Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy											Date: March 2023	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603925N *I Directed Energy and Electric Weapon System*							
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	447.324	80.055	65.080	52.129	-	52.129	59.443	38.912	36.816	37.168	Continuing	Continuing
2731: *High Energy Laser Counter ASCM Project (HELCAP)*	36.327	25.185	6.598	6.194	-	6.194	4.150	4.047	3.388	3.458	Continuing	Continuing
3402: *Surface Navy Laser Weapon System (SNLWS)*	262.016	39.249	19.124	20.439	-	20.439	32.456	32.300	31.406	31.813	Continuing	Continuing
5898: *Directed Energy Components for High Energy Lasers*	0.000	0.000	14.040	4.825	-	4.825	0.000	0.000	0.000	0.000	0.000	18.865
9823: *Lasers for Navy applicat*	148.981	15.621	25.318	20.671	-	20.671	22.837	2.565	2.022	1.897	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element will transition Directed Energy and Electric Weapon Systems (DE&EWS) technology from Science and Technology (S&T) research to the Technology Maturation and Risk Reduction phase, ultimately leading to acquisition initiation for the Surface/Subsurface Navy.

DE&EWS consists of multiple breakthrough technologies including: laser weapons that provide for speed-of-light engagements at tactically significant ranges resulting in savings realized by minimizing the use of defensive missiles and projectiles; electromagnetic launch of projectiles that will significantly increase firing ranges imposing greater cost to adversaries of ballistic and air defense missile engagements; enhance the land attack mission; and fielding of high power radio frequency systems for non-kinetic electronic attack and active denial technology, allowing for non-lethal determination of threat intent beyond small arms fire ranges.

Development of DE&EWS includes: Weapons Grade High Energy Lasers, Electromagnetic Railgun (EMRG) Weapon Systems, High Power Radio Frequency Weapon/ Sensor Systems, and other systems/capabilities.

Project 2731 - High Energy Laser Counter ASCM Project (HELCAP): Defeating Anti-Ship Cruise Missiles (ASCMs) with a laser weapon system presents several technical challenges (e.g. high atmospheric turbulence, target acquisition and identification, target tracking, aim point maintenance, automatic aim point placement, jitter control). The High Energy Laser Counter ASCM Project (HELCAP) will assess, develop, experiment, and demonstrate the various laser weapon system technologies and methods of implementation (e.g. laser sources, mission analysis, lethality, advanced beam control with atmospheric mitigation, target and tracking sensors, control systems) required to defeat ASCMs in a crossing engagement.

The FY24 budget request supports ASCM defeat analysis and assessments including lethality, engagement modeling, atmospheric propagation characterization and beam control, as well as modeling and simulation and limited maritime experimentation to map results from the Beam Control Testbed Tracker and Verification demonstration to a maritime environment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603925N *I Directed Energy and Electric Weapon System*

Project 3402 - Surface Navy Laser Weapon System (SNLWS): Program supports the National Defense Strategy of building a more lethal force by leveraging mature technology to deliver proven laser weapon capability to the Fleet as part of the Navy Laser Family of Systems (NLFoS) initiative with the objective of providing the fleet with near-term laser weapon capabilities. Additionally, accelerated learning through incorporation of laser weapon Concept of Operations (CONOPs), employment, and maintenance will enable the rapid development and integration of these capabilities with the Navys existing weapon systems. This NLFoS initiative will also develop and validate warfighting requirements for laser weapons to address a variety of threats and to mature technologies and system integration readiness. High Energy Laser with Integrated Optical-Dazzler System (HELIOS) provides a low cost-per-shot capability to address Anti-Surface Warfare and Counter-Intelligence, Surveillance and Reconnaissance (C-ISR) gaps with the ability to dazzle and destroy Unmanned Aerial Systems (UAS) and defeat Fast Inshore Attack Craft (FIAC) while integrated into the AEGIS Combat System on a Flt IIA Destroyer. SNLWS provides industry-developed and government integrated capability to the Fleet in as short a timeframe as possible, thereby addressing the National Defense Strategy direction to foster a culture of innovation. SNLWS includes the development of a laser weapon system in the 60 kW or higher class. Competition was utilized for system development and production efforts. SNLWS leverages mature technology that will deliver a mature laser weapon system capability to the Fleet. SNLWS development leverages the Laser Weapon System (LaWS)/Solid State Laser Quick Reaction Capability (SSL QRC) and Solid State Laser Technology Maturation (SSL TM)/Laser Weapon System Demonstrator (LWSD) efforts.

The FY24 budget request supports the operation, testing and sustainment of Mk 5 Mod 0 HELIOS on DDG 88 through technical in-service engineering agent and contractor maintenance and repair support as necessary, to include procurement and/or production of repair parts, routine cyber security and software upgrade installment, software troubleshooting through remote labs, modifications of hardware components, test and evaluation of requirements and updates to training materials and associated deliverables for any changes identified during HELIOS employment.

Project 5898 - Directed Energy Components for High Energy Lasers: Supports Industrial Base Analysis and Sustainment (IBAS) program efforts for the improvement of the production capability of the industrial base in order to produce Laser Weapon Beam Director (LWBD) components and sub-systems; reduces production lead times of Laser Weapon System Optics; improves quality and reduces production times of Fast Steering Mirror (FSM) and deformable mirrors.

The FY24 budget request supports the completion of the development of the production capability enhancement of the Laser Weapon Beam Director (LWBD) components and sub-systems, coating chambers for laser weapon optics, Fast Steering Mirrors (FSM) and deformable mirrors. This investment is a risk mitigation for manufacturing capability enhancements through the qualification and validation of production equipment and process improvements.

Project 9823 - Lasers for Navy Applications: Optical Dazzler Interdictor Navy (ODIN) development provides near-term, directed energy, shipboard Counter-Intelligence, Surveillance, and Reconnaissance (C-ISR) capabilities to dazzle Unmanned Aerial Systems (UASs) and other platforms that address urgent operational needs of the Fleet. FY 2018 was the first year of funding which supports the design, development, procurement and installation of 8 ODIN standalone units over the FYDP, for deployment on DDG 51 Flt IIA surface combatants. The program supports the non-recurring engineering, development, procurement of long lead material, assembly and checkout, system certification, platform integration/installation and sustainment for these ODIN standalone units.

The FY24 budget request supports the continuation of the development of the technology refresh package and subsystem maturation efforts to improve the reliability, capability and operability of ODIN, and manpower to conduct modeling & simulation of ODIN engagements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603925N *I Directed Energy and Electric Weapon System*

Project 9999 (PU C516) - Congressional Add - High Energy Laser (HEL) Weapon System for Counter-Unmanned Ariel System (C-UAS) Area defense is a Congressionally directed effort to develop/build a minimized footprint, laser-agonistic beam director and beam control system (M-BD/BCS) to support Commercial Off The Shelf (COTS) lasers >10KW for possible application to Joint Light Tactical Vehicle (JLTV) sized vehicles.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	81.803	65.080	63.719	-	63.719
Current President's Budget	80.055	65.080	52.129	-	52.129
Total Adjustments	-1.748	0.000	-11.590	-	-11.590
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.748	0.000			
• Program Adjustments	0.000	0.000	-12.467	-	-12.467
• Rate/Misc Adjustments	0.000	0.000	0.877	-	0.877

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*	

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
2731: *High Energy Laser Counter ASCM Project (HELCAP)*	36.327	25.185	6.598	6.194	-	6.194	4.150	4.047	3.388	3.458	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Due to technology maturation, a portion of HELCAP program efforts now fall into BA04.

A. Mission Description and Budget Item Justification

The High Energy Laser Counter ASCM Project (HELCAP) will expedite the development, experimentation, integration and demonstration of critical technologies to defeat crossing Anti-Ship Cruise Missiles (ASCM) by addressing the remaining technical challenges, e.g.: atmospheric turbulence, automatic target identification and aim point selection, precision target tracking with low jitter in high clutter conditions, advanced beam control, and higher power HEL development. HELCAP will assess, develop, experiment, and demonstrate the various laser weapon system technologies and methods of implementation required to defeat ASCMs in a crossing engagement.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: High Energy Laser Counter ASCM Project (HELCAP)	25.185	6.598	6.194	0.000	6.194
Articles:	-	-	-	-	-
Description: HELCAP activities under this project (0603925N) include system level testing and verification of the Laser Weapon Testbed (LWT) in a simulated (land based) and maritime environment. Transition of technologies developed under (0603801N) will be integrated into the LWT system. The Beam Control Testbed subsystem will be combined with a HEL source, power/thermal, and weapon control to demonstrate the LWT system level maturity. This leveraged knowledge and new HELCAP technical solutions to the C-ASCM problem will enable a fully informed decision to rapidly field an integrated, fleet ready, HEL Weapon.					
FY 2023 Plans: Continue: - ASCM defeat analysis and evaluation including lethality, engagement modeling, atmospheric propagation characterization, and beam control. - Laser/materiel component interaction testing and support beam control tracker and adaptive optics verification experimentation. Complete:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- BCT Factory Acceptance Testing (FAT) and accepting deliver of this subsystem to the government. - Major integration events including the BCT, high energy laser source, prime power and thermal management systems,weapon control and data acquisition. - Risk reduction activities proving component and subsystem maturity prior to integration. - Beam Control Testbed Tracker and Verification test focused on the beam control, tracking, and adaptive optics subsystems performance. - Full system integration, test, and verification of the LWT at White Sands Missile Range (WSMR). This includes experimentation and LWT system performance in preparation for the follow-on capstone event, ASCM detect to engage experimentation. - Conduct ASCM detect to engage experimentation against targets of increasing complexity up to and including static and dynamic ground targets and low-cost unmanned aerial targets.					
FY 2024 Base Plans: Continue: - Beam control testbed technology insertion - ASCM defeat analysis and assessments including lethality, engagement modeling, atmospheric propagation characterization, and beam control. - Modeling and simulation and limited maritime experimentation to map results from Beam Control Testbed Tracker and Verification demonstration to a maritime environment Complete: - Beam Control Testbed Tracker and Verification test focused on the beam control, tracking, and adaptive optics subsystems performance. - Full system integration, test, and verification of the LWT at White Sands Missile Range (WSMR). This includes experimentation and LWT system performance in preparation for the follow-on capstone event, ASCM detect to engage experimentation. - Conduct ASCM detect to engage experimentation against targets of increasing complexity up to and including static and dynamic ground targets and low-cost unmanned aerial targets.					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2023 to FY 2024 decrease supports continued experimentation with completed system and transportation of the system from White Sands Missile Range (WSMR) to the maritime environment.					
Accomplishments/Planned Programs Subtotals	25.185	6.598	6.194	0.000	6.194

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
• RDTE/0603801N/2731: *High Energy Laser Counter ASCM Project*	13.541	22.460	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	63.800

Remarks

D. Acquisition Strategy

The HELCAP is an initiative that provides a flexible prototype system for government experimentation and demonstration of a high-energy laser system capable of defeating an anti- ship cruise missile. Key elements of the prototype system include the beam control testbed, 300 kW+ class laser source, prototype control system, and auxiliary prime power and cooling. The industry provider of the beam control testbed (developed under PE 0603801N) was selected through a competitive process and is being designed to accept technology insertion from other industry providers. The 300+ kW class laser source will be acquired by selecting one of the laser sources being developed under an OSD laser scaling initiative and adapting it for transport and interface with the other elements of the prototype system. The Naval Surface Warfare Center Dahlgren (NSWCDD) will design and fabricate the control system and
auxiliary prime power and cooling systems. NSWCDD government and contractor engineers will then integrate all above elements that make up the prototype and auxiliary systems and perform FY22-23 counter ASCM detect to defeat experimentation and demonstrations at government test sites.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype System Controls, Target Tracking, and Deconfliction (Government team)	WR	NSWC Dahlgren : Dahlgren VA	5.843	3.561	Oct 2021	2.298	Oct 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Prototype System Controls, Target Tracking, and Deconfliction (Contractor Team)	C/CPFF	Booz Allen Hamilton : Dahlgren VA	3.006	0.810	Nov 2021	0.250	Nov 2022	0.000		-		0.000	Continuing	Continuing	Continuing
HELCAP Mission Analysis	WR	NSWC Dahlgren : Dahlgren VA	1.966	0.812	Oct 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
HELCAP Mission Analysis	C/CPFF	JHU/APL : Laurel MD	0.966	1.428	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Design government owned interfaces between the OSD Laser Source and Prototype System	WR	NSWC Dahlgren : Dahlgren VA	0.876	0.780	Oct 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Adapt OSD Laser Source for Transport and Interface with Prototype System	C/CPFF	TBD : Not Specified	1.980	1.787	Mar 2022	1.000	Mar 2023	0.000		-		0.000	Continuing	Continuing	Continuing
Prototype and Support System Integration	WR	NSWC Dahlgren : Dahlgren VA	4.299	2.040	Oct 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Procure and Assemble Prototype System Power and Misc Hardware	C/CPFF	Nutronics : Longmont, CO	5.796	1.622	Mar 2022	1.750	Mar 2023	0.000		-		0.000	Continuing	Continuing	Continuing
Modeling and Simulations	WR	TBD : Not Specified	0.000	0.000		0.500	Oct 2022	0.000		-		0.000	0.000	0.500	-
		Subtotal	24.732	12.840		5.798		0.000		-		0.000	Continuing	Continuing	N/A

Remarks

FY22 funding was decreased to accommodate the SBIR Assessment.
FY23 to FY24 decrease reflects completion of Product Development.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HELCAP Systems Engineering, Safety, Program Management (Government team)	WR	NSWC Dahlgren : Dahlgren VA	4.390	3.908	Oct 2021	0.000		0.500	Oct 2023	-		0.500	Continuing	Continuing	Continuing
HELCAP Systems Engineering, Safety, Program Management (Contractor team)	C/CPFF	Multiple : Dahlgren VA	2.802	0.140	Nov 2021	0.000		0.500	Nov 2023	-		0.500	Continuing	Continuing	Continuing
		Subtotal	7.192	4.048		0.000		1.000		-		1.000	Continuing	Continuing	N/A

Remarks

FY23 to FY24 increase supports gov't and contractor efforts.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NSWC Port Hueneme/Point Mugu/Dahlgren : Port Hueneme CA, Point Mugu , CA & Dahlgren, VA	1.255	1.772	Oct 2021	0.500	Oct 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/CPFF	White Sands Missile Range, & Point Mugu Test Range : White Sands NM & San Nicholas Island, CA	1.449	1.000	Mar 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NSWC Dahlgren : Dahlgren VA	0.966	2.550	Jul 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	C/CPFF	TBD : TBD	0.000	2.400	Mar 2022	0.000		0.684	Oct 2023	-		0.684	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	NSWC Port Hueneme, NSWC Dahlgren, NAWC WD : Port Hueneme, CA; NSWC Dahlgren, Point Mugu, CA	0.000	0.000		0.000		2.055	Oct 2023	-		2.055	0.000	2.055	-
Developmental Test & Evaluation (DT&E)	C/CPFF	White Sands Missile Range, NAWC WD & San Nicholas : White Sands, NM, San Nicholas Island CA	0.000	0.000		0.000		2.255	Oct 2023	-		2.255	0.000	2.255	-
		Subtotal	3.670	7.722		0.500		4.994		-		4.994	Continuing	Continuing	N/A

Remarks

FY23 to FY24 increase supports testing in FY24.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HELCAP Program Management /Engineering Support	C/CPFF	Bowhead : Dahlgren, VA	0.733	0.575	Nov 2021	0.300	Nov 2022	0.200	Oct 2023	-		0.200	Continuing	Continuing	Continuing
		Subtotal	0.733	0.575		0.300		0.200		-		0.200	Continuing	Continuing	N/A

Remarks

FY23 to FY24 decrease reflects a decrease in management support costs.

	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	36.327	25.185		6.598		6.194		-		6.194	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*

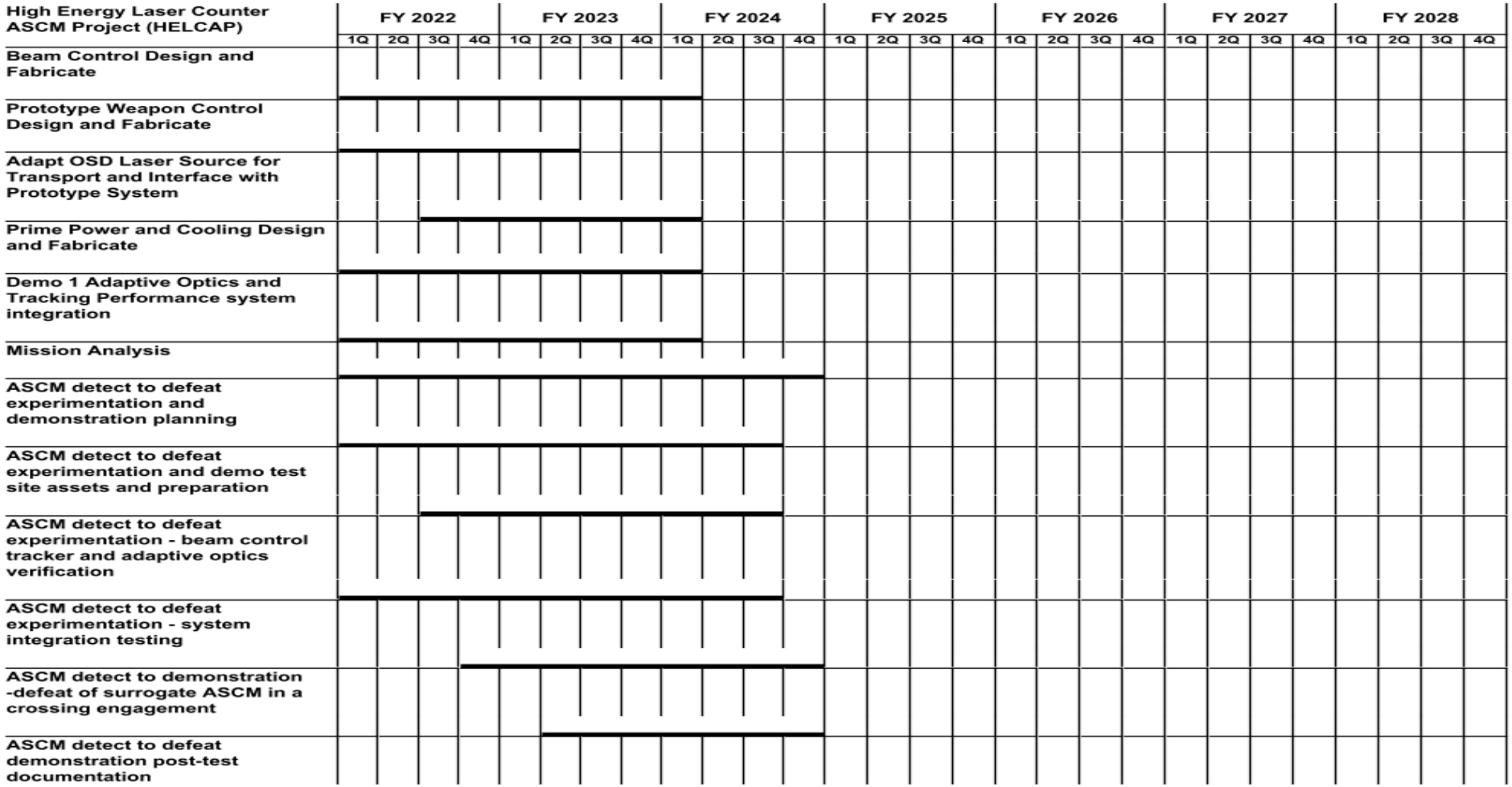

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
High Energy Laser Counter ASCM Project (HELCAP)				
Beam Control Design and Fabricate: HELCAP: Beam Control Design and Fabricate	1	2022	1	2024
Prototype Weapon Control Design and Fabricate: HELCAP: Prototype Weapon Control Design and Fabricate	1	2022	2	2023
Adapt OSD Laser Source for Transport and Interface with Prototype System: HELCAP: Adapt OSD Laser Source for Transport and Interface with Prototype System	3	2022	1	2024
Prime Power and Cooling Design and Fabricate: HELCAP: Prime Power and Cooling Design and Fabricate	1	2022	1	2024
Demo 1 Adaptive Optics and Tracking Performance system integration: Demo 1 Adaptive Optics and Tracking Performance system integration (beam ctrl, prototype weapon ctrl, test support)	1	2022	1	2024
Mission Analysis: HELCAP: Mission Analysis	1	2022	4	2024
ASCM detect to defeat experimentation and demonstration planning: HELCAP: ASCM detect to defeat experimentation and demonstration planning	1	2022	3	2024
ASCM detect to defeat experimentation and demo test site assets and preparation: HELCAP: ASCM detect to defeat experimentation and demo test site assets and preparation	3	2022	3	2024
ASCM detect to defeat experimentation - beam control tracker and adaptive optics verification: HELCAP: ASCM detect to defeat experimentation - beam control tracker and adaptive optics verification	1	2022	3	2024
ASCM detect to defeat experimentation - system integration testing: HELCAP: ASCM detect to defeat experimentation - system integration testing	4	2022	4	2024
ASCM detect to demonstration -defeat of surrogate ASCM in a crossing engagement: HELCAP: ASCM detect to defeat demo -defeat of static and dynamic ground targets and low-cost unmanned aerial targets	2	2023	4	2024

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 2731 / *High Energy Laser Counter ASCM Project (HELCAP)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ASCM detect to defeat demonstration post-test documentation: Limited maritime tracking and adaptive optics performance experimentation	1	2024	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 3402 / *Surface Navy Laser Weapon System (SNLWS)*	

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
3402: *Surface Navy Laser Weapon System (SNLWS)*	262.016	39.249	19.124	20.439	-	20.439	32.456	32.300	31.406	31.813	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project 3402 - Surface Navy Laser Weapon System (SNLWS): Program supports the National Defense Strategy of building a more lethal force by leveraging mature technology to deliver proven laser weapon capability to the Fleet as part of the Navy Laser Family of Systems (NLFoS) initiative with the objective of providing the fleet with near-term laser weapon capabilities. Additionally, accelerated learning through incorporation of laser weapon Concept of Operations (CONOPs), employment, and maintenance will enable the rapid development and integration of these capabilities with the Navy's existing weapon systems. This NLFoS initiative will also develop and validate warfighting requirements for laser weapons to address a variety of threats and to mature technologies and system integration readiness. HELIOS provides a low cost-per-shot capability to address Anti-Surface Warfare and Counter-Intelligence, Surveillance and Reconnaissance (C-ISR) gaps with the ability to dazzle and destroy Unmanned Aerial Systems (UAS) and defeat Fast Inshore Attack Craft (FIAC) while integrated into the AEGIS Combat System on a Flt IIA Destroyer. SNLWS provides industry-developed and government integrated capability to the Fleet in as short a timeframe as possible, thereby addressing the National Defense Strategy direction to foster a culture of innovation. SNLWS includes the development of a laser weapon system in the 60 kW or higher class. Competition was utilized for system development and production efforts. SNLWS leverages mature technology that will deliver a mature laser weapon system capability to the Fleet. SNLWS development leverages the Laser Weapon System (LaWS)/Solid State Laser Quick Reaction Capability (SSL QRC) and Solid State Laser Technology Maturation (SSL TM)/Laser Weapon System Demonstrator (LWSD) efforts.

The FY 2024 budget request supports the operation, test and sustainment of Mk 5 Mod 0 HELIOS on DDG 88 through technical in-service engineering agent and contractor maintenance and repair support as necessary, to include procurement and/or production of repair parts, routine cyber security and software upgrade installment, software troubleshooting through remote labs, modifications of hardware components, test and evaluation of requirements and updates to training materials and associated deliverables for any changes identified during HELIOS employment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: SNLWS Prime Contractor Efforts	21.605	6.074	5.969	0.000	5.969
Articles:	-	-	-	-	-
FY 2023 Plans: - Continue to provide programmatic and engineering support to Integrated Product Teams (IPTs) and Working Groups (WGs). - Continue to provide shipboard technical support. - Continue and complete shipboard test and checkout support.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 3402 / *Surface Navy Laser Weapon System (SNLWS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Continue to provide software and hardware sustainment support and procure materials. - Continue Alteration Installation Team (AIT) support. - Support the initiation of Counter Anti-Ship Cruise Missile (C-ASCM) testing. ***FY 2024 Base Plans:*** - Continue to provide programmatic and engineering support to Integrated Product Teams (IPTs) and Working Groups (WGs). - Continue to provide shipboard technical support by monitoring system throughout operation as the Original Equipment Manufacturer (OEM). - Continue to provide software and hardware sustainment support and procure materials. - Provide information, inspection, and support for subsystem maturation efforts, analysis and documentation. - Support the conduct of the Counter Anti-Ship Cruise Missile (C-ASCM) post testing analysis. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The decrease in prime contractor funding from FY23 to FY24 is a result of the majority of the testing being completed in FY23.					
Title: SNLWS Government and Support Engineering Services	17.644	13.050	14.470	0.000	14.470
Articles:	-	-	-	-	-
FY 2023 Plans: - Continue to provide systems engineering and sustainment support. - Continue to provide shipboard technical support. - Commence underway testing and engineering support. - Commence sustainment support and procure materials. - Deliver updated training documentation to the ship. - Initiate Counter Anti-Ship Cruise Missile (C-ASCM) testing. ***FY 2024 Base Plans:*** - Continue to provide systems engineering and sustainment support. - Continue to provide shipboard technical support by monitoring system throughout operation as the In-Service Engineering Agent (ISEA).					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 3402 / *Surface Navy Laser Weapon System (SNLWS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Continue underway testing and engineering support, utilizing ship test events and windows of opportunity to verify unmet requirements through at sea testing and evaluation. - Continue sustainment support and procure materials. - Provide training updates, maintenance requirements updates and shipboard allowance documentation. - Conduct Counter Anti-Ship Cruise Missile (C-ASCM) post testing analysis. - Provide programmatic and engineering support to Integrated Product Teams (IPTs) and Working Groups (WGs). - Provide software and cybersecurity support. - Create technical refresh package to include material and assembly drawings. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase in government funding from FY23 to FY24 is for operational support, at-sea testing, and training and development of Knowledge, Skills and Abilities (KSAs) and Tactics, Techniques and Procedures (TTPs) for the Mk 5 Mod 0 HELIOS on DDG 88.					
Accomplishments/Planned Programs Subtotals	39.249	19.124	20.439	0.000	20.439

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The acquisition strategy permits accelerated fielding of laser weapon systems in the Fleet and provides a demand signal for the industrial base to expand the capacity to develop and manufacture this advanced technology. The acquisition strategy consists of the baseline development and production of one unit followed by options to acquire system quantities at firm fixed price that will address operational needs of the Fleet in the requisite timeframe to offset future threats and maintain technological superiority over potential adversaries. SNLWS provides for industry-developed and government integrated capability to the Fleet in as short a timeframe as possible, thereby addressing the National Defense Strategy direction to foster a culture of affordability. SNLWS includes the development of an advanced laser weapon system in the 60 kW or higher class. Competition was utilized for system development and production efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 3402 / *Surface Navy Laser Weapon System (SNLWS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SNLWS Development	C/CPIF	Lockheed Martin Aculight : Bothell, WA	149.385	0.000		0.000		0.000		-		0.000	0.000	149.385	-
		Subtotal	149.385	0.000		0.000		0.000		-		0.000	0.000	149.385	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SNLWS Systems Engineering, Program Management, GFE/GFI, Tech Assist, ILS	WR	NSWC Dahlgren : Dahlgren, VA	31.991	4.465	Nov 2021	3.880	Oct 2022	5.354	Nov 2023	-		5.354	Continuing	Continuing	Continuing
SNLWS Ship Installation, Integration & Documentation	C/CPAF	BIW : Bath, ME	2.988	0.000		0.000		0.000		-		0.000	0.000	2.988	-
SNLWS Combat System Integration/Licenses	C/CPFF	Lockheed Martin : Moorestown, NJ	12.899	0.000		0.000		0.000		-		0.000	0.000	12.899	-
SNLWS Systems Engineering/Security	WR	NSWC Crane : Crane, IN	0.914	0.170	Nov 2021	0.200	Oct 2022	0.170	Nov 2023	-		0.170	Continuing	Continuing	Continuing
SNLWS Systems Engineering/Installation	WR	NSWC PHD : Port Hueneme, CA	0.957	0.000		0.000		0.000		-		0.000	0.000	0.957	-
SNLWS Systems Engineering	WR	NIWC Pacific : San Diego, CA	0.345	0.000		0.000		0.000		-		0.000	0.000	0.345	-
SNLWS Systems Engineering	WR	NPS : Monterey, CA	0.200	0.000		0.000		0.000		-		0.000	0.000	0.200	-
SNLWS Systems Engineering	MIPR	MIT LL : Lexington, MA	0.004	0.000		0.000		0.000		-		0.000	0.000	0.004	-
SNLWS Systems Engineering	C/CPFF	PSU EOC : Freeport, PA	1.300	0.400	Dec 2021	0.350	Mar 2023	0.300	Dec 2023	-		0.300	Continuing	Continuing	Continuing
SNLWS Technical Director	WR	NSWC Crane : Crane, IN	1.274	0.385	Dec 2021	0.350	Oct 2022	0.425	Nov 2023	-		0.425	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 3402 / *Surface Navy Laser Weapon System (SNLWS)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SNLWS Product Support/ Sys Engr/ISEA/SSA/Doc/ Trng	WR	NSWC PHD : Port Hueneme, CA	3.793	2.755	Nov 2021	3.564	Nov 2022	3.545	Nov 2023	-		3.545	Continuing	Continuing	Continuing
SNLWS Installation APM	WR	NSWC Dahlgren DNA : Dam Neck, VA	0.965	0.000		0.000		0.000		-		0.000	0.000	0.965	-
SNLWS Radar Cross Section Engineering	WR	NSWC Carderock : Potomac, MD	0.029	0.000		0.000		0.000		-		0.000	0.000	0.029	-
SNLWS Environmental Engineering	WR	NUWC Newport : Newport, RI	0.031	0.000		0.000		0.000		-		0.000	0.000	0.031	-
SNLWS System Installation	C/CPAF	BAE via SWRMC : San Diego, CA	10.184	0.000		0.000		0.000		-		0.000	0.000	10.184	-
SNLWS AIT/Engr/Tech/ ILS/Sustainment/Material/ Labor	C/CPIF	Lockheed Martin Aculight : Bothell, WA	11.475	21.254	Dec 2021	5.624	Jan 2023	5.969	Jan 2024	-		5.969	Continuing	Continuing	Continuing
SNLWS Installation Engineering	C/CPAF	Third Party Planning (3PP) : Not Specified	0.005	0.000		0.000		0.000		-		0.000	0.000	0.005	-
SNLWS Laser Range Hazard Analysis	WR	NSWC Corona : Corona, CA	0.039	0.000		0.000		0.000		-		0.000	0.000	0.039	-
SNLWS Platform Integration/ILS/Installation Support	C/CPFF	CACI : Washington, DC	0.285	0.000		0.000		0.000		-		0.000	0.000	0.285	-
SNLWS installation Management & Materials	C/CPFF	NSWC PHD : Virginia Beach, VA	5.256	2.079	Jan 2022	0.000		0.000		-		0.000	0.000	7.335	-
SNLWS Installation/ Shipping	WR	NAVFAC : San Diego, CA	0.001	0.000		0.000		0.000		-		0.000	0.000	0.001	-
SNLWS ILS/Product Support	C/FFP	TMS VIA NSWC IH : Indian Head, MD	0.069	0.000		0.000		0.000		-		0.000	0.000	0.069	-
SNLWS System Engr/ Procurement Beam Director	C/CPFF	MANTECH : Washington, D.C.	0.300	0.000		0.000		0.000		-		0.000	0.000	0.300	-
		Subtotal	85.304	31.508		13.968		15.763		-		15.763	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 3402 / *Surface Navy Laser Weapon System (SNLWS)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

FY22 funding was decreased to accommodate a BTR to PU 9823 to repair the ODIN unit on the DDG 105 and cover a portion of the SBIR Assessment.
FY22 to FY23 decrease is a result of the system installation being completed in FY22.
FY23 to FY24 increase is commensurate with the increase in the overall control for operational Fleet support and development of Knowledge Skills and Abilities (KSAs) and Tactics, Techniques and Procedures (TTPs) for the Mk 5 Mod 0 HELIOS on DDG 88.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NIWC Pacific : San Diego, CA	0.122	0.000		0.000		0.000		-		0.000	0.000	0.122	-
Developmental Test & Evaluation (DT&E)	WR	NSWC PHD : Port Hueneme, CA	3.659	2.917	Nov 2021	1.549	Nov 2022	2.064	Nov 2023	-		2.064	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC Crane : Crane, IN	2.211	0.636	Nov 2021	0.200	Oct 2022	0.200	Nov 2023	-		0.200	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC Dahlgren : Dahlgren, VA	1.371	0.247	Nov 2021	0.500	Oct 2022	0.417	Nov 2023	-		0.417	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	C/CPIF	Lockheed Martin Aculight : Bothell, WA	7.019	0.351	Dec 2021	0.450	Apr 2023	0.000		-		0.000	0.000	7.820	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NSWC Dahlgren DNA : Dam Neck, VA	0.100	0.000		0.000		0.000		-		0.000	0.000	0.100	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	Threat Systems Management office : Redstone Arsenal, AL	0.581	0.000		0.000		0.000		-		0.000	0.000	0.581	-
Developmental Test & Evaluation (DT&E)	WR	SCSC Wallops : Wallops Island, VA	2.051	0.149	Jan 2022	0.000		0.000		-		0.000	0.000	2.200	-
Developmental Test & Evaluation (DT&E)	WR	NASA Wallops : Wallops Island, VA	1.352	0.139	Jan 2022	0.000		0.000		-		0.000	0.000	1.491	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 3402 / *Surface Navy Laser Weapon System (SNLWS)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	NAWC CL : China Lake, AZ	0.616	0.460	Sep 2022	0.068	Mar 2023	0.000		-		0.000	0.000	1.144	-
Developmental Test & Evaluation (DT&E)	WR	NAWC AD : Patuxent River, MD	0.595	0.462	Sep 2022	0.000		0.000		-		0.000	0.000	1.057	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NRL : Washington, D.C.	0.542	0.000		0.000		0.000		-		0.000	0.000	0.542	-
Developmental Test & Evaluation (DT&E)	C/CPFF	PSU EOC : Freeport, PA	0.000	0.100	Dec 2021	0.000		0.100	Dec 2023	-		0.100	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NUWC : Newport, RI	0.029	0.000		0.000		0.000		-		0.000	0.000	0.029	-
Developmental Test & Evaluation (DT&E)	WR	NPS : Monterey, CA	0.045	0.115	Sep 2022	0.000		0.000		-		0.000	0.000	0.160	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/FFP	ACC AMIC : Langley AFB, VA	0.273	0.000		0.000		0.000		-		0.000	0.000	0.273	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	MIPR	53 WEG FM : Tyndall AFB, FL	0.108	0.000		0.000		0.000		-		0.000	0.000	0.108	-
Developmental Test & Evaluation (DT&E)	WR	NAWCPM : Point Mugu, CA	0.044	0.524	Sep 2022	0.484	Mar 2023	0.000		-		0.000	0.000	1.052	-
Developmental Test & Evaluation (DT&E)	WR	NSWCPD : Philadelphia, PA	0.000	0.041	Sep 2022	0.000		0.000		-		0.000	0.000	0.041	-
Developmental Test & Evaluation (DT&E)	WR	NSWC Corona : Corona, CA	0.000	0.000		0.015	Mar 2023	0.000		-		0.000	0.000	0.015	-
		Subtotal	20.718	6.141		3.266		2.781		-		2.781	Continuing	Continuing	N/A

Remarks

FY22 to FY23 decrease is due to completion of the majority of the industrial testing accomplished with FY22 funding.
FY23 decrease since PB23 is primarily due to industrial testing being funded with FY22 dollars. Funds were realigned to cover increased technical & engineering costs incurred by LM Aculight.
FY23 to FY24 decrease is due to the completion of industrial testing in FY23.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 3402 / *Surface Navy Laser Weapon System (SNLWS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SNLWS Program Management/Engineering Support	C/CPFF	GRYPHON Technologies : Washington, DC	1.036	0.000		0.000		0.000		-		0.000	0.000	1.036	-
SNLWS Program Management/Engineering Support	C/CPIF	SPA : Washington, DC	4.026	0.947	Dec 2021	0.995	Mar 2023	1.020	Dec 2023	-		1.020	Continuing	Continuing	Continuing
SNLWS Travel	Sub Allot	NAVSEA : Washington, DC	0.084	0.150	Feb 2022	0.125	Mar 2023	0.100	Feb 2024	-		0.100	Continuing	Continuing	Continuing
SNLWS Program Management	C/BA	TMB : Washington, DC	0.984	0.284	Dec 2021	0.330	Feb 2023	0.335	Dec 2023	-		0.335	Continuing	Continuing	Continuing
SNLWS Program Management	C/BA	PSS : Washington, DC	0.000	0.052	Sep 2022	0.265	Jun 2023	0.260	Jun 2024	-		0.260	Continuing	Continuing	Continuing
SNLWS Program Management	C/BA	Strategic Insight : Washington, DC	0.452	0.025	Dec 2021	0.030	Feb 2023	0.035	Dec 2023	-		0.035	Continuing	Continuing	Continuing
SNLWS Program Management	C/BA	BAH : Washington, DC	0.027	0.142	Jun 2022	0.145	Feb 2023	0.145	Feb 2024	-		0.145	0.000	0.459	-
		Subtotal	6.609	1.600		1.890		1.895		-		1.895	Continuing	Continuing	N/A

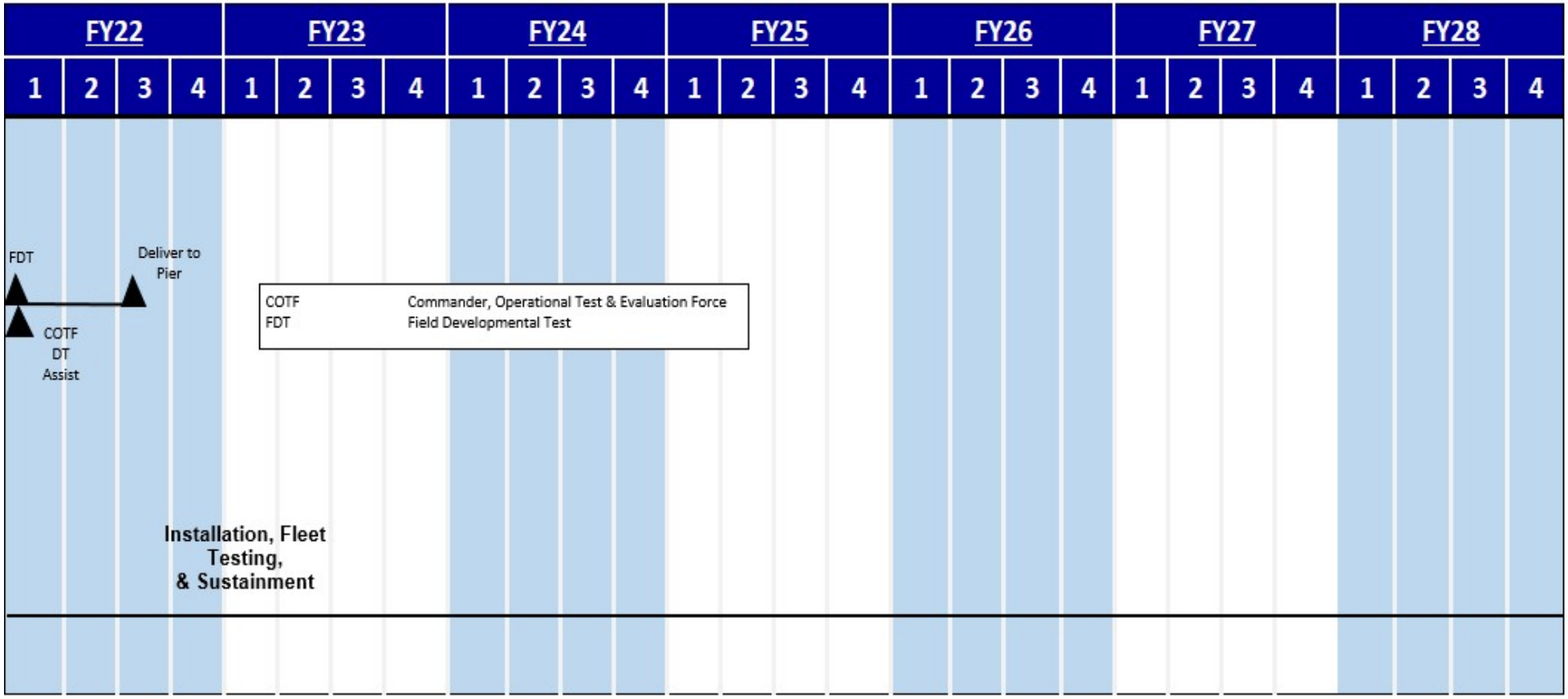
Remarks

FY22 decrease in Management is a result of PSS actual costs being lower than planned.

	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	262.016	39.249		19.124		20.439		-		20.439	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 3402 / *Surface Navy Laser Weapon System (SNLWS)*



Note: System development and software integration testing extended due to externally imposed and unplanned delays to include system availability and range conflicts with Congressionally-mandated beach replenishment project at Wallops Island, as well as shipboard installation contract award and shipyard installation schedule delays.

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 3402 / *Surface Navy Laser Weapon System (SNLWS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3402				
SNLWS: Field Developmental Test (DT)	1	2022	1	2022
SNLWS: Deliver to Pier	1	2022	3	2022
SNLWS: Installation, Fleet Testing and Sustainment	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 5898 / *Directed Energy Components for High Energy Lasers*	

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
5898: *Directed Energy Components for High Energy Lasers*	0.000	0.000	14.040	4.825	-	4.825	0.000	0.000	0.000	0.000	0.000	18.865
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

This project is a new start in FY23.

A. Mission Description and Budget Item Justification

Project 5898 - Directed Energy Components for High Energy Lasers: Supports Industrial Base Analysis and Sustainment (IBAS) program efforts for the improvement of the production capability of the industrial base in order to produce Laser Weapon Beam Director (LWBD) components and sub-systems; reduce production lead times of Laser Weapon System Optics; improve quality and reduce production times of Fast Steering Mirror (FSM) and deformable mirrors.

The FY24 budget request supports the completion of the development of the production capability enhancement of the Laser Weapon Beam Director (LWBD) components and sub-systems, coating chambers for laser weapon optics, Fast Steering Mirrors (FSM) and deformable mirrors. This investment is a risk mitigation for manufacturing capability enhancements through the qualification and validation of production equipment and process improvements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Directed Energy Components for High Energy Lasers	0.000	14.040	4.825	0.000	4.825
Articles:	-	-	-	-	-
FY 2023 Plans: - Commence development of an industrial base production capability to produce LWBD components and subsystems. - Commence development of a coating chambers production capability for laser weapon system optics. - Commence development of a production capability for improvement and reduction in lead time for production for Fast Steering & Deformable Mirrors.					
FY 2024 Base Plans: - Complete development of an industrial base production capability to produce LWBD components and subsystems. - Complete development of a coating chambers production capability for laser weapon system optics.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 5898 / *Directed Energy Components for High Energy Lasers*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Complete development of a production capability for improvement and reduction in lead time for production for Fast Steering & Deformable Mirrors. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY23 to FY24 decrease is due to the completion of the production capability enhancements developed in FY23.					
Accomplishments/Planned Programs Subtotals	0.000	14.040	4.825	0.000	4.825

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The effort will utilize Other Transaction Authority (OTA) vehicles in order to obtain personnel with the requisite experience and expertise required to develop the production capability enhancements. The successful OTA contractor(s) could be utilized as supplier(s) for these highly critical, difficult to manufacture components in future laser acquisition contracts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 5898 / *Directed Energy Components for High Energy Lasers*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/CPFF	PSU EOC : Freeport, PA	0.000	0.000		1.300	Mar 2023	0.860	Dec 2023	-		0.860	0.000	2.160	-
Systems Engineering	WR	NSWC DD : Dahlgren, VA	0.000	0.000		1.850	Mar 2023	0.500	Nov 2023	-		0.500	0.000	2.350	-
Production Capability Enhancements	Various	OTA : TBD	0.000	0.000		10.340	Aug 2023	3.315	Dec 2023	-		3.315	0.000	13.655	-
		Subtotal	0.000	0.000		13.490		4.675		-		4.675	0.000	18.165	N/A

Remarks

Efforts will utilize Other Transaction Authority (OTA) vehicles.
The FY23 to FY24 decrease in Product Development is due to the completion of the production capability enhancements developed in FY23.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	SPA : Washington, D.C.	0.000	0.000		0.400	Mar 2023	0.100	Dec 2023	-		0.100	0.000	0.500	-
Program Management Support	C/CPFF	PSS : Washington, D.C.	0.000	0.000		0.150	Apr 2023	0.050	Dec 2023	-		0.050	0.000	0.200	-
		Subtotal	0.000	0.000		0.550		0.150		-		0.150	0.000	0.700	N/A

Remarks

The FY23 to FY24 decrease in management is due to completion of the capability enhancements developed in FY23.

	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	0.000	0.000		14.040		4.825		-		4.825	0.000	18.865	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 5898 / *Directed Energy Components for High Energy Lasers*

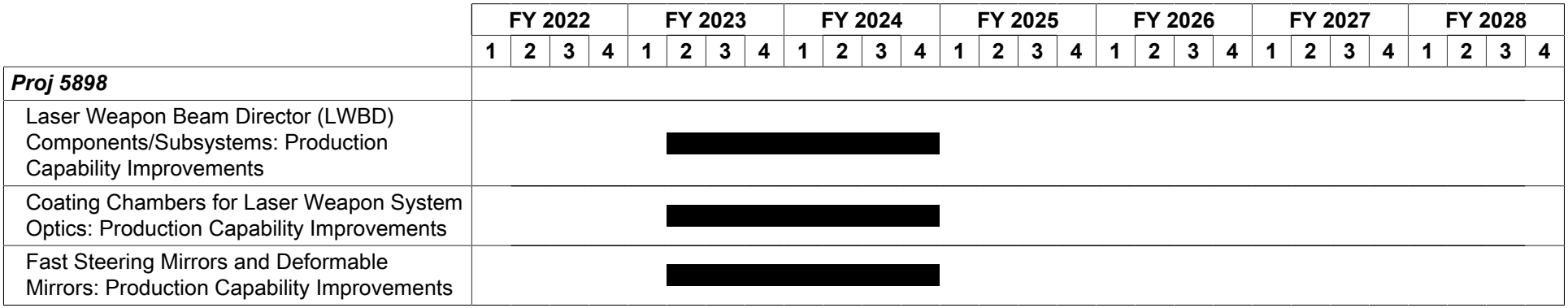


Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 5898 / *Directed Energy Components for High Energy Lasers*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 5898				
Laser Weapon Beam Director (LWBD) Components/Subsystems: Production Capability Improvements	2	2023	4	2024
Coating Chambers for Laser Weapon System Optics: Production Capability Improvements	2	2023	4	2024
Fast Steering Mirrors and Deformable Mirrors: Production Capability Improvements	2	2023	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 9823 / *Lasers for Navy applicat*	

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
9823: *Lasers for Navy applicat*	148.981	15.621	25.318	20.671	-	20.671	22.837	2.565	2.022	1.897	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project 9823 - Lasers for Navy Applications: Optical Dazzler Interdictor Navy (ODIN) development provides near-term, directed energy, shipboard Counter-Intelligence, Surveillance, and Reconnaissance (C-ISR) capabilities to dazzle Unmanned Aerial Systems (UASs) and other platforms that address urgent operational needs of the Fleet. FY 2018 was the first year of funding which supports the design, development, procurement and installation of ODIN standalone units over the FYDP, for deployment on DDG 51 Flt IIA surface combatants. The program supports the non-recurring engineering, development, procurement of long lead material, assembly and checkout, system certification, platform integration/installation and sustainment for these ODIN standalone units.

The FY24 budget request supports the continuation of the development of the technology refresh package and subsystem maturation efforts to improve the reliability, capability and operability of ODIN, and manpower to conduct modeling & simulation of ODIN engagements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Optical Dazzling Interdictor, Navy (ODIN)	15.621	25.318	20.671	0.000	20.671
Articles:	-	-	-	-	-
FY 2023 Plans: - Continue shipboard technical support for Units 1-7. - Continue shipboard test and checkout support of Units 1-7. - Continue sustainment support and material procurements for Units 1-7. - Continue training updates, updates to maintenance requirements and shipboard allowance documentation. - Continue system integration, test and certification, system operability and safety for Unit 8. - Initiate subsystem maturation efforts, analysis and documentation. - Initiate technical refresh package to include material and assembly drawings. - Initiate system engineering for software/hardware updates.					
FY 2024 Base Plans: - Continue technical refresh package to include material and assembly drawings. - Continue system engineering for software/hardware updates. - Commence modeling & simulation of ODIN engagements.					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 9823 / *Lasers for Navy applicat*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The decrease from FY23 to FY24 is primarily due to the realignment of RDTEN to OMN to support sustainment of ODIN units delivered to the fleet.					
Accomplishments/Planned Programs Subtotals	15.621	25.318	20.671	0.000	20.671

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
• OMN/1C1C/11CD0: *Directed Energy*	0.000	0.000	3.756	-	3.756	3.728	3.776	3.850	4.068	Continuing	Continuing

Remarks

FY24 and out O&MN funding was realigned from PE 0603925N/PU 9823 RDT&E to support sustainment of ODIN units delivered to the fleet.

PY - In FY10 there was Program of Record (POR) funding in the amount of $4.748M provided under PU 9183 for Pacific Sail which is a related effort.

D. Acquisition Strategy

The ODIN is a government designed, developed, and produced system that will provide stand alone units for use on DDG 51 class ships. This effort will transition the developed ODIN capabilities to the Fleet, while informing the development of future prototyping capabilities and program of record efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 9823 / *Lasers for Navy applicat*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware & Software - Material Buys	C/FFP	NSWC Dahlgren : Dahlgren, VA	45.909	4.143	Dec 2021	2.580	Nov 2022	2.000	Dec 2023	-		2.000	Continuing	Continuing	Continuing
Engineering/Development/ Assembly, Tech Refresh	WR	NSWC Dahlgren : Dahlgren, VA	17.759	4.548	Nov 2021	5.970	Oct 2022	8.295	Dec 2023	-		8.295	Continuing	Continuing	Continuing
Software Development/ System Rqmts & Design	WR	NSWC Dahlgren : Dahlgren, VA	5.865	0.092	Nov 2021	3.112	Oct 2022	3.100	Nov 2023	-		3.100	Continuing	Continuing	Continuing
Engineering Development, HW and SW	C/CPFF	PSU EOC : Freeport, PA	10.699	0.970	Dec 2021	1.850	Dec 2022	1.500	Dec 2023	-		1.500	Continuing	Continuing	Continuing
Engineering/Development/ Material/DMSMS Analysis/ Design	WR	NSWC PHD : Port Hueneme, CA	2.229	0.549	Nov 2021	0.000		0.300	Nov 2023	-		0.300	Continuing	Continuing	Continuing
Engineering/Development	WR	NSWC Crane : Crane, IN	0.320	0.000		0.000		0.000		-		0.000	0.000	0.320	-
Engineering/Development	WR	NRL : Washington, D.C.	0.320	0.000		0.000		0.075	Dec 2023	-		0.075	Continuing	Continuing	Continuing
Subsystem Maturation	Various	OTA : TBD	0.000	0.000		2.000	Apr 2023	2.821	Mar 2024	-		2.821	Continuing	Continuing	Continuing
Test Unit Development & Design	WR	NIWC Pacific : San Diego, CA	0.000	0.000		0.099	Oct 2022	0.300	Nov 2023	-		0.300	Continuing	Continuing	Continuing
		Subtotal	83.101	10.302		15.611		18.391		-		18.391	Continuing	Continuing	N/A

Remarks

- FY22 Product Development increase is the result of a BTR to repair the ODIN unit on the DDG 105 and an additional requirement for Diminishing Manufacturing Sources and Material Shortages (DMSMS) Analysis.
- FY22 to FY23 increase is a result of tasking driven by classified requirements.
- FY23 product development decrease from PB23 is a result of requirements being funded by the FY22 BTR received in 4th qtr FY22 and ONR FNC funding. This funding was realigned to Support to cover Shipyard and Product Support; and Test & Evaluation to cover testing requirements.
- FY23 to FY24 increase is a result of tasking driven by classified requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 9823 / *Lasers for Navy applicat*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platform Integration/ ILS/ Installation	C/CPFF	CACI : Washington, D.C.	0.341	0.000		0.000		0.000		-		0.000	0.000	0.341	-
Platform Integration/ILS/ Installation	C/CPFF	SWRMC : San Diego, CA	1.175	0.000		0.000		0.000		-		0.000	0.000	1.175	-
Systems Engineering/ Mgmt	C/CPFF	NAVFAC : Washington, D.C.	0.125	0.000		0.000		0.000		-		0.000	0.000	0.125	-
Safety, Product Support, Security & Operations	WR	AFRL : Wright-Patterson AFB, OH	0.160	0.000		0.200	Mar 2023	0.000		-		0.000	0.000	0.360	-
Installation Engineering	C/CPAF	Third Party Planning (3PP) : Not Specified	0.007	0.000		0.000		0.000		-		0.000	0.000	0.007	-
Spares	WR	NSWC Dahlgren : Dahlgren, VA	4.108	0.075	Oct 2021	0.000		0.000		-		0.000	0.000	4.183	-
Platform/System Integration/ILS/Installation	WR	NSWC Dahlgren : Dahlgren, VA	13.515	0.438	Oct 2021	0.975	Nov 2023	0.000		-		0.000	0.000	14.928	-
Platform Integration	C/CPAF	BIW : Bath, ME	1.476	0.065	Jan 2022	0.050	Feb 2023	0.000		-		0.000	0.000	1.591	-
Platform Integration	C/CPFF	Lockheed Martin : Moorestown, NJ	0.323	0.000		0.000		0.000		-		0.000	0.000	0.323	-
Systems Engineering/ Platform Integration	WR	NIWC Pacific : San Diego, CA	1.191	0.046	Dec 2021	0.000		0.000		-		0.000	0.000	1.237	-
Safety, Product Support, Security & Operations	WR	NSWC Dahlgren : Dahlgren, VA	5.359	0.332	Oct 2021	2.413	Nov 2023	0.000		-		0.000	0.000	8.104	-
Platform Integration	WR	NSWC Crane : Crane, IN	0.156	0.000		0.000		0.000		-		0.000	0.000	0.156	-
Platform/System Integration/Integrated Logistic Support/ Installation & Spares	WR	NSWC PHD : Port Hueneme, CA	7.422	1.224	Oct 2021	2.798	Oct 2022	0.500	Nov 2023	-		0.500	Continuing	Continuing	Continuing
Packaging, Handling, Storage & Transportation, De-Install, Refurbishment	WR	NSWC Dahlgren : Dahlgren, VA	1.414	0.040	Oct 2021	0.000		0.000		-		0.000	0.000	1.454	-
Platform Integration/ILS/ Installation	C/CPFF	HRMC : Pearl Harbor, HI	0.021	0.000		0.000		0.000		-		0.000	0.000	0.021	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 9823 / *Lasers for Navy applicat*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platform/System Integration/ILS/Installation & Spares	C/CPFF	NSWC PHD : Port Hueneme, CA	15.874	1.322	Dec 2021	0.587	Oct 2022	0.000		-		0.000	0.000	17.783	-
Packaging, Handling, Storage & Transportation	C/CPFF	PSU EOC : Freeport, PA	0.425	0.000		0.000		0.000		-		0.000	0.000	0.425	-
Systems Engineering	C/CPFF	PSU EOC : Freeport, PA	0.700	0.000		0.000		0.000		-		0.000	0.000	0.700	-
Systems Engineering/ Mgmt	WR	Pax Partnership : Patuxent, MD	0.142	0.000		0.000		0.000		-		0.000	0.000	0.142	-
Platform Integration/ILS/ Installation	C/FFP	TMS via NSWC IH : Indian Head, MD	0.069	0.000		0.000		0.000		-		0.000	0.000	0.069	-
Platform Integration/ILS/ Installation	C/CPFF	NWRMC Puget Sound Naval Shipyard : Bremerton, WA	0.200	0.000		0.443	Feb 2023	0.000		-		0.000	0.000	0.643	-
Reliability, Maintainability & Assessment	WR	NSWC Corona : Corona, CA	0.000	0.185	Aug 2022	0.000		0.000		-		0.000	0.000	0.185	-
Reliability, Maintainability & Assessment	MIPR	MIT LL : Cambridge MA	0.000	0.000		0.050	Mar 2023	0.000		-		0.000	0.000	0.050	-
		Subtotal	54.203	3.727		7.516		0.500		-		0.500	Continuing	Continuing	N/A

Remarks

- FY22 funding was decreased to cover the additional requirement for DMSMS Analysis under Product Development and accommodate the SBIR assessment.
- FY23 increase from PB23 was to accommodate the Shipyard and Product Support requirements. This funding was realigned from Product Development. Funding has been realigned from multiple activities to support shipyard and support requirements.
- FY23 to FY24 decrease is primarily due to the realignment of RDTEN to O&MN to support sustainment of ODIN units delivered to the fleet.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603925N / *Directed Energy and Electric Weapon System*	Project (Number/Name) 9823 / *Lasers for Navy applicat*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NAWC AD : Patuxent River, MD	0.160	0.000		0.000		0.000		-		0.000	0.000	0.160	-
Developmental Test & Evaluation (DT&E)	WR	NSWC PHD : Port Hueneme, CA	1.659	0.553	Oct 2021	0.115	Mar 2023	0.000		-		0.000	0.000	2.327	-
Developmental Test & Evaluation (DT&E)	WR	NSWC Dahlgren : Dahlgren, VA	5.747	0.054	Oct 2021	0.856	Mar 2023	0.250	Jan 2024	-		0.250	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NSWC Crane : Crane, IN	0.650	0.000		0.000		0.000		-		0.000	0.000	0.650	-
Developmental Test & Evaluation (DT&E)	WR	NIWC Pacific : San Diego, CA	0.504	0.000		0.051	Mar 2023	0.200	Jan 2024	-		0.200	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	MIPR	NSMA, COTF : JBAB, D.C.	0.165	0.028	Jun 2022	0.044	Mar 2023	0.000		-		0.000	0.000	0.237	-
Developmental Test & Evaluation (DT&E)	WR	WSMR : White Sands, NM	0.000	0.000		0.000		0.500	Jan 2024	-		0.500	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NSWC Corona : Corona, CA	0.024	0.000		0.000		0.000		-		0.000	0.000	0.024	-
		Subtotal	8.909	0.635		1.066		0.950		-		0.950	Continuing	Continuing	N/A

Remarks

- FY22 funding was increased due to testing of newly developed capabilities requiring a higher quality and quantity of aircraft and targets for testing of subsequent data analysis to validate requisite system capabilities.
- FY23 increase from PB23 was due to the delay of the DDG 97 Industrial Availability which pushed testing from FY22 to FY23.
- FY23 to FY24 decrease is a result of the majority of the testing being accomplished in FY23.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt/Support	C/CPIF	PSS : Washington, D.C.	0.000	0.052	Sep 2022	0.250	Jun 2023	0.150	Jun 2024	-		0.150	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 9823 / *Lasers for Navy applicat*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt/Support	C/CPIF	Strategic Insight : Washington, D.C.	0.153	0.010	Jan 2023	0.025	Mar 2023	0.010	Dec 2023	-		0.010	0.000	0.198	-
Program Mgmt/Support	C/CPIF	TMB : Washington, D.C.	0.341	0.145	Dec 2021	0.141	Mar 2023	0.145	Dec 2023	-		0.145	Continuing	Continuing	Continuing
Program Mgmt/Support	C/CPFF	GRYPHON Technologies : Washington, D.C.	1.086	0.000		0.000		0.000		-		0.000	0.000	1.086	-
Travel	Allot	NAVSEA : Washington, D.C.	0.088	0.050	Feb 2022	0.025	Mar 2023	0.025	Feb 2024	-		0.025	Continuing	Continuing	Continuing
Program Mgmt/Support	C/CPIF	SPA : Washington, D.C.	1.008	0.700	Feb 2022	0.684	Mar 2023	0.500	Mar 2024	-		0.500	Continuing	Continuing	Continuing
Program Mgmt/Support	C/CPIF	BAH : Washington, D.C.	0.092	0.000		0.000		0.000		-		0.000	0.000	0.092	-
		Subtotal	2.768	0.957		1.125		0.830		-		0.830	Continuing	Continuing	N/A

Remarks

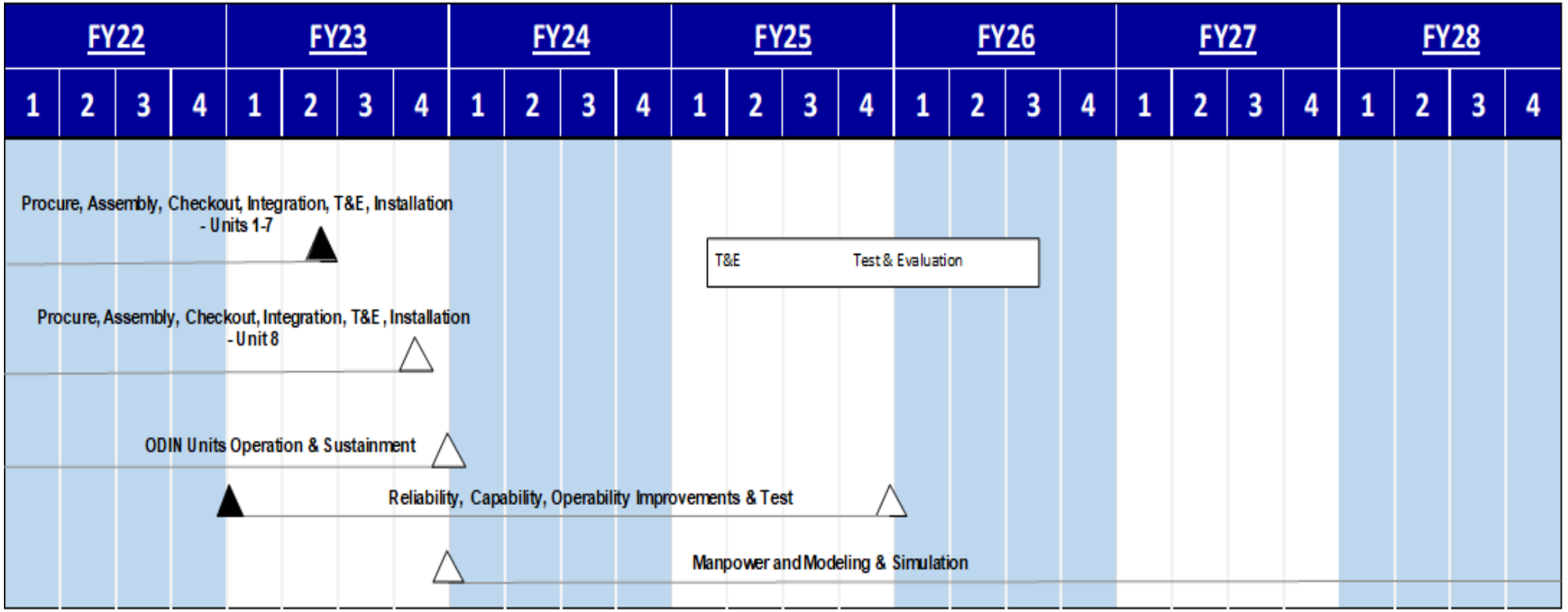
- The FY23 to FY24 decrease is primarily due to the realignment of RDTEN to O&MN.

	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	148.981	15.621		25.318		20.671		-		20.671	Continuing	Continuing	N/A

Remarks

- The FY23 to FY24 decrease is primarily due to the realignment of RDTEN to O&MN to support sustainment of ODIN units delivered to the fleet.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 9823 / *Lasers for Navy applicat*



NOTES:

1. T&E includes shore-based testing during assembly through shipboard testing after installation.
2. Above schedule addresses ship availability changes that have occurred since the FY23 President's Budget submission.
3. Starting in FY24, funding for the operation and sustainment of 8 ODIN units was converted to O&MN.
4. RM&A improvements FY23-FY25; Starting in FY24, funding for manpower and Modeling & Simulation.

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603925N / *Directed Energy and Electric Weapon System*	**Project (Number/Name)** 9823 / *Lasers for Navy applicat*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9823				
Component Procurement, Assembly, Checkout, Integration, T&E & Installation Units 1-7	1	2022	2	2023
Component Procurement, Assembly, Checkout, Integration, T&E & Installation Unit 8	1	2022	4	2023
Operation and Sustainment of ODIN Units	1	2022	4	2023
Reliability, Capability, Operability Improvements & Test	1	2023	4	2025
Modeling & Simulation and Manpower	1	2024	4	2028