Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy											Date: May 2021	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604757N *I Ship Self Def (Engage: Soft Kill/EW)*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	572.658	91.928	84.852	69.006	-	69.006	-	-	-	-	-	-
0954: *Shipboard EW Improvement Program*	54.920	12.967	16.302	15.917	-	15.917	-	-	-	-	-	-
2190: *NULKA Decoy*	47.232	4.891	5.267	6.711	-	6.711	-	-	-	-	-	-
3068: *Long Endurance Electronic Decoy (LEED)*	0.000	0.000	0.000	14.183	-	14.183	-	-	-	-	-	-
3316: *Advanced Offboard EW*	231.449	50.153	44.614	28.843	-	28.843	-	-	-	-	-	-
3321: *SEWIP Block 3*	239.057	23.917	18.669	3.352	-	3.352	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

0954 - The Surface Electronic Warfare Improvement Program (SEWIP) is segmented into Block 1A, Block 1B, Block 2, Block 3 and Soft Kill Coordination System (SKCS). Block 1A upgraded the AN/SLQ-32 pulse-processing computers. Block 1B added adjunct sensors, including Specific Emitter Identification (SEI), and High Gain High Sensitivity (HGHS) (Block 1B3), a critical improvement for extending the battle space. Block 2 enhanced Surface Electronic Warfare (EW) and provided improved Anti-Ship Missile Defense (ASMD) and situational awareness (SA) through an improved Electronic Support (ES) receiver, antenna, and combat system interface. The addition of Block 2 to Block 1B3 forms the AN/SLQ-32 (V)6. Block 3 will provide an enhanced Onboard Electronic Attack (EA) capability to improve ASMD and counter-targeting. The addition of Block 3 to AN/SLQ-32 (V)6 forms the AN/SLQ-32(V)7 system. The SKCS will provide SK weapon coordination and enhanced situational awareness to the AN/SLQ-32 (V)6 and (V)7 with EW/radar track association to support Softkill (SK) engagement decisions. EW Rapid Capability Insertion Process (RCIP) identifies system and mission capability gaps by analyzing EW baseline and fleet requirements, prioritizes those gaps based on fleet input and critical technology maturity, and develops upgrades to the AN/SLQ-32(V) product line to address those gaps. RCIP also integrates Future Naval Capability (FNC) programs into SEWIP. FY22 request of $16.448M supports continued support development, test and integration of SKCS with AEGIS Baseline (BL) 9 and BL 10, completion of the Softkill Performance and Real-Time Assessment (SPARTA) and SLQ-32 Tactical Simulator (TACSIM) efforts, year two efforts for RCIP #7 which analyze and design hardware upgrades to improve signal throughput and system reliability, Electronic Support Software Algorithm Enhancements for improved system performance and fielding of PCAP's new operator tools and displays for improved situation awareness.

2190 - The Offboard Active Decoy (Nulka) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. Nulka counters a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. FY22 funding includes Decoy Launcher Processor (DLP) technology refresh to address threat and obsolescence issues. The Decoy Launch Message Convertor (DLMC) development effort consists of development of the Decoy Launch Message Convertor (DLMC), and delivery of Engineering Development Models (EDMs) to support Factory Qualification Testing (FQT) and Environmental Qualification Testing (EQT), and development of the Objective Architecture software to improve employment of the Nulka system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy	Date: May 2021
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604757N *I Ship Self Def (Engage: Soft Kill/EW)*

3068 - The Long Endurance Electronic Decoy (LEED) program will deliver an expendable long endurance autonomous off-board decoy Countermeasure system, comprised of a flight vehicle and Radio Frequency (RF) payload with modular capability allowing for rapid evolution of the Electronic Warfare (EW) payload. LEED will integrate with SLQ-32 and address EW gaps in response to a fleet requirement to counter Anti-Ship Missile (ASM) threats. LEED will provide the fleet with enhanced EW coordination and capability, including the ability to stretch engagement timelines and counter heterogeneous missile attacks.

LEED Countermeasure Development Phase 1 includes competitive development of operational-level Countermeasure prototypes that demonstrate and validate critical capabilities, including flight performance and RF functionality. LEED Countermeasure Development Phase 2 will build on the critical technologies from Phase 1 to develop production-representative Engineering Development Models (EDMs). The FY22 LEED effort includes Phase 1 development of LEED Countermeasure prototypes, including hardware procurements and all development activities required to procure, design, and integrate hardware and software components.

LEED will be developed alongside the Office of Naval Research (ONR) Long Endurance Airborne Platform (LEAP) Project, which begins in FY21. In FY22, LEED Countermeasure Development Phase 1 will be initiated, which will leverage technologies developed and matured under the ONR LEAP Project.

3316 - The Advanced Offboard EW (AOEW) program is for the development of long duration off-board decoys integrated with onboard systems for EW coordination to counter identified EW gaps (additional details classified) in response to an urgent operational need from the Fleet that has been approved by the CNO for execution. Currently no counter to the threat exists. In FY 2012, the program began with a Rapid Response Effort (RRE) which was completed in FY 2014. The RRE consisted of the evaluation and integration of commercially available decoys. The Decoy Development Effort (DDE) consists of the development and evaluation of a long duration, active electronic offboard decoy system (payload) integrated on an existing flight vehicle (MH-60R/MH-60S), integration with ship and air systems, and a government software development effort to integrate AOEW into the Soft Kill Coordination System (SKCS) to gain maximum effectiveness from the decoy through coordination with an onboard system.

The DDE Preliminary Design contract was awarded Dec 2016 followed by a System Requirements Review (SRR)/System Functional Review (SFR) leading to a Preliminary Development Review (PDR) in Sep 2017. The Engineering and Manufacturing Development (E&MD) Option was awarded in Sep 2017. In the DDE/E&MD effort, the program is developing and integrating Engineering Development Models (EDMs) with the System of Systems (SOS) partners to prepare for the program's test phase. Also included in the DDE/E&MD effort is the development of the Technical Data Package (TDP). The TDP is targeted to be completed and delivered in FY22. The DDE Test and Certification effort encompasses the test phase of the program. Factory Qualification Test (FQT) and developmental/operational testing will be completed as part of this effort. FQT will complete in FY22. Developmental and operational testing is scheduled to complete in FY23. Operational test results (Initial Operational Test & Evaluation) are planned to support the Full Rate Production (FRP) decision scheduled for FY23, however, reductions taken in FY23-FY26 may jeopardize the completion of operational test.

As part of the MH-60R/S Flight Certification effort, the program is required to complete NAVAIR Avionics Operating Program (AOP) software development and Flight Certification, which are critical to support fielding of the AOEW decoy. The AOP software supports integration of the AOEW decoy with the MH-60R/S airframe and is required for successful completion of Flight Certification. AOP software development will complete in FY21. Flight Certification testing includes Ground and Flight Jettison, Flight Test for Mission Performance / Spec Compliance Flight Test, Functional Software Test, and Decoy Fit and Egress Test, which ensures operational Safety of Flight and is critical to successful decoy fielding. NAVAIR Flight Certification will complete in FY23.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy	Date: May 2021
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604757N *I Ship Self Def (Engage: Soft Kill/EW)*

3321 - SEWIP Block 3 is developing an advanced Electronic Attack (EA) capability to keep pace with the evolving Anti-Ship Missile Defense (ASMD) threat and counter targeting required for the AN/SLQ-32(V) system. SEWIP Block 3 will provide the AN/SLQ-32(V)7 system for all surface ships (CVN, DDG, LHD) outfitted with the active variant of the AN/SLQ-32, mainly the (V)3 and (V)4, as well as select new construction platforms.

The SEWIP Block 3 Acquisition leverages technology developed under the Office of Naval Research's (ONR) Integrated Topside (InTop) Science and Technology (S&T) effort. SEWIP Block 3 will continue to expand the integrated shipboard combat system by providing a new integrated EA transmitter, array, and associated EA techniques. The AN/SLQ-32(V)7 integrates the new EA countermeasure (SEWIP Block 3) with the AN/SLQ-32(V)6. The AN/SLQ-32(V)6 includes an Electronic Support(ES) receiver (SEWIP Block 2), a High Gain High Sensitivity (HGHS) receiver (SEWIP Block 1B3), a Specific Emitter Identifier (SEI) receiver (SEWIP Block 1B2), display console, and backend electronics. SEWIP Block 3 includes a government software development and integration effort for a SoftKill Coordinator (SKC) to manage EA engagements. SEWIP Block 3 is developing an Electronic Warfare Test Bed (EWTB) to validate system performance via modeling and simulation.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	95.282	89.373	40.516	-	40.516
Current President's Budget	91.928	84.852	69.006	-	69.006
Total Adjustments	-3.354	-4.521	28.490	-	28.490
• Congressional General Reductions	-	-0.399			
• Congressional Directed Reductions	-	-4.122			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.014	0.000			
• SBIR/STTR Transfer	-3.340	0.000			
• Program Adjustments	0.000	0.000	30.570	-	30.570
• Rate/Misc Adjustments	0.000	0.000	-2.080	-	-2.080

Change Summary Explanation

FY2020 funding decrease of $3.340M is due to SBIR reductions. Additionally, the decrease of $.014M is due to reprogramming of funds to support higher priority Navy requirements.
FY2021 funding decrease of $4.122M is due Block 3 Government Engineering previously funded and $0.399M excess to need undistributed reduction.
FY2022 funding increase of $31.950M is the establishment of LEED funding in PU 3068 ($16.450M) and an increase for AOEW ($18.900M), and N2N6 SEWIP Reduction of ($3.400M). $3.460M reduction is due to NWCF rate and other misc adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
0954: *Shipboard EW Improvement Program*	54.920	12.967	16.302	15.917	-	15.917	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

0954 - The Surface Electronic Warfare Improvement Program (SEWIP) is segmented into Block 1A, Block 1B, Block 2, Block 3 and Soft Kill Coordination System (SKCS). Block 1A upgraded the AN/SLQ-32 pulse-processing computers. Block 1B added adjunct sensors, including Specific Emitter Identification (SEI), and High Gain High Sensitivity (HGHS) (Block 1B3), a critical improvement for extending the battle space. Block 2 enhanced Surface Electronic Warfare (EW) and provided improved Anti-Ship Missile Defense (ASMD) and situational awareness (SA) through an improved Electronic Support (ES) receiver, antenna, and combat system interface. The addition of Block 2 to Block 1B3 forms the AN/SLQ-32 (V)6. Block 3 will provide an enhanced Onboard Electronic Attack (EA) capability to improve ASMD and counter-targeting. The addition of Block 3 to AN/SLQ-32 (V)6 forms the AN/SLQ-32(V)7 system. The SKCS will provide SK weapon coordination and enhanced situational awareness to the AN/SLQ-32 (V)6 and (V)7 with EW/radar track association to support Softkill (SK) engagement decisions. EW Rapid Capability Insertion Process (RCIP) identifies system and mission capability gaps by analyzing EW baseline and fleet requirements, prioritizes those gaps based on fleet input and critical technology maturity, and develops upgrades to the AN/SLQ-32(V) product line to address those gaps. RCIP also integrates Future Naval Capability (FNC) programs into SEWIP. FY22 request supports continued support development, test and integration of SKCS with AEGIS Baseline (BL) 9 and BL 10, completion of the Softkill Performance and Real-Time Assessment (SPARTA) and SLQ-32 Tactical Simulator (TACSIM) efforts, year two efforts for RCIP #7 which analyze and design hardware upgrades to improve signal throughput and system reliability, Electronic Support Software Algorithm Enhancements for improved system performance and fielding of PCAP's new operator tools and displays for improved situation awareness.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Electronic Warfare Rapid Capability Insertion Process (EW RCIP)	12.967	16.302	15.917	0.000	15.917
Articles:	-	-	-	-	-
FY 2021 Plans: - Continue the transition of the Future Naval Capability (FNC) program SPARTA into SKCS; Utilize developed algorithms to measure and improve key features observed in Softkill (SK)engagements and EA effectiveness, and perform real-time assessment of SK performance; Continue to develop and update the interface, architecture and algorithms required for full transition into SKCS, taking into account ongoing SKCS build and capability completions; Initiate the transition of Softkill Performance and Real-Time Assessment (SPARTA) into an SKCS Build for AEGIS Advanced Build (ACB) 20. - Continue RCIP #4 SKCS efforts to address platform gaps for automatic and semi-automatic engagements using Nulka decoys, onboard Electronic Attack (EA) (AN/SLQ-32 (V)7), and offboard EA systems; Initiate					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
software development and system integration and testing activities for delivery of completed software builds with capabilities including coordination of Nulka and combination engagements with AN/SLQ-32(V)6, AN/ SLQ-32(V)7, and offboard EW for enhanced coordination technique deployment; Continue integration and testing activities in support of AEGIS ACB 20 (Baseline 10) by participating in AEGIS ACB 20 integration events and preparing a fully tested software build for element certification; Complete SKCS FQT for a software build in support of AN/SLQ-32(V)6 FQT, and continue to participate in system integration events with AN/ SLQ-32(V)6, AN/SLQ-32(V)7 and Offboard EW; Continue SSDS ACB 20, OPC, and FFG(X) integration support efforts. Initiate development of SKCS automated software test lab using cloud computing resources. - Continue SEWTT development of trainer enhancements including additional SKCS, Nulka, and Offboard EW capabilities; Continue testing, integration, and documentation of the enhanced trainer and update associated training materials. - Continue TACSIM development of variant for ship-board testing and Electronic Support simulators for use with AN/SLQ-32(V)6/7 tactical software. - Continue the prototype and demonstration of AN/SLQ-32(V)6 and AN/SLQ-32(V)7 Electronic Support (ES) system algorithm enhancements to provide advanced EW electronic sensing capabilities; Continue development activities for a new ES technique capable of addressing a new identified anti-ship missile (ASM) threat, including demonstration of the technique's effectiveness and readiness to be integrated into SEWIP. - Support the completion of final testing for Combined EO/IR Surveillance and Response System (CESARS) component Multi-spectral EO/IR Countermeasures against Advanced Threats (MEIRCAT); Complete the SKCS pre-design material required to include CESARS capability. - Continue development of methods to improve radio frequency (RF) sensor planning for the Propagation Channel Assessment and Prediction (PCAP) FNC to add the capability to convey to EW and other shipboard personnel how the current and expected RF propagation conditions are affecting the ship's passive RF sensors; Conduct research to evaluate if the effects of both surface and evaporative ducting conditions on RF propagation are currently accurately captured; Perform initial software development activities for an AN/SLQ-32(V)6 Signal Nominal Range (SNR) Tool including coding of a Tactical Computer Software Configuration Item (CSCI) for the SEWIP program to include the SNR tool functionality into the EW operator and EW supervisor tactical interfaces. - Initiate RCIP #7 HW Processing & Reliability Improvements which focus on increasing the AN/SLQ-32(V)6 operator's tactical situational awareness and confidence in both system performance and availability; Evaluate the current state of system components and analyze candidate hardware upgrades to increase system emitter processing throughput, reduce false detections/classifications, increase system fault tolerance and simplify maintenance. This RCIP must be nearly complete before starting RCIP #6 BIT & Processing Improvements because the RCIP #6 software upgrades are dependent on the system hardware configuration.					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Continue TACSIM development of variant for ship-board testing and Electronic Support simulators for use with AN/SLQ-32(V)6/7 tactical software and Aegis Virtual Twin. - Identify additional EW technology shortfalls and capability gaps based on the current and emerging Anti-Ship Missile (ASM) threats and fleet requirements; Solicit industry, University Affiliate Research Centers or government activities for technical solutions; Evaluate and select RCIP technology candidates; Evaluate RCIP technologies production readiness; Develop execution plans for selected candidates based on evaluated readiness and countermeasure technology prioritization.					
FY 2022 Base Plans: - Continue RCIP #4 SKCS efforts to address platform gaps for automatic and semi-automatic engagements using Nulka decoys, onboard Electronic Attack (EA) (AN/SLQ-32 (V)7), and offboard EA systems; Continue and complete software development and system integration and testing activities for delivery of completed software builds with capabilities including coordination of Nulka and combination engagements with AN/SLQ-32(V)6, AN/SLQ-32(V)7, and offboard EW for enhanced coordination technique deployment; Continue integration and testing activities in support of AEGIS ACB 20 (Baseline 10) by participating in AEGIS ACB 20 integration events and preparing a fully tested software build for element certification; Complete SKCS FQT for a software build in support of AN/SLQ-32(V)6 FQT, and continue to participate in system integration events with AN/ SLQ-32(V)6, AN/SLQ-32(V)7 and Offboard EW; Continue SSDS ACB 20, OPC, and FFG(X) integration support efforts. Continue development of SKCS automated software test lab using cloud computing resources. - Continue the transition of the Future Naval Capability (FNC) program, Softkill Performance and Real-Time Assessment (SPARTA) into SKCS; Utilize developed algorithms to measure and improve key features observed in Softkill (SK) engagements and EA effectiveness, and perform real-time assessment of SK performance; Continue to develop and update the interface, architecture and algorithms required for full transition into SKCS, taking into account ongoing SKCS build and capability completions; Continue the transition of SPARTA into an SKCS Build for AEGIS ACB 20. - Continue SEWTT development of trainer enhancements including additional SKCS, and Offboard EW capabilities; Initiate development of trainer enhancements for SLQ-32(V)7's Onboard EA. Complete testing, integration, and documentation of the enhanced trainer and update associated training materials. - Continue the prototype and demonstration of AN/SLQ-32(V)6 and AN/SLQ-32(V)7 Electronic Support (ES) system algorithm enhancements to provide advanced EW electronic sensing capabilities; Continue development activities for a new ES technique capable of addressing a new identified anti-ship missile (ASM) threat, including demonstration of the technique's effectiveness and readiness to be integrated into SEWIP.					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Complete development of methods to improve radio frequency (RF) sensor planning for the Propagation Channel Assessment and Prediction (PCAP) FNC to add the capability to convey to EW and other shipboard personnel how the current and expected RF propagation conditions are affecting the ship's passive RF sensors; Complete software development activities for an AN/SLQ-32(V)6 Signal Nominal Range (SNR) Tool including coding of a Tactical Computer Software Configuration Item (CSCI) for the SEWIP program to include the SNR tool functionality into the EW operator and EW supervisor tactical interfaces. Initiate development of a shore-based data server to store data sets that support the SNR tool. - Continue RCIP #7 HW Processing & Reliability improvements which focus on increasing the AN/SLQ-32(V)6 operator's tactical situational awareness and confidence in both system performance and availability; Evaluate the current state of system components and analyze candidate hardware upgrades to increase system emitter processing throughput, reduce false detections/classifications, increase system fault tolerance and simplify maintenance. Develop a system product baseline in preparation for implementation of a system prototype. Initiate collaborative development with the SLQ-32 Signal Identification Improvement (SI2) FNC. - Identify additional EW technology shortfalls and capability gaps based on the current and emerging Anti-Ship Missile (ASM) threats and fleet requirements; Solicit industry, University Affiliate Research Centers or government activities for technical solutions; Evaluate and select RCIP technology candidates; Evaluate RCIP technologies production readiness; Develop execution plans for selected candidates based on evaluated readiness and countermeasure technology prioritization. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Decrease of $0.385M in FY2022 due to minor program and rate adjustments.					
Accomplishments/Planned Programs Subtotals	12.967	16.302	15.917	0.000	15.917

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• OPN LI 2312: *OPN BA-2 AN/SLQ-32(V)*	340.706	353.961	370.559	-	370.559	-	-	-	-	-	-
• OMN PE 024575N: *OMN BA-1 AN/SLQ-32(V)*	5.920	4.577	4.628	-	4.628	-	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

RCIP matures, develops and validates technology solutions to address requirements gaps for insertion into SEWIP Block upgrades. Technology solutions result in Government owned technical data packages with Government owned data rights. Solutions are incorporated into the SEWIP Block technical data packages for incorporation into production and/or back-fit of fielded systems. Acquisition strategy supports full and open completion for technical solutions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RCIP #4 SKCS	SS/CPFF	JHU APL : Laurel, MD	5.635	2.010	Nov 2019	2.326	Dec 2020	2.185	Dec 2021	-		2.185	-	-	-
RCIP #4 SKCS	WR	NSWC Dahlgren : Dahlgren, VA	9.895	5.498	Nov 2019	5.643	Nov 2020	5.310	Nov 2021	-		5.310	-	-	-
RCIP #5 TACSIM	WR	NSWC Dahlgren : Dahlgren, VA	4.671	0.252	Nov 2019	0.387	Nov 2020	0.224	Nov 2021	-		0.224	-	-	-
SEWTT Development	SS/CPFF	EWA : Fairmont, WV	0.665	0.485	Nov 2019	0.620	Nov 2020	0.549	Nov 2021	-		0.549	-	-	-
CESARS	WR	NRL : Washington, DC	0.937	0.244	Nov 2019	0.230	Nov 2020	0.000		-		0.000	-	-	-
PCAP	WR	NRL : Washington DC	0.000	0.227	Nov 2019	0.300	Nov 2020	0.000		-		0.000	-	-	-
PCAP	C/CPFF	LM : Syracuse, NY	0.000	0.000		0.570	Nov 2020	0.200	Nov 2021	-		0.200	-	-	-
RCIP #7 HW Processing & Reliability Improvements	C/CPFF	LM : Syrause, NY	0.000	0.000	Nov 2020	2.406	Nov 2020	3.619	Nov 2021	-		3.619	-	-	-
AN/SLQ-32(V)6 and (V)7 SW Algorithm Enhancements	MIPR	MIT : Hanscom AFB, MA	0.325	0.301	Jan 2020	0.350	Jan 2021	0.352	Jan 2022	-		0.352	-	-	-
RCIP #4 SKCS	C/CPFF	IDT : San Jose, CA	0.000	0.100	Apr 2020	0.250	Apr 2021	0.251	Apr 2022	-		0.251	-	-	-
		Subtotal	22.128	9.117		13.082		12.690		-		12.690	-	-	N/A

Remarks

Since the FY21 President's Budget request, FY20 RCIP #5 TACSIM, CESARS and PCAP Product Development funds decreased for realignment of funds to a higher Navy priority SEWIP Block 3 task. The FY20 reductions to TACSIM will delay scheduled improvements from FY20 to FY22 including the SEWTT Driven Tactical Simulator, NGS Scenario Driver and AN/SLQ-32(V)7 upgrades. The FY20 reductions to CESARS postponed an at-sea test of the EO/IR technology. The Advanced Above Water Sensors (PE 0604501N) Shipboard Panoramic Electro-Optical Infrared (SPEIR) program is the recipient of CESARS technology and will complete the deferred tasking as part of its test program. The FY20 PCAP reductions were offset via cost savings in FY21 realized through more efficient software integration methods practiced at LM Syracuse. FY20 RCIP #4 SKCS Product Development funds increased to develop high priority automated software test tools and procedures.

In FY21, RCIP #7 initiated to develop hardware to increase system emitter processing throughput, reduce false detections/classifications, increase system fault tolerance and simplify maintenance. This RCIP must be nearly complete before starting RCIP #6 BIT & Processing Improvements because the RCIP #6 software upgrades are dependent on the system hardware configuration. RCIP #6 initiates in FY24 due to this dependency. In FY21, RCIP #4 SKCS Product Development tasking shifted from JHU APL to NSWC Dahlgren to better align engineering resources. An FY21 increase to TACSIM was to offset the FY20 Blk 3 BTR, and the increase to SEWTT was driven by the need to add training enhancements for onboard EA. The Advanced Above Water Sensors (PE 0604501N) Shipboard Panoramic Electro-Optical Infrared (SPEIR) program is the recipient of CESARS technology and will complete the deferred tasking as part of its test program - this led to reductions in CESARS product development and T&E for FY21.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 1 Government Engineering Support	WR	NSWC Dahlgren : Dahlgren, VA	7.597	0.431	Nov 2019	0.171	Nov 2020	0.188	Nov 2021	-		0.188	-	-	-
Block 1 Government Engineering Support	WR	NSWC Crane : Crane, IN	5.828	0.437	Nov 2019	0.499	Nov 2020	0.437	Nov 2021	-		0.437	-	-	-
Block 1 Government Engineering Support	WR	NRL : Washington, DC	4.306	0.211	Nov 2019	0.000		0.000		-		0.000	-	-	-
Block 1 Government Engineering Support	SS/CPFF	APL : Laurel, MD	3.500	0.268	Nov 2019	0.280	Nov 2020	0.281	Nov 2021	-		0.281	-	-	-
Block 1 Government Engineering Support	MIPR	MIT : Hanscom AFB, MA	1.832	0.760	Nov 2019	0.828	Nov 2020	0.876	Nov 2021	-		0.876	-	-	-
Block 1 Government Engineering Support	MIPR	DISA : Fort Meade, MD	0.050	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	23.113	2.107		1.778		1.782		-		1.782	-	-	N/A

Remarks

In FY21, SKCS support shifted from NSWC Dahlgren and JHU APL to Block 1 Program Management (TMB, SPA) support to better align resources.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RCIP Test Planning/T&E Events	WR	NSWC Dahlgren : Dahlgren, VA	2.745	0.436	Nov 2019	0.442	Nov 2020	0.445	Nov 2021	-		0.445	-	-	-
RCIP Test Planning/T&E Events	WR	NSWC Crane : Crane, IN	0.889	0.000		0.000		0.000		-		0.000	-	-	-
RCIP Test Planning/T&E Events	WR	NRL : Washington, DC	2.046	0.430	Nov 2019	0.000		0.000		-		0.000	-	-	-
RCIP Test Planning/T&E Events	SS/CPFF	APL : Laurel, MD	0.100	0.000		0.000		0.000		-		0.000	-	-	-
RCIP Test Planning/T&E Events	WR	COMOPTEVFOR : Norfolk, VA	0.104	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	5.884	0.866		0.442		0.445		-		0.445	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

The Advanced Above Water Sensors (PE 0604501N) Shipboard Panoramic Electro-Optical Infrared (SPEIR) program is the recipient of CESARS technology and will complete the deferred tasking as part of its test program - this led to reductions in CESARS product development and T&E for FY21. NSWC Dahlgren T&E funding was reduced due to an increase in automated test tools and procedures.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 1 Program Management Support	C/CPIF	TMB (SEAPORT) : Washington, D.C.	1.015	0.283	Nov 2019	0.400	Nov 2020	0.400	Nov 2021	-		0.400	-	-	-
Block 1 Program Management Support	C/CPIF	SPA : Washington, DC	0.964	0.262	Nov 2019	0.380	Nov 2020	0.380	Nov 2021	-		0.380	-	-	-
Block 1 Program Managment Support	C/CPIF	CACI (SEAPORT) : Washington, DC	0.450	0.312	Nov 2019	0.200	Nov 2020	0.200	Nov 2021	-		0.200	-	-	-
Block 1 Travel	Sub Allot	NAVSEA Program Office Travel : Washington, DC	1.366	0.020	Nov 2019	0.020	Nov 2020	0.020	Nov 2021	-		0.020	-	-	-
		Subtotal	3.795	0.877		1.000		1.000		-		1.000	-	-	N/A

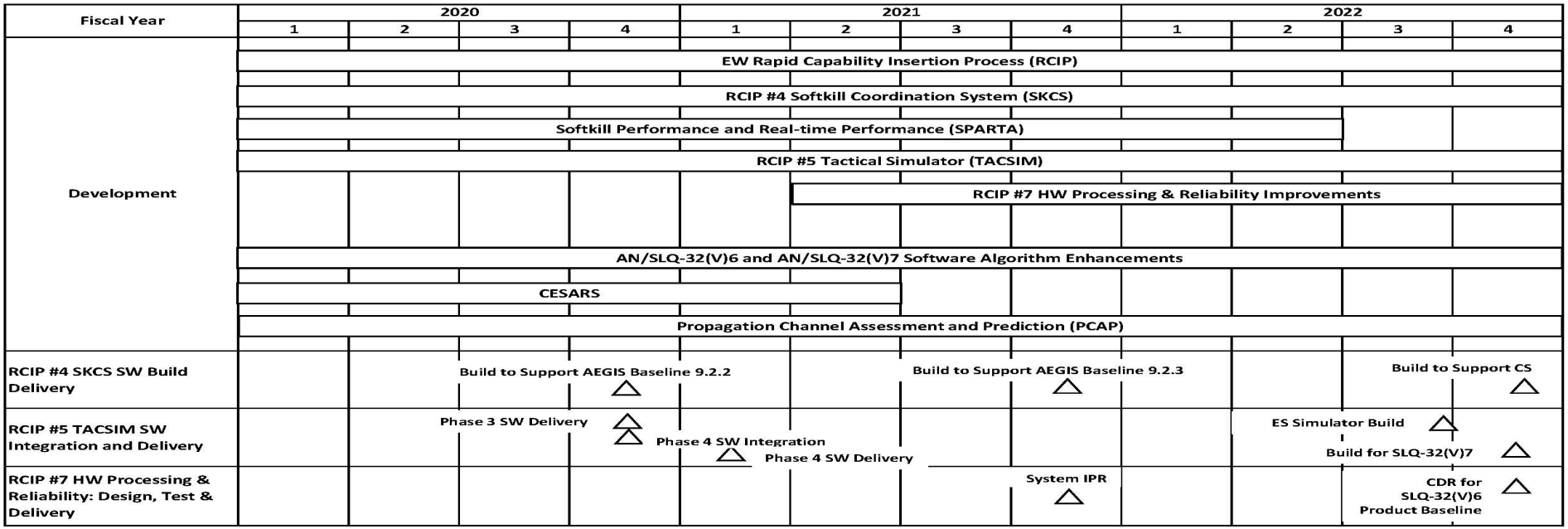
Remarks

In FY21, SKCS support shifted from NSWC Dahlgren and JHU APL to Block 1 Program Management (TMB, SPA) support to better align resources.

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	54.920	12.967		16.302		15.917		-		15.917	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*



Acronyms: CESARS - Combined EO/IR Surveillence and Response System; CS - Combat System; IPR - In-Process Review; CDR - Critical Design Review

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0954				
EW Rapid Capability Insertion Process (RCIP)	1	2020	4	2022
RCIP #4: SKCS	1	2020	4	2022
Softkill Performance and Real-Time Assessment (SPARTA)	1	2020	2	2022
RCIP #5 TACSIM	1	2020	4	2022
AN/SLQ-32(V)6 and AN/SLQ-32(V)7 Software Algorithm Enhancements	1	2020	4	2022
Combined EO/IR Surveillance and Response System (CESARS)	1	2020	2	2021
Propagation Channel Assessment and Prediction	1	2020	4	2022
RCIP #4 SKCS SW Build Delivery	4	2020	4	2022
RCIP #5 TACSIM SW Integration and Delivery	4	2020	4	2022
RCIP #7: HW Processing & Reliability Improvements	2	2021	4	2022
RCIP #7: HW Processing & Reliability Improvements - System Prototype Delivery	4	2021	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 2190 / *NULKA Decoy*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2190: *NULKA Decoy*	47.232	4.891	5.267	6.711	-	6.711	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Offboard Active Decoy (Nulka) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. Nulka counters a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. FY22 funding includes Decoy Launcher Processor (DLP) technology refresh to address threat and obsolescence issues. The Decoy Launch Message Convertor (DLMC) development effort consists of development of the DLMC, delivery of Engineering Development Models (EDMs) to support Factory Qualification Testing (FQT) and Environmental Qualification Testing (EQT), and development of the Objective Architecture software to improve employment of the Nulka system.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: NULKA Decoy Subsystem	4.891	5.267	6.711	0.000	6.711
Articles:	-	-	-	-	-
FY 2021 Plans: - Conduct engineering and effectiveness studies to evaluate new and existing threats; update Fly-Out Tactics table for specific platforms (as appropriate) - Develop and complete NULKA-X/Y modeling and simulation tools and update lab equipment to support threat assessments - Continue Decoy Launch Processor (DLP) technology refresh to design and develop hardware obsolescence solutions - Deliver Decoy Launch Processor Program (DLPP)6_8 software that will integrate with NULKA-X/Y - Continue and complete development of DLPP 6_9 software that will integrate with SKCS and Advanced Nulka Decoy - Continue development of the Decoy Launch Message Convertor (DLMC) - Deliver DLMC Engineering Development Models (EDMs) to support Factory Qualification Testing (FQT) and Environmental Qualification Testing (EQT) to improve employment of the Nulka system - Commence planning for FQT/EQT					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Initiate DLMC FQT test execution ***FY 2022 Base Plans:*** - Continue engineering and effectiveness studies to evaluate new and existing threats; update Fly-Out Tactics table for specific platforms (as appropriate) - Continue DLP technology refresh to design and develop hardware obsolescence solutions - Commence integration of DLPP6_9 with Softkill Coordinator Subsystem (SKCS) and Advanced Nulka Decoy - Continue development of the DLMC - Conduct DLMC FQT/EQT - Commence development of Objective Architecture software ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase of $1.444M in FY22 funding is for the development of objective architecture software, which supports Factory Qualification Testing (FQT) and Environmental Qualification Testing (EQT).					
Accomplishments/Planned Programs Subtotals	4.891	5.267	6.711	0.000	6.711

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• OPN/5530: *Anti-Ship Missile Decoy System*	37.452	72.056	76.994	-	76.994	-	-	-	-	-	-
• OMN/11CD0 (1C1C): *NULKA*	4.878	6.853	7.624	-	7.624	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Nulka is a joint cooperative program between United States and Australia.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 2190 / *NULKA Decoy*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NRL : Washington, DC	21.277	1.699	Nov 2019	1.609	Dec 2020	2.230	Nov 2021	-		2.230	-	-	-
Systems Engineering	WR	NSWC Dahlgren : Dahlgren, VA	15.901	1.671	Jan 2020	1.882	Nov 2020	2.217	Nov 2021	-		2.217	-	-	-
Systems Engineering	WR	NSWC Crane : Crane, IN	7.867	1.064	Nov 2019	1.410	Nov 2020	1.758	Nov 2021	-		1.758	-	-	-
		Subtotal	45.045	4.434		4.901		6.205		-		6.205	-	-	N/A

Remarks

FY22 NRL increase is due to the continuing development of objective architecture for SKCS.

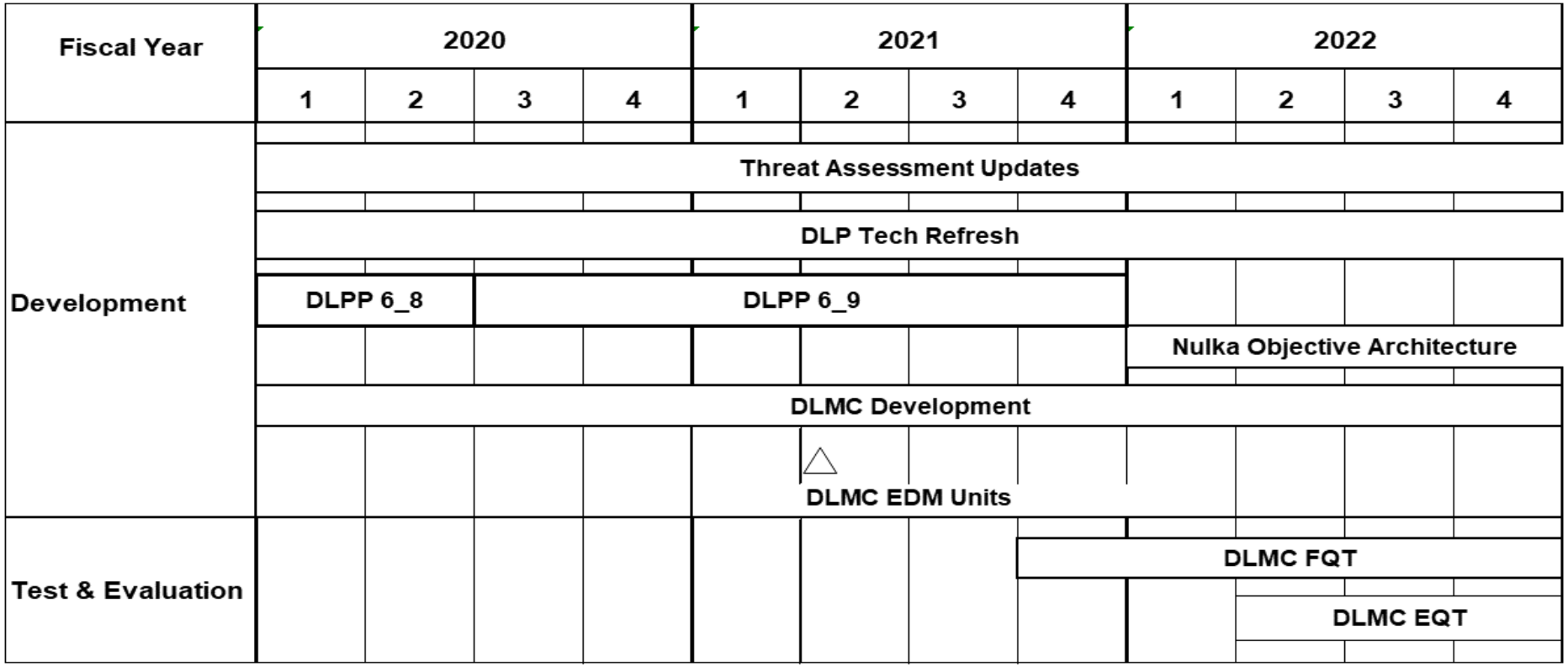
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	ICI (SEAPORT) : Washington, DC	0.323	0.000		0.000		0.000		-		0.000	-	-	-
Program Management Support	C/CPIF	TMB (SEAPORT) : Washington, DC	0.465	0.105	Jun 2020	0.107	Nov 2020	0.123	Nov 2021	-		0.123	-	-	-
Program Management Support	C/CPIF	SPA : Washington, DC	0.701	0.332	Mar 2020	0.254	Jul 2021	0.368	Nov 2021	-		0.368	-	-	-
Travel	Allot	NAVSEA Program Office Travel : Washington, DC	0.698	0.020	Nov 2019	0.005	Nov 2020	0.015	Nov 2021	-		0.015	-	-	-
		Subtotal	2.187	0.457		0.366		0.506		-		0.506	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	47.232	4.891		5.267		6.711		-		6.711	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*



Acronyms: DLMC - Decoy Launch Message Convertor; DLP - Decoy Launch Processor; DLPP - Decoy Launch Processor Program; EDM - Engineering Development Models; EQT - Environmental Qualification Testing; FQT - Factory Qualification Testing;

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2190				
Threat Assessment Updates	1	2020	4	2022
Decoy Launch Processor (DLP) Tech Refresh	1	2020	4	2022
Decoy Launch Processor Program (DLPP 6_8)	1	2020	2	2020
Decoy Launch Message Convertor (DLMC) Development	1	2020	4	2022
Decoy Launch Processor Program (DLPP 6_9)	3	2020	4	2021
DLMC Engineering Development Model (EDM) Units	2	2021	2	2021
DLMC Facotry Qualification Testing (FQT)	4	2021	4	2022
DLMC Environmental Qualification Testing (EQT)	2	2022	4	2022
Nulka Objective Architecture	1	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3068 / *Long Endurance Electronic Decoy (LEED)*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3068: *Long Endurance Electronic Decoy (LEED)*	0.000	0.000	0.000	14.183	-	14.183	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

This project is a new start in FY 2022

A. Mission Description and Budget Item Justification

3068 - The Long Endurance Electronic Decoy (LEED) program will deliver an expendable long endurance autonomous off-board decoy Countermeasure system, comprised of a flight vehicle and Radio Frequency (RF) payload with modular capability allowing for rapid evolution of the Electronic Warfare (EW) payload. LEED will integrate with SLQ-32 and address EW gaps in response to a fleet requirement to counter Anti-Ship Missile (ASM) threats. LEED will provide the fleet with enhanced EW coordination and capability, including the ability to stretch engagement timelines and counter heterogeneous missile attacks.

LEED Countermeasure Development Phase 1 includes competitive development of operational-level Countermeasure prototypes that demonstrate and validate critical capabilities, including flight performance and RF functionality. LEED Countermeasure Development Phase 2 will build on the critical technologies from Phase 1 to develop production-representative Engineering Development Models (EDMs). The FY22 LEED effort includes Phase 1 development of LEED Countermeasure prototypes, including hardware procurements and all development activities required to procure, design, and integrate hardware and software components.

LEED will be developed alongside the Office of Naval Research (ONR) Long Endurance Airborne Platform (LEAP) Project, which begins in FY21. In FY22, LEED Countermeasure Development Phase 1 will be initiated, which will leverage technologies developed and matured under the ONR LEAP Project.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Long Endurance Electronic Decoy (LEED)	0.000	0.000	14.183	0.000	14.183
Articles:	-	-	-	-	-
FY 2021 Plans: N/A					
FY 2022 Base Plans: This Project is a new start in FY22. - Initiate Long Endurance Electronic Decoy (LEED) Countermeasure Development Phase 1 with competitive development of a minimum of two LEED Countermeasure prototypes, which are each comprised of: (1) a long duration autonomous flight vehicle; and (2) a modular Radio Frequency (RF) Electronic Warfare (EW) payload.					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3068 / *Long Endurance Electronic Decoy (LEED)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Procure hardware components necessary to meet a subset of Technical Performance Measures (TPMs). - Execute non-recurring engineering design, software development, and contract support activities in order to develop functional countermeasure systems that meet a subset of specified TPMs. - Initiate integration of payloads and flight vehicles into functional countermeasure systems. - Develop preliminary concepts for a new or modified ship launch system based on feasibility studies for two courses of action including modification of an existing decoy ship launch system and development of a new ship launch system. - Develop test procedures and facilities to demonstrate prototype performance that meets specified TPMs, with a focus on RF performance test procedures. - Implement an Integrated Product Team (IPT) to support requirements, systems engineering, testing, and product support. - Develop modeling and simulation tools to support threat and countermeasure performance assessments. - Conduct In Process Reviews (IPRs) to demonstrate initial countermeasure system development progress, risks, and performance. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** FY22 $14.183M is the first year of funding for LEED. This project is a new start in FY22.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	14.183	0.000	14.183

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

To accomplish the LEED Countermeasure Development, Other Transaction Authority (OTA) contracts will be utilized for competitive development by multiple vendors in a cooperative acquisition approach with the Office of Naval Research (ONR). ONR will initiate technology maturation efforts in FY21 as part of their Long Endurance Airborne Platform (LEAP) project, which LEED will capitalize on. The FY21 ONR efforts will allow for the matured technologies in LEAP to be leveraged sooner by LEED and support the overall LEED development and fielding timeline. Multiple vendors will be utilized in order to introduce competition and incentivize performance with continued development opportunities. OTA contracts will be utilized through Low Rate Initial Production (LRIP) with a transition to Federal Acquisition Regulation (FAR)-based contracting for Full Rate Production (FRP).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3068 / *Long Endurance Electronic Decoy (LEED)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LEED Rapid Development-A	TBD	Activity A : TBD	0.000	0.000		0.000		5.711	Nov 2021	-		5.711	-	-	-
LEED Rapid Development-B	TBD	Activity B : TBD	0.000	0.000		0.000		5.711	Nov 2021	-		5.711	-	-	-
		Subtotal	0.000	0.000		0.000		11.422		-		11.422	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.000		0.000		0.364	Nov 2021	-		0.364	-	-	-
Technical Support	WR	NSWC Crane : Crane, IN	0.000	0.000		0.000		0.160	Nov 2021	-		0.160	-	-	-
Technical Support	WR	NRL : Washington, DC	0.000	0.000		0.000		0.642	Nov 2021	-		0.642	-	-	-
Systems Engneering Support	SS/CPFF	APL : Laurel, MD	0.000	0.000		0.000		0.136	Nov 2021	-		0.136	-	-	-
Technical Support	MIPR	MT-LL : Boston, MA	0.000	0.000		0.000		0.136	Nov 2021	-		0.136	-	-	-
		Subtotal	0.000	0.000		0.000		1.438		-		1.438	-	-	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation Support	WR	NRL : Washington, DC	0.000	0.000		0.000		0.642	Nov 2021	-		0.642	-	-	-
Test and Evaluation Support	WR	NSWC Crane : Crane, IN	0.000	0.000		0.000		0.079	Nov 2021	-		0.079	-	-	-
		Subtotal	0.000	0.000		0.000		0.721		-		0.721	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3068 / *Long Endurance Electronic Decoy (LEED)*

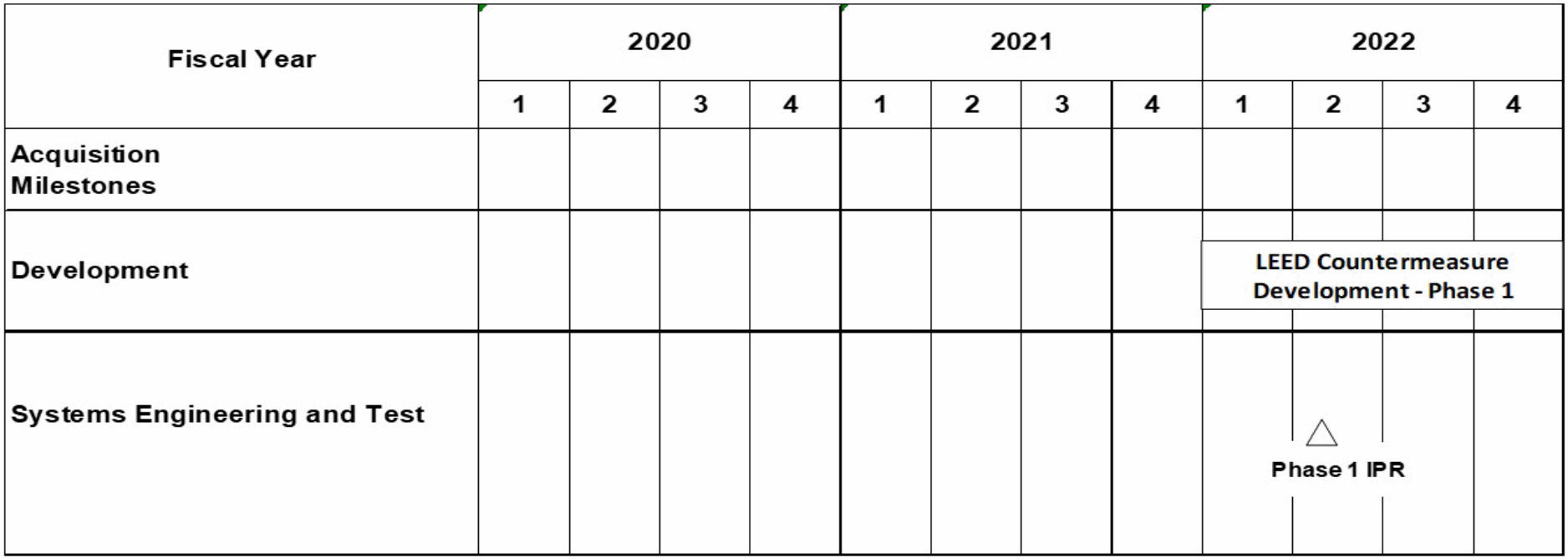
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	TMB : Washington, DC	0.000	0.000		0.000		0.281	Nov 2021	-		0.281	-	-	-
Program Management Support	C/CPIF	SPA : Washington, DC	0.000	0.000		0.000		0.281	Nov 2021	-		0.281	-	-	-
Travel	Sub Allot	NAVSEA Program Office : Washington, DC	0.000	0.000		0.000		0.040	Nov 2021	-		0.040	-	-	-
		Subtotal	0.000	0.000		0.000		0.602		-		0.602	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		14.183		-		14.183	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3068 / *Long Endurance Electronic Decoy (LEED)*



Acronyms: IPR - In Progress Review

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3068 / *Long Endurance Electronic Decoy (LEED)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3068				
LEED Countermeasure Development Phase 1	1	2022	4	2022
Phase 1 In Progress Review (IPR)	2	2022	2	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3316: *Advanced Offboard EW*	231.449	50.153	44.614	28.843	-	28.843	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

3316 - The Advanced Offboard EW (AOEW) program is for the development of long duration off-board decoys integrated with onboard systems for EW coordination to counter identified EW gaps (additional details classified) in response to an urgent operational need from the Fleet that has been approved by the CNO for execution. Currently no counter to the threat exists. In FY 2012, the program began with a Rapid Response Effort (RRE) which was completed in FY 2014. The RRE consisted of the evaluation and integration of commercially available decoys. The Decoy Development Effort (DDE) consists of the development and evaluation of a long duration, active electronic offboard decoy system (payload) integrated on an existing flight vehicle (MH-60R/MH-60S), integration with ship and air systems, and a government software development effort to integrate AOEW into the Soft Kill Coordination System (SKCS) to gain maximum effectiveness from the decoy through coordination with an onboard system.

The DDE Preliminary Design contract was awarded Dec 2016 followed by a System Requirements Review (SRR)/System Functional Review (SFR) leading to a Preliminary Development Review (PDR) in Sep 2017. The Engineering and Manufacturing Development (E&MD) Option was awarded in Sep 2017. In the DDE/E&MD effort, the program is developing and integrating Engineering Development Models (EDMs) with the System of Systems (SOS) partners to prepare for the program's test phase. Also included in the DDE/E&MD effort is the development of the Technical Data Package (TDP). The TDP is targeted to be completed and delivered in FY22. The DDE Test and Certification effort encompasses the test phase of the program. Factory Qualification Test (FQT) and developmental/operational testing will be completed as part of this effort. FQT will complete in FY22. Developmental and operational testing is scheduled to complete in FY23. Operational test results (Initial Operational Test & Evaluation) are planned to support the Full Rate Production (FRP) decision scheduled for FY23, however, reductions taken in FY23-FY26 may jeopardize the completion of operational test.

As part of the MH-60R/S Flight Certification effort, the program is required to complete NAVAIR Avionics Operating Program (AOP) software development and Flight Certification, which are critical to support fielding of the AOEW decoy. The AOP software supports integration of the AOEW decoy with the MH-60R/S airframe and is required for successful completion of Flight Certification. AOP software development will complete in FY21. Flight Certification testing includes Ground and Flight Jettison, Flight Test for Mission Performance / Spec Compliance Flight Test, Functional Software Test, and Decoy Fit and Egress Test, which ensures operational Safety of Flight and is critical to successful decoy fielding. NAVAIR Flight Certification will complete in FY23.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: AOEW - Decoy Development Effort (DDE) Government Engineering	14.441	14.912	13.662	0.000	13.662
Articles:	-	-	-	-	-
FY 2021 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Commence and complete updates to the Capability Development Document (CDD) document - Complete MS-C planning and documentation preparation - Conduct MS-C - Continue support of development of Technical Data Package (TDP) - Commence support of Security Software development - Continue Battery Certification - Commence support of AOEW Model Development - Continue identification of and update of test assets needed to support Operational Testing - Continue Technique Verification - Continue tactics development and continue tactics analysis - Continue support of Environmental/Electro-Magnetic Interference (EMI) Test Planning - Continue support of Factory Qualification Test (FQT) Planning - Conduct Developmental Test (DT) Assist - Complete support of Test and Certification - Commence and complete support of Factory Acceptance Tests (FAT) on 3 EDMs - Continue integration of ship and air interfaces - Continue interoperability analysis to ensure all System Of Systems (SOS) are compatible - Complete development and continue testing of Avionics Operating Program (AOP) to update MH-60R/S software necessary for AOEW decoy and Helicopter integration - Continue Engineering Data Requirements Agreement Plan (EDRAP) development - Continue NAVAIR MH-60R/S Flight Certification Testing - Continue sustainment and training plan development - Continue Installation Planning - Commence and complete support of Engagement Demonstrations (Events 1-7)					
FY 2022 Base Plans: - Complete support of development of TDP - Complete support of Security Software development - Complete Battery Certification - Complete support of AOEW Model Development - Continue identification of and update of test assets needed to support Operational Testing - Complete Technique Verification - Complete tactics development and continue tactics analysis					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Complete support of EMI Test Planning - Complete support of FQT Planning - Commence and complete support of FQT - Continue integration of ship and air interfaces - Continue interoperability analysis to ensure all SOS are compatible - Commence Developmental Testing - Continue testing of AOP to update MH-60R/S software necessary for AOEW decoy and helicopter integration - Continue EDRAP development - Continue NAVAIR MH-60R/S Flight Certification Testing - Continue sustainment and training plan development - Continue Installation Planning ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Slight decrease of $1.25M for Government Engineering in FY22 aligns with program requirements.					
Title: AOEW - Decoy Development Effort (DDE) Development	35.712	29.702	15.181	0.000	15.181
Articles:	-	-	-	-	-
FY 2021 Plans: - Complete support of MS-C planning and documentation preparation - Support MS-C - Continue EDM Hardware and Software development and integration - Continue assembly of 1 EDM - Complete assembly of 3 EDMs - Continue development of Technical Data Package (TDP) - Commence Security Software development - Continue support of battery certification - Commence AOEW Model Development - Continue support of Technique Verification - Continue Environmental/EMI Test planning - Continue Factory Qualification Test (FQT) planning - Complete support of Developmental Test (DT) Assist					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Conduct Factory Acceptance Tests (FAT) on 3 EDMs - Continue integration support of Ship and Air interfaces - Complete support of Avionics Operating Program (AOP) to update MH-60R and MH-60S software necessary for AOEW decoy and Helicopter integration and continue support of AOP testing - Continue support of NAVAIR flight certification testing of EDMs - Continue support of Sustainment and Training Plan Development - Commence and conduct Engagement Demonstrations (Events 1-7) ***FY 2022 Base Plans:*** - Complete EDM Hardware and Software development and integration - Complete assembly and delivery of 1 EDM - Complete delivery of 3 EDMs - Complete development of TDP - Complete Security Software development - Complete support of battery certification - Complete AOEW Model Development - Complete support of Technique Verification - Complete Environmental/EMI Test planning - Complete FQT planning - Conduct FQT - Continue integration support of Ship and Air interfaces - Continue support of AOP MH-60R and MH-60S software testing necessary for AOEW decoy and Helicopter integration - Continue support for NAVAIR flight certification testing of EDMs - Continue support of Sustainment and Training Plan Development ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Decrease of $14.521M for Development Engineering in FY22 is primarily due to the completion of assembly and test of three EDMs and support of AOP software development.					
Accomplishments/Planned Programs Subtotals	50.153	44.614	28.843	0.000	28.843

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• OPN/5530: *Anti-ship Missile Decoy System*	0.000	18.371	18.595	-	18.595	-	-	-	-	-	-

Remarks

OPN Controls reflect the following Line Item 5530 Project Unit (PU) under the 'ANTI-SHIP MISSILE DECOY SYSTEM' program: VV500.

D. Acquisition Strategy

The AOEW DDE decoy is being competitively contracted and developed, and builds on technologies and concepts currently in development by ONR.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Concept Analysis and Integration Assessment	SS/CPFF	APL : Laurel, MD	11.707	0.000		0.000		0.000		-		0.000	-	-	-
Concept Analysis and Technology Studies	MIPR	MIT-LL : Boston, MA	4.857	0.000		0.000		0.000		-		0.000	-	-	-
Concept Development and Technology Studies	WR	NRL : Washington, D.C.	25.856	0.000		0.000		0.000		-		0.000	-	-	-
Technology Development and Systems Requirements	WR	NSWC Dahlgren : Dahlgren, VA	14.595	0.000		0.000		0.000		-		0.000	-	-	-
DDE Avionics Development	WR	NAVAIR : Patuxent River, MD	11.664	4.673	Nov 2019	2.200	Nov 2020	2.500	Nov 2021	-		2.500	-	-	-
DDE Preliminary Design/ E&MD	C/CPIF	Lockheed Martin : Syracuse, NY	82.437	35.712	Nov 2019	29.702	Nov 2020	15.181	Nov 2021	-		15.181	-	-	-
Ship Integration	WR	SPAWAR : San Diego, CA	0.975	0.000		0.000		0.000		-		0.000	-	-	-
Ship Integration	WR	NSWC Dahlgren : Dahlgren, VA	0.330	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	152.421	40.385		31.902		17.681		-		17.681	-	-	N/A

Remarks

Since PB21, increase in Product Development funding in FY21 is required to support critical Lockheed Martin Engineering Development Model (EDM) assembly, integration and test, and delivery. FY22 funding is required to complete delivery of 4 EDMs, complete development of Technical Data Package, to conduct Factory Qualification Testing, and to complete battery certification and security software development

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Development Support	WR	NRL : Washington, DC	16.906	2.286	Nov 2019	2.267	Nov 2020	1.419	Nov 2021	-		1.419	-	-	-
Government Development and Engineering Support	WR	NSWC Dahlgren : Dahlgren, VA	13.334	0.941	Dec 2019	0.700	Nov 2020	0.900	Nov 2021	-		0.900	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NSWC Crane : Crane, IN	15.844	1.659	Nov 2019	2.419	Nov 2020	1.620	Nov 2021	-		1.620	-	-	-
Logistics/Training	SS/CPFF	EWA : Fairmont, WV	1.616	0.000		0.000		0.000		-		0.000	-	-	-
Government Engineering Support	WR	NSWC Carderock : Bethesda, MD	1.208	0.095	Jan 2020	0.191	Nov 2020	0.050	Nov 2021	-		0.050	-	-	-
Systems Engineering Support	SS/CPFF	APL : Laurel, MD	7.386	0.395	Jan 2020	0.452	Nov 2020	0.100	Nov 2021	-		0.100	-	-	-
Government Development Support	WR	NAVAIR : Patuxent River, MD	5.603	0.588	Nov 2019	0.790	Nov 2020	0.900	Nov 2021	-		0.900	-	-	-
Systems Engineering Support	MIPR	MIT-LL : Boston, MA	0.034	0.000		0.000		0.000		-		0.000	-	-	-
Program Management Support	MIPR	DISA : Pensacola, FL	0.195	0.000		0.000		0.000		-		0.000	-	-	-
Installation Support	WR	Supship : Bath, ME	0.098	0.000		0.000		0.000		-		0.000	-	-	-
Integrated Logistics Assessment	WR	NSWC PHD : Port Hueneme, CA	0.000	0.021	Mar 2020	0.000		0.000		-		0.000	-	-	-
Integrated Logistics Assessment	WR	NSWC Panama City : Panama City Beach, FL	0.000	0.009	Mar 2020	0.000		0.000		-		0.000	-	-	-
Integrated Logistics Assessment	WR	NAVSUP WSS : Philadelphia, PA	0.000	0.004	Mar 2020	0.000		0.000		-		0.000	-	-	-
Integrated Logistics Assessment	WR	NSWC IHEOD : Indian Head, MD	0.000	0.004	Mar 2020	0.007	Jan 2021	0.000		-		0.000	-	-	-
Engineering Services	C/BA	Lockheed Martin : Syracuse, NY	0.000	0.000		0.000		0.000		-		0.000	-	-	-
Battery Design	WR	NSWC Philadelphia : Philadelphia, PA	0.000	0.000		0.000		0.000		-		0.000	-	-	-
MRTS Support	WR	NAWC TSD : Orlando, FL	0.000	0.015	Oct 2020	0.000		0.000		-		0.000	-	-	-
Ship Integration	WR	NIWC PAC : San Diego, CA	0.000	0.000		0.028	Jan 2021	0.000		-		0.000	-	-	-
		Subtotal	62.224	6.017		6.854		4.989		-		4.989	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Since PB21, FY21 funding was realigned from Support to Product Development to execute critical Lockheed Martin Engineering Development Model (EDM) assembly, integration and test. FY22 funding is required to support the program's transition to procurement.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Planning and Development Testing	WR	NRL : Washington, DC	4.551	0.662	Nov 2019	2.076	Nov 2020	0.720	Nov 2021	-		0.720	-	-	-
Test Planning and Development Testing	WR	NSWC/Dahlgren : Dahlgren, VA	3.213	0.466	Dec 2019	0.974	Nov 2020	1.000	Nov 2021	-		1.000	-	-	-
Test Planning and Development Testing	WR	NSWC Crane : Crane, IN	1.426	0.002	Nov 2019	0.043	Nov 2020	0.150	Nov 2021	-		0.150	-	-	-
Test Planning and Development Testing	WR	NAVAIR : Patuxent River, MD	2.924	2.370	Nov 2019	2.632	Nov 2020	4.000	Nov 2021	-		4.000	-	-	-
Test Planning and Development Testing	WR	OPTEVFOR : Norfolk, VA	0.674	0.060	Nov 2019	0.033	Nov 2020	0.088	Nov 2021	-		0.088	-	-	-
Test Planning and Development Testing	SS/CPFF	APL : Laurel, MD	0.000	0.000		0.000		0.200	Nov 2021	-		0.200	-	-	-
		Subtotal	12.788	3.560		5.758		6.158		-		6.158	-	-	N/A

Remarks

Since PB21, FY21 funding was realigned from Test and Evaluation to Product Development to execute critical Lockheed Engineering Development Model (EDM) assembly, integration and test. Funding in FY22 is required to execute critical developmental and NAVAIR Flight Certification testing.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

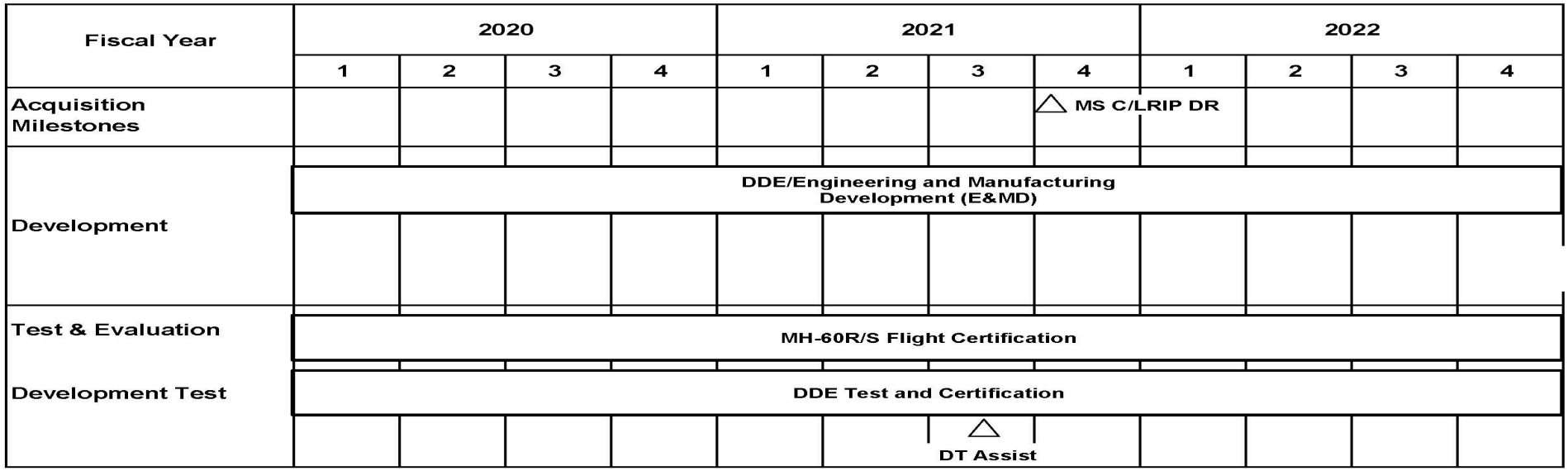
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	CACI (SEAPORT) : Washington, DC	1.170	0.000		0.000		0.000		-		0.000	-	-	-
Program Management Support	C/CPIF	SPA : Washington, DC	0.821	0.000		0.000		0.000		-		0.000	-	-	-
Program Management Support	C/CPIF	TMB (SEAPORT) : Washington, DC	1.693	0.000		0.000		0.000		-		0.000	-	-	-
Program Management Support	C/CPIF	STRATEGIC INSIGHT (SEAPORT) : Washington, DC	0.058	0.000		0.000		0.000		-		0.000	-	-	-
Program Management Support	WR	NSWC Indian Head : Indian Head, MD	0.053	0.000		0.000		0.000		-		0.000	-	-	-
Travel	Allot	NAVSEA Program Office Travel : Washington, DC	0.221	0.008	Nov 2019	0.015	Nov 2020	0.015	Nov 2021	-		0.015	-	-	-
Cost Management Support	C/CPIF	CACI (SEAPORT) : Washington, DC	0.000	0.183	Nov 2019	0.085	Apr 2021	0.000		-		0.000	-	-	-
		Subtotal	4.016	0.191		0.100		0.015		-		0.015	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	231.449	50.153		44.614		28.843		-		28.843	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*



Acronyms: MS - Milestone; LRIP - Low Rate Initial Production; DR - Decision Review; DDE - Decoy Development Effort; CDR - Critical Design Review; DT - Developmental Test;

Note 1: Due to the Program not receiving OPN funding in FY20 and delayed receipt of OPN funding in FY21 to support DT Assist and MS C DR, these events slid from Q1FY21 to Q3FY21 and from Q1FY21 to Q4FY21, respectively. Additional slips in E&MD, MH-60R/S Flight Certification, DDE Test and Certification, all impacted by contractor delays.

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3316				
DDE / E&MD	1	2020	4	2022
MH60-R/S Flight Certification	1	2020	4	2022
DDE Test and Certification	1	2020	4	2022
Developmental Test (DT) Assist	3	2021	3	2021
Milestone (MS) C / LRIP DR	4	2021	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3321 / *SEWIP Block 3*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3321: *SEWIP Block 3*	239.057	23.917	18.669	3.352	-	3.352	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

SEWIP Block 3 is developing an advanced Electronic Attack (EA) capability to keep pace with the evolving Anti-Ship Missile Defense (ASMD) threat and counter-targeting required for the AN/SLQ-32(V) system. SEWIP Block 3 will provide the AN/SLQ-32(V)7 system for all surface ships (CVN, DDG, LHD) outfitted with the active variant of the AN/SLQ-32, mainly the (V)3 and (V)4, as well as select new construction platforms.

The SEWIP Block 3 Acquisition leverages technology developed under the Office of Naval Research's (ONR) Integrated Topside (InTop) Science and Technology (S&T) effort. SEWIP Block 3 will continue to expand the integrated shipboard combat system by providing new integrated EA transmitters, arrays, and associated EA techniques. The AN/SLQ-32(V)7 integrates the new EA countermeasure (SEWIP Block 3) with the AN/SLQ-32(V)6. The AN/SLQ-32(V)6 includes an Electronic Support (ES) receiver (SEWIP Block 2), a High Gain High Sensitivity (HGHS) receiver (SEWIP Block 1B3), a Specific Emitter Identifier (SEI) receiver (SEWIP Block 1B2), display console, and backend electronics. SEWIP Block 3 includes the government software development and integration effort for a SoftKill Coordinator (SKC) to manage EA engagements. SEWIP Block 3 is developing an Electronic Warfare Test Bed (EWTB) to validate system performance via modeling and simulation.

FY2020 changes since President's Budget 2021 are due to the reallocation of Government Engineering funding to SEWIP Block 3 Development due to increased software development complexity and Engineering Development Model (EDM) integration and testing challenges. FY2021 changes since President's Budget 2021 are due to reallocation of Government Support and Management Services funding to support Government EDM test and evaluation. In FY2022, SEWIP Block 3 will focus on the conduct of Land Based Testing (LBT) and TECHEVAL as well as preparations for Initial Operational Test & Evaluation (IOT&E). Additionally, training curriculum development, EWTB model upgrades, and software and hardware fixes/upgrades will continue through the test phase. FY2022 effort will also include continued integrated topside design activities with CVN and LHD, and platform integration activities to ensure compatibility with Aegis and SSDS Combat Systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: SEWIP Block 3 Government Engineering	1.188	4.300	2.849	0.000	2.849
Articles:	-	-	-	-	-
FY 2021 Plans: - Accept EDM delivery. - Commence support of LBT events at Wallops Island. - Continue EWTB model development and verification/validation of model performance. - Complete integrated topside design activities with DDG. - Continue test planning for TECHEVAL/IOT&E.					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321 / *SEWIP Block 3*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Continue to support platform integration activities to ensure compatibility with Aegis Combat Systems. - Continue monitoring of Software (SW) & Hardware (HW) fixes/upgrades. - Complete test asset development and procurement. ***FY 2022 Base Plans:*** - Complete support of LBT events at Wallops Island. - Continue EWTB model upgrades and verification/validation of model performance. - Continue test planning for TECHEVAL/IOTE. - Continue monitoring of SW & HW fixes/upgrades. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** - Decrease of $1.451M in FY2022 is due to the ramp down of LBT events. Major focus is monitoring of upgrades and planning of TECHEVAL/IOT&E.					
Title: SEWIP Block 3 Development	22.729	14.369	0.503	0.000	0.503
Articles:	-	-	-	-	-
FY 2021 Plans: - Complete FQT and deliver the EDM. - Continue upgrades of SW & HW baseline based on LBT results. - Complete Surface Electronic Warfare Team Trainer (SEWTT) EA functionality development for AN/SLQ-32(7) (EWA). - Support LBT events at Wallops. - Complete support for model and simulation development for EWTB. ***FY 2022 Base Plans:*** - Continue upgrades of software and hardware baseline based on LBT results. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** - Decrease of $13.866M in FY2022 is due to the completion and delivery of the EDM in FY2021.					
Accomplishments/Planned Programs Subtotals	23.917	18.669	3.352	0.000	3.352

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321 / *SEWIP Block 3*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• OPN/2312: *AN/SLQ-32*	340.706	353.961	370.559	-	370.559	-	-	-	-	-	-
• OMN PE 024575N: *AN/SLQ-32*	0.000	0.000	4.674	-	4.674	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

SEWIP will develop block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each block and sub-block will be developed and contracted in an individual yet coordinated and overlapping fashion. Specifically, SEWIP Block 3 involves the transitioning and leveraging of work performed under the Integrated Topside (INTOP) program sponsored by ONR, which focused on designing/architecting an integrated Electronic Attack (EA), Information Operations (IO), and Line of Site (LOS) Comms system for Naval Surface Platforms. The SEWIP Block 3 acquisition strategy included a full and open competition for EM&D and the first LRIP units. As part of EMD and LRIP, the OEM delivered a level III, build-to-print Technical Data Package (TDP) to support full and open competition for additional LRIP and FRP units.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3321 / *SEWIP Block 3*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 SEWTT Development	SS/CPFF	EWA-GSI : Fairmont, WV	1.619	0.000		0.593	Dec 2020	0.000		-		0.000	-	-	-
Block 3 Preliminary Design/E&MD	C/CPIF	Northrop Grumman : Baltimore, MD	230.957	22.729	Oct 2019	13.776	Oct 2020	0.503	Oct 2021	-		0.503	-	-	-
		Subtotal	232.576	22.729		14.369		0.503		-		0.503	-	-	N/A

Remarks

1)Since PB2021, $5.256M was re-allocated in FY20 from Government Engineering to SEWIP Block 3 Development due to increased software development complexity and Engineering Development Model (EDM) integration and testing challenges.
2)Since PB2021, $2.669 was reallocated in FY20 from SEWIP Block 1/RCIP (Proj 0954) to Block 3 Development to avoid a stop work on EMD and maintain schedule to complete Formal Qualification Testing (FQT) and delivery of the EDM to Wallops Island.
3)Since PB2021, $3.538M was re-allocated in FY21 from Government Engineering to SEWIP Block 3 Development due to increased software development complexity and EDM integration and testing challenges.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Integrated Logistics Support	WR	NSWC Crane : Crane, IN	0.000	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Integrated Logistics Support	WR	NSWC Corona : Corona, CA	0.023	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Government Engineering Support	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Government Engineering Support	WR	NSWC Crane : Crane, IN	0.000	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Government Engineering Support	WR	NRL : Washington, DC	0.000	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Government Engineering Support	SS/CPFF	APL : Laurel, MD	0.000	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Government Engineering Support	MIPR	MIT-LL : Cambridge, MA	4.794	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Feasibility Studies	WR	BIW : Bath, ME	0.510	0.000		0.000		0.000		-		0.000	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321 / *SEWIP Block 3*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Platform Integration Studies	WR	Norfolk Naval Shipyard (NNSY) : Norfolk, VA	0.040	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Platform Integration Studies	WR	SUPSHIP Gulf Coast : Pascagoula, MS	0.062	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Platform Integration Studies	WR	NSWC Philadelphia : Philadelphia, PA	0.212	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Platform Integration Studies	WR	NAVSEA 05 (Alion) : Washington, DC	0.297	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Platform Integration Studies	WR	NAVSEA 05 (CSRA) : Washington, DC	0.149	0.000		0.000		0.000		-		0.000	-	-	-
Block 3 Platform Integration Studies	WR	Lockheed Martin : Moorstown, NJ	0.202	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	6.289	0.000		0.000		0.000		-		0.000	-	-	N/A

Remarks

Support reduced from FY2021 President's Budget Request due to re-allocation to SEWIP Block 3 Development to fund increased software development complexity and Engineering Development Model (EDM) integration and testing challenges.
Development activities continued with no direct Government oversight.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Test Planning/T&E Events	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.000		0.478	Nov 2020	0.200	Nov 2021	-		0.200	-	-	-
Block 3 Test Planning/T&E Events	WR	NSWC Crane : Crane, IN	0.000	0.000		0.067	Nov 2020	0.130	Nov 2021	-		0.130	-	-	-
Block 3 Test Planning/T&E Events	WR	NRL : Washington, DC	0.000	0.000		1.413	Nov 2020	1.225	Nov 2021	-		1.225	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321 / *SEWIP Block 3*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Test Planning/T&E Events	SS/CPFF	APL : Laurel, MD	0.000	0.000		0.750	Nov 2020	0.100	Nov 2021	-		0.100	-	-	-
Block 3 Test Planning/T&E Events	WR	COMOPTEVFOR : Norfolk, VA	0.000	0.070	Nov 2019	0.158	Nov 2020	0.150	Nov 2021	-		0.150	-	-	-
Block 3 Test Planning/T&E Events	WR	Surface Combat Systems Center : Wallops Island, VA	0.000	1.028	Nov 2019	1.273	Nov 2020	0.709	Nov 2021	-		0.709	-	-	-
Block 3 Test Planning/T&E Events	WR	USACE (DREN) : Wallops Island, VA	0.000	0.090	Nov 2019	0.077	Nov 2020	0.055	Nov 2021	-		0.055	-	-	-
NAVFAC	WR	NAVFAC Mid-Atlantic : Norfolk, VA	0.192	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	0.192	1.188		4.216		2.569		-		2.569	-	-	N/A

Remarks

Test and Evaluation reduced by $4.037M in FY20 and $6.566M FY21 from FY2021 President's Budget Request due to re-allocation to SEWIP Block 3 Development to fund increased software development complexity and Engineering Development Model (EDM) integration and testing challenges.
Non-critical test efforts were reprioritized and deferred to FY2022.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Program Management Support	C/CPIF	TMB (SEAPORT) : Washington, DC	0.000	0.000		0.027	Nov 2020	0.080	Nov 2021	-		0.080	-	-	-
Block 3 Program Management Support	C/CPIF	CACI (SEAPORT) : Washington, DC	0.000	0.000		0.000		0.070	Nov 2021	-		0.070	-	-	-
Block 3 Program Management Support	C/CPIF	SPA : Washington, DC	0.000	0.000		0.027	Nov 2020	0.080	Nov 2021	-		0.080	-	-	-
Block 3 Travel	Sub Allot	NAVSEA Program Office : Washington, DC	0.000	0.000		0.030	Nov 2020	0.050	Nov 2021	-		0.050	-	-	-
		Subtotal	0.000	0.000		0.084		0.280		-		0.280	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321 / *SEWIP Block 3*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

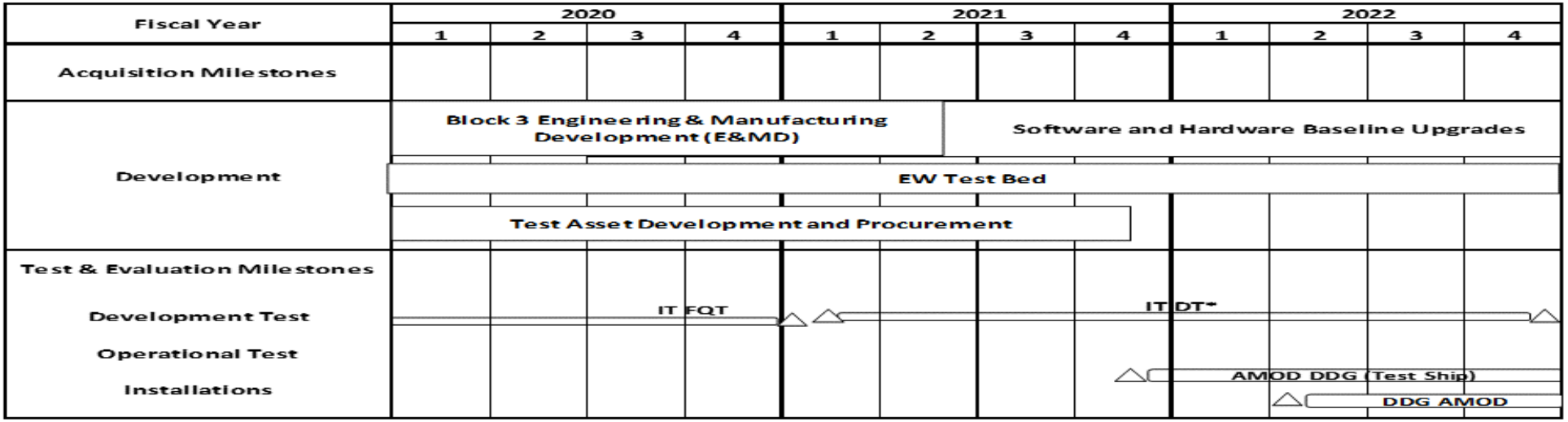
Management Services reduced by $275K in FY20 and $196K in FY21 from FY2021 President's Budget Request due to re-allocation to SEWIP Block 3 Development to fund increased software development complexity and Engineering Development Model (EDM) integration and testing challenges.

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	239.057	23.917		18.669		3.352		-		3.352	-	-	N/A

Remarks

1) A Congressional Mark of $4.224M reduced FY21 total program funding for previously funded Government effort.

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321 / *SEWIP Block 3*



* Includes the following test events: Land Test-Block 3 Stand-Alone Operation, Flight Test-Threat Engagements (over water), IA / Maint Demo (Dry Run), CMS Integration (Aegis), DDG-51 Combat System Certification (Aegis Integration), Environment, EMI, RCS, and Shock Tests

Acronyms: DT-Developmental Test; EDM - Engineering Development Modle; FQT-Formal Qualification Testing; IT-Integrated Testing;

Note 1: E&MD completion extended from Q3FY2020 to Q2FY2021 due to increased Engineering Development Model (EDM) integration and test complexity and late EDM Material receipt from suppliers delaying manufacturing and integration.

Note 2: IT-DT completion moved from Q2FY2022 to Q4FY2022 due to IT-FQT extension impacting IT-DT start.

Note 3: TECHEVAL/IOT&E was delayed to FY2023 due to test ship availability slip from Q1FY2021 to Q4FY2021

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321 / *SEWIP Block 3*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3321.L24				
Block 3 Engineering and Manufacturing Development (E&MD)	3	2020	2	2021
EW Testbed	1	2020	4	2022
Test Asset Development and Procurement	1	2020	4	2021
IT-FQT	1	2020	1	2021
IT-DT	1	2021	4	2022
Software and Hardware Baseline Upgrades	1	2021	4	2022
AMOD DDG (Test Ship)	4	2021	4	2022
AMOD DDG	2	2022	4	2022