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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	4,850.187	346.832	331.820	347.233	-	347.233	373.469	331.252	286.325	277.134	Continuing	Continuing
1447: <i>Surf Combatant Combat System Imp</i>	4,788.562	338.272	324.802	340.854	-	340.854	367.864	326.025	281.068	271.789	Continuing	Continuing
3357: <i>Aegis Training Improvement Program</i>	61.625	8.560	7.018	6.379	-	6.379	5.605	5.227	5.257	5.345	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 180

Note

The FY 2023 funding request was reduced by \$20.155 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

This project delivers Cruiser and Destroyer AEGIS Combat System (ACS) upgrades and integrates new capabilities to rapidly enhance the combat capabilities of the AEGIS Fleet in order to confront an increasing array of strategic, operational, and tactical challenges.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	357.530	371.575	0.000	-	0.000
Current President's Budget	346.832	331.820	347.233	-	347.233
Total Adjustments	-10.698	-39.755	347.233	-	347.233
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-39.755			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-10.698	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	-	-	347.233	-	347.233

Change Summary Explanation

The Total K1447 Control Adjustments for FY 2021 are as follows:

FY 2021 funding request was reduced by \$10.590M for Small Business Innovation Research (SBIR) Withholds.

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The Total K3357 Control Adjustments for FY 2021 are as follows:
FY 2021 funding request was reduced by \$0.107M for SBIR Withholds.

CP 2023 capabilities realigned to deliver with CP 2024 to support USS PINCKNEY (DDG 91) SEWIP BLK III installation and At-SEA Test Schedule.

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

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>				Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>			
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
1447: <i>Surf Combatant Combat System Imp</i>	4,788.562	338.272	324.802	340.854	-	340.854	367.864	326.025	281.068	271.789	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 180												

A. Mission Description and Budget Item Justification

AEGIS BL 10 2024 will provide critical warfighter improvements to the AEGIS Flight (FLT) III Destroyers. AEGIS BL 10 2024 combat system development efforts include integration of the Air and Missile Defense Radar (AMDR) SPY-6 while building upon AEGIS BL 9 to form the foundation for the AEGIS FLT III DDG Combat System. Delivers subset of previous BL 9 CSL capabilities plus Air and Missile Defense Radar (AMDR) SPY-6; Mk 160 Gun Combat System (GCS) concurrent engagements; Close in Weapon System (CIWS) sensor integration; Tactical Data Link (TDL) J3.4 message; and BMD 6.0. Fields to new construction FLT III DDG beginning FY24 in support of Air and Missile Defense Commander fleet requirement.

AEGIS BL 10 2026 will provide critical warfighter performance improvements to the AEGIS FLT III Destroyers. AEGIS BL 10 2026 combat system development efforts include integration of the Air and Missile Defense Radar (AMDR) SPY-6 performance updates, BMD6.0.1, MK6 Mod1, and Cyber updates. Fields to new construction FLT III DDG beginning FY26 in support of Air and Missile Defense Coordinator fleet requirement, BMD Flight Test Missions, and Full/Fully Operational Capability (FOC).

SPY-6 Backfit delivers improved Integrated Air and Missile Defense capabilities to select FLT IIA DDGs with the integration of a modified SPY radar variant. First SPY-6 backfit will be on USS PINKNEY (DDG 91) in 2027.

AEGIS BL 9 2020 delivers previous Common Source Library (CSL) capabilities plus Surface Electronic Warfare Improvement Program (SEWIP) Bk II integration (early Hard Kill / Soft Kill (HK/SK) coordination, Advanced Off-Board Electronics Warfare (AOEW) communication, & radar-cued engagement); Evolved Sea Sparrow Missile (ESSM) Bk 2 functional capability; Identify Friend or Foe (IFF) Modes 5 (objective design, S, & SIM); NIFC 2019; NIFC Collateral III; Agile Thunder; TACAIR Phase 1; and BMD 5.1.3 (MDA-developed - SBT Inc 2 CU, Space Domain Awareness, Designated Engagement, Hypersonic Vehicle ICP mitigation, Mid-term discrimination, LRBM acceleration, and Ballistic Missile Defense (BMD) engagement control).

AEGIS BL 9 2021 delivers previous Common Source Library (CSL) capabilities plus SEWIP Bk II integration (auto association); MH-60R integration; Advanced Training Doman; Boundary Defense Capability; Integrated Air and Missile Defense (IAMD) mission planner; Above Water Sensor Coordinator; Agile Moondog, Sirocco, Sundog part 1, Silent Squall part 1, & Vortex; Advanced Calibration Experiment; Cyber enhancements (cyber resource services, boundary proxy service, SIEM, network device integrity, update manager); and BMD 5.1.3.1 (MDA-developed - Missile Power Application Non-launch Phase 1 & SCUS update).

AEGIS Capability Package 2022 delivers previous CSL capabilities plus MMSP-Restoration (AMOD DDG only); ALPS; HELIOS; SM-2 Bk IIIC initial capability; Agile Firestorm; Mk 38 Mod 4 EOSS integration; and BMD 5.1.4 (MDA-developed - expanded threat space w/ SM-3 Bk IIA, hypersonic tracking, MPAN phase 2).

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<p>AEGIS Capability Package 2023 capabilities realigned to deliver with CP 2024 to support USS PINCKNEY (DDG 91) SEWIP Blk 3 installation and at-sea test schedule.</p> <p>AEGIS Capability Package 2024 captures additional warfighting improvements to include Elevated Radar Advanced Experiment (ERACE) integration, SEWIP BLK 3 Test Certification, HyDRA to deliver improved capability to counter hypersonic threats using existing Anti-Aircraft Warfare (AAW) weapons, Next Generation Surface Search Radar (NGSSR) Integration, CEC BLK II Integration, urgent fleet needs, and the following BMD capabilities; integration of SBT Inc 3, Expanded Hypersonic Track and Report, Expanded AEGIS BMD Threat Space, Expanded Active Bias, Expanded Boost Phase Communications, and Warfighter enhancements.</p> <p>SEWIP BLK III Integration brings non-kinetic electronic attack capability into the AEGIS Weapons Systems inventory expanding the number of threats the to the AEGIS Fleet can to counter. Electronic attack is a cornerstone capability that will meet the urgent operational needs of the Fleet as the pace and complexity of emerging threats continues to escalate.</p> <p>TASK FORCE CYBER AWAKENING effort assesses and delivers design improvements to AEGIS Combat System Computer Program and Hardware configurations to counter emerging cyber threats. These improvements are implemented within AEGIS Combat Systems configurations currently fielded and under development and include updates to Boundary Defense Components (BDC) and other Cyber Capability.</p> <p>AEGIS BL 5 2020 combines AEGIS BL 5 and BMD 4.1 into single AEGIS Computer Program enabling near simultaneous shift between AAW and BMD operations for the AEGIS FLT I/II DDGs (65-35 cost share MDA-Navy). Delivers SBT Inc 1 (SM-6); Agile Thunder, Sundowner, Prism, & Storm; NCC1; AAW Relaunch; AMIIP updates; Digital Air Control; IFF Mode 5/S; Advanced Calibration Experiment; and BMD 4.1.2 (MDA-developed). Fields to 21 DDG and 2 CG by FY23.</p> <p>AEGIS BL 5 2023 delivers Low Noise Amplifier (LNA) array integration, NGSSR integration; GPS-based Positioning, Navigation, and Timing Service (GPNT)S; Agile Sundog, Sirocco, Silent Squall, & Vortex; C2P tech refresh; and BMD 4.2 (MDA-developed - SBT Inc 2 CU, performance against hypersonic threats, increases BMD raid capacity, expands BMD threat set and ship operating areas, improves electronic attack mitigation techniques, and track support to downrange SBT engagements). Required to support first install planned in FY24.</p> <p>AEGIS BL 5 2024 delivers emergent update to address findings identified during underway testing of BL 5 2023.</p> <p>COMBAT SYSTEMS TEST BED (CSTB) will address the current limitations in AEGIS Modeling & Simulation highlighted by Director of Operations Test & Evaluation (DOT&E) in previous AEGIS baselines. Combat Systems Test Bed will provide Modeling and Simulation (M&S) during program test and evaluation to represent conceptual systems that do not exist and existing systems which cannot be subjected to actual environments due to safety requirements or resource limitations. The CSTB supports Demonstrated Test (DT) and Operational Test (OT) runs-for-record for AEGIS BL 9, DDG FLT III Initial Operating Capability (IOC) and Frigate BL 10 IOC.</p> <p>INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE (CI) provides the developmental efforts and prototypes to enable future delivery of Infrastructure-as-a Service (IaaS) in support of all Surface Combatants (e.g., LUSV, DDG, FFG-62, and DDG(X)). ICS Top Level Requirements (TLR) validated in</p>		

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the Initial Capabilities Document for the Future Surface Combatant Force. IaaS provides hatchable hardware abstracted from software, enabling upgrade outside modernization periods (agility) to more ships (capacity). The ICS CI is a foundational element of the surface Navy's Integrated Combat System supporting all future ship classes.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: AEGIS DEVELOPMENT SUPPORT	31.928	27.395	26.940	0.000	26.940
Articles:	-	-	-	-	-
<p>Description: AEGIS Development Support includes the following: AEGIS Technical Design Agent (TDA), AEGIS System Engineering, Commercial Off-the-Shelf (COTS), Obsolescence evaluation, AEGIS Development Site Operations and Maintenance, Small Business Innovation Research (SBIR), and Computer Program SW License Procurements.</p> <p>FY 2022 Plans: Continue to provide AEGIS System engineering evaluation of AEGIS Combat System performance and development of the AEGIS Capability Phasing Plan to ensure that warfighter improvements are implemented through future Combat System upgrades to meet emerging threats. These efforts are focused on defining future capability upgrades to the AEGIS Combat System. Conduct System Engineering review for Capability Package (CP) 2024/2025/2026 to evaluate current gaps and external weapon element updates available to address and determine most effective way to complete integration.</p> <p>Continue to provide AEGIS COTS Obsolescence to include evaluation of systems currently delivered as well as those under development. These updates are focused on replacing high failure rate components in addition to monitoring and resolving obsolescence issues for all AEGIS hardware configurations. Hardware configurations include: Q-70, TI-12, TI-12H, and MK 6 MOD 0 and MK 6 MOD 1.</p> <p>Continue to provide AEGIS Development Site Operation and Maintenance for the Land Based Test Sites (LBTS) ensures that adequate hours are available to support all planned AEGIS baseline development efforts. The LBTS include: Combat System Engineering Development Site (CSEDS), Program Generation Center (PGC), SPY-1A Test Facility (STF), Naval Systems Computing Center (NSCC), and Surface Combat System Center (SCSC). In FY22, these sites are supporting testing on BL 5 2023, CP 2022, CP 2024, ICS Prototype and BL 10 FLT III DDG and BL 10 SPY-6 Integration Testing.</p> <p>Continue to support the DevSecOps environment enabling Integrated Combat System to include the establishment of the</p>					

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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
<p>Forge, Cloud computing environment and software licenses required to support Continuous Development and Continuous Integration process.</p> <p>SBIR Withholds to support congressional law.</p> <p>FY 2023 Base Plans: Continue to provide AEGIS System engineering evaluation of AEGIS Combat System performance and development of the AEGIS Capability Phasing Plan to ensure that warfighter improvements are implemented through future Combat System upgrades to meet emerging threats. These efforts are focused on defining future capability upgrades to the AEGIS Combat System. Conduct System Engineering review for CP 2025/2026/2027 to evaluate current gaps and external weapon element updates available to address and determine most effective way to complete integration.</p> <p>Continue to provide AEGIS COTS Obsolescence to include evaluation of systems currently delivered as well as those under development. These updates are focused on replacing high failure rate components in addition to monitoring and resolving obsolescence issues for all AEGIS hardware configurations. Hardware configurations include: Q-70, TI-12, TI-12H, and MK 6 MOD 0 and MK 6 MOD 1.</p> <p>Continue to provide AEGIS Development Site Operation and Maintenance for the Land Based Test Sites (LBTS) ensures that adequate hours are available to support all planned AEGIS baseline development efforts. The LBTS include: Combat System Engineering Development Site (CSEDS), Program Generation Center (PGC), SPY-1A Test Facility (STF), Naval Systems Computing Center (NSCC), and Surface Combat System Center (SCSC). In FY23, these sites are supporting testing on BL 5 2023, CP 2022, CP 2024, ICS Prototype, BL 10 FLT III DDG and BL 10 SPY-6 Integration Testing(BL 10 2024, and BL 10 2026).</p> <p>Continue DevSecOps environment to support Integrated Combat System to include the operation and maintenance of the forge, Cloud computing environment and software licenses required to support Continuous Development and Continuous Integration process.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p>					

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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 2023 decrease due to manpower reduction savings.					
Title: AEGIS CRUISER BL 9 UPGRADES <p align="right">Articles:</p> <p>Description: Develops and delivers AEGIS Cruiser B L 9 upgrades. The Cruiser configuration of AEGIS BL 9 2020 captures additional warfighting improvements to include ESSM Blk 2 Functional, SEWIP - Early Hard Kill/ Soft Kill Coordination / Advanced Off-board Electronic Warfare communication, NIFC-CA Collateral III, NIFC-CA 2019, and National Technical Means integration with Agile Thunder.</p> <p>FY 2022 Plans: N/A</p> <p>FY 2023 Base Plans: N/A</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Effort Completed in FY21.</p>	24.300	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Title: AEGIS DESTROYER BL 9 UPGRADES <p align="right">Articles:</p> <p>Description: Develops and delivers AEGIS BL 9 Destroyer upgrades: AEGIS BL 9 2020 includes SEWIP BLK 2 (Phased - including Early Hard Kill/Soft Kill Coordination/Advanced Off-board Electronic Warfare communication/ Radar Cued Engagement), ESSM BLK 2 Functional, NIFC-CA 2019, NIFC Collateral III, ASToC (Agile Thunder), TACAIR Phase 1, and integration of IFF M4/5 SBT Inc II CU, Mid-Term discrimination, 9-State Boost Phase Communication, Space Domain Awareness and Designated Engagement. Computer Program installed on first ship USS HOWARD (DDG 83) in FY19.</p> <p>AEGIS BL 9 2021 includes SEWIP BLK 2 (Phased - Including Auto Association), Advanced Training Domain, MH-60R Integration, BOC, IAMD Mission Planner, Above Water Sensor Coordinator, Advanced Calibration Experiment (ACE), and ASToCs (Agile Sirocco, Moondog, Sundog Part 1, Silent Squall Part 1, and Vortex) and integration of Missile Power Application Non-Launch Inc I for SM-3 BLK IIA and Initial Active Sensor Bias.</p>	24.800	19.500	0.000	0.000	0.000
Articles:	-	-	-	-	-

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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
<p><i>FY 2022 Plans:</i> Continue to support the development and execution of DDG test plan in support of At-Sea Event to support the completion of BL 9 Test & Evaluation.</p> <p>Support At-Sea Test Event Execution and Post-Event data analysis required to field AEGIS BL 9 2021 on DDG 51, 53, 57, 116, and 122.</p> <p>Support Underway testing includes the following: Installation and checkout computer program Support Combat System Test events 1 and 2 Discrepancies investigation and resolution Test scenario development CSSQT planning CSSQT post event analysis (DDG 122 and 123) Support Developmental Testing (DT)</p> <p>Continue to test, evaluate and make updates to the Computer Program as required to address various hardware configurations and address critical issues identified that impact the operational effectiveness of the AEGIS Combat System.</p> <p>Transition to Sustainment.</p> <p><i>FY 2023 Base Plans:</i> N/A</p> <p><i>FY 2023 OCO Plans:</i> N/A</p> <p><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Decrease is due to the completion of BL 9 2021 testing and delivery in 2022.</p>					
<p><i>Title:</i> AEGIS CAPABILITY PACKAGE 2022</p> <p align="right"><i>Articles:</i></p>	49.200	51.400	14.700	0.000	14.700
	-	-	-	-	-

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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
<p>Description: AEGIS Capability Package 2022 captures additional warfighting improvements to include Multi-Mission Signal Processor Restoration, SM2-IIIC Functional Capability, integration of the AEGIS Linear Processor System (ALPS), ASToCs (Agile Sundog Part 2 and Silent Squall Part 2), and integration of MK 38 MOD 6 Gun Weapon System (GWS) Initial Capability, High Energy Laser with Optical-Dazzler and Surveillance (HELIOS), Expanded AEGIS BMD Threat Space, Hypersonic TADIL Upgrades, Electronic Attack / Electronic Protection Inc 1, MPAN Inc 2, AEGIS Ashore TI-12H Integration, and BMD Warfighter Improvements. Computer Program development is required to support AEGIS Light Off (ALO) on first ship installation on DDG 87 in the 2nd QTR FY21.</p> <p>FY 2022 Plans: AEGIS CP 2022-1 Combat System Certification Panel (CSCP) Q3 FY22</p> <p>Continue to support the incremental design, development and integration of Capability Package 2022, entering the Capability Package Phase 3 Combat System and Weapon Element Integration and continuing Level 3-5 Testing</p> <p>Continue to support incremental design, development and integration of AEGIS code for the following capabilities: Multi-Mission Signal Processor Restoration SM2-IIIC Functional Capability AEGIS Linear Processor System (ALPS) ASToCs (Agile Sundog Part 2 and Silent Squall Part 2)</p> <p>Continue to support the integration of the following capabilities: MK 38 MOD 6 Gun Weapon System (GWS) Initial Capability HELIOS Expanded AEGIS BMD Threat Space Hypersonic TADIL Upgrades Electronic Attack / Electronic Protection Inc 1 MPAN Inc 2 AEGIS Ashore TI-12H Integration BMD Warfighter Improvements</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue weapon system and subsystem integration and combat system test events to include test planning and analysis.					
Continue executing integration events, maintainability events, and stability events.					
Finalize training curriculum and documentation updates to reflect new capabilities. Continue to test and make computer program updates to address various hardware configurations and Weapon System Elements.					
Continue the development of DDG at-sea test plans to validate operational effectiveness of the above capabilities in support of at-sea test event execution and post event support efforts executed to field AEGIS CP 2022 on DDG 81, 84-89, 121-124 & 127 includes: Installation and checkout of computer program Combat System Test events 1 and 2 Discrepancy investigation and resolution Scenario development CSSQT planning DDG's 81, 85, 87 and 88					
Continue to develop and execute CG test plans in support of at-sea events. Support at-sea test event execution and post event data analysis required to field CP 2022 on CG 71.					
Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate remaining AEGIS CP 2022 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).					
Execute all Test activities and stimulation capability required to validate system functionality system interfaces, performance requirements, multi-unit interoperability and ensure system stability.					
Support Change Review Boards (CRB) to review computer program defects, characterize risk to system performance, and identify defect corrections.					

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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
Conduct Combat System certification activities required to support planned FY22 Certification.					
Conduct and maintain all risk management activities required to identify, mitigate and resolve critical risk that would impact the fielding of CP 2022.					
Continue to develop criteria evaluation metrics for technical and programmatic events in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRRs) as required to support the requirements of each milestone to ensure program success.					
Execute Combat System Safety Program to address all Weapon System Explosive Safety Review Board (WSESRB) requirements. Provide programmatic and technical leadership in a collaborative Navy and industry environment.					
Identify, test and fix critical issues identified that impact the operational effectiveness of the AEGIS Combat System.					
FY 2023 Base Plans: AEGIS CP 2022-2 Combat System Certification Panel (CSCP) Q1 FY23					
Continue to support the incremental design, development and integration of Capability Package 2022, entering the Capability Package Phase 4 Combat System Shipboard Testing, Final Certification and fielding					
Continue to support incremental design, development and integration of AEGIS code for the following capabilities: Multi-Mission Signal Processor Restoration SM2-IIIIC Functional Capability AEGIS Linear Processor System (ALPS) ASToCs (Agile Sundog Part 2 and Silent Squall Part 2)					
Continue to support the integration of the following capabilities: MK 38 MOD 6 Gun Weapon System (GWS) Initial Capability HELIOS					

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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
<p>Expanded AEGIS BMD Threat Space Hypersonic TADIL Upgrades Electronic Attack / Electronic Protection Inc 1 MPAN Inc 2 AEGIS Ashore TI-12H Integration BMD Warfighter Improvements</p> <p>Continue weapon system and subsystem integration and combat system test events to include test planning and analysis.</p> <p>Continue executing integration events, maintainability events, and stability events.</p> <p>Finalize training curriculum and documentation updates to reflect new capabilities. Continue to test and make computer program updates to address various hardware configurations and Weapon System Elements.</p> <p>Continue the development of DDG at-sea test plans in support of at-sea test event execution and post event support efforts executed to field AEGIS CP 2022 on DDG 81, 84-89, 121-124 & 127 includes: Installation and checkout of computer program Combat System Test events 1 and 2 Discrepancy investigation and resolution Scenario development CSSQT planning DDG's 81, 85, 87 and 88</p> <p>Continue to develop and execute Cruiser's (CG) test plans in support of at-sea events. Support at-sea test event execution and post event data analysis required to field CP 2022 on CG 71.</p> <p>Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate remaining AEGIS CP 2022 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).</p> <p>Execute all Test activities and stimulation capability required to validate system functionality system interfaces,</p>					

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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
<p>performance requirements, multi-unit interoperability and ensure system stability.</p> <p>Support Change Review Boards (CRB) to review computer program defects, characterize risk to system performance, and identify defect corrections.</p> <p>Conduct Combat System certification activities required to support planned FY22 Certification.</p> <p>Conduct and maintain all risk management activities required to identify, mitigate and resolve critical risk that would impact the fielding of CP 2022.</p> <p>Continue to develop criteria evaluation metrics for technical and programmatic events in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRRs) as required to support the requirements of each milestone to ensure program success.</p> <p>Execute Combat System Safety Program to address all Weapon System Explosive Safety Review Board (WSESRB) requirements. Provide programmatic and technical leadership in a collaborative Navy and industry environment.</p> <p>Identify, test and fix critical issues identified that impact the operational effectiveness of the AEGIS Combat System.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Decrease is due to completion of development and certification of CP 2022 in FY22.</p>					
<p>Title: AEGIS CAPABILITY PACKAGE 2023</p> <p align="right">Articles:</p> <p>Description: AEGIS Capability Package 2023 captures additional warfighting improvements to include ERACE integration, Urgent Fleet Needs (CPCR Updated), and integration of SBT Inc 3, Expanded Hypersonic Track and Report, Expanded AEGIS BMD Threat Space and Warfighter enhancements.</p>	7.411	0.000	0.000	0.000	0.000
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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
<p>CP 2023 capabilities realigned to deliver with CP 2024 to support USS PINCKNEY (DDG 91) SEWIP Blk 3 installation and at-sea test schedule. CP 2024 certification moved left to 1st QTR FY24 to support delivery of BMD 5.1.5 capability originally planned for CP 2023.</p> <p>FY 2022 Plans: Effort Cancelled in FY22 due to lengthy Continuing Resolution and final approved Defense Authorization Act impacting our ability to meet Ships milestones</p> <p>FY 2023 Base Plans: N/A</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: N/A</p>					
<p>Title: AEGIS CAPABILITY PACKAGE 2024</p> <p align="right">Articles:</p> <p>Description: AEGIS Capability Package 2024 captures additional warfighting improvements to include ERACE integration, integration of SBT Inc 3, Expanded Hypersonic Track and Report, SEWIP BLK 3 test certification coordination which combines electronic countermeasure capability with organic hard kill to exponentially expand battle force defensive capabilities, HyDRA to deliver improved capability to counter hypersonic threats using existing AAW weapons, Next Generation Surface Search Radar (NGSSR) Integration, urgent fleet needs (software updates), and the following BMD capabilities; integration of Expanded AEGIS BMD Threat Space, Expanded Active Bias, Expanded Boost Phase Communications, and initial architecture realignment to support the Integrated Combat System. CP 2024 is dependent on SEWIP BLK III integration line item.</p> <p>FY 2022 Plans: AEGIS CP 2024 In-Progress Review #1 Q2 FY22 AEGIS CP 2024 In-Progress Review #2 Q4 FY22</p> <p>Start to support the incremental design, development and integration of AEGIS code for the following capabilities:</p>	0.000 -	21.344 -	52.133 -	0.000 -	52.133 -

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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
<p>Starting Capability Package Phase 1 Combat System Requirements definition and Specification Development</p> <p>Support incremental design, development and integration of AEGIS code for the following capabilities: SEWIP BLK 3 Test Certification HyDRA NGSSR Integration Urgent fleet needs (Software Updates)</p> <p>Support the integration of following BMD capabilities: Expanded AEGIS BMD Threat Space, Expanded Active Bias Expanded Boost Phase Communications Expanded AEGIS BMD Threat Space and Warfighter enhancements</p> <p>Conduct systems engineering, software engineering and program management tasks to include develop and review specifications, interface definition, code development, component level testing, element verification, and early system level integration.</p> <p>Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate AEGIS CP 2024 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).</p> <p>Continue to develop criteria evaluation metrics for technical and programmatic events in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRRs) as required to support the requirements of each milestone to ensure program success.</p> <p>Provide programmatic and technical leadership in a collaborative Navy and industry environment.</p> <p>FY 2023 Base Plans: AEGIS CP 2024 In-Progress Review #3 Q2 FY23 AEGIS CP 2024 In-Progress Review #4 Q4 FY23</p>					

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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
<p>Entering Phase 2 Code Development and Integration and supporting early Level 1-2 Testing requirements.</p> <p>Support incremental design, development and integration of AEGIS code for the following capabilities: SEWIP BLK 3 Test Certification HyDRA NGSSR Integration Urgent fleet needs (Software Updates)</p> <p>Support the integration of following BMD capabilities: Expanded AEGIS BMD Threat Space, Expanded Active Bias Expanded Boost Phase Communications Expanded AEGIS BMD Threat Space and Warfighter enhancements</p> <p>Conduct systems engineering, software engineering and program management tasks to include develop and review specifications, interface definition, code development, component level testing, element verification, and early system level integration.</p> <p>Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate AEGIS CP 2024 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).</p> <p>Continue to develop criteria evaluation metrics for technical and programmatic events in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRRs) as required to support the requirements of each milestone to ensure program success.</p> <p>Provide programmatic and technical leadership in a collaborative Navy and industry environment.</p> <p>FY 2023 OCO Plans:</p>					

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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
N/A					
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> FY 2023 Increase - Entering Phase 2 Code Development and Integration and supporting early Level 1-2 Testing requirements. Increase is Warfighting Improvements due to Cancelation of CP 2023					
<i>Title:</i> SEWIP BLK III INTEGRATION	0.000	5.138	17.000	0.000	17.000
<i>Articles:</i>	-	-	-	-	-
<i>Description:</i> SEWIP BLK III Integration brings non-kinetic electronic attack options to The AEGIS Fleet to counter threats. Electronic attack is a cornerstone capability that will meet the urgent operational needs of the Fleet as the pace and complexity of emerging threats continues to escalate. This functionality will be fielded as part CP 2024.					
<i>FY 2022 Plans:</i> SEWIP BLK III integration In-Progress Review #1 Q4 FY22					
Starting SEWIP BLK III Combat System Requirements definition based on Interface Design Definition (IDD) and Concept of Operations (CONOPS).					
Conduct systems engineering, software engineering and program management tasks to include develop and review specifications, interface definition, code development, component level testing, element verification, and early system level integration.					
Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).					
Provide support for technical and programmatic meetings in support of In Process Reviews (IPR), Software Increment Reviews (SWIR), Program Reviews, and Test Readiness Reviews (TRR) as required to support the requirements of each milestone to ensure program success.					
<i>FY 2023 Base Plans:</i>					

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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
<p>SEWIP BLK III integration In-Progress Review #2 Q2 FY23 SEWIP BLK III integration In-Progress Review #3 Q4 FY23</p> <p>Starting SEWIP BLK III Combat System Requirements definition based on Interface Design Definition (IDD) and Concept of Operations (CONOPS).</p> <p>Incremental design, development and integration of AEGIS code to support SEWIP BLK III Integration.</p> <p>Conduct systems engineering, software engineering and program management tasks to include develop and review specifications, interface definition, code development, component level testing, element verification, and early system level integration.</p> <p>Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).</p> <p>Provide support for technical and programmatic meetings in support of In Process Reviews (IPR), Software Increment Reviews (SWIR), Program Reviews, and Test Readiness Reviews (TRR) as required to support the requirements of each milestone to ensure program success.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 Increase - Increase required to complete the incremental design, development and integration of SEWIP requirements implementation within AEGIS Combat System design.</p>					
<p>Title: AEGIS FLT III DESTROYER BL 10 UPGRADES</p> <p align="right">Articles:</p> <p>Description: Develops and delivers AEGIS FLT III Destroyer BL 10 upgrades. AEGIS BL 10 2024 includes the following warfighting improvements; SPY-6 (AMDR), BMD 6.0, Close in Weapons System (CIWS) point defense sensor integration, TDL J3.4 Message, and MK 160 Gun Computing System (GCS) improvements. Computer</p>	129.402	139.178	146.906	0.000	146.906
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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
<p>Program development is required to support AEGIS Light Off (ALO) on the first ship installation on DDG 125 in the 2nd QTR FY22.</p> <p>AEGIS BL 10 2026 will provide critical warfighter performance improvements to the AEGIS FLT III Destroyers. AEGIS BL 10 2026 combat system development efforts include further integration of the Air and Missile Defense Radar (AMDR) SPY-6 performance updates, BMD6.0.1, MK6 Mod1, and Cyber updates. Fields to new construction FLT III DDG beginning FY26 in support of Air and Missile Defense Commander fleet requirement, BMD Flight Test Missions, and Initial Operating Capability (IOC).</p> <p>SPY-6 Backfit delivers improved Integrated Air and Missile Defense capabilities to select FLT IIA DDGs with the integration of a modified SPY radar variant. First SPY-6 backfit will be on USS PINKNEY (DDG 91) in 2027.</p> <p>FY 2022 Plans: AEGIS BL 10 2024 In-Progress Review #7 Q3 FY22</p> <p>Continue to support incremental design, development and integration of AEGIS code and integration for the following capabilities: SPY-6 (AMDR) BMD 6.0 MK 160 GCS improvements TDL J3.4 message updates CIWS sensor data integration.</p> <p>Continued Site Activation efforts required to support AEGIS BL 10 2024 Development and Integration Testing. SPY-6 Radar Integration within the AEGIS Combat System.</p> <p>Continue to support the integration of SPY-6 Radar and BMD 6.0 functionality including: Development and review of specifications, Code development, Component level testing, Element verification, Early system level integration, weapon system and subsystem integration.</p> <p>Conduct integration events, maintainability events, and stability events.</p> <p>Update training curriculum and documentation to reflect new capabilities.</p>					

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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
<p>Support increased Land Based testing at Combat System Engineering Development Site (CSEDS) to validate code development and reduce risk to Shipboard testing programs planned to start in FY22. Support AEGIS Light-Off of DDG 125 activation and test.</p> <p>Installation of AEGIS BL 10 2024 on DDG 125 to include the following: Installation and checkout of computer program Combat System Test events 1 and 2 (ALPHA and BRAVO Trials) Discrepancy investigation and resolution Scenario development</p> <p>Provide system engineering efforts required for Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate remaining AEGIS BL 10 2023 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).</p> <p>Execution of all Test activities and stimulation capability required to validate system functionality, system interfaces, performance requirements, multi-unit interoperability and ensure system stability.</p> <p>Change Review Boards (CRB) to review computer program defects, characterize risk to system performance, and identify defect corrections.</p> <p>Conduct Combat System certification activities required to support planned FY24 Certification.</p> <p>Develop and maintain risk management activities required to identify, mitigate and resolve critical risk that would impact the fielding of BL 10 2024.</p> <p>Continue to develop for technical and programmatic meetings in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRR) as required to support the requirements of each milestone to ensure program success.</p>					

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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
<p>Conduct Combat System Safety Program to address all Weapon System Explosive Safety Review Board (WSESRB) requirements. Provide programmatic and technical leadership in a collaborative Navy and industry environment.</p> <p>Continue to evaluate and monitor DDG 125 schedule to ensure all required products are delivered to the ship to support AEGIS Light-Off as planned.</p> <p>Identify, test and fix critical issues identified that impact the operational effectiveness of the AEGIS Combat System.</p> <p>FY 2023 Base Plans: AEGIS BL 10 2024 In-Progress Review #8 Q1 FY23 AEGIS BL 10 2026 In-Progress Review #8 Q1 FY23 AEGIS BL 10 2024 Engineering Assessment Q3 FY23</p> <p>Continued Site activation and integration efforts required to support AEGIS BL 10 2026 Development and Integration Testing.</p> <p>SPY-6 Radar Integration within the AEGIS Combat System.</p> <p>Continue to support the integration of SPY-6 Radar and BMD 6.0 functionality including: Development and review of specifications, Code development, Component level testing, Element verification, Early system level integration, weapon system and subsystem integration.</p> <p>Continue to support incremental design, development and integration of AEGIS code and integration for the following capabilities as part of BL 10 2026: SPY-6 (AMDR) BMD 6.0.1 TI-16 MK 6 Mod 1 Cross Domain Solution</p> <p>Conduct integration events, maintainability events, and stability events.</p>					

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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
<p>Update training curriculum and documentation to reflect new capabilities.</p> <p>Support Land Based testing at CSEDS to validate code development and reduce risk to Shipboard testing programs. Support Sea Trials of DDG 125.</p> <p>Develop FLT III DDG test plan to include the following: Sea Trials of DDG 125 in second QTR FY23 Initial shipboard checkout and subsequent at-sea event preparation</p> <p>Support the installation of AEGIS BL 10 2024 on DDG 125 to include the following: Installation and checkout of computer program Combat System Test events 2 and 3 (BRAVO and CHARLIE Trials)</p> <p>Discrepancy investigation and resolution Scenario development</p> <p>Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate remaining AEGIS BL 10 2024 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).</p> <p>Execution of all Test activities and stimulation capability required to validate system functionality, system interfaces, performance requirements, multi-unit interoperability and ensure system stability.</p> <p>Conduct Change Review Boards (CRB) to review computer program defects, characterize risk to system performance, and identify defect corrections.</p> <p>Conduct Combat System certification activities required to support planned FY24 Certification.</p> <p>Develop and maintain risk management activities required to identify, mitigate and resolve critical risk that would impact the fielding of BL 10 2024.</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue to develop criteria metrics for technical and programmatic events in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRR) as required to support the requirements of each milestone to ensure program success.					
Conduct Combat System Safety Program to address all Weapon System Explosive Safety Review Board (WSESRB) requirements. Provide programmatic and technical leadership in a collaborative Navy and industry environment.					
Continue to evaluate and monitor DDG 125 schedule to ensure all required products are delivered to the ship to support AEGIS Light-Off and continued shipboard testing as planned.					
Identify, test and fix critical issues identified that impact the operational effectiveness of the AEGIS Combat System.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 Increase is associated with additional shipboard activation, integrations and testing required to validate the BL 10 FLT III and SPY-6 Integration efforts in support of DDG 125 (first time SPY-6, Power System, and ACS will be combined) and the start of BL 10 2026 Development and integration efforts.					
Title: AEGIS: FIX IFF MODE 4 / ACCELERATE MODE 5	8.854	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: This program addresses an immediate operational issue to fix Identification Friend or Foe (IFF) mode 4 as well as accelerate integration of IFF mode 5 and bring all AEGIS Cruisers and Destroyers into IFF mode 5 compliance by 2020 in accordance with the Joint Required Operational Capability (JROC) mandate to sunset IFF mode 4.					
FY 2022 Plans: N/A					
FY 2023 Base Plans:					

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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
N/A					
FY 2023 OCO Plans: N/A					
Title: AEGIS DESTROYER BL 5 UPGRADES	29.173	11.000	20.745	0.000	20.745
Articles:	-	-	-	-	-
Description: AEGIS BL 5 2020 combines previously independent AEGIS Combat System and BMD 4.1 into single AEGIS Computer Program, enabling near simultaneous transition between AAW and BMD operations for FLT I/II DDG's. This enables combined Air and Ballistic Missile Defense capability. AEGIS BL 5 2020 also has SM-6 integration and capabilities developed to address Fleet Urgent Operational Needs (UONs), including Digital Air Control Updates, Raid Improvements with Agile Storm and Prism, Expanded National Technical Means Function (NTF) with Agile Thunder, and Low Slow Flyer improvements with Agile Sundowner, Maintenance Updates, and Interop Improvements. Supports installation on DDG 68 in FY20.					
AEGIS BL 5 2021 build is a maintenance update to BL 5.4 2020 that includes critical updates to address Computer Program discrepancies identified since installing on DDG 68, the first BL 5 2020 ship.					
AEGIS BL 5 2023 delivers Low Noise Amplifier (LNA) array integration, NGSSR integration; GPS-based Positioning, Navigation, and Timing Service (GPNT)S; Agile Sundog, Sirocco, Silent Squall, & Vortex; C2P tech refresh; and BMD 4.2 (MDA-developed - SBT Inc 2 CU, performance against hypersonic threats, increases BMD raid capacity, expands BMD threat set and ship operating areas, improves electronic attack mitigation techniques, and track support to downrange SBT engagements). Required to support first install planned in FY24.					
AEGIS BL 5 2024 delivers emergent update to address findings identified during underway testing of BL 5 2023.					
FY 2022 Plans: AEGIS BL 5 2023 In-Progress Review #5 Q3 FY22. AEGIS BL 5 2023 SCSC LNA Install Q3 FY22.					
Continued AEGIS BL 5 2023 code development, integration, and testing to support the LNA upgrades planned for all remaining BL 5 DDG's to improve the operational effectiveness of the SPY radar and enables these ships to continue to pace the threat.					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue to support AEGIS BL 5 2020/2021 installations and at sea testing to validate the operational effectiveness of the upgrade Code.					
Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate remaining AEGIS BL 5 2023 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).					
Execute all Test activities and stimulation capability required to validate system functionality, system interfaces, performance requirements, multi-unit interoperability and ensure system stability.					
Support Change Review Boards (CRB) to review computer program defects, characterize risk to system performance, and identify defect corrections.					
Conduct Combat System certification activities required to support planned FY23 Certification.					
Conduct and Maintain all risk management activities required to identify, mitigate and resolve critical risk that would impact the fielding of BL 5 2023.					
Continue to develop briefs for technical and programmatic meetings in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRR) as required to support the requirements of each milestone to ensure program success.					
Execute Combat System Safety Program to address all Weapon System Explosive Safety Review Board (WSESRB) requirements.					
Support installation of BL 5.4 2021 on 6 DDG's in FY21.					
FY 2023 Base Plans: AEGIS BL 5 2023 Combat System Certification Panel (CSCP) Q4 FY23 AEGIS BL 5 2023 At-Sea Testing Q4 FY23					

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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
Continued AEGIS BL 5 2023 code development, integration, and testing to support the LNA upgrades planned for all remaining BL 5 DDG's to improve the operational effectiveness of the SPY radar and enables these ships to continue to pace the threat.					
Continue to support AEGIS BL 5 2020/2021 installations and at sea testing to validate the operational effectiveness of the upgrade Code.					
Support development and execution of DDG test plan in support of at-sea event. Support sea test event execution required to field AEGIS BL 5 2023 on DDG 54. Support the installation and checkout of computer program, Flight Test Mission - 37 planning, and scenario development.					
Provide system engineering efforts required to support the Integrated Product Teams. Program Management Team (PMT), System Engineering Cross Product Team (SECPT), Element, Safety, Configuration Management (CM), Test & Evaluation (T&E), Certification, and Subject Matter Experts (SME). Participate in and evaluate remaining AEGIS BL 5 2023 design decisions, Engineering Technical Reviews (ETR), Specification Change, Review, Implementation, and baseline governance boards and Navy Review Team (NRT).					
Execute all Test activities and stimulation capability required to validate system functionality, system interfaces, performance requirements, multi-unit interoperability and ensure system stability.					
Support Change Review Boards (CRB) to review computer program defects, characterize risk to system performance, and identify defect corrections.					
Conduct Combat System certification activities required to support planned FY23 Certification.					
Conduct and Maintain all risk management activities required to identify, mitigate and resolve critical risk that would impact the fielding of BL 5 2023.					
Continue to develop briefs for technical and programmatic meetings in support of Mission Readiness Assessments (MRA), In Process Reviews (IPR), Program Reviews, and Test Readiness Reviews (TRR) as required to support the requirements of each milestone to ensure program success.					

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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
Execute Combat System Safety Program to address all Weapon System Explosive Safety Review Board (WSESRB) requirements. Support BL 5.4 2021 installation on 5 ships and BL 5.4 2023 installation on two ships in FY23. FY 2023 OCO Plans: N/A FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 Increase - AEGIS BL 5.4 2023 development and integration of NGSSR, GPNTS, backfit of four AEGIS Speed to Capabilities (ASToC) into BL 5 2023, and LNA hardware upgrade.					
Title: COMBAT SYSTEMS TEST BED (CSTB) Description: Combat Systems Test Bed (CSTB) is an AEGIS Modeling and Simulation (M&S) tool built to conduct high fidelity analysis for AEGIS Developmental Test (DT) and Operational Test (OT) that DOT&E highlighted in previous AEGIS baselines. CSTB models AEGIS Combat System (ACS) performance against adversary threats through the use of high-fidelity M&S, generating Objective Quality Evidence (OQE) that directly supports Director, Operational Test and Evaluation (DOT&E) evaluations of new AEGIS baselines. CSTB reduces Navy OT costs by enabling portions of AEGIS operational testing to be conducted via M&S increasing requirements coverage and avoiding the costs of targets and weapons that would ordinarily be required to conduct OT solely via live fire events. In letters dated August 9, 2013 and June 9, 2014, DOT&E has established the requirement that Navy use tactical code-based M&S (CSTB) in conjunction with live tests for AEGIS OT. IWS1 and Commander Operational Test and Evaluation Force (OPT) will continue to use CSTB for AEGIS Baseline 9 and Baseline 10 Critical Operational Issue evaluations in 2023 and beyond. CSTB has also been used extensively to develop pre-flight performance predictions and post-flight performance reconstructions for AEGIS Baseline live fire tests since January 2015. During this time, CSTB has established a track record of accurate predictions over 185,000 missile scenarios - identifying mission-critical software defects that led directly to \$584M in cost avoidance and precluded numerous flight test failures. In addition to its support for AEGIS BL9/10 OT and flight test predictions, CSTB is also critical to Frigate (FFG) Combat System and Integrated Combat System Development. CSTB end to end Hard Kill capabilities are	18.484	16.647	16.366	0.000	16.366
Articles:	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>available to SM-2 missile models to support BL9 testing. Delivery of HK/SK models are planned to provide additional functionality in support of BL9, BL10, and FFG Combat System testing requirements.</p> <p>FY 2022 Plans: Support Code development, integration and testing efforts required to complete Build 5 Federation Verification testing Computer Program Delivery #5 1Q FY22.</p> <p>Code Delivery #3 Q1 FY22 Code Delivery #4 Q2 FY22 Code Delivery #5 Q3 FY22 CP22-1 DT Run For Record #1 Q3 FY22 CP22-1 DT Run For Record #2 Q4 FY22</p> <p>Support BL 9 2020 reconstruction of CG 63 at-sea event</p> <p>Commence Build 6 SE Cycle (Design, Development, Integration, and Test) and complete In-Progress Reviews as required to support program management efforts.</p> <p>Support BL 9 2020 and BL 9 2021 reconstruction of CG 63 OT/ DDG 121 DT at-sea events. Support Federate Integration Testing.</p> <p>Start Development and integration of CSTB Build 6 expanding on the capabilities delivered in CSTB Build 5, including the following efforts: - Federate integration of ESSM Block 2, SM-3 BIK IB TU TR, SLQ 32(V) 6, SKCS, NULKA decoy, Interactive Threat models, and BMD Debris models. - Verification and Validation (V&V) of SPY-6, SM-3 BIK IIA, ESSM Block 2, SM-3 BIK IB TU TR, NULKA decoy, Interactive Threat models, and AAW/BMD Debris model capabilities</p> <p>Support code development, integration, and testing effort required to support CP 22-1. Support CP 22-1 Federation Validation testing (Reconstruction of at-sea events DDG 85/87 DT).</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>FY 2022 Plans: In-Progress Review #12 2Q FY22. In-Progress Review #13 4Q FY22.</p> <p>Continue to implement the AEGIS Cyber Roadmap which will introduce enterprise grade cyber security protection to the AEGIS Weapon System. Support the development of baseline cyber tools to align with Cyber Tech Authority Standards, and prepare AEGIS ships for migration to DevSecOps pipeline delivered software. Support the evaluation of the AEGIS pipeline from developer to ship to ensure all Cyber requirements are addressed. Support evaluation and integration planning for Situational Awareness Boundary Enforcement and Response.</p> <p>FY 2023 Base Plans: In-Progress Review #14 2Q FY23. In-Progress Review #15 4Q FY23.</p> <p>Continue to implement the AEGIS Cyber Roadmap which will introduce enterprise grade cyber security protection to the AEGIS Weapon System. Prepare cyber solutions for transition into DevSecOps, and evaluate zero trust options. Support the evaluation of the DevOps software pipeline security from developer to ship to assess Cyber requirements coverage.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 Increase Related to Inflation</p>					
<p>Title: INTEGRATED COMBAT SYSTEM COMPUTING INFRASTRUCTURE (ICS CI)</p> <p align="right">Articles:</p> <p>Description: Integrated Combat System Computing Infrastructure (ICS CI) acceleration delivers the Integrated Combat System (ICS) Computing Infrastructure (CI) MK 6 Mod X. The ICS CI MK 6 Mod X is a foundational element of the surface Navy's Future Integrated Combat System supporting all future ship classes. ICS CI MK 6 Mod X replaces legacy Combat System hardware configurations enabling continuous hardware upgrades to deliver improved capability to the Fleet faster.</p>	0.000 -	18.200 -	30.900 -	0.000 -	30.900 -

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p><i>FY 2022 Plans:</i> ICS CI In Progress Review #1 Q2 FY22 ICS CI In-Progress Review #2 Q4 FY22</p> <p>Deliver the final ICS consoles and displays.</p> <p>Develop detailed Ship Integration Government Furnished Information (GFI) to support just in time GFI artifacts (mounting drawings, cabinet information, cable routing data etc.) to support Computing Infrastructure delivery for AEGIS Modernization and new construction DDGs.</p> <p>Complete development of the ICS CI MK 6 Mod X Engineering Development Models (EDMs) and supporting documentation.</p> <p>Initial development of an inheritance model for CI hardware to achieve the Authority to Operate (ATO) ICS CI MK 6 Mod X products.</p> <p>Continued ICS CI Model Based Systems Engineering (MBSE).</p> <p><i>FY 2023 Base Plans:</i> ICS CI Level II TDP 1Q FY23 ICS CI In-Progress Review #3 Q2 FY 23 ICS CI EQT Support Q3 FY23 - Q1 FY24</p> <p>Complete and deliver ICS CI MK 6 Mod X Level II TDP. Development of ICS CI MK 6 Mod X Level III TDP in support of Q1 FY24 delivery.</p> <p>Finalize Ship Integration Government Furnished Information (GFI) to support GFI artifacts (mounting drawings, cabinet information, cable routing data etc.) to support Computing Infrastructure delivery for AEGIS Modernization (DDG 98, 101, 102) and new construction DDGs (DDG 140 and follow). Complete Environmental Qualification Testing (EQT) on the ICS CI MK 6 Mod X cabinets.</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Complete Secure Voice Communication System (SVCS) Telecommunications Electronics Material Protected from Emanating Spurious Transmission (TEMPEST) Testing and release the Report and Certification. Deliver SVCS EQT Reports.					
Complete inheritance model for hardware and achieve ATO.					
Sites development and planning to include unclassified and classified lab for ICS CI MK 6 Mod X development.					
Continue to mature ICS CI MK 6 Mod X MBSE.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: FY 2023 Increase - based on phasing of the non recurring engineering required to support development of ICS Computing Infrastructure (CI) MK 6 Mod X Engineering Development Model (EDM).					
Accomplishments/Planned Programs Subtotals	338.272	324.802	340.854	0.000	340.854

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• R&D 0604501N: <i>Multi Mission Signal Processor</i>	2.856	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• SCN 2122: <i>DDG 51</i>	3,079.201	1,898.006	2,587.173	-	2,587.173	4,037.610	2,081.410	2,020.990	0.000	4,389.997	115,564.157
• OPN 0900: <i>DDG Modernization</i>	547.569	703.820	956.877	-	956.877	1,015.245	1,127.859	1,150.415	0.000	2,009.159	11,812.012
• R&D 0604378N	25.694	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
PU 3159: <i>NIFC-CA</i>											
• OPN 5231: <i>Ship Missile Support Equipment (AEGIS Support Equipment)</i>	25.694	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

D. Acquisition Strategy

Combat system improvements are implemented in capability packages as described in the project mission statement. After the combat system is completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders and modernization shipyards where the computer program and equipment are installed and tested along with all other elements of the shipboard combat system and associated combat support systems. The computer program is a Government Furnished Computer Program (GFCP) deliverable to the Production Test Center for equipment test and check out. Future Combat System deliveries will be provided using the Combat System Engineering Agent (CSEA) contract. Additional modifications to the existing contracts will address any war fighting improvements as directed by Office of the Chief of Naval Operations (OPNAV). Currently PEO IWS 1.0 has existing contracts or pending contract actions supporting all efforts defined within the Budget Exhibit. A summary of contracts and contractual actions are captured below.

AEGIS is transitioning to Capability Packages that will be completed in a 4 phased approach as outlined below.

- Phase 1 Combat System Requirements definition and Specification Development
- Phase 2 Code Development and Integration and supporting early Level 1-2 Testing requirements
- Phase 3 Combat System and Weapon Element Integration and continuing Level 3-5 Testing
- Phase 4 Combat System Shipboard Testing, Final Certification and fielding

Active Major Contracts:

- N00024-13-C-5116: Competitive award to support AEGIS BL 9 2018 and follow on efforts - Period of Performance FY13-FY23
- N00024-16-C-5102: Sole source follow on to complete AEGIS BL 9 2018 for DDG 118-119 - Period of Performance FY16-FY21
- N00024-13-C-5103: Sole source follow on to support NJ Sites - Period of Performance FY18-FY23
- N00024-17-C-5109: Life cycle logistics support - Period of Performance FY17-FY21
- N00024-14-C-5104: Sole source to support ship installation and test - Period of Performance FY14-FY23
- N00024-15-C-5151: AEGIS ship integration and test - Period of Performance FY15-FY25
- N00024-20-R-5604: Automated Test and Analysis - Period of Performance FY21-26
- N00024-21-F-5114: IT Ops, Cyber, and Classified Space - Period of Performance FY21-26
- N00024-21-9-5150: Forge Classified Infrastructure - Period of Performance FY21-26
- N00024-21-9-5151: Forge Software Factory Development Teams. Period of Performance FY21-24
- N00024-21-9-5153: Forge Software Factory Development Teams. Period of Performance FY21-24

Contract Amendments:

- N00024-13-C-5116: Sole Source extension for transition out of new development activities to the Competitive SESI contract

Pending New Contracts:

- N00024-19-R-2126: Surface Combatant Software Factory - Planned Award Date AUG 2021
- N00024-20-R-5102: Surface Combatant System Engineering and Software Integration - Planned Award Date MAY 2023

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 5	PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	1447 / <i>Surf Combatant Combat System Imp</i>

Nooo24-19-C-0501: Fielding and Sustainment, Maintenance of feilded baselines and continued development and fielding for BL 10.0, BL 10.1, CP 22/24 - Planned award date DEC 2022

In addition, PEO IWS 1.0 leverages contracts maintained by other organizations in support AEGIS Development. These include:
MDA - LM BMD Contract (AEGIS BL 5 2020/2023 DEV)
NAVSEA - JHU APL, SAIC, BAH, Strategic Insight, Tech Marine Business and Engility (ENG/PSS/ESS)
NSWC DD - Lead System Engineer
NSWC PHD - Life cycle logistics support

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt S ys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/CPIF	Lockheed Martin : Moorestown, NJ	3,425.750	243.286	Oct 2020	215.665	Oct 2021	221.146	Oct 2022	-		221.146	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	APL : Baltimore, MD	161.558	18.524	Oct 2020	16.320	Oct 2021	17.211	Oct 2022	-		17.211	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Dahlgren, VA	573.504	34.557	Oct 2020	36.614	Oct 2021	30.231	Oct 2022	-		30.231	Continuing	Continuing	Continuing
Systems Engineering	SS/CPAF	BAE Systems : Rockville, MD	78.495	6.587	Oct 2020	7.100	Oct 2021	7.382	Oct 2022	-		7.382	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	Raytheon : St. Petersburg, FL	4.912	7.630	Oct 2020	3.500	Oct 2021	8.430	Oct 2022	-		8.430	0.000	24.472	-
Systems Engineering	WR	NSWC : Port Hueneme, CA	106.848	5.368	Oct 2020	5.013	Oct 2021	12.322	Oct 2022	-		12.322	Continuing	Continuing	Continuing
Systems Engineering	WR	NWAS : Corona, CA	50.138	3.587	Oct 2020	2.684	Oct 2021	2.980	Oct 2022	-		2.980	Continuing	Continuing	Continuing
Systems Engineering	WR	SPAWAR : San Diego, CA	15.943	1.897	Oct 2020	1.254	Oct 2021	6.211	Oct 2022	-		6.211	Continuing	Continuing	Continuing
Systems Engineering	WR	Various : Various	216.726	6.865	Oct 2020	22.440	Oct 2021	16.223	Oct 2022	-		16.223	Continuing	Continuing	Continuing
Award fees	WR	Various : Various	10.935	0.000	Oct 2020	0.000	Oct 2021	0.000	Oct 2022	-		0.000	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	Technology Service Corporation : Silver Spring , MD	0.895	0.852	Oct 2020	4.900	Oct 2021	9.122	Oct 2022	-		9.122	0.000	15.769	-
Subtotal			4,645.704	329.153		315.490		331.258		-		331.258	Continuing	Continuing	N/A

Remarks
 Various Performing Activities consist of multiple performing activities with funding for each no greater than \$1 million per year. These larger performing activities include CDSA Dam Neck and NSWC/Crane.

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	Department of Interior : Boise, Idaho	46.941	1.201	Oct 2020	1.250	Oct 2021	1.342	Oct 2022	-		1.342	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

<small>RDT&E,N/BA-5</small>	<small>0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING</small>																<small>1447/Surface Combatant Combat System Implementation</small>															
Fiscal Year	2021				2022				2023				2024				2025				2026				2027							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
AEGIS CRUISER BL 9 UPGRADES																																
	Underway Testing																															

- PB 2022 to PB 2023 Change Summary:
- No Change

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

RDT&E,N/BA-5	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																1447/Surface Combatant Combat System Implementation											
Fiscal Year	2021				2022				2023				2024				2025				2026				2027			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AEGIS DESTROYER BL 9 UPGRADES																												

- PB 2022 to PB 2023 Change Summary:
- BL 9 2021 CSCP Delayed from 3rd QTR FY21 to 4th QTR FY21

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
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RDT&E,N/BA-5	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																1447/Surface Combatant Combat System Implementation															
Fiscal Year	2021				2022				2023				2024				2025				2026				2027							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
CAPABILITY PACKAGE 2024																																

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt S</i> <i>ys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i> <i>ys Eng</i>

Fiscal Year	2021				2022				2023				2024				2025				2026				2027				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
	AEGIS BL 10.0 (FLT III DESTROYER 2024)	CD		IPR #6				IPR #7				IPR #8	EA			BL 10 CSCP 2024													
AEGIS BL 10.1 (FLT III DESTROYER 2026)											IPR #8				IPR #9				IPR #10	EA							BL 10 CSCP 2026		
AEGIS BL 10 BF (FLT IIA DESTROYER (2028) (Notional))															IPR #1				IPR #2				IPR #3				IPR #4	EA	ALO
																													U/W

- **PB 2022 to PB 2023 Change Summary:**
- BL 10.0: Certification accelerated from 4th QTR 2024 to 2nd QTR FY2024
- BL 10.0: Eliminated Engineering Assessment #1 and #2
- BL 10.1: New Development Effort added
- BL 10 BF: New Development Effort added

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

Fiscal Year	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																1447/Surface Combatant Combat System Implementation															
	2021				2022				2023				2024				2025				2026				2027							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
AEGIS BL 5 UPGRADES	Underway Testing																															
BL 5.4 Phase 1 (BL 5 2020)																																
BL 5.4 Emergent Build (BL 5 2021)	CD	ST&I	Underway Test																													
BL 5.4 Phase 2 (BL 5 2023)	CDR	IPR #2	IPR #3	IPR #4	IPR #5	LNA Install	SCSC					BL 5 2023 CSCP *	BL 5 2023 At-Test Event	FTM-37																		
BL 5.4 Emergent Build (BL 5 2024)													IPR #1	IPR #2	BL 5.4 2024 CSCP																	

- **PB 2022 to PB 2023 Change Summary:**
 - BL 5.4 Phase 2 (BL 5 2023)
 - BL 5 2023 IPR #4 accelerates from 1st QTR FY22 to 4th QTR FY21
 - BL 5 2023 IPR #5 shifts from 2nd QTR FY22 to 3rd QTR FY22
 - BL 5 At-Sea Event Eliminated
 - BL 5 LNA Install SCSC added 3rd QTR FY22
 - Added BL 5.4 Emergent Build (BL 5 2024)

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

RDT&E,N/BA-5	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																1447/Surface Combatant Combat System Implementation											
Fiscal Year	2021				2022				2023				2024				2025				2026				2027			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AEGIS; FIX MODE 4 / ACCELERATE 4 AEGIS BL 5 2018/2020	UT																											
AEGIS BL 7 2019 (Complete)																												
AEGIS BL 9 2020	UT																											

- PB 2022 to PB 2023 Change Summary:
- No Change

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

RDT&E,N/BA-5	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																1447/Surface Combatant Combat System Implementation															
Fiscal Year	2021				2022				2023				2024				2025				2026				2027							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
COMBAT SYSTEM TEST BED (CSTB)	Build 3				CD #2	CD #3	CD #4	CD #5	CD #6	CD #7	CD #8		CD #9	CD #10	CD #11		CD #12	CD #13	CD #14		CD #15	CD #16	CD #17		CD #18	CD #19						
					CP22-1 DT RFR #1	CP22-1 DT RFR #2			CP22-1 DT RFR #3/4				BL 10.0 DT RFR	CP22-1 RFR #5			BL 10.0 DT IOC RFR				BL 10.0 OT BMD RFR				BL 10.0 OT IAMD RFR							

- **PB 2022 to PB 2023 Change Summary:**
- Eliminated the following Milestones: BL 9 2020 DT RFR, BL 9 2021 DT RFR, CP 2022 DT RFR #1, CP 2022 DT RFR #2, BL 9.2 OT RFR
- Revised Code Delivery Updates
- Added and update Run For Record (RFR) Milestones to align with Capability Delivery

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

RDT&E,N/BA-5	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																1447/Surface Combatant Combat System Implementation												
Fiscal Year	2021				2022				2023				2024				2025				2026				2027				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
AEGIS CYBER AWAKENING TASK FORCE	IPR #10		IPR #11		IPR #12		IPR #13			IPR #14		IPR #15		IPR #16		IPR #17													

- PB 2022 to PB 2023 Change Summary:
- Added IPR #16 in 2nd QTR FY24
- Added IPR #17 in 4th QTR FY24

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt S</i> <i>ys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

RDT&E,BA-5	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																1447/Surface Combatant Combat System Implementation															
Fiscal Year	2021				2022				2023				2024				2025				2026				2027							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
INTEGRATED COMBAT SYSTEM COMPUTING INFRASTRUCTURE (ICS CI)						IPR #1				IPR #2	Level II TDP			IPR #3				EQT				Level III TDP										

- **PB 2022 to PB 2023 Change Summary:**
- Eliminated HW DEL, TDP DEL, LUSV DEL, VPS INC II ALO, and LUSV CS Testing Milestones that was planned for first QTR FY24.
- Added IPR #2 fourth QTR FY22
- Added LEVEL II TDP first QTR FY23
- Added IPR #3 second QTR FY23
- Added EQT Effort third QTR FY23 → first QTR FY24
- Added DDG 101/104 HW DEL in fourth ATR FY24

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1447				
AEGIS CRUISER BL 9 UPGRADES: Underway Test Support	1	2021	3	2021
AEGIS DESTROYER BL 9 UPGRADES: BL 9 2021 COMBAT SYSTEM CERTIFICATION PANEL	1	2022	1	2022
CAPABILITY PACKAGE 2022: CP 2022 IN-PROGRESS REVIEW (IPR) #3	4	2021	4	2021
CAPABILITY PACKAGE 2022: CP 2022 IN-PROGRESS REVIEW (IPR) #4	1	2021	1	2021
CAPABILITY PACKAGE 2022: CP 2022-1 COMBAT SYSTEM CERTIFICATION PANEL	3	2022	3	2022
CAPABILITY PACKAGE 2022: CP 2022-2 COMBAT SYSTEM CERTIFICATION PANEL	1	2023	1	2023
CAPABILITY PACKAGE 2024: CP 2024 IN-PROGRESS REVIEW (IPR) #1	2	2023	2	2023
CAPABILITY PACKAGE 2024: CP 2024 IN-PROGRESS REVIEW (IPR) #2	4	2023	4	2023
CAPABILITY PACKAGE 2024: CP 2024 COMBAT SYSTEM CERTIFICATION PANEL	1	2024	1	2024
SEWIP BLK III INTEGRATION: SEWIP BLK III IN-PROGRESS REVIEW #1	3	2023	3	2023
SEWIP BLK III INTEGRATION: SEWIP BLK III IN-PROGRESS REVIEW #2	4	2023	4	2023
SEWIP BLK III INTEGRATION: SEWIP TECH EVAL	1	2024	1	2024
SEWIP BLK III INTEGRATION: SEWIP IOT&E	2	2024	4	2024
BL10 2024: BL 10 2024 IN-PROGRESS REVIEW (IPR) #6	3	2021	3	2021
BL10 2024: BL 10 2024 IN-PROGRESS REVIEW (IPR) #7	3	2022	3	2022
BL10 2024: BL 10 2024 IN-PROGRESS REVIEW (IPR) #8	1	2023	1	2023
BL10 2024: BL 10 2024 ENGINEERING ASSESSMENT (EA)	3	2023	3	2023
BL10 2024: BL 10 2024 COMBAT SYSTEM CERTIFICATION PANEL	2	2024	2	2024
BL10 2024: BL10 2026: BL 10 2026 IN-PROGRESS REVIEW (IPR) #8	1	2023	1	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
BL10 2024: BL10 2026: BL 10 2026 IN-PROGRESS REVIEW (IPR) #9	2	2024	2	2024
BL10 2024: BL10 2026: BL 10 2026 IN-PROGRESS REVIEW (IPR) #10	1	2025	1	2025
BL10 2024: BL10 2026: BL 10 2026 ENGINEERING ASSESSMENT (EA)	3	2025	3	2025
BL10 2024: BL10 2026: BL 10 2026 COMBAT SYSTEM CERTIFICATION PANEL	3	2026	3	2026
BL10 2024: BL 10 2028: BL 10 2028 IN-PROGRESS REVIEW (IPR) #1	3	2024	3	2024
BL10 2024: BL 10 2028: BL 10 2028 IN-PROGRESS REVIEW (IPR) #2	2	2025	2	2025
BL10 2024: BL 10 2028: BL 10 2028 IN-PROGRESS REVIEW (IPR) #3	1	2026	1	2026
BL10 2024: BL 10 2028: BL 10 2028 IN-PROGRESS REVIEW (IPR) #4	4	2026	4	2026
BL10 2024: BL 10 2028: BL 10 2028 ENGINEERING ASSESSMENT (EA)	2	2027	2	2027
BL10 2024: BL 10 2028: BL 10 2028 AEGIS LIGHT OFF	4	2027	4	2027
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2021 COMBAT SYSTEM CERTIFICATION PANEL (CSCP)	3	2021	3	2021
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 CRITICAL DESIGN REVIEW (CDR)	1	2021	1	2021
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 IN-PROGRESS REVIEW (IPR) #2	1	2021	1	2021
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 IN-PROGRESS REVIEW (IPR) #3	3	2021	3	2021
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 IN-PROGRESS REVIEW (IPR) #4	4	2021	4	2021
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 IN-PROGRESS REVIEW (IPR) #5	3	2022	3	2022
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 LNA SCSC INSTALLATION	3	2022	3	2022
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 COMBAT SYSTEM CERTIFICATION PANEL	4	2023	4	2023
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 TEST EVENTS	4	2023	4	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2023 FLIGHT TEST MISSION	2	2024	2	2024
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2024 IN-PROGRESS REVIEW (IPR) #1	1	2024	1	2024
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2024 IN-PROGRESS REVIEW (IPR) #2	2	2024	2	2024
AEGIS DESTROYER BL 5 UPGRADES: AEGIS BL 5 2024 COMBAT SYSTEM CERTIFICATION PANEL	4	2024	4	2024
COMBAT SYSTEM TEST BED (CTSB): CSTB BUILD #3	1	2021	1	2021
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #2	4	2021	4	2021
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #3	1	2022	1	2022
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #4	2	2022	2	2022
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #5	3	2022	3	2022
COMBAT SYSTEM TEST BED (CTSB): CSTB CP 22-1 DT RFR #1	3	2022	3	2022
COMBAT SYSTEM TEST BED (CTSB): CSTB CP 22-1 DT RFR #2	4	2022	4	2022
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #6	1	2023	1	2023
COMBAT SYSTEM TEST BED (CTSB): CSTB CP 22-1 DT RFR #3	1	2023	1	2023
COMBAT SYSTEM TEST BED (CTSB): CSTB CP 22-1 DT RFR #4	2	2023	2	2023
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #7	2	2023	2	2023
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #8	3	2023	3	2023
COMBAT SYSTEM TEST BED (CTSB): CSTB CP 22-1 OT RFR	4	2023	4	2023
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #9	1	2024	1	2024
COMBAT SYSTEM TEST BED (CTSB): CSTB BL 10 DT RFR	1	2024	1	2024
COMBAT SYSTEM TEST BED (CTSB): CSTB CP 22-1 DT RFR #5	2	2024	2	2024
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #10	2	2024	2	2024
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #11	3	2024	3	2024
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #12	1	2025	1	2025

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
COMBAT SYSTEM TEST BED (CTSB): CSTB BL 10 OT IOC RFR	1	2025	1	2025
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #13	2	2025	2	2025
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #14	3	2025	3	2025
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #15	1	2026	1	2026
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #16	2	2026	2	2026
COMBAT SYSTEM TEST BED (CTSB): CSTB BL 10 OT BMD RFR	2	2026	2	2026
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #17	3	2026	3	2026
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #18	1	2027	1	2027
COMBAT SYSTEM TEST BED (CTSB): CODE DELIVERY #19	2	2027	2	2027
COMBAT SYSTEM TEST BED (CTSB): CSTB BL 10 OT IAMD RFR	2	2027	2	2027
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #10	2	2021	2	2021
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #11	4	2021	4	2021
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #12	2	2022	2	2022
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #13	4	2022	4	2022
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #14	2	2023	2	2023
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #15	4	2023	4	2023
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #16	2	2024	2	2024
TASK FORCE CYBER AWAKENING (TFCA): TFCA IN-PROGRESS REVIEW #17	4	2024	4	2024
INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE: IN-PROGRESS REVIEW #1	2	2022	2	2022
INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE: IN-PROGRESS REVIEW #2	4	2022	4	2022
INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE: LEVEL II TECHNICAL DATA PACKAGE	1	2023	1	2023
INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE: IN-PROGRESS REVIEW #3	2	2023	2	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 1447 / <i>Surf Combatant Combat System Imp</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE: EQUIPMENT QUALIFICATION TEST	3	2023	1	2024
INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE: LEVEL III TECHNICAL DATA PACKAGE	1	2024	1	2024
INTEGRATED COMBAT SYSTEM (ICS) COMPUTING INFRASTRUCTURE: DDG 101/104 HARDWARE DELIVERY	4	2024	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>				Project (Number/Name) 3357 / <i>Aegis Training Improvement Program</i>			
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
3357: <i>Aegis Training Improvement Program</i>	61.625	8.560	7.018	6.379	-	6.379	5.605	5.227	5.257	5.345	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AEGIS Training Improvement project provides enhancements and upgrades to the Total Ship Training Capability (TSTC) training components within the combat system to address needs for increased training capability and functionality in conjunction with AEGIS Capability Packages. 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 Integrated Air and Missile 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 Battle Force Tactical Trainer (BFTT) Program and Ship Self Defense System (SSDS) MK2 TSTC Training Improvement programs to meet AEGIS combat system training requirements. 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 Fleet Synthetic Trainers (FSTs). 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.

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 11.xAF. ATD is being hosted along with the AEGIS and SSDS combat system on TI-16AF 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.

The 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.

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 3357 / <i>Aegis Training Improvement Program</i>
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Develop and Integrate 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.

Develop and integrate CEC Interim Training (CIT) capability to support pier-side fleet synthetic training events. This is an interim capability that only supports distributed training until CET is fully deployed. This establishes the communications needed to enable strike group training of advanced capabilities being delivered to AEGIS BL 9AF ships.

Develop and integrate upgrades to Battle-Force Electronic Warfare Trainer (BEWT) to support soft kill training with NULKA.

Develop 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 the Mode 4 Inoculation.

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

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

TSTC integrated on AEGIS 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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: AEGIS Training Improvement and Integration	6.760	5.874	5.471	0.000	5.471
Articles:	-	-	-	-	-
Description: AEGIS Total Ship Training Capability (TSTC) provides enhancements to training components and increase training functionality in conjunction with AEGIS development and integration. These enhancements will address current and future training requirements and implement new functionality to support more complex training requirements related to Underwater, Surface and other warfighter upgrades.					
FY 2022 Plans: - Continue development, integration and testing of ATD on Aegis with new capabilities being implemented into BL 10.X and enable leveraging for Ship Self Defense System (SSDS) BL 12.X.					
FY 2023 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 3357 / <i>Aegis Training Improvement Program</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- Continue development, integration and testing of ATD on Aegis with new capabilities being implemented into BL 10.X and enable leveraging for Ship Self Defense System (SSDS) BL 12.X. FY 2023 OCO Plans: N/A FY 2022 to FY 2023 Increase/Decrease Statement: Decrease of .403 from FY22 to FY23 due to completion of initial ATD integration with BL 10.					
Title: Fleet Training Wholeness FY 2022 Plans: - Complete integration and testing of FTW LVC products and combat system enhancements. - Transition the LVC products into BFTT / ATD Shipboard Systems. - Continue development of Advanced Training Domain (ATD) for Aegis BL 9 2022 and BL 10 2023. - Continue integration and testing of Strike Group Cooperative Engagement Capability (CEC) Underway capability onto AEGIS Combat Systems Baselines. FY 2023 Base Plans: - Continue development of Advanced Training Domain (ATD) for Aegis BL 9 2022 and BL 10 2023. - Complete Strike Group Cooperative Engagement Capability (CEC) Underway capability for AEGIS Combat Systems Baselines. FY 2023 OCO Plans: N/A FY 2022 to FY 2023 Increase/Decrease Statement: Decrease of .236 from FY22 to FY23 due to completion of integration and testing of FTW LVC products and combat system enhancements.	1.800	1.144	0.908	0.000	0.908
Articles:	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	8.560	7.018	6.379	0.000	6.379

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• RDTEN/0204571N/1427: <i>Surface Tactical Team Trainer (STTT)</i>	38.974	34.744	13.721	-	13.721	17.334	16.298	15.757	15.965	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 3357 / <i>Aegis Training Improvement Program</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

Efforts will be completed on various contracts to support requirements updates to multiple products that will support Training Integration and Implementation within AEGIS development capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / Surface Combatant Cmbt Sys Eng	Project (Number/Name) 3357 / Aegis Training Improvement Program
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development	Various	Various : Various	33.083	5.513	Dec 2020	4.518	Dec 2021	3.992	Dec 2022	-		3.992	Continuing	Continuing	Continuing
System Engineering	Various	Various : Various	24.481	2.300	Dec 2020	1.855	Dec 2021	1.732	Dec 2022	-		1.732	Continuing	Continuing	Continuing
Subtotal			57.564	7.813		6.373		5.724		-		5.724	Continuing	Continuing	N/A

Remarks
System Engineering moved from Support to Product Development

Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Support	C/CPIF	BAH/NRL : Arlington, VA/Maryland	3.216	0.622	Dec 2020	0.550	Dec 2021	0.555	Dec 2022	-		0.555	Continuing	Continuing	Continuing
Professional Support	C/CPIF	TMB : Washington DC	0.845	0.125	Dec 2020	0.095	Dec 2021	0.100	Dec 2022	-		0.100	Continuing	Continuing	Continuing
Subtotal			4.061	0.747		0.645		0.655		-		0.655	Continuing	Continuing	N/A

Project Cost Totals	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
	61.625	8.560	7.018	6.379	-	6.379	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
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FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Proj 3357	
AEGIS DESTROYER BL 9 UPGRADES: 2021 COMBAT SYSTEM CERTIFICATION PANEL	█
AEGIS DESTROYER BL 9 UPGRADES: 2022 IN-PROGRESS REVIEW (IPR) #3	█
AEGIS DESTROYER BL 9 UPGRADES: 2022 COMBAT SYSTEM CERTIFICATION PANEL	█
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #1	█
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #2	█
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #3	█
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #4	█

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 3357 / <i>Aegis Training Improvement Program</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 3357</i>				
AEGIS DESTROYER BL 9 UPGRADES: 2021 COMBAT SYSTEM CERTIFICATION PANEL	3	2021	3	2021
AEGIS DESTROYER BL 9 UPGRADES: 2022 IN-PROGRESS REVIEW (IPR) #3	2	2021	2	2021
AEGIS DESTROYER BL 9 UPGRADES: 2022 COMBAT SYSTEM CERTIFICATION PANEL	2	2022	2	2022
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #1	2	2021	2	2021
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #2	4	2021	4	2021
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #3	2	2022	2	2022
AEGIS DESTROYER BL 9 UPGRADES: 2023 IN-PROGRESS REVIEW (IPR) #4	4	2022	4	2022