Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy											Date: March 2024	
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 0603178N *I (U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*							
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
Total Program Element	166.388	131.680	117.400	53.964	-	53.964	62.239	128.085	129.289	131.798	Continuing	Continuing
3066: *Large Unmanned Surface Vessel (LUSV)*	166.388	131.680	117.400	53.964	-	53.964	62.239	128.085	129.289	131.798	Continuing	Continuing

Note

Large Unmanned Surface Vessel (LUSV) (Proj 3066) and Unmanned Surface Vehicle (USV) Enabling Capabilities (Proj 3067) were new starts in FY 2020. FY 2020 funding in Program Element (PE) 0603502N. LUSV and USV Enabling Capabilities realigned from PE 0603502N to PE 0603178N in FY 2021.

In FY 2022, the Navy realigned funding for USV Enabling Capabilities (Proj 3067) from PE 0603178N to new PE 0605513N. Concurrent with the shift to separate Program Elements, the Navy has rebalanced the FY 2022 RDTEN profile, shifting C4I non-recurring engineering and autonomy development funding that can be applied to both the LUSV and MUSV programs into the USV Enabling Capabilities PE 0605513N. For FY2023, the Navy realigned funding for development of the Unmanned Surface Vessel Integrated Combat System Development (USV ICS) to PE 0605513N, reflecting the Navy's vision of eventually fielding the USV ICS across all unmanned surface platforms. Hardware and platform-specific USV ICS requirements for LUSV and Overlord prototypes remain in LUSV PE 0603178N.

A. Mission Description and Budget Item Justification

This Program Element provides resources for the Large Unmanned Surface Vessel (LUSV), one of the two unmanned platforms in the Navy's Future Surface Combatant Force (FSCF). This Program Element also provides resources for the Prototype vessels. LUSVs will provide affordable, high endurance ships able to accommodate various payloads for unmanned missions and augment the Navy's manned surface force. LUSVs will be capable of autonomous operation, with operators in-the-loop to control the combat system. USV Command and Control (C2) will be maintained via an afloat element (i.e., embarked on a United States Navy (USN) combatant/ other assigned afloat asset) or via an ashore element (C2 station ashore). While MUSV (PE 0605512N) and LUSV will logically share common Government Furnished Equipment (GFE) C2 systems to support fleet integration and operations and may share other autonomy and mechanical technologies (depending on acquisition approaches), they will be primarily differentiated by size and cost driven by payload capabilities, and capacities.

LUSV is a key enabler of the Navy's Distributed Maritime Operations (DMO) concept, which includes being able to forward deploy and team with individual manned combatants or augment battle groups. LUSV will complement the Navy's manned combatant force by delivering increased readiness, capability and needed capacity at lower procurement and sustainment costs and reduced risk to sailors. While unmanned surface vehicles are new additions to the fleet units, LUSV will combine robust and proven commercial vessel specifications with existing military payloads to rapidly and affordably expand the capacity and capability of the surface fleet.

The Large Unmanned Surface Vessel (LUSV) development is supported by research and development prototype vessels intended to demonstrate successful integration of government furnished Command, Control, Communications, Computers and Intelligence (C4I), combat systems, and the reliability of automated hull, mechanical, and electrical (HM&E) systems. The program leverages years of investment and full scale demonstration efforts in autonomy, endurance, command and control, payloads and testing from the Defense Advanced research Projects Agency (DARPA) Anti-Submarine Warfare Continuous Trail Unmanned Vessel (ACTUV), Office of Naval Research (ONR) Medium Displacement Unmanned Surface Vehicle (MDUSV)/Sea Hunter (FY 2017 to FY 2021), and Office of the Secretary of Defense Strategic

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy	Date: March 2024
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 0603178N *I (U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*

Capabilities Office (OSD- SCO) Ghost Fleet Overlord Large USV experimentation effort (FY 2018 - FY 2021). The combination of fleet-ready C2 solutions developed by the Ghost Fleet Overlord program and man-in-the-loop or man-on-the-loop control will reduce the risk of fleet integration of unmanned surface vehicles and allow autonomy and payload technologies to develop in parallel with fielding vehicles with standardized interfaces.

LUSV is the baseline vessel defined in the Offensive Surface Fires Analysis of Alternatives (OSF AoA). The OSF AoA examined a wide range of material solutions to determine the most appropriate vessel to deliver additional capacity to the fleet.

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	136.580	117.400	127.855	-	127.855
Current President's Budget	131.680	117.400	53.964	-	53.964
Total Adjustments	-4.900	0.000	-73.891	-	-73.891
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.900	0.000			
• Program Adjustments	0.000	0.000	-72.749	-	-72.749
• Rate/Misc Adjustments	0.000	0.000	-1.142	-	-1.142

Change Summary Explanation

Program Changes:
Technical: Not applicable
Schedule: Not applicable
Cost:
FY 2023: -$4.900M SBIR/STTR/FTT Assessment (SBIR)
FY 2024: No Change
FY 2025: -$72.749M programmatic reductions; -$1.142M miscellaneous adjustments

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy											Date: March 2024	
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*				Project (Number/Name) 3066 / *Large Unmanned Surface Vessel (LUSV)*			
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
3066: *Large Unmanned Surface Vessel (LUSV)*	166.388	131.680	117.400	53.964	-	53.964	62.239	128.085	129.289	131.798	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Large Unmanned Surface Vessel (LUSV) (Project 3066) was a new start in FY20. FY20 funding in Program Element (PE) 0603502N. Project 3066 realigned from PE 0603502N starting in FY21. The Navy has rebalanced the FY22 RDTEN profile, shifting C4I non-recurring engineering and autonomy development funding that can be applied to both the LUSV and MUSV programs into the USV Enabling Capabilities Project 3067 (Program Element 0605513N). For FY23, the Navy realigned funding for development of the Unmanned Surface Vessel Integrated Combat System Development (USV ICS) to PE 0605513N, reflecting the Navy's vision of eventually fielding the USV ICS across all unmanned surface platforms. Hardware and platform-specific USV ICS requirements for LUSV and Overlord prototype vessels remain in LUSV PE 0603178N.

A. Mission Description and Budget Item Justification

The major goal for FY25 is preparing for the Detail Design and Construction (DD&C) for the LUSV POR which has a planned award in FY27. The Navy instituted a comprehensive system engineering framework and supporting land and sea based prototyping plan, which will be completed prior to commencing the formal program of record and LUSV production. In support of this, the Navy has developed a holistic USV work breakdown structure (WBS) framework to help coordinate developmental and systems engineering efforts applicable across the USV portfolio and efforts that are platform specific. The WBS categories are divided into broad key enablers, including HM&E (1.0), C4I (2.0), USV ICS (3.0), Common Control System (CCS) (4.0), autonomy (5.0), and prototyping efforts (6.0).

The supporting land and sea based prototyping plan will use Prototype vessels and various land-based testing facilities to mature enabling technologies and qualify representative machinery. In support of the updated developmental and prototyping plan, the Navy is aligning Detail Design and Construction for the initial production of LUSVs with the risk reduction and qualification plans described in the program System Engineering Framework (WBS). In addition, the outcome of the Offensive Surface Fires Analysis of Alternatives (OSF AoA) is supporting the refinement of program requirements leading to the validation of a Capability Development Document, acquisition strategy, and timing for procurement. The Navy's new plan does not include procurement of any additional prototype vessels.

The LUSV will be capable of weeks-long deployments and trans-oceanic transits and operate aggregated with Carrier Strike Groups (CSGs), Amphibious Ready Groups (ARGs), Surface Action Groups (SAGs), and individual manned combatants. The LUSV will be capable of autonomous navigation, transit planning, and COLREGS-compliant maneuvering and will be designed with automated propulsion, electrical generation, and support systems. LUSV missions will be conducted with operators in-the-loop (with ability to provide continuous or near-continuous observation or control) or on-the-loop (autonomous operation that prompts operator action/intervention from sensory input or autonomous behaviors). LUSVs with integrated payload capability and prototypes employing non-organic payloads will not be capable of autonomous payload engagement or execution of a complete detect-to-engage sequence. The vessel will be incapable of payload activation, deactivation, or engagement without the deliberate action of a remote, off-hull human operator in the loop. The program will integrate current Navy combat systems programs of record that have been adapted to enable remote monitoring and operational control from an off-hull command and control point and will not be equipped with components

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

that would enable payload engagement from onboard the vessel. USV Command and Control (C2) will be maintained via an afloat element (i.e., embarked on a United States Navy (USN) combatant), or via the ashore element (C2 station ashore).

The LUSV program is continuing to execute a comprehensive land and sea-based prototyping strategy to develop and deliver incremental capability increases, demonstrate key autonomy and automation enablers, and improve reliability of representative machinery. The prototype vessels support this strategy by demonstrating successful integration of government furnished Command, Control, Communications, Computers and Intelligence (C4I), combat systems, and the reliability of automated hull, mechanical, and electrical (HM&E) systems, eventually leading to a LUSV with the Unmanned Surface Vessel Integrated Combat System (USV ICS) and organic payloads. Early prototype vessels are enabling the Navy to accrue operational hours to gather data on autonomy, automation, and systems reliability, increase confidence in the man-machine team, and develop and refine unmanned concepts of operation (CONOPs) and tactics, techniques, and procedures (TTPs). The overarching LUSV development strategy views the purchase, fielding, and testing of the prototype USVs through the procurement of production USVs as a single developmental effort.

The LUSV Performance Specification that will be released under the Detail Design and Construction (DD&C) solicitation will heavily leverage the results of the prototype USV developmental effort, land-based testing plan, LUSV industry design studies, and continued engagement with industry. The government furnished C4I suite, and the USV ICS hardware and software that will be incorporated into the LUSV will be developed under the Unmanned Surface Vehicle Enabling Capabilities (PE 0605513N). Payloads are being developed separately under other prototyping efforts and will be further developed and/or integrated into LUSV under the Enabling Capabilities project. Key combat systems, payload technologies, and enablers will continue to be developed and matured, leading to at-sea demonstrations, including a remotely commanded demonstration in FY 2024.

The Navy is also executing a comprehensive reliability plan with the intent to discover and implement reliability enhancements into USV machinery plants as well as provide a means to qualify LUSV-representative machinery plants prior to award of the initial production of LUSVs. The effort leveraged industry engagement initially started under the LUSV Studies Contract effort, assisting the Navy to determine reliability enhancements, improvements, and other potential machinery plant architectures designed to achieve LUSV operational and reliability requirements. The Navy is continuing to test ancillary equipment and develop solutions for government-furnished engineering operations autonomy modules and machinery control systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Product Development	113.661	99.050	43.414	0.000	43.414
Articles:	-	-	-	-	-
FY 2024 Plans: Continue machinery plant (main machinery and electrical distribution) qualification and reliability improvement plans, building on the efforts started under the LUSV Studies Contract. Results from design maturation and trade studies will be incorporated into the Performance Specification and captured in the DD&C RFP Solicitation and associated artifacts. Continue to utilize the LUSV Studies contracts in order to mature LUSV requirements documentation, and drive costs down by incorporating Industry feedback into documents such as the Statement					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
of Work and the LUSV Specification. Complete Gate 3 to achieve a fully agreed to and signed out CDD. Complete Gate 4 SDS approval and Gate 4 RFP approval while preparing for Milestone B. Conduct operations on the prototype USVs to continue development of technology maturation in support of the LUSV PoR and DD&C award in FY 2027. ***FY 2025 Base Plans:*** In FY 2025, Industry design maturation and trade studies will be incorporated into the Ship Specification and captured in the DD&C RFP Solicitation and associated artifacts. Industry studies will continue to refine LUSV RFP documentation, focusing on cost and schedule savings for the program. Completing Gate 4 for Ship Specification approval and completing Gate 5 for RFP approval while preparing for Milestone B to support an award for the LUSV Detail Design and Construction contract. Conduct operations on the prototype USVs to continue development of technology maturation in support of the LUSV PoR and DD&C award in FY 2027. ***FY 2025 OCO Plans:*** N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Decrease will require reduction in the support and use of the protype vessels for the LUSV program in order to prioritize LUSV program of record efforts including development of documentation and requirements to support the LUSV program of record and FY 2027 Detail Design and Construction Contract award.					
Title: Support	15.809	16.100	8.250	0.000	8.250
Articles:	-	-	-	-	-
FY 2024 Plans: Continue support to technology development and maturation efforts and the continued refinement of requirements and acquisition documentation including a SEP, TEMP, LCSP, Cybersecurity Strategy, Open Systems Architecture Management Plan, Quality Assurance Program Plan, Reliability and Maintainability Program Plan, Configuration Management Plan, Software Development Plan, NTSP and PPP, and all other artifacts leading up to a planned Milestone review prior to the planned DD&C award for the first production LUSV. Support all land and sea based prototyping and testing (WBS 6.0), program reliability improvement efforts, collaborating with industry and government partners to gather existing reliability data on LUSV-representative machinery plants, and develop and execute plans for qualification testing (WBS 1.0). Support demonstration of the Integrated Combat System from a surface combatant in FY2024 (WBS 1.0 and 6.0). ***FY 2025 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
LUSV focus is on technology development and maturation efforts and the continued refinement of requirements and Acquistion documentation including, but not limited to the SEP, TEMP, LCSP, Cybersecurity Strategy, Open Systems Architecture Management Plan, Quality Assurance Program Plan, Reliability and Maintainability Program Plan, Configuration Management Plan, Software Development Plan, NTSP and PPP, and all other artifacts leading up a planned Milestone review prior the planned DD&C award for the first production LUSV. Support all land and sea-based prototyping and testing, program reliability improvement efforts, collaborating with industry and government partners to gather existing reliability data on LUSV representative machinery plants, and develop and execute plans for qualification testing. ***FY 2025 OCO Plans:*** N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Reduction will minimize the support for the prototype vessels while prioritizing efforts for the program of record to achieve Detail Design and Construction Award in FY 2027.					
Title: Management Services ***Articles:*** ***FY 2024 Plans:*** Continue efforts carrying over from FY2023, developing governing LUSV program acquisition and requirements documentation and supporting program developmental plans. Provide management support and oversight for the prototype USVs. ***FY 2025 Base Plans:*** In FY25, focus is on developing the governing LUSV program acquisition and requirements documentation and supporting program developmental plans. Management support and oversight for the prototype USVs will be required to support the LUSV PoR technology maturation. ***FY 2025 OCO Plans:*** N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** No significant changes.	2.210 -	2.250 -	2.300 -	0.000 -	2.300 -
Accomplishments/Planned Programs Subtotals	131.680	117.400	53.964	0.000	53.964

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• RDTEN/0605512N/3428: *Medium Unmanned Surface Vehicle (MUSV)*	83.548	85.800	101.838	-	101.838	103.181	102.268	99.688	101.624	Continuing	Continuing
• RDTEN/0605513N/3067: *Unmanned Surface Vehicle Enabling Capabilities*	159.628	176.261	92.868	-	92.868	99.468	190.591	190.940	194.646	Continuing	Continuing
• SCN/5119: *Large Unmanned Surface Vessel*	0.000	0.000	0.000	-	0.000	0.000	497.632	652.810	994.264	Continuing	Continuing

Remarks

D. Acquisition Strategy

In FY 2020, the Navy purchased two Overlord prototype USVs as a means to mitigate technical risk and continue to generate lessons learned through testing and experimentation, as well as to further refine CONOPs and TTPs to include manned/unmanned teaming. In FY 2020, the Navy also awarded multiple LUSV Studies Contracts for a LUSV with reservations in the design to integrate future payloads, which will inform the final Performance Specification. Additionally, in FY 2020, the Navy implemented a comprehensive reliability improvement program, which will allow continuous engagement with industry to improve reliability of representative machinery plants (main engines, generators, and ancillary equipment) as well as provide a path to qualify the MUSV (and prototype USV) main engine and representative LUSV engines and generators. This effort will continue throughout the FYDP with the goal to qualify machinery plants for incorporation into the LUSV design as well as provide a set of standards for offerors to use to prove reliability. In parallel, the Navy has established a Land Based Test Site at Naval Surface Warfare Center, Philadelphia, which will serve to test ancillary equipment as well as develop and prove government furnished engineering autonomy software and machinery control systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype USV Experimentation, CONOPS Development, Reliability Demonstration, Capstone, Underway Payload & Capability Demonstrations	Various	Various : Various	72.055	35.522	Nov 2022	37.280	Nov 2023	4.289	Nov 2024	-		4.289	Continuing	Continuing	Continuing
Prototype USV Operations and Sustainment, Crew, Fuel	Various	Various : Various	15.000	22.520	Nov 2022	24.500	Nov 2023	20.300	Nov 2024	-		20.300	Continuing	Continuing	Continuing
Prototype USV Integrated Combat System HW	TBD	TBD : TBD	0.000	21.740	Dec 2022	12.400	Nov 2023	0.000		-		0.000	0.000	34.140	-
LUSV Comprehensive Reliability Plan/Machinery Plant Qualification	Various	Various : Various	18.200	17.545	Nov 2022	1.000	Nov 2023	0.000		-		0.000	Continuing	Continuing	Continuing
LUSV Studies Contracts Engineering and Reliability Studies	C/FFP	Various : Various	10.000	0.000		7.441	Nov 2023	10.875	Nov 2024	-		10.875	10.000	38.316	-
Prototype USV 3 & 4 post-delivery GFE Integration	Various	Various : Various	8.500	11.300	Nov 2022	8.542	Nov 2023	0.000		-		0.000	Continuing	Continuing	Continuing
LUSV Requirements Development	Various	TBD : TBD	0.000	5.034	Nov 2022	7.887	Nov 2023	7.950	Nov 2024	-		7.950	0.000	20.871	-
		Subtotal	123.755	113.661		99.050		43.414		-		43.414	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SUPSHIP, WF Center Support	WR	Various : Various	38.325	15.809	Nov 2022	16.100	Nov 2023	0.000	Nov 2024	-		0.000	Continuing	Continuing	Continuing
Integrated Product Support, In-Service Engineering for	WR	Various : Various	0.000	0.000		0.000		4.250	Nov 2024	-		4.250	0.000	4.250	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype USVs & GFE, Port Services, and Cybersecurity Maintenance															
LUSV Programmatic support for Product Support, Contract Oversight/Execution, Documentation Review	WR	Various : Various	0.000	0.000		0.000		4.000	Nov 2024	-		4.000	0.000	4.000	-
		Subtotal	38.325	15.809		16.100		8.250		-		8.250	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAVSEA : Washington, DC	0.600	0.300	Nov 2022	0.300	Nov 2023	0.250	Nov 2024	-		0.250	Continuing	Continuing	Continuing
Management Services	WR	Various : Various	3.708	1.910	Nov 2022	1.950	Nov 2023	2.050	Nov 2024	-		2.050	Continuing	Continuing	Continuing
		Subtotal	4.308	2.210		2.250		2.300		-		2.300	Continuing	Continuing	N/A

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	166.388	131.680		117.400		53.964		-		53.964	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

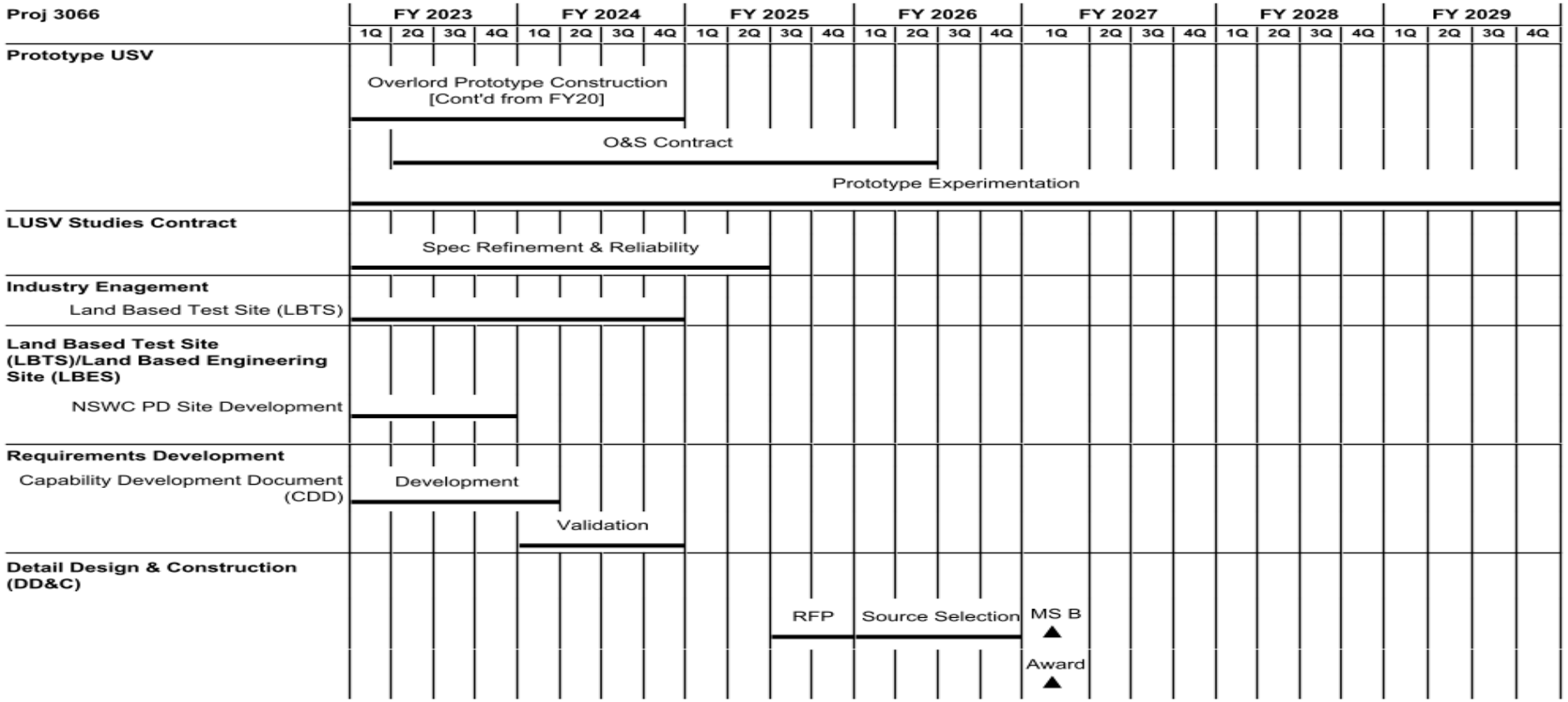

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

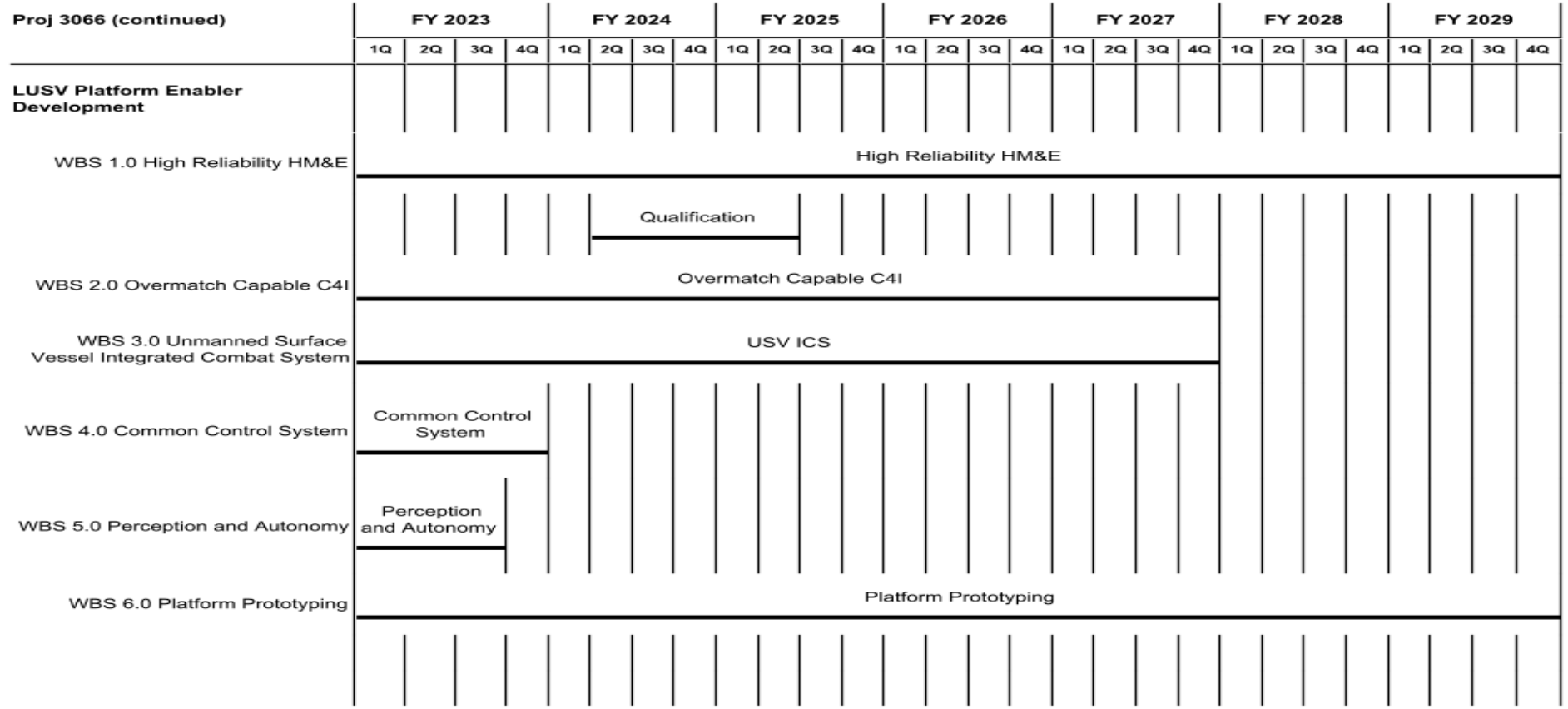

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3066				
Prototype USV: Overlord Prototype Construction (options on WHS contract) [Continued from FY20]	1	2023	4	2024
Prototype USV: O&S Contract	2	2023	2	2026
Prototype USV: Prototype Experimentation	1	2023	4	2029
LUSV Studies Contract: Performance Specification Refinement and Reliability Studies	1	2023	2	2025
Industry Enagement: Land Based Test Site (LBTS): Site Development and Testing for NDAA criteria	1	2023	4	2024
Land Based Test Site (LBTS)/Land Based Engineering Site (LBES): NSWC PD Site Development: NSWC PD Site Development	1	2023	4	2023
Requirements Development: Capability Development Document (CDD): CDD Development	1	2023	1	2024
Requirements Development: Capability Development Document (CDD): CDD Validation	1	2024	4	2024
Detail Design & Construction (DD&C): Milestone B	1	2027	1	2027
Detail Design & Construction (DD&C): RFP	3	2025	4	2025
Detail Design & Construction (DD&C): Source Selection	1	2026	4	2026
Detail Design & Construction (DD&C): Award	1	2027	1	2027
Proj 3066 (continued)				
LUSV Platform Enabler Development: WBS 1.0 High Reliability HM&E: WBS 1.0 High Reliability HM&E	1	2023	4	2029
LUSV Platform Enabler Development: WBS 1.0 High Reliability HM&E: WBS 1.0 High Reliability HM&E: Qualification	2	2024	2	2025

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603178N / *(U)LARGE UNMANNED SURFACE VESSELS (LUSVs)*	**Project (Number/Name)** 3066 / *Large Unmanned Surface Vessel (LUSV)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
LUSV Platform Enabler Development: WBS 2.0 Overmatch Capable C4I: WBS 2.0 Overmatch Capable C4I	1	2023	4	2027
LUSV Platform Enabler Development: WBS 3.0 Unmanned Surface Vessel Integrated Combat System: WBS 3.0 Unmanned Surface Vessel Integrated Combat System (USV ICS)	1	2023	4	2027
LUSV Platform Enabler Development: WBS 4.0 Common Control System: WBS 4.0 Common Control System	1	2023	4	2023
LUSV Platform Enabler Development: WBS 5.0 Perception and Autonomy: WBS 5.0 Perception and Autonomy	1	2023	3	2023
LUSV Platform Enabler Development: WBS 6.0 Platform Prototyping: WBS 6.0 Platform Prototyping	1	2023	4	2029