Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy											Date: May 2017	
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 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	0.000	78.589	66.543	-	66.543	106.568	160.210	87.935	44.815	Continuing	Continuing
3393: *Adv Undersea Prototyping-Remote Command & Control*	0.000	0.000	10.821	2.000	-	2.000	49.073	43.891	5.574	5.686	Continuing	Continuing
3394: *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	0.000	0.000	57.768	61.512	-	61.512	35.943	75.244	48.752	22.799	Continuing	Continuing
3395: *Adv Undersea Prototyping-Explosive Payloads*	0.000	0.000	4.404	2.014	-	2.014	7.550	41.075	33.609	16.330	Continuing	Continuing
3396: *Adv Undersea Prototyping-Non-Lethal Payloads*	0.000	0.000	5.596	1.017	-	1.017	14.002	0.000	0.000	0.000	0.000	20.615

A. Mission Description and Budget Item Justification

Advanced undersea prototyping and test of Extra Large Unmanned Undersea Vehicles (XLUUVs) will advance the development of unmanned undersea vehicles systems by leveraging ongoing ONR and Industry UUV efforts for larger diameter vehicles. 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 formal introduction of XLUUV programs of record 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 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: FY 2018 Navy					Date: May 2017
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*			
B. Program Change Summary ($ in Millions)	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**
Previous President's Budget	0.000	78.589	87.844	-	87.844
Current President's Budget	0.000	78.589	66.543	-	66.543
Total Adjustments	0.000	0.000	-21.301	-	-21.301
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-21.394	-	-21.394
• Rate/Misc Adjustments	0.000	0.000	0.093	-	0.093

Change Summary Explanation

Program Changes:

FY18: -$21,301K: -$21,394K AUP Program Re-Phasing to align work scope to account for FY17 execution ; +$93K Miscellaneous Adjustments

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3393: *Adv Undersea Prototyping-Remote Command & Control*	0.000	0.000	10.821	2.000	-	2.000	49.073	43.891	5.574	5.686	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Undersea energy prototyping 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 applicable to Extra Large (XL) UUVs 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. Leveraging products provided by 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Product Development	0.000	7.321	1.460	0.000	1.460
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: Begin early stages of development of requirements and specifications that leverage existing independent research and development in energy-dense technology to meet power requirements for XLUUV missions. Begin advanced energy prototype development.					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Autonomy: Begin early stages of development of autonomy requirements. Begin development of maritime requirements for Undersea Command and Control (C2), begin design. ***FY 2018 Base Plans:*** 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 component and Advanced Development Model system prototype development. Conduct Preliminary Design Review (PDR). Autonomy: Commence development of modeling and simulation. Continue early design efforts for Common Control System (CCS). ***FY 2018 OCO Plans:*** N/A					
Title: Support	0.000	2.750	0.390	0.000	0.390
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A ***FY 2017 Plans:*** Support Navy technical requirements, engineering, analysis, and design necessary to utilize energy technology applicable to fleet needs for increased energy endurance and efficiency to extend reach of unmanned undersea systems. Support Navy requirements, engineering and analysis to develop autonomy and C2 for UUVs. ***FY 2018 Base Plans:*** Update program documentation as required. Update autonomy documentation and work on development of common autonomy standards, interfaces, and systems. Update CCS documentation based on domain requirements analyses. ***FY 2018 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A					
Title: Management	0.000	0.750	0.150	0.000	0.150
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: Provide technical guidance, project planning for advanced energy prototyping. Provide financial and contracting support. Provide Coordination between prototype developer, test support, engineering, and contractors. Project planning and program management for development of UxS cross-domain common control and autonomy will begin in FY 2017. FY 2017 plans include initial cross-domain requirements analyses, schedule and cost estimate planning, and planning for advanced development, prototyping activities, and efforts associated with developing common autonomy standards, interfaces, and systems.					
FY 2018 Base Plans: Provide guidance, project planning, financial and contracting support, and coordination between prototype developer, test support, engineering, and contractors. Provide guidance, project planning, financial and contracting support, and coordination for development of common autonomy standards, interfaces, and systems.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	10.821	2.000	0.000	2.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Design Advanced Energy components to reach Preliminary Design Review in FY 2018. Develop and build advanced energy prototype and integrate system when ready. Test advanced energy prototype in FY 2021. Develop requirements, standards, interfaces, and architecture for 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 in FY20.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

Coordination with UxS platforms will eliminate redundant efforts, encourage innovation, and improve coordination of unmanned systems across multiple domains. 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, defining and focusing autonomy efforts. Develop algorithms and models and simulations for testing autonomy that could be inserted into UUVs. .

E. Performance Metrics

Demonstrate use of advanced UUV Energy technology in an Advanced Development Model prototype. Demonstrate Common Control System software through surrogate systems.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3394: *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	0.000	0.000	57.768	61.512	-	61.512	35.943	75.244	48.752	22.799	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced undersea prototyping and test of Extra Large Unmanned Undersea Vehicle Systems (XLUUVs) will advance the development of unmanned undersea vehicles by leveraging existing 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 formal introduction of XLUUV programs of record 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 meet power requirements for XLUUV missions that are limited by the amount of power currently available. Efforts under this program element 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: XLUUV Product Development	0.000	52.250	55.322	0.000	55.322
Articles:	-	-	-	-	-
Description: XLUUV is being developed via a full and open competition of up to two industry teams to design systems (with down select to one team to fabricate).					
FY 2016 Accomplishments: N/A					
FY 2017 Plans: Develop Statement of Work (SOW), Request for Proposal (RFP) and Performance Specifications for XLUUV. Release RFP, conduct source selection and award contract.					
FY 2018 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Manage up to two industry teams designing XLUUV, conduct System Requirements Review (SRR) and Preliminary Design Review (PDR). Lease Commercial Off the Shelf (COTS) UUVs to develop Tactics, Techniques, and Procedures (TTPs). ***FY 2018 OCO Plans:*** N/A					
Title: XLUUV Support ***Articles:*** ***FY 2016 Accomplishments:*** N/A ***FY 2017 Plans:*** Develop RFP, performance specifications and award up to two contracts. ***FY 2018 Base Plans:*** Manage up to two industry teams to design XLUUV. Oversee COTS leasing. ***FY 2018 OCO Plans:*** N/A	0.000 -	5.000 -	4.860 -	0.000 -	4.860 -
Title: XLUUV Management Services ***Articles:*** ***FY 2016 Accomplishments:*** N/A ***FY 2017 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 2018 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 2018 OCO Plans:*** N/A	0.000 -	0.518 -	1.330 -	0.000 -	1.330 -
Accomplishments/Planned Programs Subtotals	0.000	57.768	61.512	0.000	61.512

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Up to five XLUUV systems will be fabricated for demonstration both CONUS and in the PACOM theater. Payloads developed under projects 3394 and 3395 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 FY 2018. Design contract(s) [up to two] for the XLUUV system is targeted for award in FY 2017.

E. Performance Metrics

Successfully demonstrate XLUUV with Fleet.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy		Date: May 2017
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 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Payload Design documentation	C/CPIF	Various : Various	0.000	0.000		0.250	Jun 2017	2.440	Nov 2017	-		2.440	Continuing	Continuing	Continuing
Fabrication of up to 5 XLUUVs, battery energy section, Mine warfare payload	C/CPIF	Various : Various	0.000	0.000		52.000	Sep 2017	52.882	Jan 2018	-		52.882	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		52.250		55.322		-		55.322	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RFP/PSPED Dev	SS/CPFF	APL/JHU : Laurel, MD	0.000	0.000		2.100	Jul 2017	0.000		-		0.000	0.000	2.100	-
Source Selection	WR	NSWC CD : Carderock, MD	0.000	0.000		1.500	Jun 2017	0.000		-		0.000	0.000	1.500	-
Source Selection	WR	SSC PAC : San Diego, CA	0.000	0.000		1.400	Jun 2017	0.000		-		0.000	0.000	1.400	-
Tech Oversight of Design	Various	VAR : Variouus	0.000	0.000		0.000		4.860	Mar 2018	-		4.860	Continuing	Continuing	Continuing
		Subtotal	0.000	0.000		5.000		4.860		-		4.860	-	-	-

Management Services ($ in Millions)

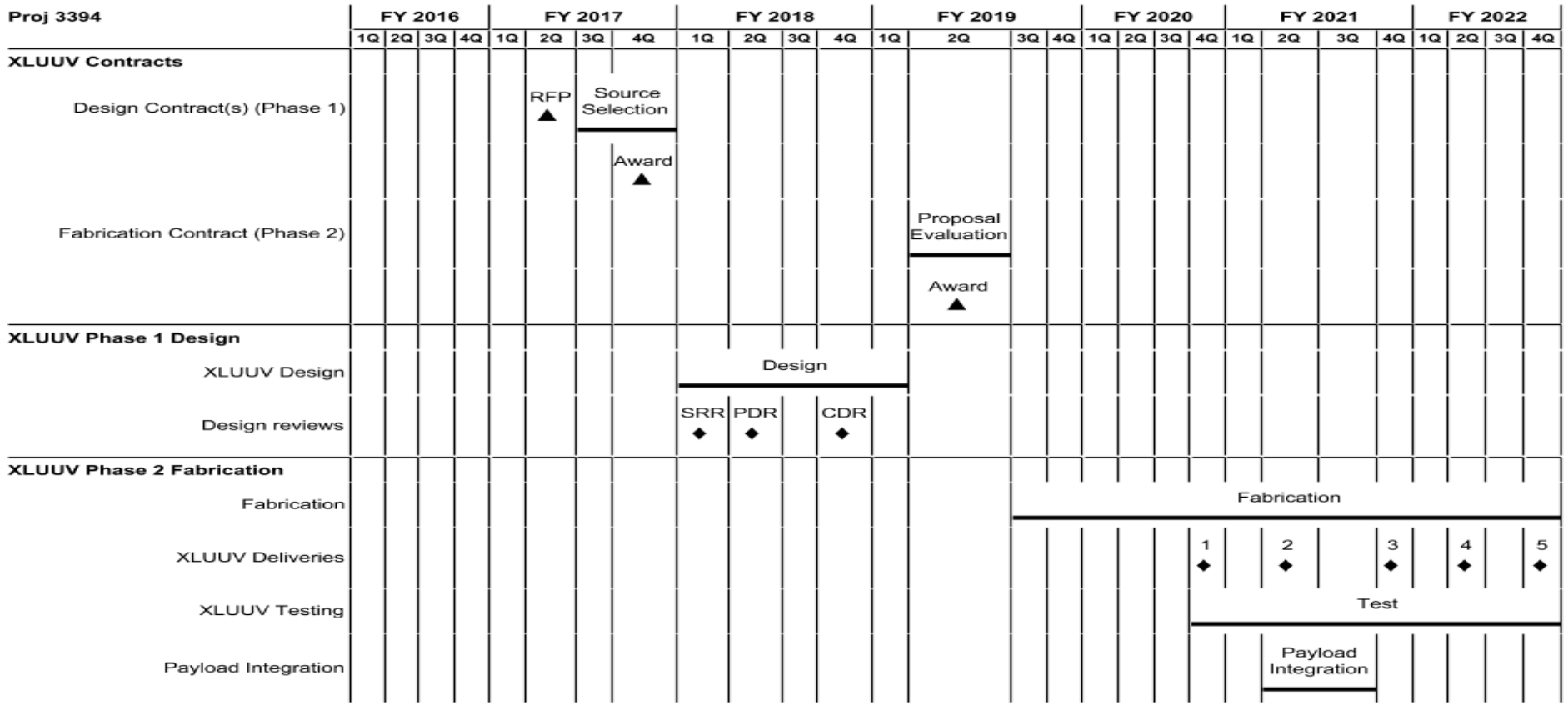
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Techncal support	WR	NSWC : WASHINGTON, D.C.	0.000	0.000		0.518	Jun 2017	1.330	Oct 2017	-		1.330	3.000	4.848	-
		Subtotal	0.000	0.000		0.518		1.330		-		1.330	3.000	4.848	-

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy			Date: May 2017
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 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		57.768		61.512		-		61.512	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Navy		Date: May 2017
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*



2018PB - 0604536N - 3394

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017
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	2	2019	2	2019
XLUUV Contracts: Fabrication Contract (Phase 2): Contract Award	2	2019	2	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	4	2018	4	2018
XLUUV Phase 2 Fabrication: Fabrication: Fabrication	3	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	3	2021

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3395: *Adv Undersea Prototyping-Explosive Payloads*	0.000	0.000	4.404	2.014	-	2.014	7.550	41.075	33.609	16.330	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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 the both undersea and surface targets. New C2 algorithms will be developed for advanced targeting.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Explosive Payloads	0.000	4.404	2.014	0.000	2.014
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: Concept design for XLUUV undersea weapons payload and performance and lethality analysis.					
FY 2018 Base Plans: Continue concept design for XLUUV undersea weapons payload and performance and lethality analysis. Initiate the initial development of XLUUV Undersea weapons payload.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	4.404	2.014	0.000	2.014

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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*

D. Acquisition Strategy

Leverage the knowledge base at the Naval Research and Development Enterprise to complete the feasibility studies that will then lead 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 weapon from an XLUUV.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3396: *Adv Undersea Prototyping-Non-Lethal Payloads*	0.000	0.000	5.596	1.017	-	1.017	14.002	0.000	0.000	0.000	0.000	20.615
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Undersea prototyping will experiment and demonstrate non-lethal payloads on XLUUVs. XLUUV are UUVs that are normally greater than 54" in diameter and have long range and endurance. 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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Non Lethal Payloads	0.000	5.596	1.017	0.000	1.017
Articles:	-	-	-	-	-
FY 2016 Accomplishments: N/A					
FY 2017 Plans: Commence the technology study to inform the design of the non-lethal payload as well as preliminary design efforts.					
FY 2018 Base Plans: Complete the initial study and continue detailed design efforts for the non-lethal payloads of the XLUUVs.					
FY 2018 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	5.596	1.017	0.000	1.017

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy		Date: May 2017
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 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 FY17 for preliminary efforts with main efforts occurring after the study is completed. The payload will be integrated and demonstrated on the XLUUV.

E. Performance Metrics

Kinetic payload integrated onto an XLUUV. Detailed metrics are classified.