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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604850N / SSN(X)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.996	29.829	-	29.829	-	-	-	-	-	-
2368: <i>SSN(X) Class Submarine Development</i>	0.000	0.000	0.996	29.829	-	29.829	-	-	-	-	-	-

Note

Program Element (PE)/Project was established in FY 2021 for the development of the SSN(X) Class Submarine. It was a realignment/reduction from PE 0604558N/ Project 1947, which is used exclusively for Virginia Class Submarines. Amounts in years beyond FY 2022 will be adjusted and programmed commensurate with updated requirements as they become defined in future budget submissions.

A. Mission Description and Budget Item Justification

The U.S. Navy must produce and maintain a submarine fleet that is of sufficient capability to protect America from current and future threats. SSN(X) will be designed to counter the emerging threat posed by near peer adversary competition for undersea supremacy. Unlike the VIRGINIA Class Submarine, which was designed for multi-mission dominance in the littoral, SSN(X) will be designed for greater transit speed under increased stealth conditions in all ocean environments, and carry a larger inventory of weapons and diverse payloads. It will also be designed to retain multi-mission capability and sustained combat presence in denied waters, with a renewed priority in the anti-submarine warfare (ASW) mission against sophisticated threats in greater numbers. SSN(X) will be required to defend against threat UUVs, and coordinate with a larger contingent of off-hull vehicles, sensors, and friendly forces. The primary goal of the SSN(X) program element will be to evaluate a broad range of submarine technologies, sensors, and combat system components required to produce an affordable platform which supports these mission requirements.

SSN(X) will continue to define requirement options and refine cost estimates to support a mid to late 2030s construction contract award. Initial efforts in FY 2021 focused on completing the Capabilities Based Assessment (CBA), conducting studies and technology development efforts in preparation for the Analysis of Alternatives (AoA) and beginning an Initial Capabilities Document (ICD). Funds also supported acquisition documentation development; engineering support efforts; and ship design management efforts. As the SSN(X) program continues to ramp up, FY 2022 efforts will focus on completing the ICD; the commencement of the pre-work for the AoA including the pre-study and CAPE approval; and the continuation of technology development and studies; acquisition documentation development; engineering support efforts; and ship design management efforts. Additionally, SSN(X) will leverage studies and development efforts from the Virginia Class and Columbia Class Submarines.

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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	1.000	1.000	-	1.000
Current President's Budget	0.000	0.996	29.829	-	29.829
Total Adjustments	0.000	-0.004	28.829	-	28.829
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	29.019	-	29.019
• Rate/Misc Adjustments	0.000	0.000	-0.190	-	-0.190

Change Summary Explanation

FY21 Adjustments:

-\$0.004M - NWCF Rates adjustments

FY22 Adjustments:

+\$29.019M - Fund SSN(X) Design and Integration starting in FY22

-\$0.190M - NWCF Rates adjustments

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy										Date: May 2021		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604850N / SSN(X)				Project (Number/Name) 2368 / SSN(X) Class Submarine Development			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2368: SSN(X) Class Submarine Development	0.000	0.000	0.996	29.829	-	29.829	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

SSN(X) will be designed for multi-mission capability with greater transit speed under increased stealth conditions in all ocean environments, and carry a larger inventory of weapons and diverse payload. It also will have sustained combat presence in denied waters, with a renewed priority in the anti-submarine warfare (ASW) mission against sophisticated threats in greater numbers. This project encompasses Navy RDT&E efforts required to design the next SSN to replace the VIRGINIA Class Submarine.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: SSN(X) Class Submarine Development	0.000	0.996	29.829	0.000	29.829
Articles:	-	-	-	-	-
Description: N/A					
FY 2021 Plans:					
- Assisted in the development of requirements for SSN(X)					
- Completion of the Capabilities Based Assessment (CBA)					
- Conducted feasibility studies for requirements for SSN(X)					
- Conducted advanced technology development in the areas of speed, stealth, and survivability					
- Performed technical and concept development studies to define the submarine platform design trade space and develop requirements for SSN(X)					
- Generated trade studies and technical information needed to prepare for an Analysis of Alternatives (AoA)					
- Began an Initial Capabilities Document (ICD)					
- Began developing schedules and identifying resource requirements timing to support SSN(X)					
SSN(X) leveraged Virginia Class and Columbia Class Submarine efforts and studies in FY 2021.					
FY 2022 Base Plans:					
- Begin an Analysis of Alternatives (AoA) : study plan and pre-study work					
- Completion of the Initial Capabilities Document (ICD)					
- Prepare and Complete Gate 1					

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604850N / SSN(X)	Project (Number/Name) 2368 / SSN(X) Class Submarine Development

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Begin advanced technology development needed to achieve prioritized performance targets - Continue technical and concept development studies to define the submarine platform design trade space and develop requirements for SSN(X) - Continue trade studies and technical information needed to support an Analysis of Alternatives (AoA) - Continue developing near term and long term schedules and identifying resource requirements to support SSN(X) SSN(X) will continue to leverage Virginia Class and Columbia Class Submarine efforts and studies in FY 2022. FY 2022 OCO Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: FY 2022 increase is due to the buildup of the SSN(X) Class Submarine Development Program.					
Accomplishments/Planned Programs Subtotals	0.000	0.996	29.829	0.000	29.829

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTEN/0604558N: New Design SSN	309.212	242.108	503.252	-	503.252	-	-	-	-	-	-

Remarks
 SSN(X) is leveraging studies and development efforts from PE 0604558N/Project 1947 for FY 2020 - FY 2022. Funding above reflects the entire Virginia Class budget. Only a portion is attributable to the SSN(X) program in the Tactical Submarine Evolution Plan (TSEP) Line.

D. Acquisition Strategy
 SSN(X) is currently developing the acquisition strategy. Office plans to utilize work requests for government warfare center initial concept and trade studies in FY 2021 to assist with requirements definition. Industry based engagement will begin to inform, develop, and prepare for competitively awarded contracts. Additional R&D efforts will be performed by Navy laboratories, shipyards, private industry, and University Affiliated Research Centers.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy											Date: May 2021				
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604850N / SSN(X)					Project (Number/Name) 2368 / SSN(X) Class Submarine Development				

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Shipbuilder Studies	C/CPFF	Various : Various	0.000	0.000		0.000		4.000	Oct 2021	-		4.000	-	-	-
Concept / Feasibility Studies	WR	NSWC CD : Carderock, MD	0.000	0.000		0.700	Oct 2020	6.071	Oct 2021	-		6.071	-	-	-
Concept Development / Studies	WR	NUWC NPT : Newport, RI	0.000	0.000		0.200	Oct 2020	3.336	Oct 2021	-		3.336	-	-	-
Technical Studies	WR	NSWC PD : Philadelphia, PA	0.000	0.000		0.096	Oct 2020	0.626	Oct 2021	-		0.626	-	-	-
Concept Studies	Various	Various : Various	0.000	0.000		0.000		0.350	Oct 2021	-		0.350	-	-	-
Tool Development	WR	NSWC CD : Carderock, MD	0.000	0.000		0.000		2.752	Oct 2021	-		2.752	-	-	-
Acquisition Documentation	Various	Various : Various	0.000	0.000		0.000		6.577	Oct 2021	-		6.577	-	-	-
Subtotal			0.000	0.000		0.996		23.712		-		23.712	-	-	N/A

Remarks
 Acquisition Documentation includes the ICD, pre-AoA study, and AoA development
 Concept Studies: Various - Includes UARC and Lab studies

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Engineering Support	WR	NSWC CD : Carderock, MD	0.000	0.000		0.000		2.865	Oct 2021	-		2.865	-	-	-
Government Engineering Support	WR	NUWC NPT : Newport, RI	0.000	0.000		0.000		0.232	Oct 2021	-		0.232	-	-	-
Government Engineering Support	WR	NSWC PD : Philadelphia, PA	0.000	0.000		0.000		0.150	Oct 2021	-		0.150	-	-	-
Contractor Engineering Support	C/CPFF	Various : Various	0.000	0.000		0.000		0.515	Dec 2021	-		0.515	-	-	-
Subtotal			0.000	0.000		0.000		3.762		-		3.762	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604850N / SSN(X)	Project (Number/Name) 2368 / SSN(X) Class Submarine Development
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Engineering Support include technical / R&D support, and cost support for SSN(X) studies and development efforts

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C/CPFF	Various : Various	0.000	0.000		0.000		0.905	Dec 2021	-		0.905	-	-	-
Program Mgt Support	Various	Various : Various	0.000	0.000		0.000		1.450	Nov 2021	-		1.450	-	-	-
Subtotal			0.000	0.000		0.000		2.355		-		2.355	-	-	N/A

Remarks
Program Management Support includes Program Office support, Cost Estimation support, Acquisition Documentation Support, and Program Office travel.

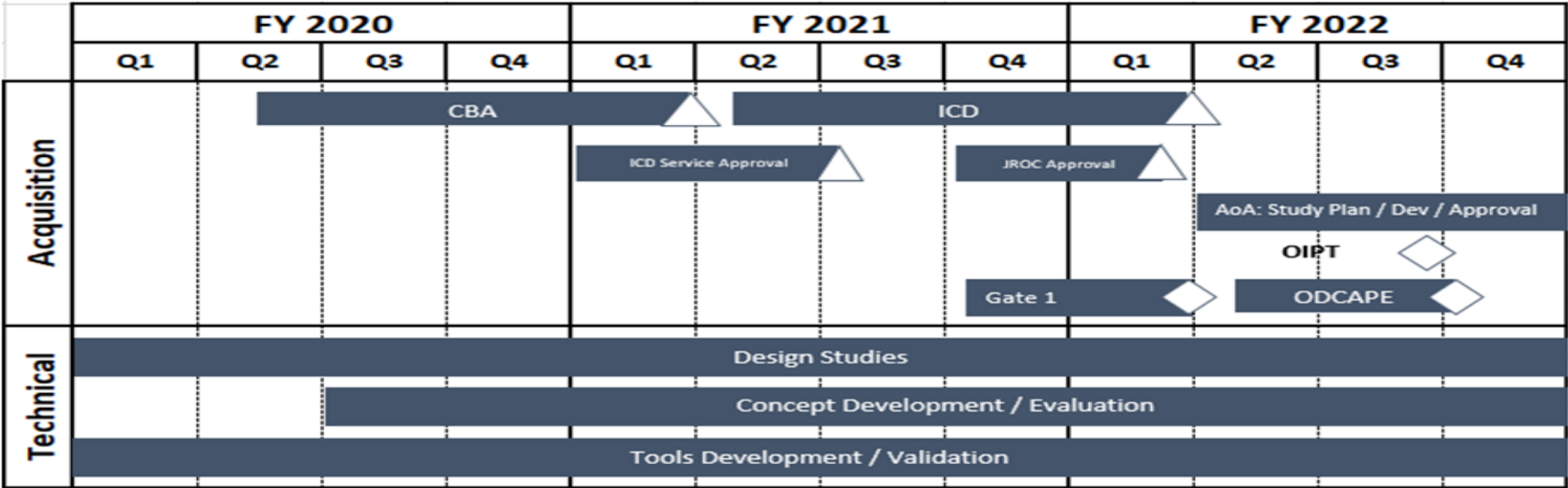
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	0.996	29.829	-	29.829	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604850N / SSN(X)	Project (Number/Name) 2368 / SSN(X) Class Submarine Development



SSN(X) Class Program Schedule



ACRONYMS: CBA: Capabilities Based Assessment ICD: Initial Capabilities Document	JROC: Joint Requirement Oversight Council AoA: Analysis of Alternatives	OIPT: Overarching Integrated Product Team ODCAPE: Office of Director of Cost Assessment & Program Evaluation
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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604850N / SSN(X)	Project (Number/Name) 2368 / SSN(X) Class Submarine Development

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2368				
Acquisition: Capabilities Based Assessment (CBA)	2	2020	2	2021
Acquisition: Initial Capabilites Document (ICD) Development and Approval	2	2021	2	2022
Acquisition: Gate 1	2	2022	2	2022
Acquisition: Analysis of Alternatives (AoA) Study, Development & Approval	1	2022	4	2022
Technical: Design Studies	1	2020	4	2022
Technical: Concept Development / Evaluation	3	2020	4	2022
Technical: Tool Development and Validation	1	2020	4	2022