

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>
--	--

COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	1,355.954	126.373	144.471	171.384	-	171.384	152.044	131.516	122.334	119.036	Continuing	Continuing
0556: <i>EW Counter Response</i>	600.577	21.666	21.886	22.168	-	22.168	20.532	47.416	48.171	49.139	Continuing	Continuing
1742: <i>EW Technical Development and T&E</i>	10.420	1.506	1.732	1.777	-	1.777	1.804	1.836	1.867	1.904	Continuing	Continuing
2175: <i>Tactical Air Electronic Warfare</i>	640.809	59.431	45.547	50.911	-	50.911	16.299	1.358	0.300	0.310	0.000	814.965
3308: <i>Technology Development</i>	21.844	8.353	13.127	20.399	-	20.399	27.825	19.558	21.510	22.008	Continuing	Continuing
3309: <i>Assault Survivability Optimization</i>	12.857	23.393	37.058	61.548	-	61.548	70.590	46.043	34.678	29.220	Continuing	Continuing
3327: <i>MAGTF EW Aviation Development</i>	69.447	12.024	15.121	14.581	-	14.581	14.994	15.305	15.808	16.455	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	0.000	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 418

A. Mission Description and Budget Item Justification

This program element includes development of Electronic Warfare (EW) systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USN and USMC radio frequency jammers, and development and testing of electronic warfare devices for emerging threats and emergency contingencies. This element also includes: development of hardware/software solutions that link on-board integrated Aircraft Survivability Equipment (iASE) that are compatible with mission planning information and systems; studies, analysis and evaluations of current and future aircraft threats and Advanced EW Suite capabilities; modeling and simulation for improved countermeasure capabilities, and development and testing to address new and emerging threats. The projects in this element improve the ability of the Joint Force to strike diverse targets inside adversary air and missile defense networks to destroy mobile power-projection platforms and enhance close combat lethality in complex terrain. This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	136.593	141.138	162.664	-	162.664
Current President's Budget	126.373	144.471	171.384	-	171.384
Total Adjustments	-10.220	3.333	8.720	-	8.720
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-6.667			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-7.235	0.000			
• SBIR/STTR Transfer	-2.985	0.000			
• Program Adjustments	0.000	0.000	7.851	-	7.851
• Rate/Misc Adjustments	0.000	0.000	0.869	-	0.869

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Filter technology for electronic warfare mitigation*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2022	FY 2023
	0.000	10.000
	0.000	10.000
	0.000	10.000

Change Summary Explanation

The FY24 funding request was increased by \$8.720M for continued development of Electronic Warfare (EW) systems.

Project Unit 0556 / EW Counter Response: FY2024 funding request was increased by \$0.194M for various rate adjustments.

Project Unit 1742 / EW Technical Development and T&E: FY2024 funding request was increased by \$0.005M for working capital fund rate adjustments.

Project Unit 2175 / Tactical Air Electronic Warfare: FY2024 funding request was decreased by \$14.601M due to \$12.000M being realigned to PE0604272N Tactical Air Distributed Aperture Infrared Countermeasure (TADIRCM) development program, and various rate adjustments.

Project Unit 3308 / Technology Development: FY2024 funding request was decreased by \$0.034M for various rate adjustments.

Project Unit 3309 / Assault Survivability Optimization: FY2024 funding request was increased by \$23.319M to incorporate Common Carriage into P-8 and CMV-22 aircraft, provide additional iASE framework to rapidly incorporate advanced expendable countermeasures and software applications, and develop

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	
<p>advanced radio frequency (RF) free fall expendable decoys. Common Carriage is required to standardize countermeasures across services and increase capability/lethality/survivability. iASE offers improved shared situational awareness of threat detection/identification and advanced expendable tactical employment capabilities. Active Expendable Device (AED) and RR-203 (passive) RF decoy replaces current legacy chaff inventory with modern threat protection capability and offers a tailored response option integrated with onboard and off board solutions.</p> <p>Project Unit 3327 / MAGTF EW Aviation Development: FY2024 funding request was decreased by \$0.163M for various rate adjustments.</p> <p>Schedule: Project Unit 2175 / Tactical Air Electronic Warfare: Acquisition Milestones: FY22 Dual Band Decoy (DBD) EMD contract award moved from 1st Qtr. FY2022 to 2nd Qtr. FY2023. Systems Development: ALQ-214 SWIP Development Award 1 extended from 3QFY21 to 1QFY23 to align with ALQ-214 SWIP Test & Evaluation. IDECM ARC Support for Development, Integration and Test continues through 2nd QTR FY2026. Production Milestones: ALQ-214 SRA Retrofit contract awards and deliveries updated to align with procurement budget. DBD EMD Systems Development shifted to the right by three quarters and contract deliveries also shifted to the right by three quarters.</p> <p>Project Unit 3308 / Technology Development: Technology Development plan changed from PB23 to PB24 to account for a developmental strategy adjustment which leverages an alternative Software Development approach rather than proceeding with a traditional electronic warfare (EW) Suite Operational Flight Program/Mission Data File (OFP/MDF) development approach. Program Milestones: ARC Integration OFP Release-Shifted OFP from 2QFY22 to 4QFY22, renamed to Release Build 1 and added Release Builds 2 & 3 to align with program schedule. The ARC Release Build shift from 2QFY22 to 4QFY22 is attributed to developmental delays experienced on the ARC Mainline OFP program. ARC Build 1 moved from Q1FY22 to Q1FY23. Software/Firmware (SW/FW) Development and Integration (DEV/INT) Contract Award milestone 1-5 was added starting in 2QFY23 to 2QFY27. Addition of this program reallocates funding from the PB23 plan to support PB24 planned efforts. Removed ARC Mission Computer (MC) and Display Improvements award milestone. ARC Mission computer work scope no longer resides within PMA272 and has been moved to PMA265 under the ADVEW Program. EW Suite OFP Release and OFP milestones were combined to eliminate duplicate entries on the schedule exhibit. System Development: System Development Reviews, System Development Analysis and Threat Analysis/ECM Technique Optimization milestones were combined to eliminate duplicate entries. Software/firmware (SW/FW) System Requirements Contract Duration and SW/FW Development and Integration Contract Durations were combined. ARC Integration (OFP/MC), MC and Display Improvements and ARC Technique Optimization were removed. Test and Evaluation: Suite Level Electronic Countermeasures (ECM) and Integrated Evaluation rows were consolidated. SW/FW Increment DT/IT/OT beginning in 3QFY24 to support SW/FW Development Effort was added.</p> <p>Project Unit 3309 / Assault Survivability Optimization: Common Carriage EMD award changed from 3QFY22 to 4QFY22 due to additional time required for negotiations with vendor. Program schedule format changed to provide more clarity for all project efforts. ALE-47 MOB/iASE major category removed and</p>		

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity
1319: *Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)*

R-1 Program Element (Number/Name)
PE 0604270N / *Electronic Warfare (EW) Dev*

ALE-47 MOB/iASE milestones and efforts aligned to other categories. Schedule updated to incorporate P-8 and CMV-22 Common Carriage events and advanced RF decoys development, qualification and testing.

Project Unit 3327 / MAGTF EW Aviation Development:
The MV-22 test timelines have been extended to correct identified deficiencies that require additional DT flights prior to entry into OT.
BLK X C130 milestones have been delayed due to extended long lead times and supply chain delays of prototype components and materials. This has stalled prototype development and fabrication, and will subsequently defer start of the test program.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 0556 / <i>EW Counter Response</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
0556: <i>EW Counter Response</i>	600.577	21.666	21.886	22.168	-	22.168	20.532	47.416	48.171	49.139	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Jammer Techniques Optimization (JATO) organization produces the jamming techniques and Electronic Attack (EA) optimization algorithms that are critical for current and future Airborne Electronic Attack (AEA) systems of the United States Navy (USN) and United States Marine Corps (USMC) to execute the evolving AEA mission. Through Modeling & Simulation (M&S), laboratory testing, and field testing, JATO optimizes parameters for existing EA systems (such as AN/ALQ-99 Tactical Jamming System (TJS) and the AN/ALQ-231(V) Intrepid Tiger II Family of Systems) to best counter existing threats, and applies that knowledge to define the requirements for follow-on AEA systems such as the Next Generation Jammer Mid-Band (NGJ-MB) and Next Generation Jammer Low Band (NGJ-LB) programs. As commercial and military Radio Frequency (RF) threats evolve and proliferate, the JATO organization provides updated tactics, techniques, and procedures to maximize the potency of USN and USMC AEA in meeting the Combatant Command (COCOM) Commanders' Non Kinetic Effects (NKE) priorities, to include highly contested environments, Force Protection, Information Operations, and enhanced communications jamming. (Classified discussion available upon request).

JATO's Advanced Techniques Group (ATG) focuses specifically on electronic countermeasures to advanced threat weapon systems and Command, Control, and Communications (C3) networks that are challenging existing EA approaches, and how to best apply advances in geolocation and unknown threat characterization to EA responses. Additional efforts include risk reduction activities to evaluate and minimize EA interference with US weapons systems, and research/technology studies in support of upgrades to existing AEA systems such as the AN/ALQ-99 TJS.

The AEA Advanced Development project focuses on increasing the Department of the Navy's understanding and utilization of rapidly-evolving technologies that operate in the Electromagnetic spectrum. As commercial and military Radio Frequency (RF) threats evolve and proliferate, this project tracks the relevant technology, intelligence, and tactics to maximize the potency of USN and USMC AEA through the rapid insertion of emergent technologies into existing AEA weapon systems and aircraft platforms.

The Special Capability Pod (SCP) project leverages existing Navy and Joint Service investments and focuses on continued development, test and evaluation of SCPs for highly flexible EW on USN EA-18G aircraft. Initial efforts to develop Navy pod variants were funded by the Air Force in FY18 as an OSD initiative. The SCPs will be specifically designed to address EW capability gaps and counter emerging electronic threats. As an iterative program, the highly modular interior design of the SCPs allows them to be integrated with current technology and upgraded electronics to provide the USN a rapidly adaptable solution against highly specialized and continuously evolving threats. (Classified discussion available upon request.)

The Electromagnetic Maneuver Warfare (EMW) Resource Allocation Management (RAM) project develops a software application to interface with the display in the cockpit of the EA-18G. The software application will provide the aircrew with smart decision aids in flight to enhance EW capability and survivability, optimized flight profiles, and jamming effectiveness in highly contested environments. EMW RAM efforts are being conducted as a collaborative project with Australia under the Airborne Multi-Platform Electronic Warfare Project Arrangement.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 0556 / <i>EW Counter Response</i>

The Next Generation Jammer (NGJ) follow-on development project is required for hardware and software development, integration and testing of the NGJ capability within future EA-18G Software Configuration Set (SCS) H build software loads, as well as any potential future aircraft. The project will develop and incorporate incremental capability upgrades to ensure NGJ continues to address Airborne Electronic Attack (AEA) capability gaps against increasingly advanced and rapidly evolving enemy threats throughout the electromagnetic spectrum.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Jammer Techniques Optimization (JATO)	17.167	17.515	17.864	0.000	17.864
Articles:	-	-	-	-	-
FY 2023 Plans: The JATO organization will continue engineering development and test support of existing and emerging systems such as, but not limited to, the EA-18G, AN/ALQ-249 (NGJ-MB) and Next Generation Jammer Low Band (NGJ-LB) to address potential RF and Cyber/EW effects on current and evolving radar/communications threats. JATO will continue to generate tactics, techniques, and procedures to optimize the capabilities of systems such as, but not limited to, the AN/ALQ-99, ALQ-218, ALQ-227, AN/ALQ-231(V), SCP, MALD-N, JSF and UAS payloads. JATO continues to meet COCOM Commanders' EW priorities including support for Overseas Contingency Operations and Force Protection. (Classified discussion available upon request).					
FY 2024 Base Plans: The JATO organization will continue engineering development and test support of existing and emerging systems such as, but not limited to, the EA-18G, NGJ-MB, and NGJ-LB to address potential NKE on current and evolving radar/communications threats. JATO will continue to generate tactics, techniques, and procedures to optimize the capabilities of systems such as, but not limited to, the AN/ALQ-99, AN/ALQ-249 (NGJ-MB), ALQ-218, ALQ-227, AN/ALQ-231(V), SCP, JSF and UAS payloads. JATO continues to meet COCOM Commanders' NKE priorities including support for Overseas Contingency Operations and Force Protection. (Classified discussion available upon request).					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 due to inflation.					
Title: Electronic Warfare (EW) Advanced Development	4.239	4.371	4.304	0.000	4.304
Articles:	-	-	-	-	-
FY 2023 Plans:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 0556 / <i>EW Counter Response</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>Efforts in FY 2023 will include hardware and software prototyping, engineering, and multi-system effects characterization for integrating capabilities into systems including, but not limited to, the AN/ALQ-99, AN/ALQ-231, AN/ALQ-249, NGJ-LB, Intrepid Tiger II, and Special Capability/SPIN Pods payloads to address existing capability gaps on COCOM Integrated Priority Lists. FY 2023 funding supports research, development, integration and test and evaluation of advanced technologies into current, and future, AEA weapons systems in laboratory and operational environments. (Classified discussion available upon request).</p> <p>FY 2024 Base Plans: Efforts in FY 2024 includes continued hardware and software prototyping, engineering, and multi-system effects characterization for integrating capabilities into systems including, but not limited to, the AN/ALQ-99, AN/ALQ-231, AN/ALQ-249, NGJ-LB, Intrepid Tiger II, and Special Capability/SPIN Pods payloads to address existing capability gaps on COCOM Integrated Priority Lists. FY 2024 funding supports research, development, integration and test and evaluation of advanced technologies into current, and future, AEA weapons systems in laboratory and operational environments. (Classified discussion available upon request).</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY 2023 to FY 2024 due to reduced GTRI UARC support.</p>					
<p>Title: Special Capability Pod (SCP)</p> <p align="right">Articles:</p> <p>Description: The Special Capability Pods (SCPs) project leverages other ongoing Navy and Joint Service investments and focuses on continued development, test and evaluation of rapidly repurposable pods for highly flexible Airborne Electronic Attack capability.</p> <p>FY 2023 Plans: N/A</p> <p>FY 2024 Base Plans: N/A</p> <p>FY 2024 OCO Plans: N/A</p>	0.120	0.000	0.000	0.000	0.000
	-	-	-	-	-
<p>Title: Electromagnetic Manuever Warfare (EMW) Resource Allocation Manager (RAM)</p>	0.140	0.000	0.000	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 0556 / <i>EW Counter Response</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<i>Articles:</i>	-	-	-	-	-
Description: The Department of Navy is developing dynamic Electromagnetic Maneuver Warfare (EMW) Resource Allocation Management (RAM) applications to increase operators effectiveness in the Electromagnetic Spectrum (ES).					
FY 2023 Plans: N/A					
FY 2024 Base Plans: N/A					
FY 2024 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	21.666	21.886	22.168	0.000	22.168

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APN/0513: <i>AEA Systems</i>	20.221	25.058	24.110	-	24.110	19.649	18.652	18.997	19.453	54.400	664.777

Remarks

D. Acquisition Strategy

The JATO organization, comprised of a partnership between the Government and several University Affiliated Research Centers (UARC), continues to research EW tactics and techniques. The JATO prime delivery order, a cost plus fixed fee contract, was awarded to Johns Hopkins University (JHU).

The AEA Advanced Development project will investigate developmental and existing technologies from commercial and governmental sources for integration into current and emerging USN and USMC EW weapon systems and aircraft. These technologies, once demonstrated to have sufficient maturity, will transition into the applicable acquisition programs. Additionally, the project will pursue technology development and demonstration through rapid acquisition or Speed to Fleet (S2F) initiatives to the greatest extent possible.

The SCP project leverages existing Navy and Joint Service investments and focuses on continued development, test and evaluation of SCPs for highly flexible Non Kinetic Effects on USN EA-18G aircraft. Initial efforts to develop Navy pod variants were funded by the Air Force in FY18 as an OSD initiative. The SCPs will be specifically designed to address EW capability gaps and counter emerging electronic threats. As an iterative program, the highly modular interior design of the

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 0556 / <i>EW Counter Response</i>

SCPs allows them to be integrated with current technology and upgraded electronics to provide the USN a rapidly adaptable solution against highly specialized and continuously evolving threats. (Classified discussion available upon request.)

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 0556 / <i>EW Counter Response</i>
--	--	---

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	Naval Research Lab : Maryland	21.518	1.937	Nov 2021	1.909	Nov 2022	2.014	Nov 2023	-		2.014	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD : Patuxent River, MD	43.446	0.766	Nov 2021	0.720	Nov 2022	0.735	Nov 2023	-		0.735	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCWD : Point Mugu, CA	109.733	6.090	Nov 2021	6.293	Nov 2022	6.330	Nov 2023	-		6.330	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCWD : China Lake, CA	7.590	0.140	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC Det : Crane, IN	15.068	1.203	Nov 2021	1.199	Nov 2022	1.251	Nov 2023	-		1.251	Continuing	Continuing	Continuing
Systems Engineering	Various	Various : Various	16.918	0.117	Nov 2021	0.119	Nov 2022	0.122	Nov 2023	-		0.122	Continuing	Continuing	Continuing
Prior Year Development cost no longer Funded in the FYDP	Various	Various : Various	269.266	0.000		0.000		0.000		-		0.000	0.000	269.266	-
Subtotal			483.539	10.253		10.240		10.452		-		10.452	Continuing	Continuing	N/A

Remarks
Funding increases from FY 2023 to FY 2024 due to inflation.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support - Jammer Techniques Optimization (JATO)	SS/CPFF	Johns Hopkins Univ : Maryland	60.807	3.900	Dec 2021	3.978	Dec 2022	4.058	Dec 2023	-		4.058	Continuing	Continuing	Continuing
Development Support - EW Advanced Development	SS/CPFF	Johns Hopkins Univ : Maryland	0.750	0.357	Dec 2021	0.364	Dec 2022	0.371	Dec 2023	-		0.371	Continuing	Continuing	Continuing
Development Support - EW Advanced Development	SS/CPFF	GTRI : Atlanta, GA	2.941	1.000	Dec 2021	1.067	Dec 2022	0.952	Dec 2023	-		0.952	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy											Date: March 2023				
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>					Project (Number/Name) 0556 / <i>EW Counter Response</i>				

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng & Tech Svc (Non FFRDC)	Various	Various : Various	26.047	2.765	Dec 2021	2.956	Dec 2022	2.875	Dec 2023	-		2.875	Continuing	Continuing	Continuing
Eng & Tech Svc (FFRDC)	Various	Various : Various	1.982	0.612	Dec 2021	0.658	Dec 2022	0.628	Dec 2023	-		0.628	Continuing	Continuing	Continuing
Prior year Support costs no longer funded in the FYDP	Various	Various : Various	3.630	0.000		0.000		0.000		-		0.000	0.000	3.630	-
Subtotal			96.157	8.634		9.023		8.884		-		8.884	Continuing	Continuing	N/A

Remarks
Funding increases from FY 2023 to FY 2024 due to inflation.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : Point Mugu, CA	13.790	2.692	Nov 2021	2.611	Nov 2022	2.801	Nov 2023	-		2.801	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	Various : Various	4.253	0.060	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	0.925	0.000		0.000		0.000		-		0.000	0.000	0.925	-
Subtotal			18.968	2.752		2.611		2.801		-		2.801	Continuing	Continuing	N/A

Remarks
Funding increases from FY 2023 to FY 2024 due to inflation.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 0556 / <i>EW Counter Response</i>
--	--	---

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
EW Counter Response																												
Acquisition Milestones																												
Milestones																												
Systems Development																												
Hardware Development	Electronic Warfare (EW) Advanced Development																											
Software Development	SCP Payload Analysis																								NGJ Follow-on Development			
Reviews		JATO ESC				JATO ESC				JATO ESC				JATO ESC				JATO ESC				JATO ESC				JATO ESC		
Test & Evaluation																												
Developmental Test													JATO Ground DT															
													JATO Flight DT															
Operational Evaluation	SCP Test																								Advanced Development Test			
													NGJ Follow-on Test															
													JATO Ground OT															
													JATO Flight OT															
Production Milestones																												
Contract Awards																												
Deliveries																												

2024PB - 0604270N - 0556

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 0556 / <i>EW Counter Response</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>EW Counter Response</i>				
Systems Development: Hardware Development: Electronic Warfare (EW) Advanced Development	1	2022	4	2028
Systems Development: Hardware Development: Special Capability Pod (SCP) Payload Analysis	1	2022	4	2022
Systems Development: Software Development: Electromagnetic Manuever Warfare (EMW) Resource Allocation Manager (RAM) Development	1	2022	4	2022
Systems Development: Software Development: Next Generation Jammer Follow-On Development	1	2026	4	2028
Systems Development: Reviews: JATO Executive Steering Committee 2022	3	2022	3	2022
Systems Development: Reviews: JATO Executive Steering Committee 2023	3	2023	3	2023
Systems Development: Reviews: JATO Executive Steering Committee 2024	3	2024	3	2024
Systems Development: Reviews: JATO Executive Steering Committee 2025	3	2025	3	2025
Systems Development: Reviews: JATO Executive Steering Committee 2026	3	2026	3	2026
Systems Development: Reviews: JATO Executive Steering Committee 2027	3	2027	3	2027
Systems Development: Reviews: JATO Executive Steering Committee 2028	3	2028	3	2028
Test & Evaluation: Developmental Test: JATO Ground Developmental Test	1	2022	4	2028
Test & Evaluation: Developmental Test: JATO Flight Developmental Test	1	2022	4	2028
Test & Evaluation: Developmental Test: SCP Test	1	2022	2	2022
Test & Evaluation: Developmental Test: Advanced Development Test	1	2022	4	2028
Test & Evaluation: Developmental Test: Next Generation Jammer Follow-on Test	1	2026	4	2028
Test & Evaluation: Operational Evaluation: JATO Ground Operational Test	1	2022	4	2028
Test & Evaluation: Operational Evaluation: JATO Flight Operational Test	1	2022	4	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 1742 / <i>EW Technical Development and T&E</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
1742: <i>EW Technical Development and T&E</i>	10.420	1.506	1.732	1.777	-	1.777	1.804	1.836	1.867	1.904	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provide for quick reaction prototyping of tactical information and electronic warfare systems to counter adversary platforms and Command and Control, Communications, Computers, Cyber, Intelligence, Surveillance, Reconnaissance, and Targeting (C5ISR). Systems address various requirements across multiple platforms (air, surface, and subsurface), airborne and surface cryptologic operational requirements, and joint missions to research, assess, and develop information warfare and electronic warfare systems and capabilities. (Details held at a higher classification).

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Electronic Warfare Technical Development and Test & Evaluation Naval Information Forces (NAVIFOR)	1.506	1.732	1.777	0.000	1.777
Articles:	-	-	-	-	-
FY 2023 Plans: *Perform technology maturation and risk reduction on Cyber and Electronic Warfare countermeasures. *Develop increased understanding of new and emerging technology to improve countermeasure development and capability readiness.					
FY 2024 Base Plans: *Perform technology maturation and risk reduction on Cyber and Electronic Warfare countermeasures. *Develop increased understanding of new and emerging technology to improve countermeasure development and capability readiness.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Increase of \$0.045M for development of emerging technology to improve countermeasure development and capability readiness.					
Accomplishments/Planned Programs Subtotals	1.506	1.732	1.777	0.000	1.777

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

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 1742 / <i>EW Technical Development and T&E</i>

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

Remarks

D. Acquisition Strategy

Development of classified prototypes and special capabilities. The Navy is granted streamlined acquisition authority for the development of classified prototypes and special capabilities under the Deputy Assistant Secretary of the Navy (DASN) Information Warfare.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 1742 / <i>EW Technical Development and T&E</i>
--	--	--

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development(1)	C/FP	Classified : Classified	8.210	1.506	Oct 2021	1.732	Nov 2022	1.777	Nov 2023	-		1.777	Continuing	Continuing	Continuing
Subtotal			8.210	1.506		1.732		1.777		-		1.777	Continuing	Continuing	N/A

Remarks
1-Due to classification category, may not be on Defense Message System General Service (GENSER) classified exhibits.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	WR	NAVSEA : Maryland	0.600	0.000		0.000		0.000		-		0.000	0.000	0.600	-
Studies & Analysis(1)	C/CPFF	Classified : Classified	0.653	0.000		0.000		0.000		-		0.000	0.000	0.653	-
Subtotal			1.253	0.000		0.000		0.000		-		0.000	0.000	1.253	N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	C/CPFF	Classified : Classified	0.957	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			0.957	0.000		0.000		0.000		-		0.000	Continuing	Continuing	N/A

Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract			
Project Cost Totals			10.420	1.506	1.732	1.777	-	1.777	Continuing	Continuing	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy															Date: March 2023				
Appropriation/Budget Activity 1319 / 5										R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v					Project (Number/Name) 1742 / <i>EW Technical Development and T&E</i>				

Proj 1742.L60	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Development Work	Database development																															

2024DON - 0604270N - 1742.L60

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 1742 / <i>EW Technical Development and T&E</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1742.L60				
Development Work: Database development	1	2022	4	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
2175: <i>Tactical Air Electronic Warfare</i>	640.809	59.431	45.547	50.911	-	50.911	16.299	1.358	0.300	0.310	0.000	814.965
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 418												

A. Mission Description and Budget Item Justification

Integrated Defensive Electronic Countermeasures (IDECM) Block 4 (IB-4) is an Engineering Change Proposal (ECP) to the ALQ-214 to render it suitable for operation on F/A-18C/D aircraft (replacing the ALQ-126B and significantly improving F/A-18C/D survivability) while retaining all IDECM suite functionality when installed on F/A-18E/F aircraft. The IB-4 acquisition and contract strategy includes development of the Common On-Board Jammer for the F/A-18 C/D/E/F aircraft through sole source contract awards for modifications to the ALQ-214. IB-4, ALQ-214 ECP efforts include hardware and software design, development, integration and testing on the host aircraft. The F/A-18 EW suite includes the ALR-67 Radar Warning Receiver (RWR), the ALE-47 Countermeasures Dispensing Set (CMDS), the mission computer and other avionics.

ALQ-214 software improvement program (SWIP) will provide the ALQ-214 with Digital Radio Frequency Memory (DRFM) technique capability significantly improving F/A18C/D/E/F survivability. Acquisition and contract strategy includes development, integration and test of the ALQ-214 software improvements through sole-source contract award. Modifications to other F/A-18E/F Block II and Block III aircraft avionics may be required in order to develop and integrate this capability. These other avionics may include, but are not limited to, the ALR-67(V)2, ALR-67(V)3, ALE-47, ALE-50 Advanced Airborne Expendable Decoy (AAED), ALE-55 Fiber Optic Towed Decoy (FOTD), mission computer and fire control radar.

F/A-18 E/F ALQ-214 Adaptive Radar Countermeasures (ARC) will provide the ALQ-214A(V)4 with improved Radio Frequency (RF) threat detection algorithms and jamming against modern threat radars. Modifications to F/A-18E/F Block II and Block III aircraft avionics may be required in order to develop and integrate this capability. These other avionics may include, but are not limited to, the ALR-67(V)3, ALE-47, ALE-50 AAED, ALE-55 FOTD, mission computer and fire control radar. ARC capabilities may be integrated into other DoD platforms with radar warning receivers or countermeasures systems.

The Dual Band Decoy (DBD) will provide expanded RF capability against current and emerging modern RF threat radars, significantly improving the survivability of the F/A-18 E/F and may be further developed and integrated into other Naval platforms. DBD will leverage Science and Technology (S&T) advancements through the Dual Band Intelligent RF Expendable (DIRE) program to accelerate DBD capability development. DBD will replace the current ALE-55 FOTD beginning with fielding of an Initial Operational Capability in FY 2026. Modifications to other F/A-18E/F Block II and Block III aircraft avionics may be required in order to develop and integrate this capability. These other avionics may include, but are not limited to, the ALR-67(V)2, ALR-67(V)3, ALE-47, ALE-50 AAED, ALE-55 FOTD, mission computer and fire control radar.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
--	--	---

This Project also includes/enables integrated Aircraft Survivability Equipment (iASE) which improves situational awareness for own-ship, wingman, and distributed command and control.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Tactical Air EW	59.431	45.547	50.911	0.000	50.911
Articles:	66	-	-	-	-
FY 2023 Plans: FY23 - IDECM ARC Development, Integration and Test will continue through FY 2023. Dual Band Decoy (DBD) competitively awarded EMD phase including Development, Integration and Test will continue in FY 2023.					
FY 2024 Base Plans: FY24 - IDECM ARC Development, Integration and Test is planned to conclude in FY 2024. A release Build 3 deliverable from the development effort will be provided by the OEM and assessed by the USG/OPTEVFOR for fleet introduction. DBD Developmental Test (DT) will continue in FY2024. DBD Integration Test (IT) will begin in FY2024 continuing through FY2025.					
FY 2024 OCO Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Increase of \$5.364 between FY 2023 and FY 2024 is due to Dual Band Decoy (DBD) Developmental Tests beginning 3Q FY 2024. DBD funding will allow for the EMD contract and efforts related to Developmental Test (DT) and Integration Test (IT) phases to support DBD IOC in FY 2026. IDECM ARC Test and Evaluation efforts to continue in FY 2024.					
Accomplishments/Planned Programs Subtotals					50.911

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APN/0576 004-12: <i>Common On-Board Jammer</i>	22.565	22.833	30.564	-	30.564	13.914	6.906	9.454	3.247	0.000	757.533
• PANMC/0182: <i>Air Expendable CM</i>	0.000	20.153	21.990	-	21.990	40.126	48.339	49.322	50.312	Continuing	Continuing

Remarks
PANMC 0182 Air Countermeasures (CM) funding represents only a portion of the total PANMC 0182 Air Expendable CM Budget. Dual Band Decoy (DBD) initial procurements begin in FY 2023 to replace the ALE-55 Fiber Optic Towed Decoy (FOTD) whose last procurement was in FY 2020.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>

D. Acquisition Strategy

The mainline ARC Integration contract is a sole source contract awarded to Leidos 4th Qtr. FY 2020 and continuing through FY 2024. The ARC program software development is modeled after an agile methodology producing three release builds, which are individually supported by development sprints. DBD development is planned as an evolutionary development approach with competitive prototyping phase which started in FY 2019 continuing through FY 2021, followed by a competitively awarded EMD phase starting in FY 2022 continuing into FY 2025.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
--	--	---

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Adaptive Radar Countermeasures (ARC) Development	SS/CPFF	Leidos : Arlington, VA	44.549	29.503	Nov 2021	14.720	Dec 2022	12.381	Dec 2023	-		12.381	3.257	104.410	97.253
Dual Band Decoy (DBD) Development EMD	C/FFP	TBD : TBD	0.000	12.541	Mar 2023	7.987	Nov 2023	13.119	Apr 2024	-		13.119	5.078	38.725	59.424
DBD Development EMD Other Software	C/CPFF	TBD : TBD	0.000	0.000		0.000		6.200	Apr 2024	-		6.200	0.000	6.200	-
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	379.616	0.000		0.000		0.000		-		0.000	0.000	379.616	-
Subtotal			424.165	42.044		22.707		31.700		-		31.700	8.335	528.951	N/A

Remarks
 IDECM ARC Support for Development, Integration and Test continues through FY 2024. Decrease in FY24 (\$2.339M) in ARC development is due to the transition into ARC Verification testing and correction of deficiencies starting in FY24. Increase in FY24 (\$5.132M) is due to DBD competitive EMD phase to increased developmental testing. Other Software contractual effort for DBD was added in FY24 (\$6.200M).

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Log Supt ARC	WR	NAWCAD : Pax River, MD	0.269	0.086	Nov 2021	0.108	Nov 2022	0.117	Nov 2023	-		0.117	0.120	0.700	-
Engineering Support ARC	WR	Various : Various	4.635	2.180	Nov 2021	2.528	Nov 2022	0.447	Nov 2023	-		0.447	0.265	10.055	-
Engineering Support ARC	WR	NAWCWD : Point Mugu, CA	0.000	0.000		0.000		1.247	Nov 2023	-		1.247	0.000	1.247	-
Engineering Support ARC	WR	NAWCWD : China Lake, CA	0.000	0.000		0.000		1.134	Nov 2023	-		1.134	0.000	1.134	-
Program Management Support ARC	WR	NAWCAD : Pax River, MD	0.000	0.900	Nov 2021	0.893	Nov 2022	0.000		-		0.000	0.000	1.793	-
Engineering Support DBD	WR	Various : Various	5.939	1.863	Nov 2021	1.990	Nov 2022	1.442	Nov 2023	-		1.442	0.310	11.544	-
Software Dev-ALQ - 214 SW Dev	C/CPFF	GTRI : Atlanta GA	0.810	0.000		0.184	Dec 2022	0.188	Nov 2023	-		0.188	0.000	1.182	1.182

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
--	--	---

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Dev Engineering Support ARC	C/IDDDQ	Carnegie Mellon University : Pittsburgh, PA	0.000	0.907	Mar 2022	0.000		0.000		-		0.000	0.000	0.907	0.907
Management Support Services DBD	C/CPFF	Various : Various	0.000	0.228	Dec 2021	0.000		0.000		-		0.000	0.000	0.228	0.228
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	55.281	0.000		0.000		0.000		-		0.000	0.000	55.281	-
Subtotal			66.934	6.164		5.703		4.575		-		4.575	0.695	84.071	N/A

Remarks
 IDECM ARC Support for Development, Integration and Test continues through FY 2024. Dual Band Decoy (DBD) Support for Development, Integration and Test continues through FY 2024. Increase in FY24 (\$.309M) ARC Engineering and Logistics efforts for additional oversight required during flight testing. FY24 Engineering Support various separated into multiple locations. FY24 Program Management Support for ARC moved to Management Services Cost Category. Decrease in FY24 (\$.279M) DBD support efforts due to the completion of Technical Publications/Trainers effort in FY23. Decrease in FY24 (\$.269M) DBD support efforts to separate Program Management Support from Engineering Support and moved to Management Services Cost Category. Increase in FY24 (\$.004M) Software Dev-ALQ-214 SW Dev CSS support is due to escalation.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	3.883	6.199	Nov 2021	3.177	Nov 2022	2.500	Nov 2023	-		2.500	0.000	15.759	-
Operational Test & Evaluation (OT&E)	SS/CPFF	Various : Various	2.636	0.272	Mar 2022	1.014	Dec 2022	2.488	Mar 2024	-		2.488	4.504	10.914	4.038
Operational Test & Evaluation (OT&E)	WR	NAWCAD : Pax River, MD	1.059	0.449	Nov 2021	0.541	Nov 2022	0.582	Nov 2023	-		0.582	0.593	3.224	-
Developmental Test & Evaluation (DT&E)	SS/CPFF	Various : Various	0.000	0.315	Mar 2022	0.000		0.319	Mar 2024	-		0.319	0.000	0.634	0.634
Operational Test & Evaluation (OT&E)	WR	NAWCWD : Point Mugu, CA	0.000	1.497	Nov 2021	5.004	Nov 2022	2.648	Nov 2023	-		2.648	0.000	9.149	-
Operational Test & Evaluation (OT&E)	WR	NAWCWD : China Lake, CA	0.000	2.435	Nov 2021	7.345	Nov 2022	3.157	Nov 2023	-		3.157	1.500	14.437	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
--	--	---

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Pax River, MD	0.000	0.000		0.000		1.400	Nov 2023	-		1.400	0.000	1.400	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	52.220	0.000		0.000		0.000		-		0.000	0.000	52.220	-
Subtotal			59.798	11.167		17.081		13.094		-		13.094	6.597	107.737	N/A

Remarks
 IDECM Developmental Test and Evaluation continues through FY 2024. Decrease in Operational Test and Evaluation efforts at NAWCWD Point Mugu (\$2.356M) and China Lake (\$4.188M) in FY 2024 is due to Integrated Test and Evaluation efforts for ARC completing in 1Q FY2024. Increase in Operational Test and Evaluation efforts (\$1.474M) at various activities is due to ARC operational testing efforts beginning early FY2024. Decrease in Developmental Test and Evaluation efforts at NAWCWD China Lake (\$0.677M) in FY 2024 is a result of shifting of support to NAWCAD PAX to assist with the additional test requirements for the DBD EMD program. Increase in Developmental Test and Evaluation at NAWCAD PAX (\$1.400M) and various field activities (\$0.319M) in FY 2024 is due to additional test requirements for the DBD EMD Program. Increase in Operational Test and Evaluation efforts at NAWCAD Pax (\$0.041) are due to MISC rate adjustments.

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	Allot	NAWCAD : Pax River, MD	0.977	0.056	Oct 2021	0.056	Oct 2022	0.056	Oct 2023	-		0.056	0.058	1.203	-
Program Management Support ARC	WR	NAWCAD : Pax River, MD	0.000	0.000		0.000		0.917	Nov 2023	-		0.917	0.835	1.752	-
Program Management Support DBD	WR	NAWCAD : Pax River, MD	0.000	0.000		0.000		0.269	Nov 2023	-		0.269	0.572	0.841	-
Management Support Services DBD	C/CPFF	Various : Various	0.000	0.000		0.000		0.300	Nov 2023	-		0.300	0.000	0.300	-
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	88.935	0.000		0.000		0.000		-		0.000	0.000	88.935	-
Subtotal			89.912	0.056		0.056		1.542		-		1.542	1.465	93.031	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
--	--	---

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
 FY24 (\$.917M) Program Management Support for ARC moved from Support Cost Category. FY24 (\$.269M) Program Management Support for DBD separated from Engineering Support DBD and moved from Support Cost Category. FY24 (\$.300) Management Support Services for DBD technical analysis.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	640.809	59.431	45.547	50.911	-	50.911	17.092	813.790	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy Date: March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
--	--	---

IDECM	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Program Milestones																												
ALQ-214 Software Improvement (SWIP)																												
ALQ-214 Adaptive Radar Countermeasures (ARC)																												
Deal Band Decoy (DBD)																												
Acquisition Milestones																												
DBD EMD																												
Systems Development																												
ALQ-214 SWIP Development																												
ALQ-214 ARC Development																												
DBD Prototyping (2 Vendors)																												
DBD EMD																												
DBD VCD																												
Test and Evaluation																												
ALQ-214 SWIP Testing																												
ALQ-214 ARC Testing																												
Deal Band Decoy Testing																												
Production Milestones																												
ALQ-214 SRA Retrofit Contract Awards																												
DBD Contract Awards																												
Deliveries																												
ALQ-214 Deliveries																												
ALQ-214 SRA Retrofit Deliveries																												
DBD Deliveries																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
IDECM				
Acquisition Milestones: ALQ-214 SW Improvement: C-F Development	3	2022	3	2022
Acquisition Milestones: ALQ-214 Adaptive Radar Countermeasures (ARC): Design Review 2	3	2022	3	2022
Acquisition Milestones: ALQ-214 Adaptive Radar Countermeasures (ARC): Design Review 3	3	2023	3	2023
Acquisition Milestones: ALQ-214 Adaptive Radar Countermeasures (ARC): ALQ-214 ARC FOC	4	2025	4	2025
Acquisition Milestones: DBD: Initial Operational Capability (IOC)	4	2026	4	2026
Acquisition Milestones: DBD EMD: Contract Award	2	2023	2	2023
Systems Development: ALQ-214 SW Improvement Development: ALQ-214 SW Improvement Development	1	2022	1	2023
Systems Development: ALQ-214 ARC Development: ARC Development	1	2022	2	2026
Systems Development: ALQ-214 ARC Development: ALQ-214 ARC Mainline (ML) Integration	1	2022	2	2024
Systems Development: ALQ-214 ARC Development: ARC Verification and Correction of Deficiencies	3	2024	2	2026
Systems Development: ALQ-214 ARC Development: ALQ-214 ARC ML Build 1	1	2023	1	2023
Systems Development: ALQ-214 ARC Development: ALQ-214 ARC ML Build 2	4	2023	4	2023
Systems Development: ALQ-214 ARC Development: ALQ-214 ARC ML Build 3	1	2024	1	2024
Systems Development: ALQ-214 ARC Development: ALQ-214 ARC ML Build 4 (DVT)	2	2024	2	2024
Systems Development: ALQ-214 ARC Development: ALQ-214 ARC ML Build 5	4	2025	4	2025
Systems Development: Dual Band Decoy EMD: DBD EMD	2	2023	2	2026
Systems Development: Dual Band Decoy EMD: Design Review 1	3	2023	3	2023

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy			Date: March 2023	
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)		
1319 / 5	PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	2175 / <i>Tactical Air Electronic Warfare</i>		
Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Development: Dual Band Decoy EMD: Design Review 2	4	2023	4	2023
Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Integrated Testing (IT) on C/D Aircraft	1	2022	1	2023
Test and Evaluation: ALQ-214 ARC Testing: ALQ-214 ARC Developmental and Integrated Testing	1	2022	1	2024
Test and Evaluation: ALQ-214 ARC Testing: ALQ-214 ARC Operational Testing	1	2024	2	2024
Test and Evaluation: ALQ-214 ARC Testing: ALQ-214 ARC Developmental/Integrated Testing/Verification of Deficiencies	3	2024	2	2025
Test and Evaluation: ALQ-214 ARC Testing: ALQ-214 ARC Operational Testing'	3	2025	2	2026
Test and Evaluation: Dual Band Decoy Testing: DBD Developmental Testing	3	2024	3	2025
Test and Evaluation: Dual Band Decoy Testing: DBD Integrated Testing/Operational Testing	3	2025	3	2026
Production Milestones: Shop Replaceable Assembly Contract Awards: Contract Award 1	1	2022	1	2022
Production Milestones: Dual Band Decoy Contract Awards: DBD Production Build (PB 1)	2	2024	2	2024
Production Milestones: Dual Band Decoy Contract Awards: DBD Production Build (PB 2)	2	2025	2	2025
Production Milestones: Dual Band Decoy Contract Awards: DBD Full Rate Production (FRP1)	2	2026	2	2026
Production Milestones: Dual Band Decoy Contract Awards: DBD Full Rate Production (FRP2)	1	2027	1	2027
Production Milestones: Dual Band Decoy Contract Awards: DBD Full Rate Production (FRP3)	1	2028	1	2028
Deliveries: IDECM Block 4: IDECM Block 4 FRP 15 Deliveries (20)	1	2022	2	2022
Deliveries: IDECM Block 4: IDECM Block 4 FRP 16 Deliveries (22)	2	2022	1	2023
Deliveries: IDECM Block 4: IDECM Block 4 FRP 17 Deliveries (20)	2	2023	4	2023
Deliveries: IDECM Block 4: IDECM Block 4 FRP 18 Deliveries (10)	4	2023	4	2024

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>
--	--	---

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: Shop Replaceable Assembly: Shop Replaceable Assembly Deliveries (17)	2	2023	1	2024
Deliveries: Shop Replaceable Assembly: Shop Replaceable Assembly Deliveries (62)	2	2024	1	2025
Deliveries: Shop Replaceable Assembly: Shop Replaceable Assembly Deliveries (31)	2	2025	1	2026
Deliveries: DBD: DBD PB 1 Deliveries	4	2024	3	2025
Deliveries: DBD: DBD PB 2 Deliveries	4	2025	3	2026
Deliveries: DBD: DBD FRP 1 Deliveries	4	2026	3	2027
Deliveries: DBD: DBD FRP 2 Deliveries	4	2027	3	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 3308 / <i>Technology Development</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3308: <i>Technology Development</i>	21.844	8.353	13.127	20.399	-	20.399	27.825	19.558	21.510	22.008	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

PE 0604279N consolidated to PE 0604270N beginning in FY 2017.

A. Mission Description and Budget Item Justification

Project Unit 3308 / Technology Development funds efforts that focus on the quick reaction prototyping and fielding of Tactical Electronic Warfare (EW)/countermeasures solutions for increased resilience and survivability, by improving the active electronic self-defense of tactical aircraft. This self-protection provides friendly forces the ability to deploy, survive, operate, maneuver, and regenerate in all domains while under attack as well as strike diverse targets inside adversary air and missile defense networks to destroy mobile power-projection platforms. This Project also includes/enables integrated Aircraft Survivability Equipment (iASE) which improves situational awareness for own-ship, wingman, and distributed command and control. Significant investments have been made in the modular hardware and reprogrammable software resident in ASE capability which is fielded today. Technology Development makes specific investments towards: countermeasure/jammer/receiver algorithm development, Advanced EW Suite capability studies/investigation/analysis, threat data file and model updates as modern threats continue to evolve. These updated data files and algorithms are required to be deployed within hours of release by squadron maintenance personnel to aircraft while still on the ramp or flight deck. This program directly addresses the operational requirement of Strike Tactical Air platforms for optimization of EW/countermeasure solutions across the Department of Navy.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Technology Development	8.353	13.127	20.399	0.000	20.399
Articles:	-	-	-	-	-
FY 2023 Plans: Perform EW vulnerability studies/analysis, product development and test conducted for the ALQ-214 system on the F/A-18 C/D and E/F for both USMC and Navy aircraft. Develop, model and test advanced electronic countermeasure algorithms for USMC and Navy aircraft to defend against modern threats both inside and outside the currently protected RF spectrum. Provide investments for the continuation and development of emerging RF Threat ECM and T&E Capability					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3308 / <i>Technology Development</i>

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>Enhancements, addresses current and future threats on the roadmap that are not in the threat library (new threats not in MDFs). Develops advanced hardware-in-the-loop Modeling and Simulation flight test surrogates to keep pace with modern advanced threats in support of currently fielded systems and development and testing of Adaptive Radar Countermeasures (ARC).</p> <p>FY 2024 Base Plans: Continued EW product development and initiation of tests in support of the ALQ-214 system on the F/A-18 E/F for Navy aircraft. Develop, model and test advanced electronic countermeasure algorithms for Navy aircraft to defend against modern threats both inside and outside the currently protected RF spectrum. Provide investments for the continuation and development of emerging Radio Frequency (RF) Threat, Electronic Countermeasures (ECM) and T&E Capability Enhancements, addresses current and future threats on the roadmap that are not in the threat library (new threats not in MDFs). Develops advanced hardware-in-the-loop Modeling and Simulation flight test surrogates to keep pace with modern advanced threats in support of currently fielded systems.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase of \$7.272M is attributed to requirements associated with continued product development costs, initiation of USG Test and Evaluation and ALQ-214 source code modernization efforts.</p>					
Accomplishments/Planned Programs Subtotals	8.353	13.127	20.399	0.000	20.399

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

N/A

Remarks

D. Acquisition Strategy

Electronic Warfare/vulnerability studies/analysis, product development and test conducted for strike aircraft across the Future Years Defense Program (FYDP).

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3308 / <i>Technology Development</i>
--	--	--

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Dev - ALQ-214 SW Dev	SS/CPFF	NSMA : Washington, DC	0.000	0.000		3.295	Mar 2023	14.733	Mar 2024	-		14.733	Continuing	Continuing	Continuing
Software Dev - ALQ-214 SW Dev	C/BA	Leidos : Arlington, VA	2.573	3.900	Nov 2021	7.199	May 2023	2.006	Dec 2023	-		2.006	Continuing	Continuing	Continuing
Software Dev - ALQ-214 SW Dev	C/CPFF	Amentum : Crane, IN	0.000	1.400	Apr 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Dev - ALQ-214 SW Dev	WR	TOYON Research : Goleta, CA	0.000	1.000	Apr 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Production Costs no longer funded in FYDP	Various	Various : Various	12.526	0.000		0.000		0.000		-		0.000	0.000	12.526	-
Subtotal			15.099	6.300		10.494		16.739		-		16.739	Continuing	Continuing	N/A

Remarks
 Contractor SWIP and ARC modeling, simulation, and technique optimization development will continue through FY 2024. Product Development includes Threat Characterization efforts continuing into FY 2024. Increase in FY24 (\$11.438M) to Navy Systems Management Activity (NSMA) is in support of a Software/Firmware Development Effort to enhance Aircraft Survivability. Decrease in FY24 (\$5.193M) from Leidos as the Adaptive Radar Countermeasures (ARC) Mainline Integration and implementation of optimized ARC Threat Techniques effort ends.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Dev - ALQ-214 SW Dev	WR	NAWCWD : Point Mugu, CA	1.166	0.829	Nov 2021	0.667	Nov 2022	0.674	Nov 2023	-		0.674	Continuing	Continuing	Continuing
Software Dev - ALQ-214 SW Dev	C/CPFF	Johns Hopkins : Baltimore, MD	0.735	0.300	Jun 2022	0.481	Nov 2022	0.481	Nov 2023	-		0.481	Continuing	Continuing	Continuing
Software Dev - ALQ-214 SW Dev	C/CPFF	GTRI : Atlanta, GA	0.000	0.223	Nov 2021	0.000		0.000		-		0.000	0.000	0.223	-
Prior Year Support Costs no longer funded in FYDP	Various	Various : Various	1.075	0.000		0.000		0.000		-		0.000	0.000	1.075	-
Subtotal			2.976	1.352		1.148		1.155		-		1.155	Continuing	Continuing	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3308 / <i>Technology Development</i>
--	--	--

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Contractor and Organic SWIP and ARC modeling, simulation, and technique optimization development will continue into FY 2024. Increase in FY24 (\$.007M) at Point Mugu due to inflation.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : Point Mugu, CA	0.518	0.701	Nov 2021	1.485	Nov 2022	1.500	Nov 2023	-		1.500	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.760	Nov 2023	-		0.760	0.000	0.760	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	3.251	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			3.769	0.701		1.485		2.260		-		2.260	Continuing	Continuing	N/A

Remarks
Organic SWIP and ARC modeling, simulation, and technique optimization development will continue through FY 2024. Increase in FY24 (\$.015M) due to inflation. FY24 (\$.760M) Engineering & Evaluation (Patuxent River, MD) added for threat model development, open/closed loop asset development, platform EW collaboration, and Radio Frequency Compatibility.

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	WR	NAWCAD : Pax River, MD	0.000	0.000		0.000		0.245	Nov 2023	-		0.245	0.000	0.245	-
Subtotal			0.000	0.000		0.000		0.245		-		0.245	0.000	0.245	N/A

Remarks
FY24 (\$.245M) Program Management Support cost category added for additional oversight of technique optimization.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3308 / <i>Technology Development</i>
--	--	--

ASE Self Protection Optimization	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Program Milestones		FY22 OFP ▲				FY23 OFP ▲				FY24 OFP ▲				FY25 OFP ▲				FY26 OFP ▲				FY27 OFP ▲				FY28 OFP ▲		
Operational Flight Program (OFP)																												
EW Suite OFP Release		EW21 ▲				EW22 ▲				EW23 ▲				EW24 ▲				EW25 ▲				EW26 ▲				EW27 ▲		
ARC Mainline OFP Release						ARC Build 1 ▲				ARC Build 2 ▲	ARC Build 3 ▲																	
SW/FW DEV&INT Contract Award						NSMA DEV/INT Award ▲				SW/FW INC 2 Mod ▲				SW/FW INC 3 Mod ▲				SW/FW INC 4 Mod ▲				SW/FW INC 5 Mod ▲						
Systems Development																												
SW Threat Analysis, Technique Development and Optimization																												
SW/FW Systems Requirements Review Contract																												
SW/FW Development and Integration Contract																												
Test and Evaluation																												
Suite Level ECM and Integrated Eval																												
SW/FW Development and Integration DT/IT/OT																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Development</i>	Project (Number/Name) 3308 / <i>Technology Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
(U) ASE Self Protection Optimization (ASPO)				
Milestones: Program Milestones: FY-22 Operational Flight Program	2	2022	2	2022
Milestones: Program Milestones: FY-23 Operational Flight Program	2	2023	2	2023
Milestones: Program Milestones: FY-24 Operational Flight Program	2	2024	2	2024
Milestones: Program Milestones: FY-25 Operational Flight Program	2	2025	2	2025
Milestones: Program Milestones: FY-26 Operational Flight Program	2	2026	2	2026
Milestones: Program Milestones: FY-27 Operational Flight Program	2	2027	2	2027
Milestones: Program Milestones: FY-28 Operational Flight Program	2	2028	2	2028
Milestones: EW Suite OFP Release: Release-21	2	2022	2	2022
Milestones: EW Suite OFP Release: Release-22	2	2023	2	2023
Milestones: EW Suite OFP Release: Release-23	2	2024	2	2024
Milestones: EW Suite OFP Release: Release-24	2	2025	2	2025
Milestones: EW Suite OFP Release: Release-25	2	2026	2	2026
Milestones: EW Suite OFP Release: Release-26	2	2027	2	2027
Milestones: EW Suite OFP Release: Release-27	2	2028	2	2028
Milestones: ARC Mainline OFP Release: ARC Award	1	2022	1	2022
Milestones: ARC Mainline OFP Release: ARC Build 1	1	2023	1	2023
Milestones: ARC Mainline OFP Release: ARC Build 2	4	2023	4	2023
Milestones: ARC Mainline OFP Release: ARC Build 3	1	2024	1	2024
Milestones: Software/Firmware (SW/FW) Developmental & Integration Contract Award: SW/FW DEV/INT Award 1	2	2023	2	2023
Milestones: Software/Firmware (SW/FW) Developmental & Integration Contract Award: SW/FW DEV/INT Award 2	2	2024	2	2024

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3308 / <i>Technology Development</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Milestones: Software/Firmware (SW/FW) Developmental & Integration Contract Award: SW/FW DEV/INT Award 3	2	2025	2	2025
Milestones: Software/Firmware (SW/FW) Developmental & Integration Contract Award: SW/FW DEV/INT Award 4	2	2026	2	2026
Milestones: Software/Firmware (SW/FW) Developmental & Integration Contract Award: SW/FW DEV/INT Award 5	2	2027	2	2027
Systems Development: Systems Development Reviews: FY-22 Review	1	2022	1	2022
Systems Development: Systems Development Reviews: FY-23 Review	1	2023	1	2023
Systems Development: Systems Development Reviews: FY-24 Review	1	2024	1	2024
Systems Development: Systems Development Reviews: FY-25 Review	1	2025	1	2025
Systems Development: Systems Development Reviews: FY-26 Review	1	2026	1	2026
Systems Development: Systems Development Reviews: FY-27 Review	1	2027	1	2027
Systems Development: Systems Development Reviews: FY-28 Review	1	2028	1	2028
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-22 Analysis	3	2022	1	2023
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-23 Analysis	3	2023	1	2024
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-24 Analysis	3	2024	1	2025
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-25 Analysis	3	2025	1	2026
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-26 Analysis	3	2026	1	2027
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-27 Analysis	3	2027	1	2028
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-28 Analysis	3	2028	4	2028

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3308 / <i>Technology Development</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-22 Development	2	2022	4	2022
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-23 Development	2	2023	4	2023
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-24 Development	2	2024	4	2024
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-25 Development	2	2025	4	2025
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-26 Development	2	2026	4	2026
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-27 Development	2	2027	4	2027
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-28 Development	2	2028	4	2028
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-22 Optimization	2	2022	4	2022
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-23 Optimization	2	2023	4	2023
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-24 Optimization	2	2024	4	2024
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-25 Optimization	2	2025	4	2025
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-26 Optimization	2	2026	4	2026
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-27 Optimization	2	2027	4	2027
Systems Development: SW Threat Analysis, Technique Development and Optimization: FY-28 Optimization	2	2028	4	2028

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3308 / <i>Technology Development</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Development: SW/FW Systems Requirements Review Contract: SW/FW Systems Requirements	1	2022	3	2023
Systems Development: SW/FW Development and Integration Contract: SW/FW DEV/INT Inc 1	4	2023	3	2024
Systems Development: SW/FW Development and Integration Contract: SW/FW DEV/INT Inc 2	4	2024	3	2025
Systems Development: SW/FW Development and Integration Contract: SW/FW DEV/INT Inc 3	4	2025	3	2026
Systems Development: SW/FW Development and Integration Contract: SW/FW DEV/INT Inc 4	4	2026	3	2027
Systems Development: SW/FW Development and Integration Contract: SW/FW DEV/INT Inc 5	4	2027	3	2028
Test and Evaluation: Suite Level ECM and Integrated Evaluation: FY-22 ECM/IE	1	2022	4	2022
Test and Evaluation: Suite Level ECM and Integrated Evaluation: FY-23 ECM/IE	1	2023	4	2023
Test and Evaluation: Suite Level ECM and Integrated Evaluation: FY-24 ECM/IE	1	2024	4	2024
Test and Evaluation: Suite Level ECM and Integrated Evaluation: FY-25 ECM/IE	1	2025	4	2025
Test and Evaluation: Suite Level ECM and Integrated Evaluation: FY-26 ECM/IE	1	2026	4	2026
Test and Evaluation: Suite Level ECM and Integrated Evaluation: FY-27 ECM/IE	1	2027	4	2027
Test and Evaluation: Suite Level ECM and Integrated Evaluation: FY-28 ECM/IE	1	2028	4	2028
Test and Evaluation: SW/FW Developmental/Integrated/Operational Testing: SW/FW Inc 1 DT/IT/OT	4	2024	3	2025
Test and Evaluation: SW/FW Developmental/Integrated/Operational Testing: SW/FW Inc 2 DT/IT/OT	4	2025	3	2026
Test and Evaluation: SW/FW Developmental/Integrated/Operational Testing: SW/FW Inc 3 DT/IT/OT	4	2026	3	2027
Test and Evaluation: SW/FW Developmental/Integrated/Operational Testing: SW/FW Inc 4 DT/IT/OT	4	2027	3	2028

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3308 / <i>Technology Development</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation: SW/FW Developmental/Integrated/Operational Testing: SW/FW Inc 5 DT/IT/OT	4	2028	4	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3309: <i>Assault Survivability Optimization</i>	12.857	23.393	37.058	61.548	-	61.548	70.590	46.043	34.678	29.220	Continuing	Continuing
Quantity of RDT&E Articles	480	2,520	15	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FY 2024 includes funding required to implement Common Carriage for P-8 and CMV-22 aircraft platforms, Integrated Aircraft Survivability Equipment (iASE) and advanced radio frequency (RF) decoys. P-8 and CMV-22 Common Carriage expands USN expendable carriage capacity and enables near term employment of advanced expendables. This transition aligns additional platforms with F/A-18 and MH-60 to reduce expendable countermeasures logistics footprints, reduce future development and procurement costs, and improves industrial base performance through DOD wide common expendable square form factor. iASE funding required to provide framework to rapidly incorporate advanced expendable countermeasures and software applications. Active Expendable Device (AED) replaces existing active RF expendable (GEN-X) which is obsolete against current threats. RR-203 (passive) RF decoy effort leverages current Army and Air National Guard efforts and the advanced chaff technology used in the F-35 to provide a low cost, high scattering Radar Cross Section (RCS) capability to DoN platforms. Advanced RF active and passive free fall decoys offer stand-alone devices necessary for global naval operations for all USN aircraft deployments for use against networked Integrated Air Defense System (IADS) with coherent radars and provide aircrew with tailored response options of integrated onboard and off-board RF expendable solutions in a dense threat environment. Project continues funding required to implement Multi-Layered Obstructed Brokered Hub (MOB Hub) and integrated Aircraft Survivability Equipment (iASE) capability for F/A-18 aircraft and to continue Common Carriage for USN aircraft platforms. MOB Hub iASE funding is for hardware/software redesign and qualification of the ALE-47 Programmer. This upgrade enables advanced expendable countermeasures to enhance countermeasure response, and provide additional battlespace awareness for own-ship, wingman and other mission participants. MOB Hub iASE replaces obsolete ALE-47 operational flight program and programmer hardware, providing data to the gateway necessary for survivability in the current and future threat scenarios facing USN operational missions. Common Carriage and iASE ALE-47 program develops solutions to aircraft survivability gaps against current and future threat systems. Solutions address the Air Expendable Countermeasures (AECM) requirement for maintaining a portfolio of countermeasures capable of defeating current and surface-to-air and air-to-air threat missile systems to include the development, testing, and rapid fielding of advanced Electro-Optic, Infrared, and Radio Frequency (EO/IR/RF) countermeasures and enhanced employment techniques needed to support Fleet combat operations. Countermeasure dispensing techniques are developed using capability advancements tied to iASE investments by leveraging available sensor data from the iASE suite and aircraft data from the mission computer. Improved countermeasure dispense techniques are rapidly delivered to operational Fleet aircraft through Mission Data File updates via established software update processes. New expendable countermeasure technology developed in industry, by other DoD Components and through other R&D programs can be transitioned to AECM Program of Record to meet the required operational platform survivability without further investment in iASE systems. This Project also includes/enables survivability solutions using existing iASE data which improves situational awareness for own-ship, wingman, and distributed command and control. Resources will be applied to the following areas: 1) Studies and evaluations to optimize employment of current countermeasures and iASE capabilities. 2) Development and demonstration of advanced expendable countermeasures and countermeasure techniques. 3) Testing and evaluation of advanced countermeasures. 4) Development of system software enhancements and integration for the testing and deployment of advanced countermeasure techniques. 5) Development of and upgrades to modeling tools and specialized equipment required to conduct evaluation of advanced countermeasures against proliferating threats.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>Title: Assault Survivability Optimization</p> <p align="right">Articles:</p> <p>FY 2023 Plans: Organic government effort begins hardware/software redesign and qualification for F/A-18 Multi-Layered Obstructed Brokered Hub (MOB Hub) and integrated Aircraft Survivability Equipment (iASE) implementation. Continue ALE-47 Common Carriage Engineering, Manufacturing Development hardware, software and support equipment design and development effort including associated Government efforts. Support the development and integration of the advanced AN/ALE-47 iASE capability to improve countermeasure techniques developed for improved survivability and aircrew situational awareness. Continue development and testing of advanced countermeasure techniques. Perform modeling and simulation to support effectiveness testing of new 1x1x8 advanced countermeasure chaff for F/A-18. Continue development of advanced countermeasures to defeat emerging threats focused on 1x1x8 countermeasures to support transition of Common Carriage. Breakdown of test assets follows: ALE-47 MOB/iASE programmers 15ea.</p> <p>FY 2024 Base Plans: Incremental funding for ALE-47 Common Carriage Engineering, Manufacturing Development (EMD) effort. Continue contractor and governments efforts for hardware, software and support equipment design and development for Common Carriage. Begin Common Carriage implementation for P-8 and CMV-22. Support the development and integration of the advanced AN/ALE-47 iASE capability to improve countermeasure techniques developed for improved survivability and aircrew situational awareness. Develop advanced RF decoys to include awarding EMD contract for Active Expendable Device (AED) and government efforts for development of AED and RR-203 (passive) decoy. Perform modeling and simulation to support effectiveness testing of new 1x1x8 advanced countermeasures for MH-60R/S. Continue development and testing of advanced countermeasure techniques.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 includes \$24.490 million to incorporate Common Carriage into P-8 and CMV-22 aircraft, provide additional iASE framework to rapidly incorporate advanced expendable countermeasures and software applications, and develop two new advanced radio frequency (RF) free fall decoys. Common Carriage is required to standardize countermeasures across Services and increase capability/</p>	23.393 2,520	37.058 15	61.548 -	0.000 -	61.548 -

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
lethality/survivability. iASE offers improved shared situational awareness of threat detection/identification and advanced expendable tactical employment capabilities. Advanced RF Countermeasure Expendable Devices (AED and RR-203) replace current legacy active devices (GEN-X) and legacy chaff with modern threat protection capability and offers a tailored response option integrated with onboard and off board solutions.					
Accomplishments/Planned Programs Subtotals	23.393	37.058	61.548	0.000	61.548

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

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• PANMC/0182: <i>Air Expendable Countermeasures</i>	4.335	13.070	9.752	-	9.752	8.643	2.531	13.351	17.282	Continuing	Continuing
• APN-05/0576: <i>ALE-39 to ALE-47/ Common Carriage (OSIP 006-00)</i>	0.000	0.000	0.000	-	0.000	38.066	46.561	65.466	53.256	376.145	579.494

Remarks

PANMC 0182 Air Expendables Countermeasures (CM) Common Carriage and advanced radio frequency decoys funding represents only a portion of the total PANMC 0182 Air Expendables CM Budget.
 APN-5/0576 Common Carriage and MOB Hub iASE budget begins in FY 2025.

D. Acquisition Strategy

Acquisition strategy is to leverage improvements in air expendable countermeasures technology and integration of existing iASE sensor and platform data to enhance platform survivability on USN and USMC platforms through more effective dispense techniques, investing in enhancements in modeling and simulation tools to better evaluate countermeasure effectiveness against advancing threat systems, upgrading test and evaluation equipment to incorporate current and future threats for effectiveness tests, and developing and demonstrating advanced concept countermeasures for future threats. New advanced countermeasures are then transitioned to the Procurement of Ammunition Navy and Marine Corps appropriation for procurement and fielding. New optimized and advanced countermeasure techniques are delivered via operational Mission Data Files (MDF) to increase aircraft/aircrew survivability. F-35 brings square countermeasures to Fleet operations and provides the opportunity to drastically improve interoperability across USN/USMC, DoD and Coalition warfare operations by employing a Common Carriage solution that entered Engineering and Manufacturing Development for USN Aircraft in FY 2022 for IOC in FY 2026. Common Carriage will standardize countermeasures across Services to increase capability/lethality/survivability and countermeasure load-out to support operations in contested environments. FY 2024 continues implementation of ALE-47 MOB Hub iASE to fully leverage the opportunities of the Common Carriage upgrade. ALE-47 MOB Hub iASE strategy is to utilize government facility for hardware/software redesign, qualification and production of the ALE-47 Programmer for F/A-18 platform integration/test. Advanced RF decoys strategy is to leverage technology and development from various DoD science and technology efforts to design advanced RF decoys for platforms against current and advancing surface-to-air missiles and air-to-air missiles. DoD efforts include Small Business Innovation Research (SBIR) program for development of high resolution radar cross section chaff with

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
<p>mmWave coverage, US Army DoD Ordnance Technology Consortium (DOTC) awards for development of advanced Digital RF Expendable/Active Decoy (DREAD), and USAF Air National Guard Foreign Comparative Testing (FCT) of the BriteCloud Digital RF Memory (DRFM) countermeasure.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy												Date: March 2023			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v				Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ALE-47 Common Carriage Expendable Countermeasure Technique Modeling and Simulation	WR	NSWC Crane : Crane, IN	2.371	0.491	Oct 2021	0.558	Oct 2022	0.440	Oct 2023	-		0.440	Continuing	Continuing	Continuing
Advanced RFCM Decoy Modeling and Simulation	WR	NSWC Crane : Crane, IN	0.000	0.000		0.000		0.618	Oct 2023	-		0.618	Continuing	Continuing	Continuing
ALE-47 Common Carriage Radio Frequency Countermeasures Modeling and Simulation	C/CPFF	Booz Allen Hamilton : McClean, VA	0.101	0.249	Dec 2021	0.000		0.258	Dec 2023	-		0.258	Continuing	Continuing	Continuing
Active RF Decoy Development Contract	TBD	TBD : TBD	0.000	0.000		0.000		3.001	Apr 2024	-		3.001	Continuing	Continuing	Continuing
ALE-47 Common Carriage Sys Upgrade Dev Contract	C/FFP	BAE : Austin, TX	0.000	6.683	Sep 2022	2.459	Mar 2023	2.510	Mar 2024	-		2.510	1.805	13.457	13.457
ALE-47 Common Carriage Software Upgrades	WR	FRCSE : Jacksonville, FL	0.000	1.061	Nov 2021	1.567	Nov 2022	2.621	Oct 2023	-		2.621	Continuing	Continuing	Continuing
ALE-47 Common Carriage System Upgrade Development	WR	Various : Various	0.000	2.374	Nov 2021	2.248	Nov 2022	2.571	Oct 2023	-		2.571	Continuing	Continuing	Continuing
ALE-47 Common Carriage System Upgrade Development	WR	FRCSE : Jacksonville, FL	0.000	1.947	Oct 2021	2.383	Oct 2022	5.084	Oct 2023	-		5.084	Continuing	Continuing	Continuing
ALE-47 Common Carriage A-Kit Design	WR	FRCSE : Jacksonville, FL	0.000	0.374	Jun 2022	0.576	Mar 2023	1.251	Oct 2023	-		1.251	Continuing	Continuing	Continuing
ALE-47 Common Carriage Depot Update Planning	MIPR	TBD : TBD	0.000	0.000		0.613	Dec 2022	0.625	Oct 2023	-		0.625	Continuing	Continuing	Continuing
ALE-47 F/A-18 iASE Development	WR	NAWCWD : China Lake, CA	0.000	2.815	Apr 2022	13.695	Oct 2022	15.586	Oct 2023	-		15.586	Continuing	Continuing	Continuing
ALE-47 F/A-18 iASE Software App Dev	WR	NAWCWD : China Lake, CA	0.000	0.000		0.000		1.686	Oct 2023	-		1.686	Continuing	Continuing	Continuing
ALE-47 iASE Software Upgrade	WR	FRCSE : Jacksonville, FL	0.000	0.000		1.438	Oct 2022	3.120	Oct 2023	-		3.120	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ALE-47 iASE A-Kit Design/ Drawing	WR	NAWCWD : China Lake, CA	0.000	0.000		0.710	Oct 2022	0.394	Oct 2023	-		0.394	Continuing	Continuing	Continuing
ALE-47 iASE Human Factors	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.137	Jan 2023	0.000		-		0.000	Continuing	Continuing	Continuing
ALE-47 iASE User Training Package/Source Data Update	WR	Various : Various	0.000	0.000		0.422	Jan 2023	0.486	Oct 2023	-		0.486	Continuing	Continuing	Continuing
ALE-47 iASE Development	WR	FRCSE : Jacksonville, FL	0.000	0.000		0.955	Oct 2022	3.513	Oct 2023	-		3.513	Continuing	Continuing	Continuing
ALE-47 iASE Depot Assessment/Standup Planning	MIPR	Various : Various	0.000	0.000		0.055	Jan 2023	0.689	Oct 2023	-		0.689	Continuing	Continuing	Continuing
ALE-47 iASE CASS OTPS	WR	FRCSE : Jacksonville, FL	0.000	0.000		0.000		0.889	Oct 2023	-		0.889	Continuing	Continuing	Continuing
Archive Product Development Efforts	Various	Various : Various	1.409	0.000		0.000		0.000		-		0.000	0.000	1.409	-
Subtotal			3.881	15.994		27.816		45.342		-		45.342	Continuing	Continuing	N/A

Remarks
 FY 2024 \$45.342 million for organic government effort for F/A-18 Multi-Layered Obstructed Brokered Hub (MOB Hub) and integrated Aircraft Survivability Equipment (iASE) implementation and continue Engineering, Manufacturing and Development (EMD) contract to design and develop hardware and software solutions for USN aircraft Countermeasure Dispensing Systems and perform modeling and simulation to optimize Common Carriage countermeasures on USN aircraft platforms incorporating P-8 and CMV-22. Award EMD contract to develop Active Expendable Device (AED) advanced radio frequency (RF) free fall decoy. Begin organic government efforts for develop, modeling and simulation to support AED and RR-203 RF decoys.

Common Carriage increase of \$4.698 million from FY 2023 to FY 2024 to fund third increment of EMD effort for design and develop of hardware and software solutions for USN aircraft ALE-47 Countermeasure Dispensing Systems. Additional funding also to incorporate Common Carriage for P-8 and CMV-22. Funding level supports modeling and simulation increase from one aircraft in FY 2023 to two aircraft in FY 2024 and two flight test events for each aircraft in FY 2024.

Common Carriage EMD award changed from 3rd quarter FY 2022 to 4th quarter FY 2022 due to additional time required for negotiations with vendor. FY 2022 reduced Common Carriage EMD first increment award amount based on final negotiations with vendor and established EMD milestones. FY 2022 moved \$2.815M Common Carriage funding to iASE risk reduction effort to mitigate schedule and thermal performance risk.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

F/A-18 MOB Hub iASE increase of \$8.951 million from FY 2023 to FY 2024 for organic government effort (China Lake, CA/Jacksonville, FL/Patuxent River, MD) to include development of iASE software applications, system security/cyber assessment and implementation, aircraft test instrumentation and assessment of organic repair capability for the iASE Programmer.

Advanced RF Decoy increase of \$3.877 million from FY2023 to FY 2024 to award AED EMD contract and perform modeling and simulation for development of advanced RF decoys.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ALE-47 Common Carriage Test Mission Data File Software Development	WR	FRCSE : Jacksonville, FL	0.453	0.228	Jan 2022	0.078	Jan 2023	0.466	Oct 2023	-		0.466	Continuing	Continuing	Continuing
ALE-47 Advanced RFCM Test Mission Data File Software Development	C/BA	FRCSE : Jacksonville, FL	0.000	0.000		0.000		0.104	Oct 2023	-		0.104	Continuing	Continuing	Continuing
Active and Passive RF Decoy Development Support	WR	Various : Various	0.000	0.000		0.000		0.648	Oct 2023	-		0.648	Continuing	Continuing	Continuing
ALE-47 Common Carriage Technical Support	WR	FRC : Various	0.000	0.418	Oct 2021	0.454	Oct 2022	0.899	Oct 2023	-		0.899	Continuing	Continuing	Continuing
ALE-47 Common Carriage Aircraft Instrumentation	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.503	Oct 2023	-		0.503	Continuing	Continuing	Continuing
ALE-47 iASE Cyber/ COMSEC/CPI Assessment	WR	Various : Various	0.000	0.000		0.796	Jan 2023	0.885	Oct 2023	-		0.885	Continuing	Continuing	Continuing
ALE-47 iASE Logistics Supportability Assessment	WR	Various : Various	0.000	0.000		0.425	Jan 2023	0.000		-		0.000	Continuing	Continuing	Continuing
ALE-47 iASE Platform Integration Support	WR	FRCSW : San Diego, CA	0.000	0.000		0.511	Jan 2023	0.541	Oct 2023	-		0.541	Continuing	Continuing	Continuing
ALE-47 iASE Development Support	Various	NAWCAD : Patuxent River, MD	0.000	0.000		0.796	Jan 2023	0.947	Oct 2023	-		0.947	Continuing	Continuing	Continuing
Archive Support Efforts	Various	Various : Various	0.144	0.000		0.000		0.000		-		0.000	0.000	0.144	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.597	0.646		3.060		4.993		-		4.993	Continuing	Continuing	N/A

Remarks
 FY 2024 \$4.993 million for support for ALE-47 Countermeasure Dispensing Systems software design and development for F/A-18 MOB Hub iASE, incorporate and dispense square form factor countermeasures on USN aircraft platforms, and develop advanced RF decoys.

 Common Carriage increase of \$1.336 million from FY 2023 to FY 2024 required for aircraft instrumentation changes, test and evaluation requirements and increase in number of test MDFs from one in FY 2023 to six in FY 2024.

 F/A-18 MOB Hub iASE decrease of \$0.155 million from FY2023 to FY 2024 realigned to meet Common Carriage milestones and planned initial operational capability.

 Advanced RF increase of \$0.752 million from FY 2023 to FY 2024 required for technical support and developmental test MDF for RR-203 to replace current RF decoy inventory with items to defeat current and emerging threats.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	FRCSE - Common Carriage : Jacksonville, FL	0.000	1.406	Oct 2021	0.807	Oct 2022	2.231	Oct 2023	-		2.231	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCAD - Common Carriage : Patuxent River, MD	0.000	0.159	Nov 2021	0.216	Nov 2022	1.125	Oct 2023	-		1.125	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	C/FFP	Various : Various	0.000	0.339	Feb 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC Crane : Crane, IN	0.000	1.416	Oct 2021	0.000		1.357	Oct 2023	-		1.357	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCWD - Common Carriage : Pt Mugu, CA	1.166	1.441	Mar 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCWD - Common Carriage : China Lake, CA	0.000	0.000		1.134	Jan 2023	0.000		-		0.000	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	MH-60R/S Squadron - Common Carriage : TBD	0.000	1.264	Jan 2022	0.000		2.066	Jan 2024	-		2.066	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCWD - iASE : China Lake, CA	0.000	0.000		0.530	Oct 2022	0.549	Oct 2023	-		0.549	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	VX-21 - iASE : Patuxent River, MD	0.000	0.000		0.157	Mar 2023	0.138	Mar 2024	-		0.138	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	VX-21/31 - iASE : Various	0.000	0.000		0.308	Mar 2023	0.000		-		0.000	Continuing	Continuing	Continuing
Operational Test & Evaluation (OT&E)	WR	COTF - iASE : Norfolk, VA	0.000	0.000		0.245	Mar 2023	0.249	Dec 2023	-		0.249	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	FRCSE- iASE : Jacksonville, FL	0.000	0.000		0.270	Jan 2023	0.541	Oct 2023	-		0.541	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCAD- iASE : Patuxent River, MD	0.000	0.000		0.000		0.358	Oct 2023	-		0.358	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	5.909	0.000		0.000		0.000		-		0.000	0.000	5.909	-
Subtotal			7.075	6.025		3.667		8.614		-		8.614	Continuing	Continuing	N/A

Remarks
 FY 2024 \$8.614 million for Test and Evaluation (T&E) for F/A-18 MOB Hub iASE, Advanced RF decoy engineering, qualification and testing and advanced Common Carriage countermeasure dispense technique optimization flight test events: MH-60R/S infrared and radio frequency (both events ground-to-air).
 Common Carriage increase of \$3.265 million from FY 2023 to FY 2024 due to T&E requirements increase from one test event in FY 2023 to four test events in FY 2024.
 F/A-18 MOB HUB iASE increase of \$0.325 million from FY 2023 to FY 2024 for T&E efforts for iASE implementation to increase ALE-47 programmer capability for F/A-18 aircraft. FY 2024 incorporates test/integration efforts for F/A-18 ALE-47 MOB Hub iASE and MH-60R/S infrared and radio frequency countermeasure ground to air flight tests.
 Advanced RF decoy increase of \$1.357 million for Active Expendable Device (AED) and RR-203 engineering, evaluation, qualification and testing of active and passive decoys. Funding includes RR-203 developmental testing and organic manufacture of Common Carriage prototype magazines.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ALE-47 Project Management	WR	FRCSE : Jacksonville, FL	0.803	0.728	Oct 2021	2.028	Oct 2022	2.068	Oct 2023	-		2.068	Continuing	Continuing	Continuing
ALE-47 Project Management Support Services	C/CPFF	KBR : Jacksonville, FL	0.000	0.000		0.425	Dec 2022	0.531	Dec 2023	-		0.531	Continuing	Continuing	Continuing
Advanced Countermeasure Dispense Technique Development Project Management	C/CPFF	Georgia Tech Applied Research Corporation : Atlanta, GA	0.162	0.000		0.062	Dec 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Archive Management Services Efforts	Various	Various : Various	0.339	0.000		0.000		0.000		-		0.000	0.000	0.339	-
Subtotal			1.304	0.728		2.515		2.599		-		2.599	Continuing	Continuing	N/A

Remarks
FY 2024 \$2.599 million for Air Expendable Countermeasures (AECM) and ALE-47 project management for MOB Hub iASE, Common Carriage System re-design, advanced RF decoys and countermeasure technique optimization flight test events.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.857	23.393	37.058	61.548	-	61.548	Continuing	Continuing	N/A

Remarks
FY 2024 \$61.548 million required for Common Carriage, Integrated Aircraft Survivability Equipment (iASE) and advanced radio frequency (RF) decoys. Funding includes P-8 and CMV-22 Common Carriage to expand USN expendable carriage capacity and enable near term employment of advanced expendables. Advanced RF decoy funding supports development of Active Expendable Device (AED) and RR-203 to modernize response to current and emerging RF threats.

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Assault Survivability Optimization				
Acquisition Program and Major Contract Milestones: MJU-76/77/78 Test Assets Award	2	2022	2	2022
Acquisition Program and Major Contract Milestones: ALE-47 CC Request for Proposal (RFP)	3	2022	3	2022
Acquisition Program and Major Contract Milestones: ALE-47 Common Carriage (CC) System Engineering and Manufacturing Development (EMD)	4	2022	4	2022
Acquisition Program and Major Contract Milestones: ALE-47 CC Readiness to Award	4	2022	4	2022
Acquisition Program and Major Contract Milestones: RR-203 Fielding Decision	3	2023	3	2023
Acquisition Program and Major Contract Milestones: RR-203 RFP	1	2024	1	2024
Acquisition Program and Major Contract Milestones: Active Expended Device (AED) EMD Spiral 1/2	3	2024	3	2024
Acquisition Program and Major Contract Milestones: RR-203 FRP	3	2025	3	2025
Acquisition Program and Major Contract Milestones: CC /iASE Milestone (MS) C	4	2025	4	2025
Acquisition Program and Major Contract Milestones: ALE-47 CC Low Rate Initial Production (LRIP) 1	4	2025	4	2025
Acquisition Program and Major Contract Milestones: CC/iASE Fielding Decision	1	2026	1	2026
Acquisition Program and Major Contract Milestones: AED EMD Spiral 3	1	2026	1	2026
Acquisition Program and Major Contract Milestones: ALE-47 CC LRIP 2	2	2026	2	2026
Acquisition Program and Major Contract Milestones: ALE-47 CC Full Rate Production (FRP) RFP	2	2026	2	2026
Acquisition Program and Major Contract Milestones: iASE LRIP	2	2026	2	2026
Acquisition Program and Major Contract Milestones: RR-203 Initial Fleet Load Out (IFLO)	3	2026	3	2026
Acquisition Program and Major Contract Milestones: RR-203 OPT 1	3	2026	3	2026

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Acquisition Program and Major Contract Milestones: CC/iASE Initial Operational Capability (IOC)	4	2026	4	2026
Acquisition Program and Major Contract Milestones: AED Fielding Decision	2	2027	2	2027
Acquisition Program and Major Contract Milestones: ALE-47 CC FRP Lot 1	2	2027	2	2027
Acquisition Program and Major Contract Milestones: iASE FRP	2	2027	2	2027
Acquisition Program and Major Contract Milestones: AED MS C	3	2027	3	2027
Acquisition Program and Major Contract Milestones: AED EMD LRIP	3	2027	3	2027
Acquisition Program and Major Contract Milestones: RR-203 OPT 2	3	2027	3	2027
Acquisition Program and Major Contract Milestones: RR-203 IOC	4	2027	4	2027
Acquisition Program and Major Contract Milestones: ALE-47 CC RFP Lot 2	1	2028	1	2028
Acquisition Program and Major Contract Milestones: AED RFP	1	2028	1	2028
Acquisition Program and Major Contract Milestones: AED FRP	3	2028	3	2028
Acquisition Program and Major Contract Milestones: RR-203 OPT 3	3	2028	3	2028
Systems Engineering Milestones: ALE-47 CC System Performance Specification (SPS)	3	2022	3	2022
Systems Engineering Milestones: ALE-47 CC Cyber Security Strategy	3	2022	3	2022
Systems Engineering Milestones: ALE-47 CC System Requirements Review (SRR)	4	2022	4	2022
Systems Engineering Milestones: ALE-47 CC Preliminary Design Review (PDR)	2	2023	2	2023
Systems Engineering Milestones: iASE SRR	1	2023	1	2023
Systems Engineering Milestones: ALE-47 Critical Design Review (CDR)	3	2023	3	2023
Systems Engineering Milestones: iASE Cyber Security Strategy	3	2023	3	2023
Systems Engineering Milestones: iASE PDR	3	2023	3	2023
Systems Engineering Milestones: iASE CDR	1	2024	1	2024
Systems Engineering Milestones: ALE-47 CC Developmental Test (DT)/Test Readiness Review (TRR)	4	2024	4	2024
Systems Engineering Milestones: RR-203 PDR/CDR	2	2024	2	2024

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Engineering Milestones: AED SRR	2	2024	2	2024
Systems Engineering Milestones: ALE-47 CC Cyber Risk Assessment	1	2025	1	2025
Systems Engineering Milestones: AED PDR	1	2025	1	2025
Systems Engineering Milestones: iASE Software (SW) Test Readiness Review (TRR)	1	2025	1	2025
Systems Engineering Milestones: ALE-47 CC Program Readiness Review (PRR)	3	2025	3	2025
Systems Engineering Milestones: ALE-47 CC Physical Configuration Audit (PCA)/ Functional Configuration Audit (FCA)	1	2026	1	2026
Systems Engineering Milestones: AED Developmental (DT)/TTR	4	2026	4	2026
Systems Engineering Milestones: AED PCA/FCA	1	2027	1	2027
Systems Engineering Milestones: AED CDR	2	2027	2	2027
Logistics Milestones: ALE-47 CC Life Cycle Sustainment Plan (LCSP)	3	2022	3	2022
Logistics Milestones: RR-203 Catalog	1	2023	1	2023
Logistics Milestones: ALE-47 Engineering Change Proposal (ECP)	2	2023	2	2023
Logistics Milestones: iASE LCSP	3	2023	3	2023
Logistics Milestones: ALE-47 CC Logistic Support Analysis (LSA)/Maintenance Plan	4	2023	4	2023
Logistics Milestones: RR-203 LCSP Update	2	2024	2	2024
Logistics Milestones: ALE-47 CC Avionics/Airframe Change Release	1	2026	1	2026
Logistics Milestones: AED Catalog	2	2026	2	2026
Logistics Milestones: F/A-18 iASE AVC/AFC Release	2	2026	2	2026
Logistics Milestones: AED Weapon Systems Explosive Safety Review Board (WSERB)	4	2027	4	2027
Logistics Milestones: AED LCSP Update	1	2028	1	2028
Product Development and Platform Qualification: ALE-47 CC Test Assets Delivery	4	2023	4	2023
Product Development and Platform Qualification: MJU-76/77/78 CC Test Assets Delivery Start	4	2023	4	2023
Product Development and Platform Qualification: iASE EMD Test Asset Delivery	2	2024	2	2024
Software Development And Milestones: FY22 Test Mission Data Files	2	2022	2	2022

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Software Development And Milestones: FY23 Test Mission Data Files	2	2023	2	2023
Software Development And Milestones: FY24 Test Mission Data Files	2	2024	2	2024
Software Development And Milestones: FY24 Test Mission Data Files P-8/CMV-22 Ground-to-Air	3	2024	3	2024
Software Development And Milestones: FY24 F/A-18 Integration MDF	4	2024	4	2024
Software Development And Milestones: FY25 MH-60 Integration MDF	1	2025	1	2025
Software Development And Milestones: FY25 Test Mission Data Files P-8/CMV-22 Air-to-Air	3	2025	3	2025
Software Development And Milestones: FY25 F/A-18 Operational MDF	4	2025	4	2025
Software Development And Milestones: FY25 P-8 Integration MDF	4	2025	4	2025
Software Development And Milestones: FY26 MH-60 Operational MDF	1	2026	1	2026
Software Development And Milestones: FY26 CMV-22 Integration MDF	1	2026	1	2026
Software Development And Milestones: FY26 Test MDF	2	2026	2	2026
Software Development And Milestones: FY26 Operational MDF	4	2026	4	2026
Software Development And Milestones: FY26 P-8 Operational MDF	4	2026	4	2026
Software Development And Milestones: FY27 CMV-22 Operational MDF	1	2027	1	2027
Software Development And Milestones: FY27 Test MDF	2	2027	2	2027
Software Development And Milestones: FY27 Operational MDF	4	2027	4	2027
Software Development And Milestones: FY28 Test MDF	2	2028	2	2028
Software Development And Milestones: FY28 Operational MDF	4	2028	4	2028
Test and Evaluation Events and Milestones: FY22 Flight Test MH-60R/S Grd-to-Air IRCM	2	2022	2	2022
Test and Evaluation Events and Milestones: ALE-47 CC Test and Evaluation (T&E) Strategy	4	2022	4	2022
Test and Evaluation Events and Milestones: FY22 Flight Test F/A-18 Grd-to-Air IRCM	4	2022	4	2022
Test and Evaluation Events and Milestones: RR-203 DT/Qualification	2	2023	2	2023

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 3309 / <i>Assault Survivability Optimization</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation Events and Milestones: FY23 Flight Test F/A-18 Grd-to-Air RFCM	2	2023	2	2023
Test and Evaluation Events and Milestones: iASE Test and Evaluation Master Plan (TEMP)	3	2023	3	2023
Test and Evaluation Events and Milestones: FY24 Flight Test MH-60R/S Grd-to-Air RFCM	2	2024	2	2024
Test and Evaluation Events and Milestones: FY24 Flight Test MH-60R/S Grd-to-Air IRCM	4	2024	4	2024
Test and Evaluation Events and Milestones: FY25 Flight Test P-8/CMV-22 Grd-to-Air IRCM	2	2025	3	2025
Test and Evaluation Events and Milestones: ALE-47 CC F/A-18 & MH-60 Interim Summary Report	4	2025	4	2025
Test and Evaluation Events and Milestones: ALE-47 CC Carrier Suitability	4	2025	4	2025
Test and Evaluation Events and Milestones: ALE-47 CC Letter of Observation (LOO)	1	2026	1	2026
Test and Evaluation Events and Milestones: iASE Operational Test (OT) Report	1	2026	1	2026
Test and Evaluation Events and Milestones: F/A-18 OT RFCM Flight Test	1	2026	1	2026
Test and Evaluation Events and Milestones: FY26 Flight Test P-8/CMV-22 Air-to-Air IRCM	2	2026	2	2026
Test and Evaluation Events and Milestones: MH-60 OT RFCM Flight Test	3	2026	3	2026
Test and Evaluation Events and Milestones: Grd-to-Ar RFCM Flight Test	4	2026	4	2026
Test and Evaluation Events and Milestones: CMV-22 OT RFCM Flight Test	1	2027	1	2027
Test and Evaluation Events and Milestones: AED DT RFCM Flight Test	1	2027	1	2027
Test and Evaluation Events and Milestones: EA-18G OT RFCM Flight Test	1	2028	1	2028
Test and Evaluation Events and Milestones: F/A-18 AED OT/Eff Test Grd-to-Air RFCM Flight Test	1	2028	1	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Development</i>				Project (Number/Name) 3327 / <i>MAGTF EW Aviation Development</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3327: <i>MAGTF EW Aviation Development</i>	69.447	12.024	15.121	14.581	-	14.581	14.994	15.305	15.808	16.455	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project unit supports the United States Marine Corps (USMC) development of Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) and the various elements of its distributed System of Systems (SoS). The SoS addresses MAGTF EW sufficiency gaps in the areas of Electronic Attack (EA) and Electronic Warfare Support (ES) with a multitude of payloads designed for carriage on a variety of organic MAGTF air assets. Payload development plans follow an adaptable, modular and open architecture philosophy to combat the increasing capability gap and enable future growth at a reduced operational and sustainment cost. A key element to this capability is the AN/ALQ-231(V) Intrepid Tiger II program.

The AN/ALQ-231(V)1 pod is the variant of the Intrepid Tiger II pod flown on the AV-8B, F/A-18A-D, and KC-130J platforms. The AN/ALQ-231(V)3 is the variant of the Intrepid Tiger II pod flown on the UH-1Y platform, with plans for future integration on AH-1Z platforms. Plans include future integration of AN/ALQ-231(V) Block X advanced capability and counter-radar upgrades on USMC tilt rotor, fixed wing, rotary wing and unmanned aircraft. The AN/ALQ-231(V)4 is the first implementation of Block X upgrades on MV-22B aircraft and future BLK X integration is planned to include payloads for KC-130J, MQ-9, CH-53K, and AH-1Z platforms. All payload variants are capable of conducting, supporting, and coordinating Electro-Magnetic Spectrum (EMS) operations in the form of EA and ES against Irregular Warfare threats. Additionally, all payloads are scalable and adaptable for emerging threats and are interoperable with the USMC's Electronic Warfare Services Architecture (EWSA). The Intrepid Tiger II capability is designed to be integrated for MAGTF tactical coordination of cyberspace and EW operations via the Cyber Electronic Warfare Coordination Cell (CEWCC).

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Intrepid Tiger II (AN/ALQ-231)	12.024	15.121	14.581	0.000	14.581
Articles:	-	-	-	-	-
Description: The program will develop, mature, and test Intrepid Tiger II based solutions to radar threats in support of the penetrating jammer mission with plans to release variants of the AN/ALQ-231(V) BLK X Radar Jammer for use on the MV-22 and KC-130J, as well as for future use on other USMC fixed wing, rotary wing, and unmanned aircraft.					
FY 2023 Plans: FY 2023 efforts include continued testing and reporting for hardware and software Developmental Test (DT) on KC-130J in addition to technology evaluation and prototype development of the follow-on platform integration					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3327 / <i>MAGTF EW Aviation Development</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
solution for BLK X. Continued development of EWSA in support of evolving Intrepid Tiger II target sets and missions. <i>FY 2024 Base Plans:</i> FY 2024 efforts will include the continuation of KC-130J BLK X hardware and software development, continued test and evaluation of counter-radar technique performance of BLK X on KC-130J during Developmental Test (DT), the correction of DT deficiencies, and reporting in preparation for the commencement of Operational Testing (OT). Complete test of V(4) MV-22 variant. Development of EWSA in support of evolving Intrepid Tiger II target sets and missions will continue in FY 2024. <i>FY 2024 OCO Plans:</i> N/A <i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Decrease from FY 2023 to FY 2024 due to the ramp down of BLK X KC-130J hardware/prototype development as the program progresses through DT.					
Accomplishments/Planned Programs Subtotals	12.024	15.121	14.581	0.000	14.581

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APN/0587: <i>MAGTF EW For Aviation</i>	29.149	24.684	24.901	-	24.901	25.550	26.071	26.609	27.707	171.840	552.023

Remarks

D. Acquisition Strategy
 This project unit is part of USMC led efforts to ensure Marine Corps requirements are included in the budget process for the Future Year Defense Program and beyond. These efforts include AN/ALQ-231(V) Intrepid Tiger II Family of Systems, Collaborative Electronic Warfare (EW)/EW Battle Management, and EW Service Architecture (EWSA). These programs are the Marine Corps' initial steps to create systems to distribute EW capability across the battlespace.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3327 / <i>MAGTF EW Aviation Development</i>
--	--	---

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Intrepid Tiger BLK X Hardware Development	WR	NAWCWD : Point Mugu, CA	18.209	1.388	Nov 2021	5.726	Nov 2022	3.554	Nov 2023	-		3.554	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD : Patuxent River, MD	4.427	0.722	Nov 2021	1.326	Nov 2022	1.320	Nov 2023	-		1.320	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCWD : Point Mugu, CA	34.453	6.347	Nov 2021	5.734	Nov 2022	6.527	Nov 2023	-		6.527	Continuing	Continuing	Continuing
Prior Year Prod Dev no longer funded in FYDP	Various	Various : Various	0.007	0.000		0.000		0.000		-		0.000	0.000	0.007	-
Systems Engineering	WR	Various : Various	0.000	0.270	Nov 2021	0.000		0.564	Nov 2023	-		0.564	0.000	0.834	-
Subtotal			57.096	8.727		12.786		11.965		-		11.965	Continuing	Continuing	N/A

Remarks
Funding decrease from FY 2023 to FY 2024 due to ramp down of BLK X KC-130J hardware/prototype development.

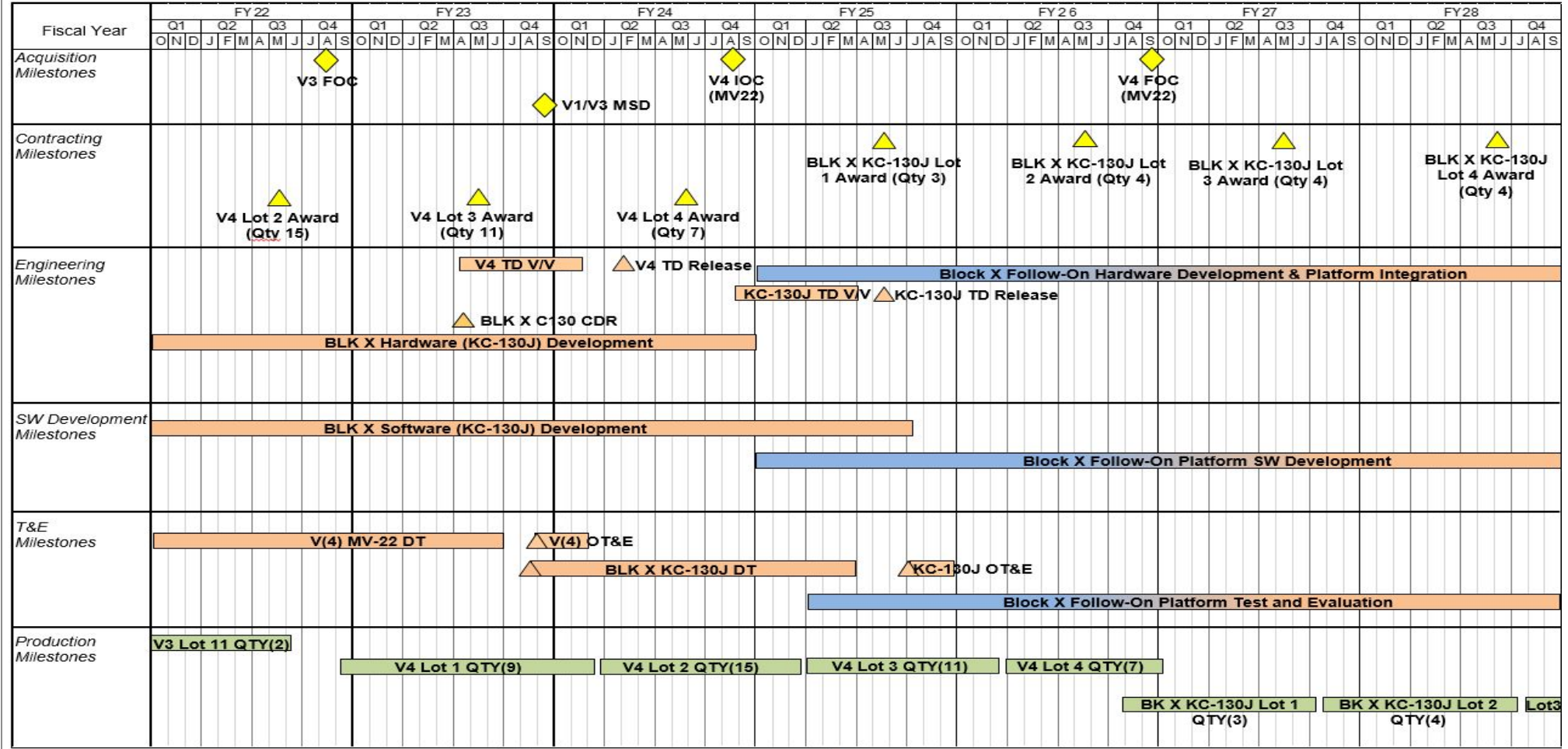
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Eng & Tech Services	Various	Various : Various	1.722	0.452	Nov 2021	0.285	Nov 2022	0.533	Nov 2023	-		0.533	Continuing	Continuing	Continuing
Prior year Support no longer funded in FYDP	Various	Various : Various	0.430	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			2.152	0.452		0.285		0.533		-		0.533	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Patuxent River, MD	2.798	0.300	Nov 2021	0.900	Nov 2022	1.122	Nov 2023	-		1.122	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : Point Mugu, CA	6.960	2.320	Nov 2021	1.000	Nov 2022	0.902	Nov 2023	-		0.902	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3327 / <i>MAGTF EW Aviation Development</i>
--	--	---



▲ Technology Development Activities ▲ Engineering & Manufacturing Dev Activities ▲ Production & Deployment Activities

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3327 / <i>MAGTF EW Aviation Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Intrepid Tiger II (AN/ALQ-231)</i>				
Engineering Milestones: AN/ALQ-231(V)4 TD Fleet Release	2	2024	2	2024
Engineering Milestones: AN/ALQ-231(V)1 BLK X KC-130J TD Fleet Release	3	2025	3	2025
Systems Development: AN/ALQ-231(V)1 BLK X KC-130J Hardware Development	1	2022	4	2024
Systems Development: AN/ALQ-231(V)1 BLK X Software Development	1	2022	3	2025
Systems Development: BLK X Follow-On Hardware Development & Platform Integration	1	2025	4	2028
Systems Development: BLK X Follow-On Software Development	1	2025	4	2028
Test & Evaluation: AN/ALQ-231(V)4 MV-22 Developmental Test (DT)	1	2022	3	2023
Test & Evaluation: AN/ALQ-231(V)4 OT&E	4	2023	1	2024
Test & Evaluation: AN/ALQ-231(V)1 BLK X KC-130J Developmental Test	4	2023	2	2025
Test & Evaluation: AN/ALQ-231(V)1 BLK X KC-130J OT&E	4	2025	4	2025
Test & Evaluation: BLK X Follow-On Test and Evaluation	2	2025	4	2028
<i>Production Milestones</i>				
AN/ALQ-231(V)4 Production Lot 2 (Qty 15)	3	2022	3	2022
AN/ALQ-231(V)4 Production Lot 3 (Qty 11)	3	2023	3	2023
AN/ALQ-231(V)4 Production Lot 4 (Qty 7)	3	2024	3	2024
AN/ALQ-231(V)1 BLK X KC-130J Production Lot 1 (Qty 3)	3	2025	3	2025
AN/ALQ-231(V)1 BLK X KC-130J Production Lot 2 (Qty 4)	3	2026	3	2026
AN/ALQ-231(V)1 BLK X KC-130J Production Lot 3 (Qty 4)	3	2027	3	2027
AN/ALQ-231(V)1 BLK X KC-130J Production Lot 4 (Qty 4)	3	2028	3	2028
Deliveries: AN/ALQ-231(V)3 Lot 11 Deliveries (Qty 2)	1	2022	3	2022

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 3327 / <i>MAGTF EW Aviation Development</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: AN/ALQ-231(V)4 Lot 1 Deliveries (Qty 9)	4	2022	1	2024
Deliveries: AN/ALQ-231(V)4 Lot 2 Deliveries (Qty 15)	1	2024	1	2025
Deliveries: AN/ALQ-231(V)4 Lot 3 Deliveries (Qty 11)	2	2025	1	2026
Deliveries: AN/ALQ-231(V)4 Lot 4 Deliveries (Qty 7)	2	2026	1	2027
Deliveries: AN/ALQ-231(V)1 BLK X KC-130J Production Lot 1 (Qty 3)	4	2026	3	2027
Deliveries: AN/ALQ-231(V)1 BLK X KC-130J Production Lot 2 (Qty 4)	4	2027	4	2028
Deliveries: AN/ALQ-231(V)1 BLK X KC-130J Production Lot 3 (Qty 4)	4	2028	4	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	0.000	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FY 2023 Congressional Add: Filter Technology for Electronic Warfare Mitigation.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2022	FY 2023
Congressional Add: Filter technology for electronic warfare mitigation	0.000	10.000
FY 2022 Accomplishments: N/A		
FY 2023 Plans: Funding will support Congressional Add efforts for filter technology for electronic warfare mitigation.		
Congressional Adds Subtotals	0.000	10.000

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

N/A

Remarks

D. Acquisition Strategy

FY 2023 Congressional Add for Filter Technology for Electronic Warfare Mitigation.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

Proj 9999	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028					
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		
Filter Technology for Electronic Warfare Mitigation							Development																							

2024PB - 0604270N - 9999

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) De</i> v	Project (Number/Name) 9999 / <i>Congressional Adds</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9999				
Filter Technology for Electronic Warfare Mitigation: Filter Technology for Electronic Warfare Mitigation	3	2023	4	2024