level.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Complete training integration with AN/SPY-6. -Continue integration of Advanced Training Domain (ATD) with SSDS BL12 with TI12, TI12H, and TI16. -Complete integration and testing of Strike Group Cooperative Engagement Capability (CEC) Underway capability onto SSDS Combat Systems Baselines. -Complete Anti-Submarine Warfare (ASW) Training improvements with CV-TSC FCR 5 to support multi-warfare integrated training on SSDS, including the MH-60R Simulator supporting dual-helo operations and integration with the electronic warfare system, SLQ-32(V)6. Support MH-60R Sim capability enhancements for AOEW when funded. -Continue Test LINK 16 TADIL capability for training to allow simulated LINK 16 message transmission between the training domain to the SSDS combat system supporting Digital Air Control and particularly AOEW training simulation. -Complete integration of ATD with the SLQ-32(V) 7 training capability. -Complete integration of upgrades to ATD to support training for RAM 2B and ESSM Blk 2 with SSDS. -Develop requirements and Concepts of Integration (COI) for potential future training capabilities for Joint Strike Fighter, Naval Strike Missile on SSDS, CAC2S, NightStalker, and CRDC/ARDC Defense capability. -Develop requirements and Concepts of Integration (COI) for potential future training capabilities for Joint Strike Fighter, Naval Strike Missile on SSDS, CAC2S, NightStalker, and CRDC/ARDC Defense capability. -Update training curriculum as new capability packages are developed. -Continue to update/deliver SSDS Tactical Virtualized Operator Trainer (VOT) as new capability packages are developed					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntr l)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 $1.585M decrease due to completion of SPQ-9B integration and $2M reduction which rephrased funding to FY25 and FY26 delaying the Phase 2 of PHALANX Close-In Weapon System (CIWS) simulation capability with SSDS Build 12.X					
Accomplishments/Planned Programs Subtotals	11.983	9.732	8.147	0.000	8.147

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTEN/0204571N/1427: *Surface Tactical Team Trainer (PU 1427)*	30.322	13.721	33.057	-	33.057	56.108	43.786	25.779	24.878	Continuing	Continuing
• RDTEN/0604307N/3357: *AEGIS Training Improv. Prog. (PU 3357)*	6.932	6.379	8.187	-	8.187	11.105	10.009	7.688	7.484	Continuing	Continuing

Remarks

D. Acquisition Strategy

For the SSDS MK2 software development, including the integration of TSTC software improvements and the TI-16 Open Architecture Computing Environment, the acquisition strategy identified for SSDS MK2 for QRCC Project (PU 2178) (R-2A exhibit) applies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSTC SME Plan & Prep	WR	NSWC CN : Corona, CA	1.137	0.916	Nov 2021	0.000		0.000		-		0.000	0.000	2.053	-
TSTC Sys Eng	WR	NSWC DD : Dahlgren, VA	3.883	1.793	Nov 2021	1.327	Nov 2022	1.058	Nov 2023	-		1.058	0.000	8.061	-
TSTC Sys Eng	WR	CDSA DN : Dam Neck, VA	2.286	0.000		0.000		0.000		-		0.000	0.000	2.286	-
TSTC Sys Eng / Integration	C/CPIF	Raytheon (4112) : Suffolk, VA	1.430	0.000		0.000		0.000		-		0.000	0.000	1.430	-
TSTC FTW FCLIP / CSEA	C/CPIF	CSEA contract : Moorestown NJ	7.432	3.262	Dec 2021	0.408	Dec 2022	0.326	Dec 2023	-		0.326	0.000	11.428	-
TSTC TDL Gateway	C/CPIF	SPAWAR PMW 150 : San Diego, CA	0.421	0.000		0.000		0.000		-		0.000	0.000	0.421	-
TSTC Sys Eng / PSEA	SS/CPIF	RSC (5128) : San Diego, CA	5.018	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TSTC Sys Eng / MH-60R Training Capability	WR	Keyport (NUWC) : Keyport, RI	1.159	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
TSTC Planning Support	C/CPIF	TMB : Washington, DC	0.025	0.000		0.000		0.000		-		0.000	0.000	0.025	-
TSTC ATD	TBD	IWS 1.0 : Washington, DC	8.349	3.165	Dec 2021	2.449	Dec 2022	1.953	Dec 2023	-		1.953	0.000	15.916	-
TSTC ESSM BLK2/EW Upgrades	TBD	Various : Various	4.050	0.000		0.000		0.000		-		0.000	0.000	4.050	-
TSTC EW	TBD	IWS 2.0 : Washington, DC	1.206	0.000		0.000		0.000		-		0.000	0.000	1.206	-
TSTC NCTE	WR	Corona(NSWC) : Corona, CA	0.405	0.000		0.000		0.000		-		0.000	0.000	0.405	-
TSTC GWS	TBD	IWS 3.0 : Washington, DC	0.041	0.000		0.000		0.000		-		0.000	0.000	0.041	-
TSTC FTW SENSOR	TBD	PEO IWS 2.0 : Washington, DC	3.489	0.724	Dec 2021	0.000		0.000		-		0.000	0.000	4.213	-
TSTC FTW / STRIKE CEC	TBD	PEO IWS 6.0 : Washington, DC	2.004	1.640	Dec 2021	0.816	Dec 2022	0.650	Dec 2023	-		0.650	0.000	5.110	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSTC FTW ASW	TBD	PEO IWS 5.0 : Washington, DC	1.264	0.483	Dec 2021	0.612	Dec 2022	0.487	Dec 2023	-		0.487	0.000	2.846	-
TSTC Training	C/CPIF	CSEA Contract : Moorestown NJ	0.000	0.000	Dec 2021	2.691	Dec 2022	2.534	Dec 2023	-		2.534	0.000	5.225	-
TSTC Training	WR	NSWC PHD : Port Hueneme CA	0.000	0.000	Dec 2021	1.429	Dec 2022	1.139	Dec 2023	-		1.139	0.000	2.568	-
		Subtotal	43.599	11.983		9.732		8.147		-		8.147	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.599	11.983		9.732		8.147		-		8.147	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

Ship Self Defense System Schedule

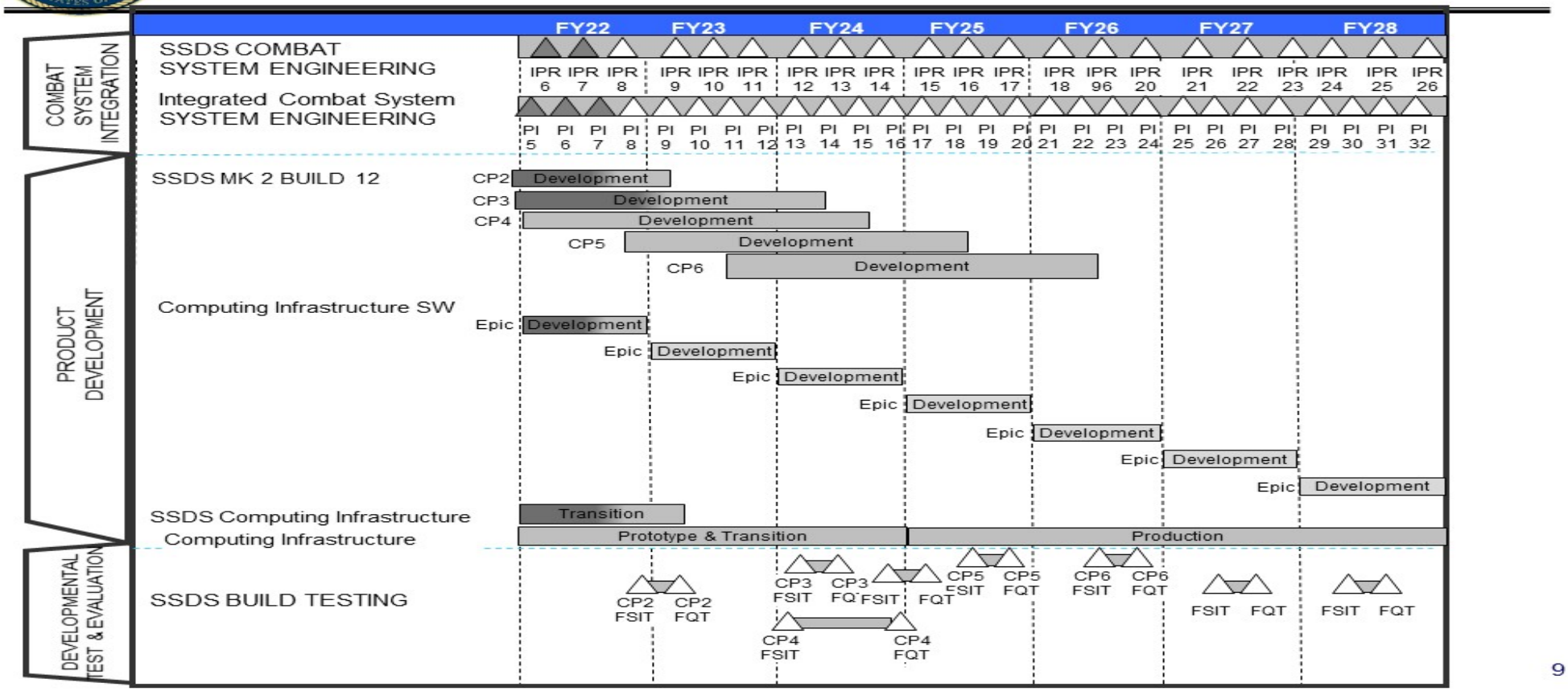

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntr l)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3358				
SSDS MK 2 BUILD 12 - CP 3	1	2022	2	2024
SSDS MK 2 BUILD 12 - CP 4	1	2022	3	2024
COMPUTING INFRASTRUCTURE	1	2022	4	2028
SSDS MK 2 BUILD 12 - CP 5	3	2022	2	2025
EPIC Development FY23	1	2023	4	2023
SSDS MK 2 - IPR 10	3	2023	3	2023
SSDS MK 2 - IPR 11	4	2023	4	2023
PI 10	2	2023	2	2023
PI 11	3	2023	3	2023
PI 12	4	2023	4	2023
SSDS MK 2 BUILD 12 - CP 6	2	2023	2	2026
SSDS MK 2 BUILD TEST - CP 3 FSIT	1	2024	1	2024
SSDS MK 2 BUILD TEST - CP 3 FQT	3	2024	3	2024
SSDS MK 2 BUILD TEST - CP 4 FSIT	1	2024	1	2024
SSDS MK 2 BUILD TEST - CP 4 FQT	4	2024	4	2024
EPIC Development FY24	1	2024	4	2024
SSDS MK 2 - IPR 12	1	2024	1	2024
SSDS MK 2 - IPR 13	3	2024	3	2024
SSDS MK 2 - IPR 14	4	2024	4	2024
PI 13	1	2024	1	2024
PI 14	2	2024	2	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
PI 15	3	2024	3	2024
PI 16	4	2024	4	2024
SSDS MK 2 BUILD TEST - CP 5 FSIT	2	2025	2	2025
SSDS MK 2 BUILD TEST - CP 5 FQT	3	2025	3	2025
EPIC Development FY25	1	2025	4	2025
SSDS MK 2 - IPR 15	1	2025	1	2025
SSDS MK 2 - IPR 16	3	2025	3	2025
SSDS MK 2 - IPR 17	4	2025	4	2025
PI 17	1	2025	1	2025
PI 18	2	2025	2	2025
PI 19	3	2025	3	2025
PI 20	4	2025	4	2025
SSDS MK 2 BUILD TEST - CP 6 FSIT	2	2026	2	2026
SSDS MK 2 BUILD TEST - CP 6 FQT	3	2026	3	2026
EPIC Development FY26	1	2026	4	2026
SSDS MK 2 - IPR 18	1	2026	1	2026
SSDS MK 2 - IPR 19	3	2026	3	2026
SSDS MK 2 - IPR 20	4	2026	4	2026
PI 21	1	2026	1	2026
PI 22	2	2026	2	2026
PI 23	3	2026	3	2026
PI 24	4	2026	4	2026
SSDS MK 2 BUILD TEST - FSIT	4	2024	4	2024
SSDS MK 2 BUILD TEST - FQT	1	2025	1	2025
EPIC Development FY27	1	2027	4	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntr l)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SSDS MK 2 - IPR 21	1	2027	1	2027
SSDS MK 2 - IPR 22	3	2027	3	2027
SSDS MK 2 - IPR 23	4	2027	4	2027
PI 25	1	2027	1	2027
PI 26	2	2027	2	2027
PI 27	3	2027	3	2027
PI 28	4	2027	4	2027
SSDS MK 2 BUILD TEST -- FSIT	2	2027	2	2027
SSDS MK 2 BUILD TEST -- FQT	3	2027	3	2027
#EPIC Development	1	2028	4	2028
SSDS MK 2 - IPR 24	1	2028	1	2028
SSDS MK 2 - IPR 25	3	2028	3	2028
SSDS MK 2 - IPR 26	4	2028	4	2028
PI 29	1	2028	1	2028
PI 30	2	2028	2	2028
PI 31	3	2028	3	2028
PI 32	4	2028	4	2028
#SSDS MK 2 BUILD TEST -- FSIT	2	2022	2	2028
#SSDS MK 2 BUILD TEST -- FQT	3	2028	3	2028