Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy											Date: February 2020	
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 Advanced Undersea Prototyping*							
COST ($ in Millions)	**Prior Years**	**FY 2019**	**FY 2020**	**FY 2021 Base**	**FY 2021 OCO**	**FY 2021 Total**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**Cost To Complete**	**Total Cost**
Total Program Element	95.768	108.482	187.187	115.858	-	115.858	42.995	78.539	76.965	7.708	Continuing	Continuing
3394: *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	95.768	84.363	172.187	115.858	-	115.858	42.995	78.539	76.965	7.708	Continuing	Continuing
9999: *Congressional Adds*	0.000	24.119	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	39.119

Note

The FY 2021 funding request was reduced by $10.300M to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

The Orca Extra Large Unmanned Undersea Vehicle (XLUUV) is the Navy's Extra Large UUV effort as part of the Family of UUVs. The Orca XLUUV effort is established to address a Joint Emergent Operational Need (JEON). Orca XLUUV is a multi-phased accelerated acquisition effort to rapidly deliver capability to the Fleet. Phase 1 was a competitively sourced design effort. Phase 2 down selected to one of the Phase 1 vendors in FY 2019 for fabrication and testing of the vehicle and support elements. Fabrication award of additional Orca XLUUV systems is planned for FY23 and FY24. XLUUV will have a modular payload bay, with defined interfaces that current and future payloads must adhere to for employment from the vehicle. The Orca XLUUV effort will integrate the currently required payload, and additional potential future payloads will be developed, evaluated, and preliminarily integrated leveraging the Core Technologies Program Element 0604029N. Additional XLUUV technologies/capabilities risk reduction will occur in parallel, leveraging the competitive Industrial base.

B. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	112.669	181.967	126.106	-	126.106
Current President's Budget	108.482	187.187	115.858	-	115.858
Total Adjustments	-4.187	5.220	-10.248	-	-10.248
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-9.780			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.187	0.000			
• Program Adjustments	0.000	0.000	-10.300	-	-10.300
• Rate/Misc Adjustments	0.000	0.000	0.052	-	0.052

Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy	Date: February 2020
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 Advanced Undersea Prototyping*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2019	FY 2020
Project: 9999: *Congressional Adds*		
Congressional Add: *Updated Acquisition Strategy*	24.119	0.000
Congressional Add: *XLUUV competitive risk reduction*	0.000	15.000
Congressional Add Subtotals for Project: 9999	24.119	15.000
Congressional Add Totals for all Projects	24.119	15.000

Change Summary Explanation

Program Changes:
FY19: -$4,187K Small Business Innovation Research (SBIR)
FY20: -$7,530K dual vendor acquisition strategy; -$2,250K testing early to need; +$15,000K competitive risk reduction
FY21: -$10,300K Underexecution reduction; +$52K miscellaneous reduction

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *Advanced Undersea Prototyping*	Project (Number/Name) 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	

COST ($ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
3394: *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	95.768	84.363	172.187	115.858	-	115.858	42.995	78.539	76.965	7.708	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

The FY 2021 funding request was reduced by $10.300M to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

The Orca Extra Large Unmanned Undersea Vehicle (XLUUV) is the Navy's Extra Large UUV effort as part of the UUV Family of Systems (FoS). The Orca XLUUV effort has been established to address a Joint Emergent Operational Need (JEON). Orca XLUUV will have a modular payload bay, with defined interfaces that current and future payloads must adhere to for employment from the vehicle. The Orca XLUUV effort will integrate the currently required payload, and additional potential future payloads will be developed, evaluated, and preliminarily integrated under the Core Technologies Program Element 0604029N. Additional XLUUV technologies/ capabilities risk reduction will occur in parallel, leveraging the competitive Industrial base.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: XLUUV Product Development	74.271	160.095	64.522	0.000	64.522
Articles:	-	-	-	-	-
Description: Orca XLUUV Phase 1 design was completed via a full and open competition with two industry teams. Phase 2 fabrication was down selected to one vendor for the fabrication and delivery of 5 Orca vehicles.					
FY 2020 Plans: Continue Phase 2 material procurement and fabrication of 5 Orca vehicles. Vehicle integration of subsystems includes propulsion, sensors, payload, communications, and control systems. First vehicle(s) to begin contractor in-water testing by the end of FY 2020.					
FY 2021 Base Plans: Continue Phase 2 fabrication of initial vehicles. Accept delivery of vehicles 1 and 2. Vehicle integration of subsystems includes propulsion, sensors, payload, communications, and control systems. Conduct contractor testing to validate and verify system requirements and prepare system for Government testing.					
FY 2021 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Decrease in funding due to completion of initial vehicle fabrication efforts and delivery of initial vehicles in FY 2021.					
Title: XLUUV Support	6.110	7.982	11.664	0.000	11.664
Articles:	-	-	-	-	-
FY 2020 Plans: Support engineering and technical oversight of single vendor fabrication efforts and engineering services including engineering change proposals. Review and approve CDRLs, design products, and manufacturing processes. Provide expert oversight and support of subsystem and system testing. ***FY 2021 Base Plans:*** Support engineering and technical oversight of fabrication efforts and engineering services including engineering change proposals. Review and approve CDRLs, design products, and manufacturing processes. Provide expert oversight and support of subsystem and system testing, including support for the testing. Engage UUVRON to develop and document tactics, techniques, and procedures (TTPs) to create and validate Integrated Logistics Support products. Initiate preparation of payload integration efforts. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** FY 2021 increased funding supports initial vehicle delivery and initial contractor testing.					
Title: XLUUV Test and Evaluation	0.000	0.000	35.626	0.000	35.626
Articles:	-	-	-	-	-
FY 2020 Plans: N/A ***FY 2021 Base Plans:*** Commence XLUUV contractor testing of first Orca XLUUV vehicle. Fabrication contractor to provide support for test events including technical representatives and hardware to conduct events. Government test support					

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
to include planning for and participating at multiple test events at various Navy test range locations. Plan for XLUUV testing. Initiate subsystem testing for payload integration. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Increase due to commencement of multiple test and evaluation events associated with delivery of vehicles, and preparations for payload integration testing.					
Title: XLUUV Management Services ***Articles:*** ***FY 2020 Plans:*** Provide technical guidance, project planning, program management and travel for Orca prototyping. Provide financial and contracting support, and coordinated work with Fleet, test support, engineering support, and contractors. ***FY 2021 Base Plans:*** Provide technical guidance, project planning, program management and travel for Orca fabrication. Provide financial and contracting support, and coordinate work with the Fleet, test support, engineering support, and contractors. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Slight decrease due to transition from supporting fabrication to test and evaluation efforts.	3.982 -	4.110 -	4.046 -	0.000 -	4.046 -
Accomplishments/Planned Programs Subtotals	84.363	172.187	115.858	0.000	115.858

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
• OPN/1613: *Extra Large UUV*	0.000	0.000	0.000	-	0.000	0.000	158.500	161.600	232.779	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

D. Acquisition Strategy

Orca XLUUV is a multi-phased accelerated acquisition effort to rapidly deliver capability to the Fleet. Phase 1 was a competitively sourced design effort. Two design contracts were awarded to Industry in FY 2017. Phase 2 commenced with a down select in FY 2019 to one of the Phase 1 vendors for fabrication and testing of the vehicle and support elements. Five (5) Orca XLUUV systems (vehicles, mobile C2 equipment, and support equipment) are being fabricated for demonstration and use by the Fleet. Additional XLUUV technologies/capabilities risk reduction will occur in parallel, leveraging the competitive Industrial base. Phase 3 provides the option to fabricate up to four (4) additional systems from the vendor who fabricated vehicles in Phase 2. Fabrication award of these additional Orca XLUUV systems is planned for FY23 and FY24. Transition to a program of record and production may occur in FY23 should the Navy issue follow on requirements for the XLUUV with new payload capabilities.

XLUUV will have a modular payload bay, with defined interfaces that current and future payloads must adhere to for employment from the vehicle. Potential future payloads, advanced energy solutions, and enhanced autonomy and command and control will be developed and evaluated under the Core Technologies PE 0604029N and integrated into Orca XLUUV when ready.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Payload Design documentation	C/CPIF	Various : Various	3.735	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Design & Long Lead Material, including sub-systems	C/CPIF	Boeing : Huntington Beach, CA	39.654	9.904	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Design & Long Lead Material, including sub-systems	C/CPIF	Lockheed Martin : Riviera Baech, FL	39.654	3.695	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Fabrication of 5 XLUUVs, including sub-systems	C/FPIF	Boeing : Huntington Beach, CA	0.000	60.672	Feb 2019	160.095	Dec 2019	64.522	Dec 2020	-		64.522	Continuing	Continuing	Continuing
		Subtotal	83.043	74.271		160.095		64.522		-		64.522	Continuing	Continuing	N/A

Remarks

The FY2021 funding request has been reduced by $10.300 million to account for the availability of prior year funds.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RFP/PSPED Dev	SS/CPFF	APL/JHU : Laurel, MD	0.300	0.000		0.000		0.000		-		0.000	0.000	0.300	-
Source Selection	WR	NSWC CD : West Bethesda, MD	1.090	0.428	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Source Selection	WR	SSC PAC : San Diego, CA	0.205	0.312	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Engineering Support	WR	NSWC CD : West Bethesda, MD	0.000	1.200	Nov 2018	1.620	Nov 2019	2.606	Nov 2020	-		2.606	0.000	5.426	-
Engineering Support	WR	NSWC IH : Indian Head, MD	0.000	0.900	Nov 2018	1.050	Nov 2019	2.613	Nov 2020	-		2.613	0.000	4.563	-
Engineering and Logistic Support	WR	NUWC KPT : Keyport, WA	0.000	1.500	Nov 2018	2.560	Nov 2019	2.541	Nov 2020	-		2.541	0.000	6.601	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Warrant Holder Support	Various	NAVSEA Activities : Washington, DC	0.000	0.500	Nov 2018	0.420	Nov 2019	0.782	Nov 2020	-		0.782	0.000	1.702	-
Program Support	Various	Various : Various	6.372	1.270	Nov 2018	2.332	Nov 2019	3.122	Nov 2020	-		3.122	Continuing	Continuing	Continuing
		Subtotal	7.967	6.110		7.982		11.664		-		11.664	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test support	WR	Naval Base Ventura County : Point Mugu, CA	0.000	0.000		0.000		9.840	Dec 2020	-		9.840	0.000	9.840	-
Test support	WR	NSWC, CD : West Bethesda, MD	0.000	0.000		0.000		8.750	Dec 2020	-		8.750	0.000	8.750	-
Test safety support	WR	NSWC, IH : Indian Head, MD	0.000	0.000		0.000		0.560	Dec 2020	-		0.560	0.000	0.560	-
Test Ranges and support equipment	WR	Various : Various	0.000	0.000		0.000		9.580	Dec 2020	-		9.580	0.000	9.580	-
Test hardware and support equipment	C/CPFF	Boeing : Hunting Beach, CA	0.000	0.000		0.000		6.896	Dec 2020	-		6.896	0.000	6.896	-
		Subtotal	0.000	0.000		0.000		35.626		-		35.626	0.000	35.626	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mgmt & Techncal Efforts	WR	NAVSEA Activities : WASHINGTON, D.C.	4.758	3.982	Nov 2018	4.110	Nov 2019	4.046	Nov 2020	-		4.046	Continuing	Continuing	Continuing
		Subtotal	4.758	3.982		4.110		4.046		-		4.046	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *Advanced Undersea Prototyping*	Project (Number/Name) 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*	

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	95.768	84.363		172.187		115.858		-		115.858	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

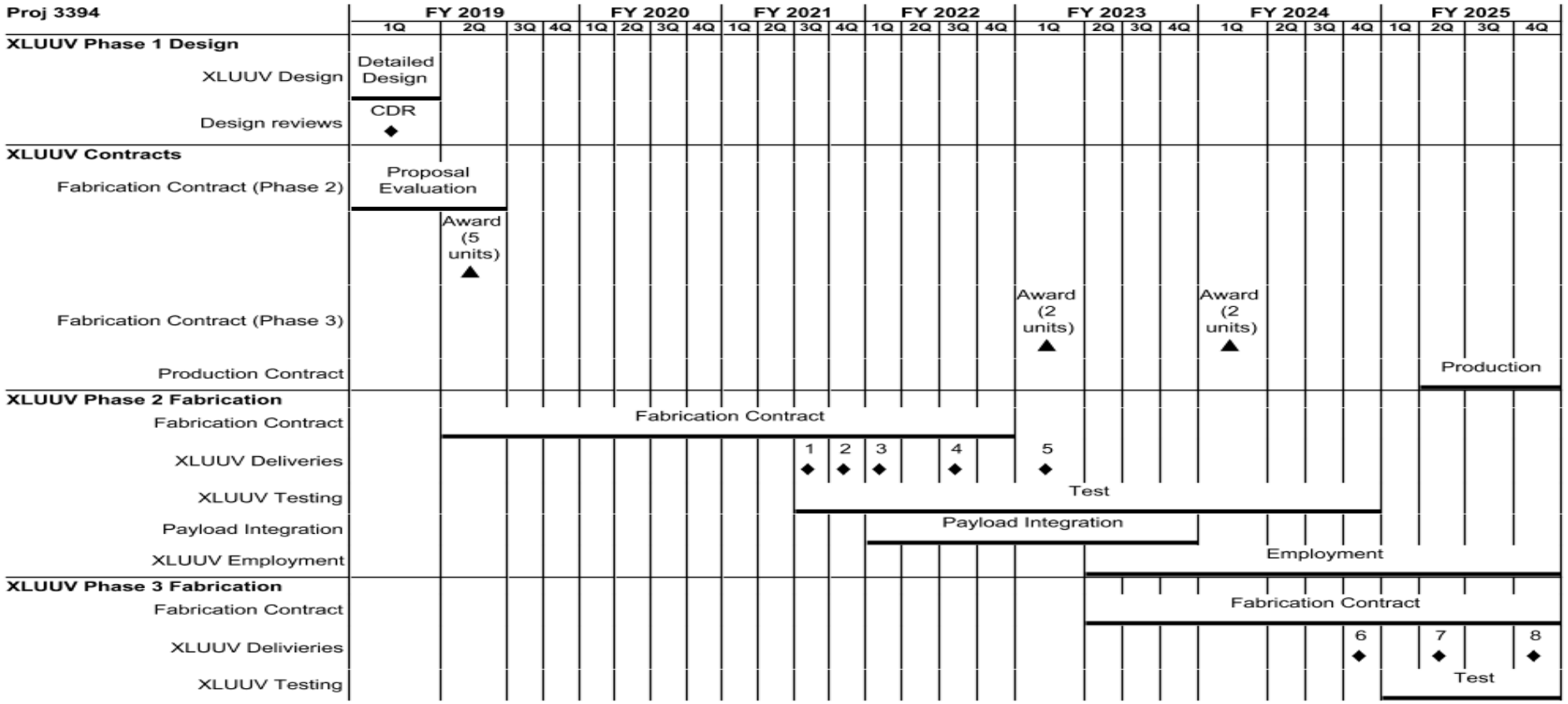

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 3394 / *Adv Undersea Prototyping-Vehicles, Propulsion & Navigation*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3394				
XLUUV Phase 1 Design: XLUUV Design: Design	1	2019	1	2019
XLUUV Phase 1 Design: Design reviews: CDR	1	2019	1	2019
XLUUV Contracts: Fabrication Contract (Phase 2): Proposal Evaluation	1	2019	2	2019
XLUUV Contracts: Fabrication Contract (Phase 2): Contract Award	2	2019	2	2019
XLUUV Contracts: Fabrication Contract (Phase 3): Award 1 (Phase 3)	1	2023	1	2023
XLUUV Contracts: Fabrication Contract (Phase 3): Award 2 (Phase 3)	1	2024	1	2024
XLUUV Contracts: Production Contract: Award (Production)	2	2025	4	2025
XLUUV Phase 2 Fabrication: Fabrication Contract: Fabrication Contract	2	2019	4	2022
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 1	3	2021	3	2021
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 2	4	2021	4	2021
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 3	1	2022	1	2022
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 4	3	2022	3	2022
XLUUV Phase 2 Fabrication: XLUUV Deliveries: Delivery System 5	1	2023	1	2023
XLUUV Phase 2 Fabrication: XLUUV Testing: Test	3	2021	4	2024
XLUUV Phase 2 Fabrication: Payload Integration: Integration	1	2022	4	2023
XLUUV Phase 2 Fabrication: XLUUV Employment:	2	2023	4	2025
XLUUV Phase 3 Fabrication: Fabrication Contract: Fabrication Contract	2	2023	4	2025
XLUUV Phase 3 Fabrication: XLUUV Delivieries: Delivery System 6	4	2024	4	2024
XLUUV Phase 3 Fabrication: XLUUV Delivieries: Delivery System 7	2	2025	2	2025
XLUUV Phase 3 Fabrication: XLUUV Delivieries: Delivery System 8	4	2025	4	2025
XLUUV Phase 3 Fabrication: XLUUV Testing: Test	1	2025	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy			Date: February 2020
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604536N / *Advanced Undersea Prototyping*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	24.119	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	39.119
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Orca Extra Large Unmanned Undersea Vehicle (XLUUV) is the Navy's Extra Large UUV effort as part of the Family of UUVs. The Orca XLUUV effort has been established to address a Joint Emergent Operational Need (JEON). Orca XLUUV will have a modular payload bay, with defined interfaces that current and future payloads must adhere to for employment from the vehicle. The Orca XLUUV effort will integrate the currently required payload, and additional potential future payloads will be developed, evaluated, and preliminarily integrated under the Core Technologies Program Element 0604029N.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020
Congressional Add: Updated Acquisition Strategy ***FY 2019 Accomplishments:*** Conducted down select to one industry partner and awarded contract for fabrication of five (5) Orca XLUUVs. Commenced vehicle fabrication, including purchase of remaining vehicle materials (long lead materials previously authorized in FY18), initial assembly, bench and subsystem testing, and integration of the first vehicles. ***FY 2020 Plans:*** N/A	24.119	0.000
Congressional Add: XLUUV competitive risk reduction ***FY 2019 Accomplishments:*** N/A ***FY 2020 Plans:*** Orca XLUUV Battery risk reduction- design and integration with Navy certification testing. XLUUV demonstration asset for technology development (open autonomy, obstacle avoidance). Development of Innovative Launch and recovery efforts; maintenance/logistics risk reduction. Competitively award XLUUV technology/capability risk reduction efforts to Industry partners.	0.000	15.000
Congressional Adds Subtotals	24.119	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 9999 / *Congressional Adds*

D. Acquisition Strategy

Orca XLUUV is a multi-phased accelerated acquisition effort to rapidly deliver capability to the Fleet. Phase 1 was a competitively sourced design effort. Two design contracts were awarded to Industry in FY 2017. Phase 2 commenced with a down select in FY 2019 to one of the Phase 1 vendors for fabrication and testing of the vehicle and support elements. Up to five (5) Orca XLUUV systems (vehicles, mobile C2 equipment, and support equipment) are to be fabricated for demonstration and use by the Fleet.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *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 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Fabrication Contract	C/FPIF	Boeing : Huntington Beach, CA	0.000	24.119	Mar 2019	0.000		0.000		-		0.000	0.000	24.119	-
Secondary Battery development	Various	Various : Various	0.000	0.000		6.820	Jan 2020	0.000		-		0.000	0.000	6.820	-
XLUUV demonstration/test asset	C/CPFF	Not Specified : West Palm Beach, FL	0.000	0.000		4.670	Feb 2020	0.000		-		0.000	0.000	4.670	-
Innovative L&R efforts	Various	Various : Various	0.000	0.000		3.510	Apr 2020	0.000		-		0.000	0.000	3.510	-
		Subtotal	0.000	24.119		15.000		0.000		-		0.000	0.000	39.119	N/A

	Prior Years	FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	24.119		15.000		0.000		-		0.000	0.000	39.119	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 9999 / *Congressional Adds*

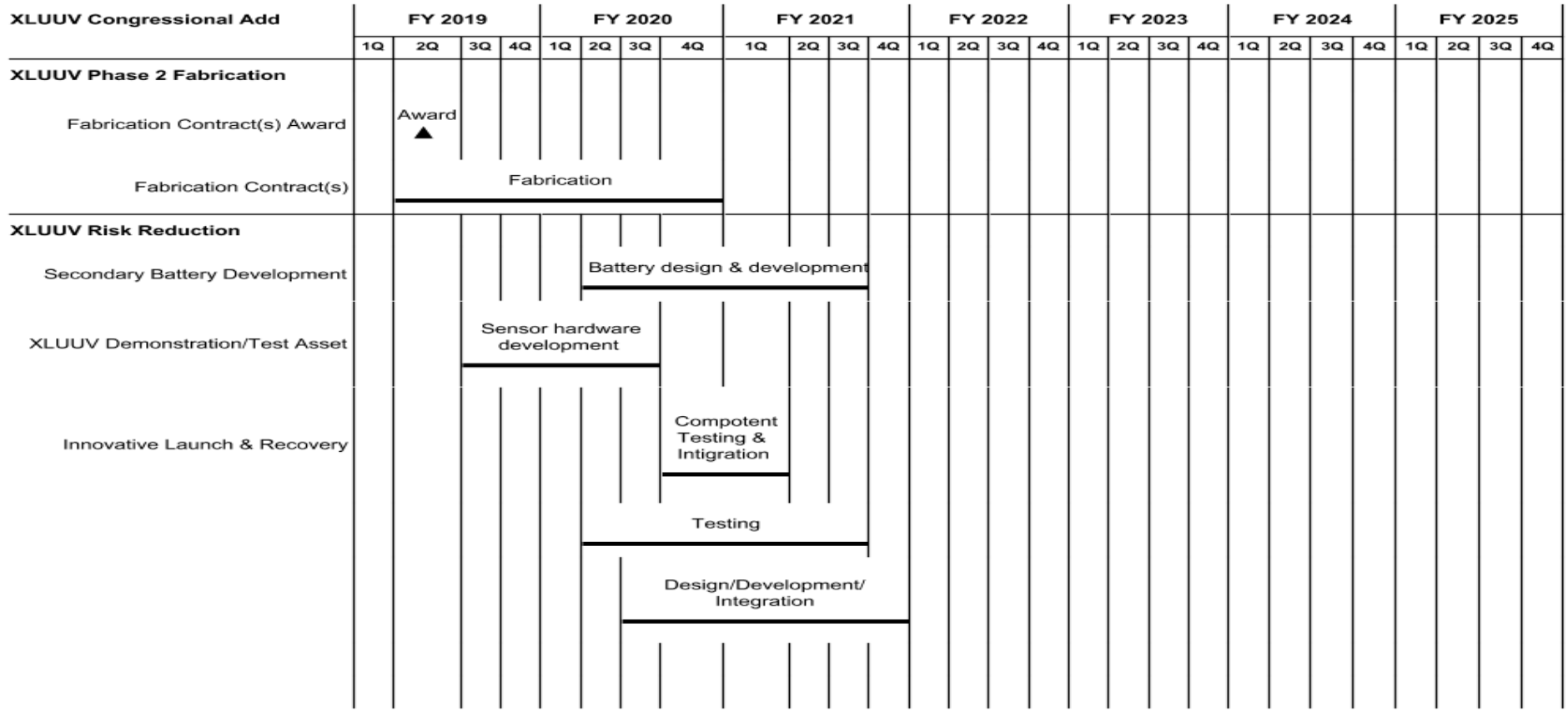

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604536N / *Advanced Undersea Prototyping*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
XLUUV Congressional Add				
XLUUV Phase 2 Fabrication: Fabrication Contract(s) Award: Schedule Detail	2	2019	2	2019
XLUUV Phase 2 Fabrication: Fabrication Contract(s):	2	2019	4	2020
XLUUV Risk Reduction: Secondary Battery Development:	2	2020	3	2021
XLUUV Risk Reduction: XLUUV Demonstration/Test Asset:	3	2019	3	2020
XLUUV Risk Reduction: Innovative Launch & Recovery:	4	2020	1	2021
XLUUV Risk Reduction: Innovative Launch & Recovery: Testing	2	2020	3	2021
XLUUV Risk Reduction: Innovative Launch & Recovery: Maintenance	3	2020	4	2021