Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy											Date: February 2018	
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 0604536N *I (U)Advanced Undersea Prototyping*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	57.363	66.543	87.669	-	87.669	95.267	85.413	40.085	33.686	Continuing	Continuing
3393: *Adv Undersea Prototyping-Remote Command & Control*	0.000	1.486	2.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.486
3394: *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	0.000	38.789	61.512	87.669	-	87.669	95.267	85.413	40.085	33.686	Continuing	Continuing
3395: *Adv Undersea Prototyping-Explosive Payloads*	0.000	1.220	2.014	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.234
3396: *Adv Undersea Prototyping-Non-Lethal Payloads*	0.000	0.500	1.017	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.517
9999: *Congressional Adds*	0.000	15.368	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.368

Note

FY 2019 and future funding for Projects 3393, 3395 and 3396 are in Program Element (PE) 0604029N. These three projects realigned from PE 0604536N starting in FY 2019 included $4.385 million reduction to account for the availability of prior year execution balances.

The current FY 2019 funding request for project 3394 was reduced by $3.775 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

In order to accelerate future capability and support steady growth of the fleet's Unmanned Undersea Vehicle (UUV) Family of Systems (FoS), advanced undersea prototyping efforts include development, fabrication and test of the ORCA Extra Large Unmanned Undersea Vehicles (XLUUVs) and associated UUV technologies and will advance the development of unmanned undersea vehicles systems by leveraging ONR and Industry UUV efforts for larger diameter vehicles and associated technologies. Payloads will be customized to meet Navy needs and demonstrate useful capability for the fleet. The program intends to utilize fleet demonstrations of existing XLUUVs to rapidly and affordably capture tactics, techniques, and procedures in operating XLUUVs prior to delivery of the initial XLUUV vehicles to the fleet. This will help develop experience and demonstrate launch, communications, command and control, navigation, endurance, recovery, payload feasibility, and mission planning and execution for XLUUVs. XLUUV energy prototyping will leverage existing independent research and development in energy-dense technology that could meet power requirements for future XLUUV missions that are limited by the amount of power currently available. Efforts include research, development, test, and evaluation of advanced development model energy solutions applicable to XLUUVs for increased energy endurance and efficiency to extend the reach of unmanned undersea systems. The Common Control/Autonomy efforts will include risk reduction and developmental efforts of autonomy systems and architectures to work to develop common standards, interfaces, and systems to support cross-domain applications. The payloads efforts will include investigation, experimentation, demonstration, development and integration of lethal and non-lethal payloads, as applicable.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy	Date: February 2018
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 0604536N *I (U)Advanced Undersea Prototyping*

Beginning in FY19, this PE will only focus on the XLUUV Class of vehicles since the core technologies efforts were moved to PE 0604029N starting in FY19.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	78.589	66.543	106.568	-	106.568
Current President's Budget	57.363	66.543	87.669	-	87.669
Total Adjustments	-21.226	0.000	-18.899	-	-18.899
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.115	0.000			
• Program Adjustments	0.000	0.000	-9.755	-	-9.755
• Rate/Misc Adjustments	-0.001	0.000	-9.144	-	-9.144
• Congressional Directed Reductions Adjustments	-35.000	-	-	-	-
• Congressional Add Adjustments	15.890	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2017	FY 2018
Project: 9999: *Congressional Adds*		
Congressional Add: *Program Increase*	15.368	0.000
Congressional Add Subtotals for Project: 9999	15.368	0.000
Congressional Add Totals for all Projects	15.368	0.000

Change Summary Explanation

Program Changes:
FY17: -$21,219K: -$35,000K Congressional Reduction, +$15,890K Congressional Add for AUWP, -$2,115K SBIR/STTR Reduction, -$1K Miscellaneous Adjustments.
FY18: Not applicable.
FY19: -$18,899K; +$20,432K Internal Program realignment, -$30,187K technical realignment to new PE, -$984K miscellaneous adjustments and -$8,160K underexecution.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy	Date: February 2018
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 0604536N *I (U)Advanced Undersea Prototyping*

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *(U)Advanced Undersea Prototyping*	Project (Number/Name) 3393 / *Adv Undersea Prototyping-Remote Command & Control*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
3393: *Adv Undersea Prototyping-Remote Command & Control*	0.000	1.486	2.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.486
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY 2019 and future funding for Project 3393 is in Program Element (PE) 0604029N. Project realigned from PE 0604536N starting in FY 2019.

A. Mission Description and Budget Item Justification

Advanced Undersea energy efforts will leverage existing independent research and development in energy-dense technology that could meet power requirements for Unmanned Undersea Vehicle (UUV) missions, which are limited by the amount of power that they can carry. Efforts under this program element include research, development, test, and evaluation
of advanced energy solutions initally applicable to XLUUVs for increased energy endurance and efficiency to extend the reach of unmanned undersea systems. The Common Control/Autonomy portion of this project funds risk reduction and developmental efforts of autonomy systems and architectures to work to develop common standards, interfaces,
and systems to support cross-domain applications. This includes advanced development prototyping and demonstrations to accelerate the design and development of commonality and interoperability capabilities for the cross-domain (Surface and Sub-Surface, Aviation and Ground) requirements of the Navy. Coordinating with the Common Control System where
applicable, these efforts will demonstrate scalable, adaptable and interoperable warfighting capabilities across various unmanned systems. The advanced development emphasis will be to encourage innovation and enable rapid integration of UxS capabilities across domains while working to develop common standards, interfaces, and systems. These efforts will define, develop and demonstrate capability that advance new technology, hardware and software of Control Systems that could be used to operate multiple and dissimilar Naval UxSs. Supports Advanced Development and Prototyping of PE 0305205N: UAS Integration and Interoperability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Product Development	1.300	1.460	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2018 Plans: Energy: Perform systems engineering and begin design of energy prototype components that leverage existing independent research and development in energy-dense technology to meet power requirements for XLUUV missions. Continue early					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3393 / *Adv Undersea Prototyping-Remote Command & Control*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
component and Advanced Development Model system prototype development. Conduct Preliminary Design Review (PDR). Autonomy: Continue requirements development and development of Architecture Standards. Continue early efforts for Total Common Control System (CCS). ***FY 2019 Base Plans:*** FY 2019 funding in Program Element (PE) 0604029N. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Project realigned to PE 0604029N from PE 0604536N starting in FY 2019.					
Title: Support ***Articles:*** ***FY 2018 Plans:*** Energy: Update program documentation as required and support efforts. Autonomy: Update documentation and work on development of common autonomy standards, interfaces, and systems. Update CCS documentation based on domain requirements analyses. ***FY 2019 Base Plans:*** FY 2019 funding in Program Element (PE) 0604029N. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Project realigned to PE 0604029N from PE 0604536N starting in FY 2019.	0.093 -	0.390 -	0.000 -	0.000 -	0.000 -
Title: Management ***Articles:*** ***FY 2018 Plans:*** Energy: Provide guidance, project planning, financial and contracting support, and coordination between prototype	0.093 -	0.150 -	0.000 -	0.000 -	0.000 -

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3393 / *Adv Undersea Prototyping-Remote Command & Control*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
developer, test support, engineering, and contractors. Autonomy: Provide guidance, project planning, financial and contracting support, and coordination for development of common autonomy standards, interfaces, and systems, and common control efforts. ***FY 2019 Base Plans:*** FY 2019 funding in Program Element (PE) 0604029N. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Project realigned to PE 0604029N from PE 0604536N starting in FY 2019.					
Accomplishments/Planned Programs Subtotals	1.486	2.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Design Advanced Energy components to reach Preliminary Design Review in FY18. Develop and build advanced energy prototype and integrate system when ready. Test advanced energy prototype starting in FY21. Develop requirements, standards, interfaces, and architecture for Autonomy and Common Control System (CCS) unmanned system software
components to support common prototyping and experimentation. Design and develop CCS unmanned system software components for common cross domain prototyping and system integration with surrogate systems starting in FY22. Coordination with UxS platforms will eliminate redundant efforts, encourage innovation, and improve coordination of
unmanned systems across multiple domains. Schedules were updated to align with updated funding profiles.
Leveraging the available applicable portions of the Common Control System (CCS) capabilities and products, the effort will work to reduce risk with advanced development efforts across Naval operating domains. The advanced energy efforts will leverage resources and prototype expertise to encourage industry innovation and allow for rapid integration into
unmanned systems. Coordinate with other UxS Programs and Systems on the development of UUV autonomy standards, architectures, and systems, defining and focusing autonomy efforts. Develop algorithms and models and simulations for testing autonomy that could be inserted into UUVs.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3393 / *Adv Undersea Prototyping-Remote Command & Control*

E. Performance Metrics

Demonstrate use of advanced UUV Energy technology in an Advanced Development Model prototype. Demonstrate CCS & autonomy software through surrogate systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3393 / *Adv Undersea Prototyping-Remote Command & Control*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Energy Prototype Contract	SS/CPFF	ARL PSU : State College, PA	0.000	0.600	Jul 2017	0.677	Jan 2018	0.000		-		0.000	0.000	1.277	Continuing
Common Control System (CCS) Cross-Domain Architecture Development	Various	Various : Various	0.000	0.200	Jul 2017	0.370	Jan 2018	0.000		-		0.000	0.000	0.570	Continuing
Autonomy	Various	Various : Various	0.000	0.500	Jul 2017	0.413	Dec 2017	0.000		-		0.000	0.000	0.913	Continuing
		Subtotal	0.000	1.300		1.460		0.000		-		0.000	0.000	2.760	N/A

Remarks

FY 2019 and future funding for Project 3393 is in Program Element (PE) 0604029N.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Energy Prototype Engineering Support 1	SS/CPFF	ARL PSU : State College, PA	0.000	0.035	Aug 2017	0.152	Jan 2018	0.000		-		0.000	0.000	0.187	Continuing
Auontomy Support	Various	NAVSEA Activities : Washington, DC	0.000	0.020	Jul 2017	0.135	Dec 2017	0.000		-		0.000	0.000	0.155	Continuing
Common Control System (CCS) Engineering Support	Various	Various : Various	0.000	0.038	Jul 2017	0.103	Dec 2017	0.000		-		0.000	0.000	0.141	Continuing
		Subtotal	0.000	0.093		0.390		0.000		-		0.000	0.000	0.483	N/A

Remarks

FY 2019 and future funding for project 3393 is in Program Element (PE) 0604029N

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *(U)Advanced Undersea Prototyping*	Project (Number/Name) 3393 / *Adv Undersea Prototyping-Remote Command & Control*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Energy Prototype Management	Various	Various : Various	0.000	0.035	Jul 2017	0.050	Dec 2017	0.000		-		0.000	0.000	0.085	Continuing
Autonomy	Various	NAVSEA Activities : Washington, DC	0.000	0.020	Jul 2017	0.050	Dec 2017	0.000		-		0.000	0.000	0.070	Continuing
Common Control System (CCS)	Various	NAVAIR : Pax River, MD	0.000	0.038	Jul 2017	0.050	Feb 2018	0.000		-		0.000	0.000	0.088	Continuing
		Subtotal	0.000	0.093		0.150		0.000		-		0.000	0.000	0.243	N/A

Remarks

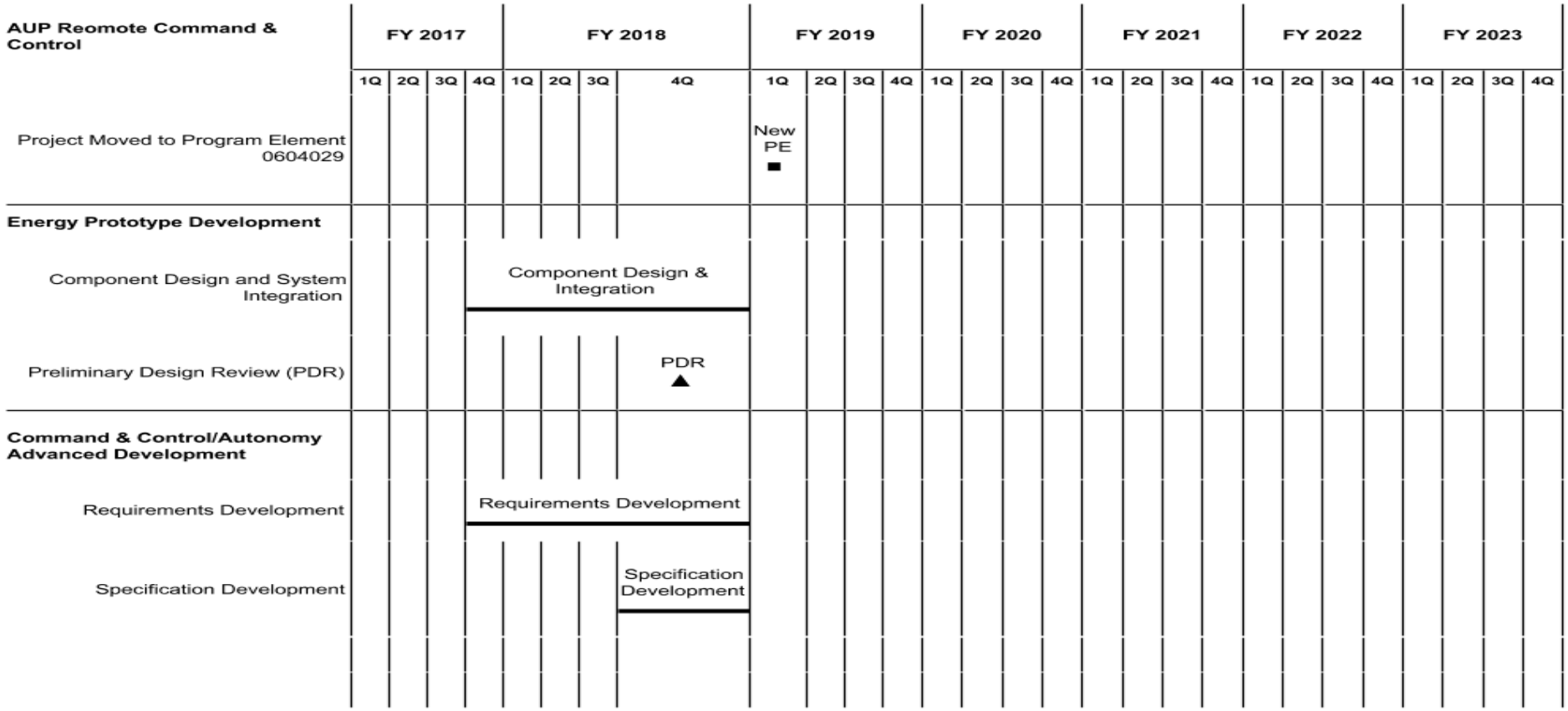
FY 2019 and future funding for Project 3393 is in Program Element (PE) 0604029N.

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.486		2.000		0.000		-		0.000	0.000	3.486	N/A

Remarks

FY 2019 and future funding for Project 3393 is in Program Element (PE) 0604029N.

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3393 / *Adv Undersea Prototyping-Remote Command & Control*



2019PB - 0604536N - 3393

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3393 / *Adv Undersea Prototyping-Remote Command & Control*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AUP Reomote Command & Control				
Project Moved to Program Element 0604029: Schedule Detail	1	2019	1	2019
Energy Prototype Development: Component Design and System Integration: Component Design and System Integration	4	2017	4	2018
Energy Prototype Development: Preliminary Design Review (PDR): Preliminary Design Reveiw (PDR)	4	2018	4	2018
Command & Control/Autonomy Advanced Development: Requirements Development: Requirements Development	4	2017	4	2018
Command & Control/Autonomy Advanced Development: Specification Development: Specification Development	4	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy											Date: February 2018	
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604536N / *(U)Advanced Undersea Prototyping*				Project (Number/Name) 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*			
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
3394: *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	0.000	38.789	61.512	87.669	-	87.669	95.267	85.413	40.085	33.686	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

The FY 2019 funding request was reduced by $3.775 million to account for the availability of prior year execution balances

A. Mission Description and Budget Item Justification

Advanced undersea prototyping efforts include development, fabrication and test of ORCA Extra Large Unmanned Undersea Vehicle Systems (XLUUVs) and will advance the development of unmanned undersea vehicles by leveraging Commercial Off The Shelf (COTS) XLUUVs (normally greater than 54 inches in diameter). Payloads will be customized to meet Navy needs and demonstrate useful capability for the fleet. The program will utilize fleet demonstrations of existing XLUUVs to rapidly and affordably capture tactics, techniques, and procedures in operating XLUUVs prior to delivery of the initial XLUUV vehicles to the fleet. This will help develop experience and demonstrate launch, communications, command and control, navigation, endurance, recovery, payload feasibility, and mission planning and execution for XLUUVs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: XLUUV Product Development	35.338	52.822	77.577	0.000	77.577
Articles:	-	-	-	-	-
Description: ORCA XLUUV is being developed via a full and open competition to two industry teams to design systems (with down select to one team to fabricate).					
FY 2018 Plans: Execute two industry teams designing ORCA XLUUV, conduct System Requirements Review (SRR), Preliminary Design Review (PDR) and Critical Design Review preps. Lease Commercial Off the Shelf (COTS) UUVs to develop Tactics, Techniques and Procedures (TTPs). Order Long-lead material to support fabrication starting in FY19.					
FY 2019 Base Plans: Complete design efforts and conduct Critical Design Reviews (CDR) early in FY19 for both industry teams. Conduct down select to one industry partner (possibly keep both) and award contract for fabrication of up to					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
five (5) XLUUVs. Begin XLUUV vehicle fabrication, including procurement of remaining materials (long lead materials previously procured in FY18) and initial assembly and integration of the first vehicles. Continue to lease Commercial Off the Shelf (COTS) UUVs to develop Tactics, Techniques and Procedures (TTPs). ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY 2019 increase in funding supports commencing XLUUV system fabrication.					
Title: XLUUV Support ***Articles:*** ***FY 2018 Plans:*** Support management of up to two industry teams to design ORCA XLUUV. Support overseeing COTS leasing. ***FY 2019 Base Plans:*** Support finishing design and conduct the down select source selection process to one team for fabrication of XLUUV vehicles. Support overseeing fabrication efforts. Support overseeing of COTS leasing. ***FY 2019 OCO Plans:*** N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY 2019 increase in funding supports fabrication award and oversight.	2.623 -	4.860 -	6.110 -	0.000 -	6.110 -
Title: XLUUV Management Services ***Articles:*** ***FY 2018 Plans:*** Provide technical guidance, project planning, program management and travel for XLUUV prototyping, financial and contracting support, and coordinate work with Fleet, test support, engineering support, and contractors. ***FY 2019 Base Plans:*** Provide technical guidance, project planning, program management and travel for XLUUV prototyping, financial and contracting support, and coordinate work with Fleet, test support, engineering support, and contractors. ***FY 2019 OCO Plans:***	0.828 -	3.830 -	3.982 -	0.000 -	3.982 -

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY 2019 increase in funding supports fabrication award and oversight.					
Accomplishments/Planned Programs Subtotals	38.789	61.512	87.669	0.000	87.669

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Up to five ORCA XLUUV systems will be designed and fabricated for demonstration and use in both CONUS and in the PACOM theater. Payloads developed under projects 3395 and 3396 will be integrated onto these vehicles to be included in fleet experimentation throughout the program to gain experience and develop CONOPS and TTPs. In addition, program will
lease Commercial Off The Shelf (COTS) XLUUVs for initial fleet demonstrations in FY18 and FY19. Two design contracts for the XLUUV system were awarded in FY 2017 with the option to down select to one contractor for fabrication in 1QFY19. Initial long-lead material will be ordered in FY18.

E. Performance Metrics

Successfully demonstrate ORCA XLUUV with Fleet.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Payload Design documentation	C/CPIF	Various : Various	0.000	0.085	Jul 2017	2.440	Nov 2017	1.290	Nov 2018	-		1.290	Continuing	Continuing	Continuing
Design, Material, and Fabrication of up to 5 XLUUVs, including sub-systems	C/CPIF	Various : Various	0.000	35.253	Sep 2017	50.382	Jan 2018	76.287	Dec 2018	-		76.287	Continuing	Continuing	Continuing
		Subtotal	0.000	35.338		52.822		77.577		-		77.577	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RFP/PSPED Dev	SS/CPFF	APL/JHU : Laurel, MD	0.000	0.300	Aug 2017	0.000		0.000		-		0.000	0.000	0.300	-
Source Selection	WR	NSWC CD : Carderock, MD	0.000	1.090	Aug 2017	0.000		0.427	Nov 2018	-		0.427	Continuing	Continuing	Continuing
Source Selection	WR	SSC PAC : San Diego, CA	0.000	0.205	Aug 2017	0.000		0.312	Nov 2018	-		0.312	Continuing	Continuing	Continuing
Oversight of Efforts	Various	VAR : Various	0.000	1.028	Aug 2017	4.860	Mar 2018	5.371	Nov 2018	-		5.371	Continuing	Continuing	Continuing
		Subtotal	0.000	2.623		4.860		6.110		-		6.110	Continuing	Continuing	N/A

Management Services ($ in Millions)

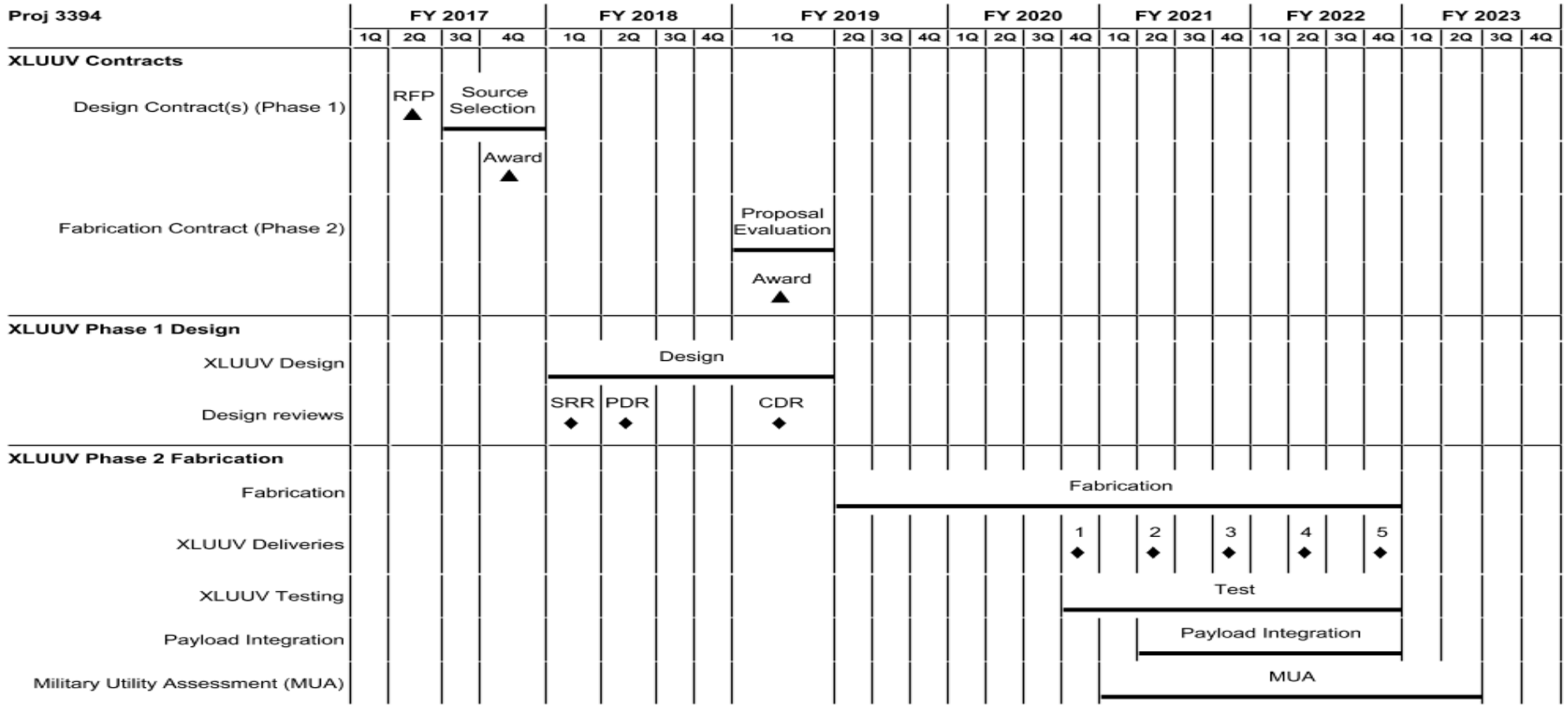
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mgmt & Techncal Efforts	WR	NAVSEA Activities : WASHINGTON, D.C.	0.000	0.828	Jun 2017	3.830	Oct 2017	3.982	Nov 2018	-		3.982	Continuing	Continuing	Continuing
		Subtotal	0.000	0.828		3.830		3.982		-		3.982	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *(U)Advanced Undersea Prototyping*	Project (Number/Name) 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	38.789		61.512		87.669		-		87.669	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*



2019PB - 0604536N - 3394

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3394				
XLUUV Contracts: Design Contract(s) (Phase 1): RFP	2	2017	2	2017
XLUUV Contracts: Design Contract(s) (Phase 1): Source Selection	3	2017	4	2017
XLUUV Contracts: Design Contract(s) (Phase 1): Contract Award	4	2017	4	2017
XLUUV Contracts: Fabrication Contract (Phase 2): Proposal Evaluation	1	2019	1	2019
XLUUV Contracts: Fabrication Contract (Phase 2): Contract Award	1	2019	1	2019
XLUUV Phase 1 Design: XLUUV Design: Design	1	2018	1	2019
XLUUV Phase 1 Design: Design reviews: SRR	1	2018	1	2018
XLUUV Phase 1 Design: Design reviews: PDR	2	2018	2	2018
XLUUV Phase 1 Design: Design reviews: CDR	1	2019	1	2019
XLUUV Phase 2 Fabrication: Fabrication: Fabrication	2	2019	4	2022
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 1	4	2020	4	2020
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 2	2	2021	2	2021
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 3	4	2021	4	2021
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 4	2	2022	2	2022
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 5	4	2022	4	2022
XLUUV Phase 2 Fabrication: XLUUV Testing: Test	4	2020	4	2022
XLUUV Phase 2 Fabrication: Payload Integration: Integration	2	2021	4	2022
XLUUV Phase 2 Fabrication: Military Utility Assessment (MUA): Schedule Detail	1	2021	2	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *(U)Advanced Undersea Prototyping*	Project (Number/Name) 3395 / *Adv Undersea Prototyping-Explosive Payloads*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
3395: *Adv Undersea Prototyping-Explosive Payloads*	0.000	1.220	2.014	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	3.234
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY 2019 and future funding for project 3393 is in Program Element (PE) 0604029N. Project moved from PE 0604536N starting in FY 2019.

A. Mission Description and Budget Item Justification

Advanced undersea prototyping of undersea explosive payloads from XL sized UUVs. Leveraging the developments at ONR and other activities for undersea weapons, work to complete analysis of feasibility, policy, lethality, and performance of integrating undersea weapons systems on XLUUVs. The program will design new hardware, investigate and develop new
interfaces/systems to increase lethality in both the undersea and surface targets. New C2 algorithms will be developed for advanced targeting.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Explosive Payloads	1.220	2.014	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2018 Plans: Conduct concept design for XLUUV undersea weapons payload and performance and lethality analysis. Begin development of XLUUV interfaces for undersea weapons payloads.					
FY 2019 Base Plans: FY 2019 funding in Program Element (PE) 0604029N.					
FY 2019 OCO Plans: N/A					
FY 2018 to FY 2019 Increase/Decrease Statement: Project moved from PE 0604536N starting in FY 2019.					
Accomplishments/Planned Programs Subtotals	1.220	2.014	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3395 / *Adv Undersea Prototyping-Explosive Payloads*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Leverage the knowledge base at the Naval Research and Development Enterprise to complete the feasibility studies that will then lead to the development of critical technology. The effort will heavily use the experience resident in the undersea weapons industrial base .

E. Performance Metrics

Successful launch of undersea weapons from an ORCA XLUUV.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3395 / *Adv Undersea Prototyping-Explosive Payloads*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
XL Payload Interface Design & Fabrication	C/CPIF	TBD : TBD	0.000	0.741	Jun 2017	0.967	Mar 2018	0.000		-		0.000	0.000	1.708	-
COMMAND AND CONTROL	WR	TBD : TBD	0.000	0.100	Jul 2017	0.346	Jan 2018	0.000		-		0.000	0.000	0.446	-
Tech Support	C/CPFF	TBD : TBD	0.000	0.189	Jun 2017	0.234	Jan 2018	0.000		-		0.000	0.000	0.423	-
Management	WR	TBD : TBD	0.000	0.190	Jul 2017	0.137	Nov 2017	0.000		-		0.000	0.000	0.327	Continuing
Safety	WR	NSWC Indian Head : Indian Head, MD	0.000	0.000		0.330	Jan 2018	0.000		-		0.000	0.000	0.330	-
		Subtotal	0.000	1.220		2.014		0.000		-		0.000	0.000	3.234	N/A

Remarks

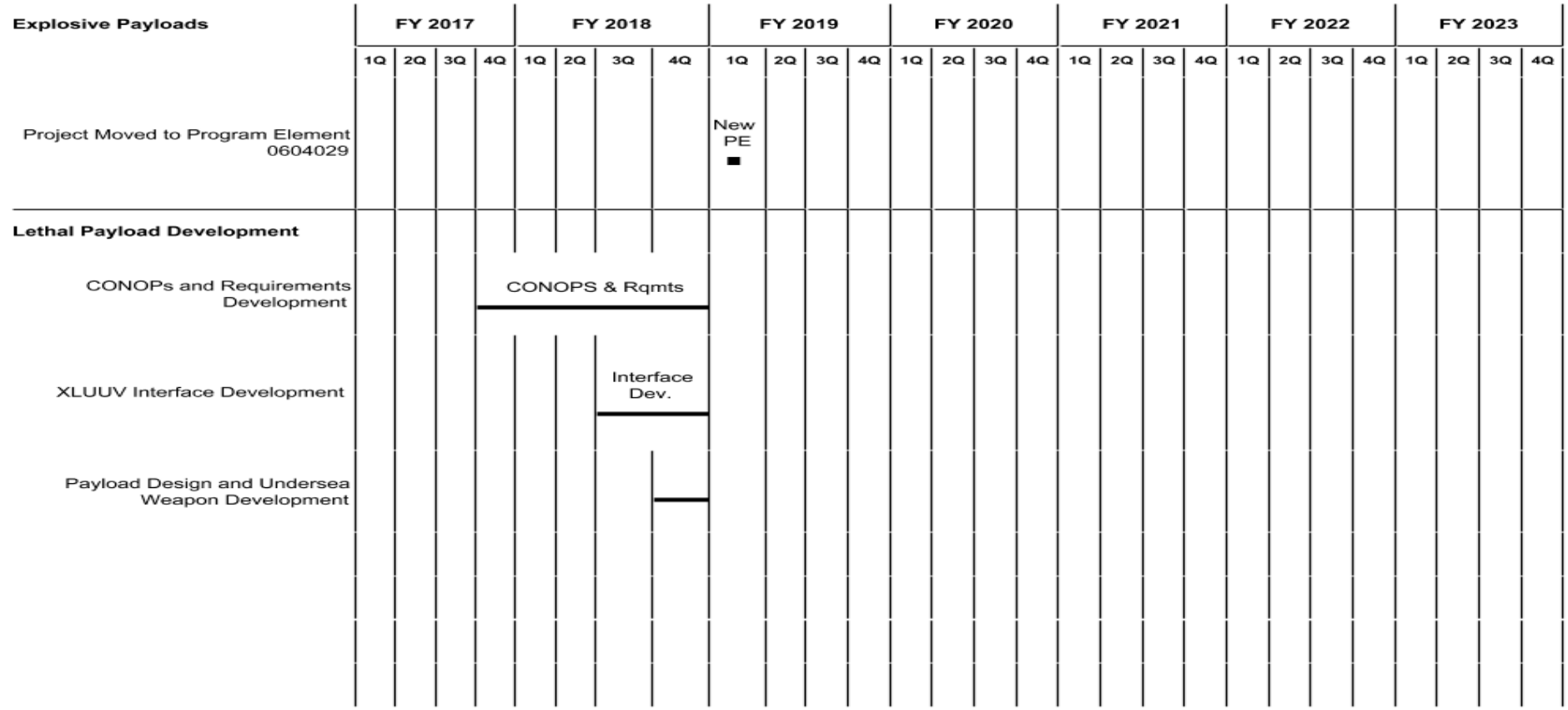
FY 2019 and future funding for project 3393 is in Program Element (PE) 0604029N

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.220		2.014		0.000		-		0.000	0.000	3.234	N/A

Remarks

FY 2019 and future funding for project 3393 is in Program Element (PE) 0604029N

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3395 / *Adv Undersea Prototyping-Explosive Payloads*



2019PB - 0604536N - 3395

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3395 / *Adv Undersea Prototyping-Explosive Payloads*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Explosive Payloads				
Project Moved to Program Element 0604029: Schedule Detail	1	2019	1	2019
Lethal Payload Development: CONOPs and Requirements Development: CONOPs and Requirements	4	2017	4	2018
Lethal Payload Development: XLUUV Interface Development: Schedule Detail	3	2018	4	2018
Lethal Payload Development: Payload Design and Undersea Weapon Development: Phase A concept design- XL UUV Interface development	4	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *(U)Advanced Undersea Prototyping*	Project (Number/Name) 3396 / *Adv Undersea Prototyping-Non-Lethal Payloads*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
3396: *Adv Undersea Prototyping-Non-Lethal Payloads*	0.000	0.500	1.017	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.517
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY 2019 and future funding for project 3393 is in Program Element (PE) 0604029N. Project moved from PE 0604536N starting in FY 2019.

A. Mission Description and Budget Item Justification

Advanced undersea prototyping will experiment and demonstrate non-lethal payloads on ORCA XLUUVs for use on ORCA XLUUV and other FoS UUVs. This effort will investigate the possibilities of employing non-lethal payloads from the XLUUV to support ISR and strike missions. Non-kinetic payloads provide the warfare commander an option to stop aggressive behavior without escalating the conflict. Non-lethal payloads that will be considered include jamming, EO/IR dazzling, microwave, aerial assets, and other methods.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Non Lethal Payloads	0.500	1.017	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2018 Plans: Continue the initial technology study and conduct market analysis.					
FY 2019 Base Plans: FY 2019 funding in Program Element (PE) 0604029N.					
FY 2019 OCO Plans: N/A					
FY 2018 to FY 2019 Increase/Decrease Statement: Project moved from PE 0604536N starting in FY 2019.					
Accomplishments/Planned Programs Subtotals	0.500	1.017	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3396 / *Adv Undersea Prototyping-Non-Lethal Payloads*

D. Acquisition Strategy

A technology study and market research will be completed in the first 12 months to examine the options available and the impact to the warfighter the different technology options bring. This will use a group of experts throughout the advanced undersea industry. Initial design efforts of a prototype system for the development of a non-kinetic payload will start in late FY18 for preliminary efforts with main efforts occurring after the study is completed. The payload will be integrated and demonstrated on the ORCA XLUUV.

E. Performance Metrics

Non-kinetic payload integrated onto an XLUUV. Detailed metrics are classified.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3396 / *Adv Undersea Prototyping-Non-Lethal Payloads*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology study	Various	TBD : TBD	0.000	0.470	Aug 2017	0.000		0.000		-		0.000	0.000	0.470	-
Design, Material, & Fabrication Efforts	WR	TBD : TBD	0.000	0.000		0.842	Nov 2017	0.000		-		0.000	0.000	0.842	-
		Subtotal	0.000	0.470		0.842		0.000		-		0.000	0.000	1.312	N/A

Remarks

FY 2019 and future funding for project 3393 is in Program Element (PE) 0604029N

Support ($ in Millions)

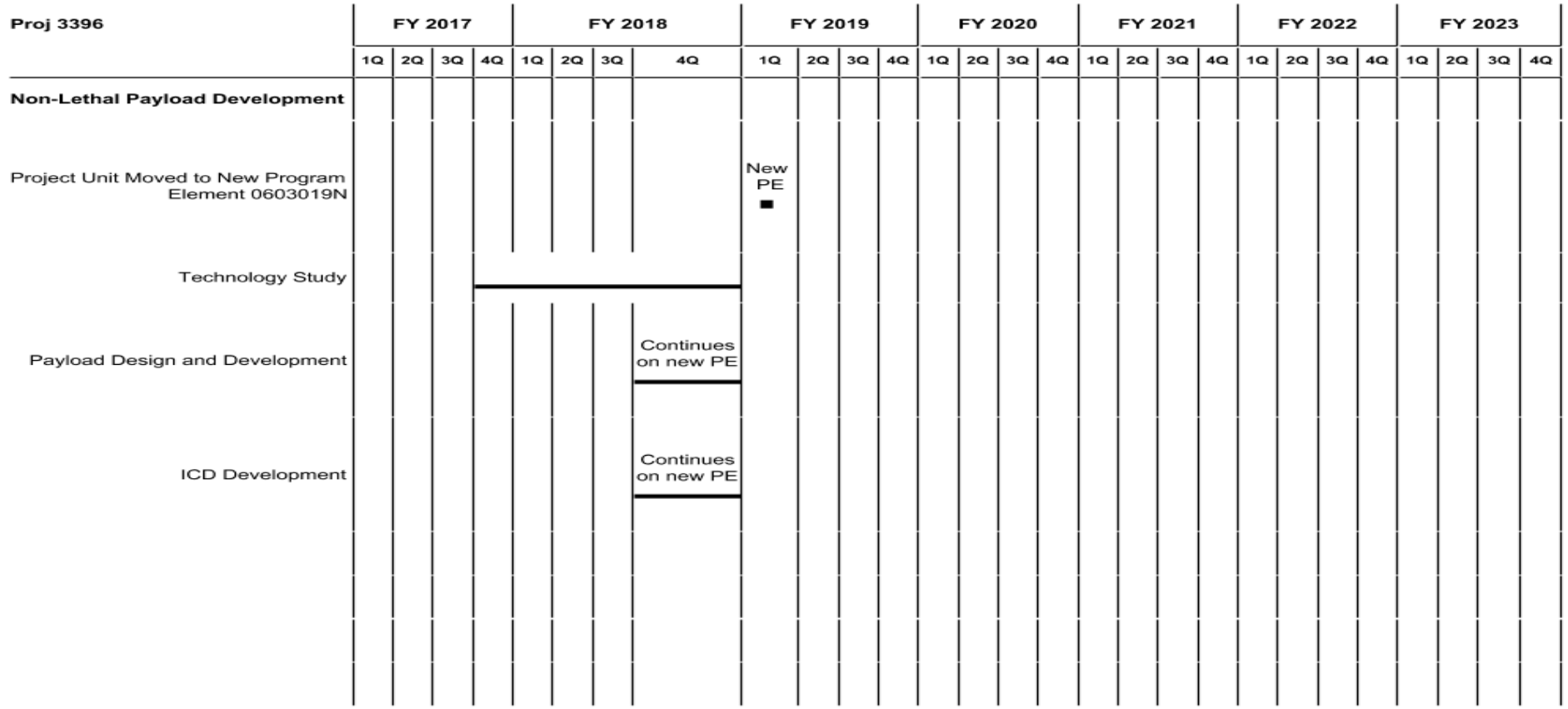
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DESIGN ANALYSIS	WR	NRL : WASHINGTON, D.C.	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Program Support	C/FFP	various : Arlington, VA	0.000	0.030	Jul 2017	0.175	Dec 2017	0.000		-		0.000	0.000	0.205	-
		Subtotal	0.000	0.030		0.175		0.000		-		0.000	0.000	0.205	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.500		1.017		0.000		-		0.000	0.000	1.517	N/A

Remarks

FY 2019 and future funding for project 3393 is in Program Element (PE) 0604029N

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3396 / *Adv Undersea Prototyping-Non-Lethal Payloads*



2019PB - 0604536N - 3396

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 3396 / *Adv Undersea Prototyping-Non-Lethal Payloads*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3396				
Non-Lethal Payload Development: Project Unit Moved to New Program Element 0603019N:	1	2019	1	2019
Non-Lethal Payload Development: Technology Study:	4	2017	4	2018
Non-Lethal Payload Development: Payload Design and Development:	4	2018	4	2018
Non-Lethal Payload Development: ICD Development:	4	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *(U)Advanced Undersea Prototyping*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	15.368	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	15.368
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Undersea Warfighting Prototypes (AUWP) will experiment and develop prototype technologies in support of Navy mining initiatives to augment/inform a future mining program of record. Efforts include a prototype system to advance the capability for a submarine launched autonomous undersea vehicle capable of delivering clandestine delivered mines
(CDM)and Smart Mining Initiative (SMI) efforts including a Sea Floor Sensing System, a UUV Launched Unmanned Aerial Vehicle (UAV) Electro-Optical (EO) Discriminator, Remote Control Safe and Arm, and EO Safe and Arm. AUWP brings together a number of rapid prototyping, experimentation, and demonstration projects advancing key elements of common undersea warfare kill chains. Range, endurance and capacity demonstrations will deliver warfighting effects at range and from the sea floor in the face of the most challenging anti-access and area denial environments. The concept experiments with two different advanced sensing technical approaches from undersea; one on the sea floor and one from a UUV launched Unmanned Aerial Vehicle (UAV). These advance the targeting, discrimination, and recognition capabilities. Finally, experiments with remote control (arm/de-arm) of fusing systems for maritime smart mines will be conducted.

Updated program and schedule plan agreed upon by all stakeholders to use funds sharing between AUP lines and AUWP line C305.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018
Congressional Add: Program Increase	15.368	0.000
FY 2017 Accomplishments: Detailed design contract for MEDUSA system awarded to Hydroid in Nov 2017. SMI efforts commenced. Funding for AUWP received in late July 2017. MEDUSA Detailed design efforts run through 4QFY18 followed by system fabrication starting in 4QFY18. In FY 2019 complete MEDUSA fabrication, commence integration and test, and start TEMPALT development. Smart Mining Initiative (SMI) efforts will complete in late FY18 with a final demo in early FY19.		
FY 2018 Plans: N/A		
Congressional Adds Subtotals	15.368	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 9999 / *Congressional Adds*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Naval research and development activities, in conjunction with Industry partners, will design, develop, build, and demonstrate prototype technologies. This proposed course of prototyping informs requirements, assesses operational utility and mitigates cost, schedule and technical risks of future program actions to develop and deliver game changing advancements in the undersea domain.

E. Performance Metrics

Metrics include mobility, system range, persistence and survivability for undersea warfare missions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

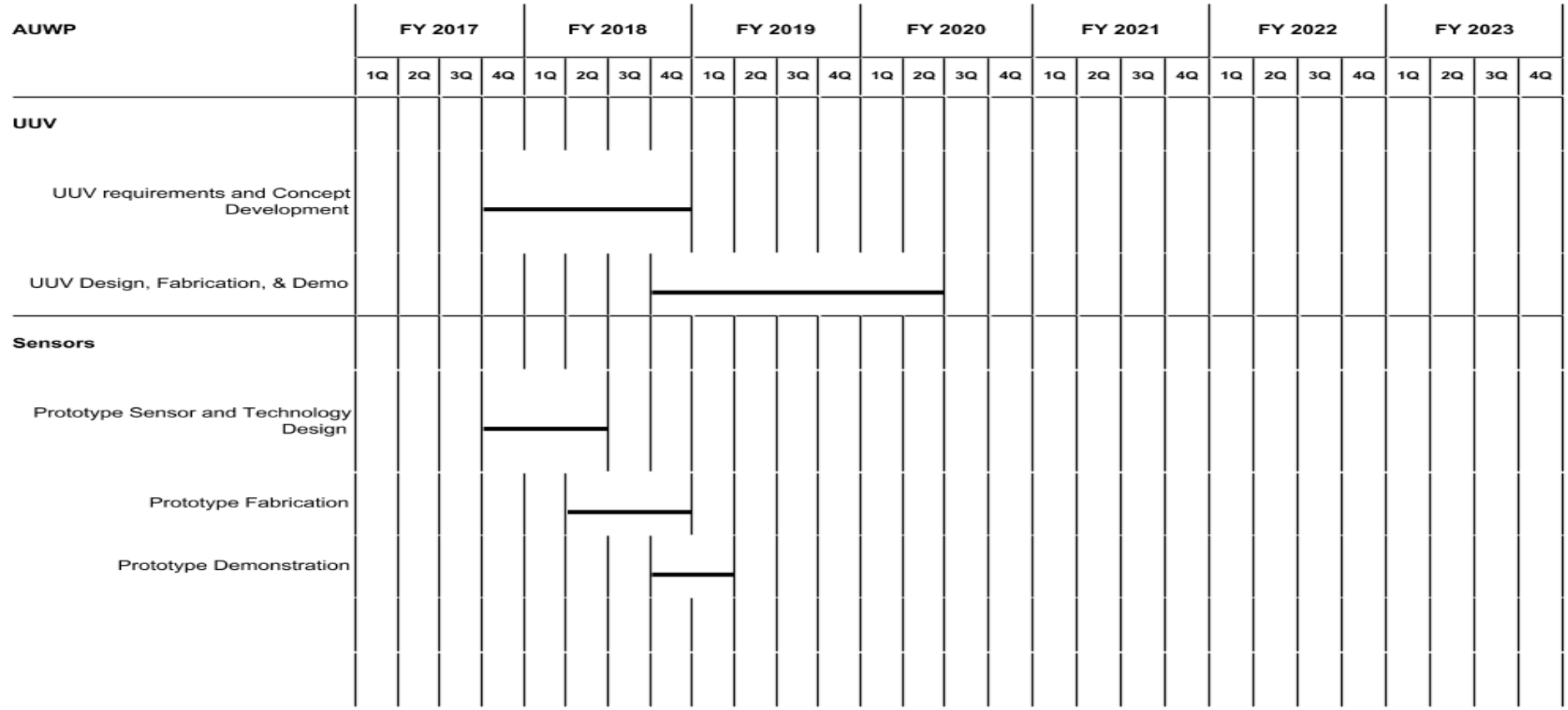
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AUWP Development	WR	NSWC PC : Panama City, FL	0.000	4.800	Aug 2017	0.000		0.000		-		0.000	0.000	4.800	-
AUWP Development	WR	SSC PAC : San Diego, CA	0.000	2.300	Aug 2017	0.000		0.000		-		0.000	0.000	2.300	-
AUWP Development	WR	NSWC IH : Indian Head, MD	0.000	1.700	Aug 2017	0.000		0.000		-		0.000	0.000	1.700	-
AUWP Development	WR	NUWC N : Newport, Rhode Island	0.000	5.251	Aug 2017	0.000		0.000		-		0.000	0.000	5.251	-
AUWP Development	WR	NSWC CD : Bethesda, MD	0.000	0.325	Aug 2017	0.000		0.000		-		0.000	0.000	0.325	-
AUWP Development	WR	NRL : Washington, DC	0.000	0.500	Aug 2017	0.000		0.000		-		0.000	0.000	0.500	-
AUWP Development	Various	Various : Various	0.000	0.492	Sep 2017	0.000		0.000		-		0.000	0.000	0.492	-
		Subtotal	0.000	15.368		0.000		0.000		-		0.000	0.000	15.368	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	15.368		0.000		0.000		-		0.000	0.000	15.368	N/A

Remarks

Funds shown above do not reflect agreed to funds sharing plan. Schedule shown next reflects actual plan.

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 9999 / *Congressional Adds*



2019PB - 0604536N - 9999

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *(U)Advanced Undersea Prototyping*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AUWP				
UUV: UUV requirements and Concept Development:	4	2017	4	2018
UUV: UUV Design, Fabrication, & Demo:	4	2018	2	2020
Sensors: Prototype Sensor and Technology Design:	4	2017	2	2018
Sensors: Prototype Fabrication:	2	2018	4	2018
Sensors: Prototype Demonstration:	4	2018	1	2019