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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2024 Navy **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.990	29.174	133.772	361.582	-	361.582	556.838	815.257	830.221	856.382	Continuing	Continuing
2368: <i>SSN(X) Class Submarine Development</i>	0.990	29.174	133.772	361.582	-	361.582	556.838	815.257	830.221	856.382	Continuing	Continuing

**Note**

This Program Element (PE)/ Project was established in FY 2021 for the development of the SSN(X) Class Submarine to replace the VIRGINIA Class Submarine.

FY 2024 increase is essential to meet acquisition milestones to support the development of the next class of attack submarines (SSN(X)). The increase in funding is needed for concept and technical studies, modeling and simulation efforts to support Analysis of Alternatives (AoA) and requirements decisions, technology R&D, and capabilities/requirement definition that supports program milestone deliverables. To support the FY2024 and beyond deliverables, funding for additional staff is needed to complete milestone deliverables on time. Additional funding is also needed to support risk reduction prototyping (including propulsor), increase testing efforts (including propulsor and materials) and initiate research and development infrastructure studies and upgrades to ensure readiness for planned authorization in the mid 2030s. Increases are in line with historical funding ramps from previous submarine program development efforts (COLUMBIA, VIRGINIA, etc.).

**A. Mission Description and Budget Item Justification**

The U.S. Navy must protect the security of the American people by defending against great powers, regional adversaries, and transnational threats. Strategic Competition is increasing the demand on the U.S. Navy submarine force. Submarines will be the principal method to deterring strategic competition aggression and will be the first to fight. The U.S. Navy must meet the rising challenge by delivering a new attack submarine. SSN(X) will be designed to counter the growing threat posed by near peer adversary competition for undersea supremacy. It will provide greater speed, increased horizontal payload capacity, improved acoustic superiority and non-acoustic signatures, and higher operational availability. SSN(X) will conduct full spectrum undersea warfare and be able to coordinate with a larger contingent of off-hull vehicles, sensors, and friendly forces. It will retain and improve multi-mission (Anti-submarine warfare (ASW), Anti-surface warfare (ASuW), Strike, Special Operating Forces (SOF), Mine, Subsea Seabed Warfare (SSW), Intelligence, Surveillance and Reconnaissance (ISR)) capability and sustained combat presence in denied waters. SSN(X) will operate independently or integrated within a Task Force. The primary goal of the SSN(X) program element will be to evaluate a broad range of submarine designs, 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 2030s authorization. FY 2022 focused on drafting the Initial Capabilities Document (ICD) and initiating studies for the Analysis of Alternatives (AoA). Funds were also used in early efforts in engineering support and ship design management. As the SSN(X) program continues to ramp up, FY 2023 efforts focused on expanding trade studies and technology assessments; acquisition documentation development and support; engineering support efforts; ship design management efforts; and preliminary technology development informed by the ICD. Additionally, SSN(X) focused on whole ship concepts, payload systems, non-propulsion Hull, Mechanical, and Electrical (HM&E) systems, Command, Control, Communications, Computers, and Intelligence (C4I), and hull and structures to better understand the best way to meet the warfighter priorities of increased horizontal payload capacity, increased speed, increased acoustic superiority and non-acoustic signatures, and increased operational availability. SSN(X) will utilize digital engineering and industry and supply chain information to meet capability priorities while designing in availability and ensuring affordability. SSN(X) is using a mission engineering approach

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to ensure that mission utility drives the planned design, development, prototyping and testing. Building upon the FY 2023 focus areas, FY 2024 expands the efforts in the areas of trade studies, design engineering, prototyping and technology assessments and initial development. SSN(X) will also increase focus on propulsor and shafting, advanced material development, prototyping, improved stealth and payload capacity, infrastructure evaluation and readiness, and industrial base evaluation and planning. The AoA will be initiated in FY 2024. SSN(X) will incorporate best practices and lessons learned from the Virginia Class and Columbia Class submarines.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	29.548	143.949	344.916	-	344.916
Current President's Budget	29.174	133.772	361.582	-	361.582
Total Adjustments	-0.374	-10.177	16.666	-	16.666
• Congressional General Reductions	-	-0.177			
• Congressional Directed Reductions	-	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.374	0.000			
• Program Adjustments	0.000	0.000	12.723	-	12.723
• Rate/Misc Adjustments	0.000	0.000	3.943	-	3.943

**Change Summary Explanation**

FY23 Adjustments:

- \$6M decrease unjustified management growth
- \$4M decrease unjustified support growth
- \$177K decrease FFRDC Reduction

FY24:

- \$12.7M increase of funds to support mid-2030's lead ship authorization
- \$3.9M net increase rate adjustments

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)				<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
2368: SSN(X) Class Submarine Development	0.990	29.174	133.772	361.582	-	361.582	556.838	815.257	830.221	856.382	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

SSN(X) will be designed to counter the growing threat posed by near peer adversary competition for undersea supremacy. It will provide greater speed, increased horizontal payload capacity, improved acoustic superiority and non-acoustic signatures, and higher operational availability. SSN(X) will conduct full spectrum undersea warfare and be able to coordinate with a larger contingent of off-hull vehicles, sensors, and friendly forces. 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)**

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<b>Title:</b> SSN(X) Class Submarine Development	29.174	133.772	361.582	0.000	361.582
<b>Articles:</b>	-	-	-	-	-
<b>Description:</b> N/A					
<b>FY 2023 Plans:</b>					
- Continue preparation and completion of Gate 1					
- Continue trade studies / Analysis of Alternatives (AoA) preparation studies					
- Inform requirements definition and overall program risks (technical, schedule, and costs) associated with technology maturity and begin advance technology					
- Continue and increase technical and concept development studies, define the submarine platform design trade space to inform requirements definition with whole-ship concept risks (cost, schedule, and performance).					
- Continue digital engineering and mission engineering work and aligning processes to evaluate concept designs in mission scenarios					
- Mission evaluation work and process alignment to evaluate concept designs in mission scenarios					
- Continue studies and development of advanced materials					
- Continue and significantly increase modeling and simulation efforts to support concept development and technology development. Establish SSN(X) model based systems engineering process and digital design strategy					
- Begin acquisition documentation in preparation for Gate 2 and Milestone A					

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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)	<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<p>- Continue developing near term and long term schedules and identifying resource requirements to support SSN(X)</p> <p><b>FY 2024 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue developing near term and long term schedules and identifying resource requirements to support SSN(X)</li> <li>- Continue trade studies in support of Analysis of Alternatives (AoA)</li> <li>- Execute Analysis of Alternatives (AoA)</li> <li>- Expand technical and concept development studies as informed by the AoA to define the submarine platform design trade space so that requirements definition can be done based on whole-ship concept risks (cost, schedule, and performance)</li> <li>- Expand advanced technology initial development and assessments as informed by the AoA including requirements definition and overall program risks (technical, schedule, and costs) associated with technology maturity</li> <li>- Start implementation of SSN(X) model based systems engineering process and digital design strategy</li> <li>- Continue modeling and simulation efforts to support design development and technology development.</li> <li>- Initiate Ship Specification efforts</li> <li>- Continue development, prototyping, and testing of advanced materials</li> <li>- Expand initial technology development, prototyping, and testing efforts for propulsor and shafting to inform requirements definition and overall program risks (technical, schedule, and costs) associated with technology maturity</li> <li>- Initiate preliminary design efforts</li> <li>- Continue acquisition documentation in preparation for Gate 2 and Milestone A</li> <li>- Conduct infrastructure and industrial base evaluation and planning to ensure activities are ready for SSN(X)</li> <li>- Begin infrastructure evaluation and maintenance</li> </ul> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> FY 2024 increase is essential to meet acquisition milestones to support the development of the next class of attack submarines (SSN(X)). The increase in funding is need for concept and technical studies, modeling and simulation efforts to support AoA and requirement decisions, R&amp;D development, and capabilities/requirement definition that supports the program milestone deliverables. To support the FY 2024 and beyond deliverables,</p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)	<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
funding for additional staff is needed to complete milestone deliverables on time. Additional funding is also needed to support propulsor prototyping, increase testing efforts (including propulsor and materials), improved stealth and payload capacity, and initiate research and development infrastructure studies and upgrades to ensure readiness for planned authorization in the mid 2030s. Increases are in line with historical funding ramps from previous submarine program development efforts (COLUMBIA, VIRGINIA, etc. )					
<b>Accomplishments/Planned Programs Subtotals</b>	29.174	133.772	361.582	0.000	361.582

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

SSN(X) is currently developing the acquisition strategy. Program office plans to utilize work requests for government warfare center initial concept and trade studies through FY 2025 to assist with requirements definition. 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 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)	<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development
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<b>Product Development (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	4.000	Oct 2021	24.000	Oct 2022	90.000	Oct 2023	-		90.000	Continuing	Continuing	Continuing
Technical Studies	WR	NSWC CD : Carderock, MD	0.700	10.657	Oct 2021	38.035	Oct 2022	83.147	Oct 2023	-		83.147	Continuing	Continuing	Continuing
Technical Studies	WR	NUWC NPT : Newport, RI	0.200	5.836	Oct 2021	24.632	Oct 2022	56.882	Oct 2023	-		56.882	Continuing	Continuing	Continuing
Technical Studies	WR	NSWC PD : Philadelphia, PA	0.090	0.526	Oct 2021	4.323	Oct 2022	7.755	Oct 2023	-		7.755	Continuing	Continuing	Continuing
Concept / R&D Studies	Various	Various : Various	0.000	0.250	Oct 2021	7.733	Nov 2022	25.662	Oct 2023	-		25.662	Continuing	Continuing	Continuing
Propulsor and Shafting	Various	Various : Various	0.000	0.000		14.174	Oct 2022	30.249	Oct 2023	-		30.249	Continuing	Continuing	Continuing
Infrastructure	Various	Various : Various	0.000	0.000		0.000		28.612	Nov 2023	-		28.612	Continuing	Continuing	Continuing
Acquisition Documentation	Various	Various : Various	0.000	1.996	Oct 2021	3.208	Oct 2022	5.708	Oct 2023	-		5.708	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.990	23.265		116.105		328.015		-		328.015	Continuing	Continuing	N/A

**Remarks**

Acquisition Documentation includes the ICD, pre-AoA studies, and AoA development and execution. ICD approval was extended into late FY 2023 delaying some AoA efforts / costs into FY 2024.

Technical Studies at NSWC Carderock, NSWC Philadelphia, and NUWC Newport - efforts include technical development, R&D development, concept development, modeling and simulation, prototyping, mission evaluation, technology AoA studies, and trade/feasibility studies.

Concept / R&D Studies: Various - Includes UARC and Lab studies

Technology and R&D studies are in the areas of hull and structures, propulsor and shafting, acoustic superiority and signatures, Command, Control, Communications, Computers, and Intelligence (C4I), Hull, Mechanical, and Electrical (HM&E) systems, whole ship studies, combat and payload systems, and the associated program and engineering support. These studies include assessments of technical feasibility, cost, performance, technology readiness, and mission effectiveness for technology options to address capability requirements (CR) and operational attributes (OA).

Infrastructure funding is needed for studies of current and future research and development facilities and equipment, implementation of required upgrades, and investment in future capabilities or facilities upgrades/modernization to ensure readiness to support the expanded capabilities of SSN(X).

The increase in funding is needed for concept and technical studies, modeling and simulation efforts to support AoA execution and requirement decisions, R&D development, and capabilities/requirement definition that supports the milestone deliverables. To support the FY 2024 and beyond deliverables, funding for additional staff is needed to complete milestone deliverables on time. Additional funding is also needed to support propulsor prototyping, increase testing efforts (including propulsor and materials), improved stealth and payload capacity, and initiate research and development infrastructure studies and upgrades to ensure readiness for planned award in the mid 2030s.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)	<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development
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<b>Support (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	2.865	Oct 2021	7.725	Oct 2022	8.426	Oct 2023	-		8.426	Continuing	Continuing	Continuing
Government Engineering Support	WR	NUWC NPT : Newport, RI	0.000	0.680	Oct 2021	2.570	Oct 2022	3.749	Oct 2023	-		3.749	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC PD : Philadelphia, PA	0.000	0.150	Oct 2021	0.675	Oct 2022	2.079	Oct 2023	-		2.079	Continuing	Continuing	Continuing
Contractor Engineering Support	C/CPFF	Various : Various	0.000	0.515	Dec 2021	2.223	Dec 2022	6.784	Dec 2023	-		6.784	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	4.210		13.193		21.038		-		21.038	Continuing	Continuing	N/A

**Remarks**  
 Engineering Support includes technical, concept, cost, and R&D support for SSN(X) studies and development efforts

Government and Contractor Engineering Support ramp up was delayed to late FY2023 due to contract delays, hiring timelines, and availability of qualified personnel. To support the FY2024 and beyond deliverables, funding for additional staff is needed to complete milestone deliverables on time.

<b>Management Services (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	0.874	Dec 2021	0.000		0.000		-		0.000	0.000	0.874	-
Program Support	C/CPFF	Serco : Herndon, VA	0.000	0.600	Jan 2022	3.199	Dec 2022	7.401	Dec 2023	-		7.401	Continuing	Continuing	Continuing
Program Mgt Support	Various	Various : Various	0.000	0.225	Nov 2021	1.275	Nov 2022	5.128	Nov 2023	-		5.128	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	1.699		4.474		12.529		-		12.529	Continuing	Continuing	N/A

**Remarks**  
 Program Management Support includes Program Office, subject matter experts (SME), cyber, cost, financial, and acquisition support. Costs for support in FY 2024 will increase with the documentation, review, and completion of the AoA; support for cybersecurity documentation and efforts, and early program development.

Program Management Support ramp up was delayed to late FY 2023 due to contract delays, hiring timelines, and availability of qualified personnel. To support the FY2024 and beyond deliverables, funding for additional staff is needed to complete milestone deliverables on time.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)	<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development
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<b>Management Services (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Support includes program office travel and office costs.

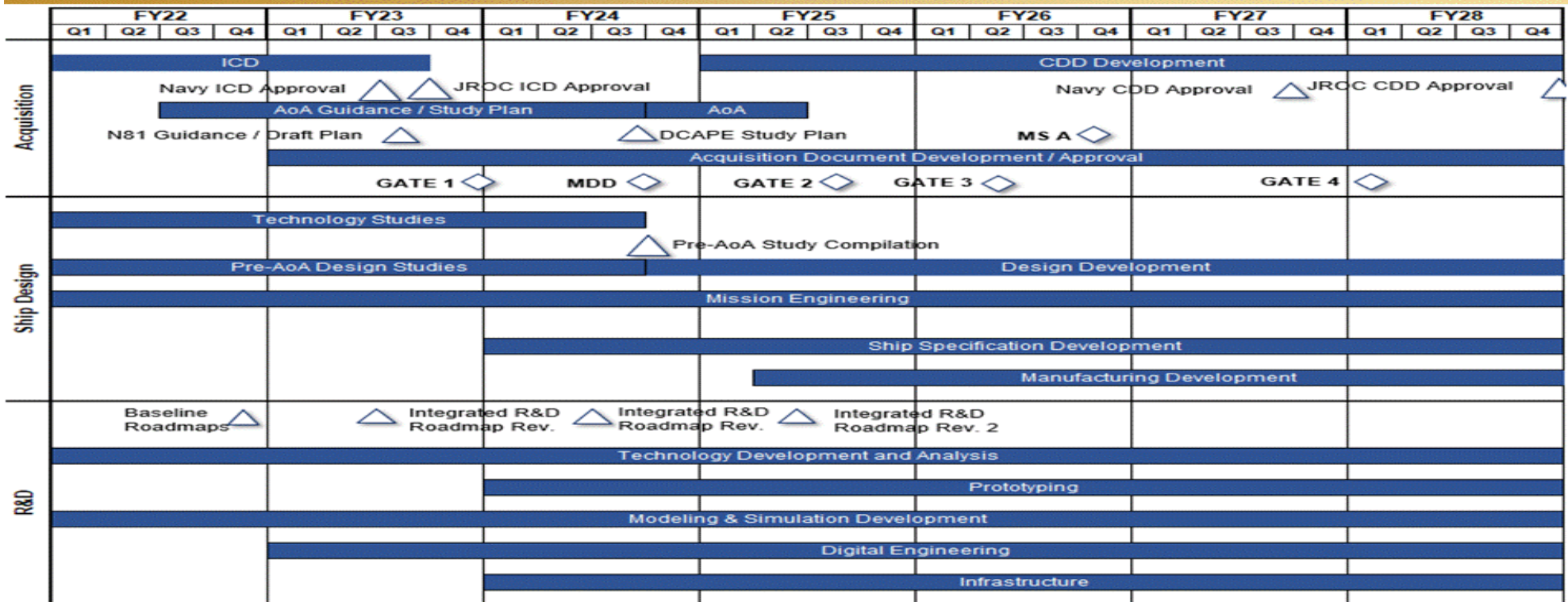
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	0.990	29.174	133.772	361.582	-	361.582	Continuing	Continuing	N/A

**Remarks**  
 FY 2024 increase is essential to meet acquisition milestones to support the development of the next class of attack submarines (SSN(X)). The increase in funding is needed for concept and technical studies, modeling and simulation efforts to support AoA and requirement decisions, technology R&D, and capabilities/requirement definition that supports the milestone deliverables. To support the FY 2024 and beyond deliverables, funding for additional staff is needed to complete milestone deliverables on time. Additional funding is also needed to support risk reduction prototyping (including propulsor), increase testing efforts (including propulsor and materials), improved stealth and payload capacity, and initiate research and development infrastructure studies and upgrades to ensure readiness for planned award in the mid 2030s. Increases are in line with historical funding ramps from previous submarine program development efforts (COLUMBIA, VIRGINIA, etc.).

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
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  
 CDD: Capabilities Development Document

DAB: Defense Acquisition Board  
 AoA: Analysis of Alternatives  
 R&D: Research & Development

JROC: Joint Requirement Oversight Council  
 MS: Milestone

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)	<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2368</b>				
Acquisition: Initial Capabilities Document (ICD)	1	2022	2	2023
Acquisition: Navy ICD Approval	3	2023	3	2023
Acquisition: JROC ICD Approval	3	2023	3	2023
Acquisition: AoA Guidance / Study Plan	3	2022	3	2024
Acquisition: AoA	4	2023	2	2024
Acquisition: N81 Approval of Guidance / Draft	3	2023	3	2023
Acquisition: Gate 1	4	2023	4	2023
Acquisition: MDD	4	2024	4	2024
Acquisition: Gate 2	3	2025	3	2025
Acquisition: Gate 3	2	2026	2	2026
Acquisition: DCAPE Study Plan	3	2024	3	2024
Acquisition: Milestone (MS) A	4	2026	4	2026
Acquisition: Navy CDD Approval	3	2027	3	2027
Acquisition: JROC CDD Approval	4	2028	4	2028
Acquisition: CDD Development	1	2025	4	2028
Acquisition: Acquisition Document Development / Approval	1	2023	4	2028
Acquisition: Gate 4	1	2028	1	2028
Ship Design: Technology Studies	1	2022	3	2024
Ship Design: Pre-AoA Design Studies	1	2022	3	2024
Ship Design: Mission Engineering	1	2022	4	2028
Ship Design: Design Development	4	2024	4	2028

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2024 Navy **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604850N / SSN(X)	<b>Project (Number/Name)</b> 2368 / SSN(X) Class Submarine Development
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Ship Design: Manufacturing Development	2	2025	4	2028
Ship Design: Ship Specification Development	1	2024	4	2028
Ship Design: Pre-AoA Study Compliation	4	2024	4	2024
R&D: Technology Development and Analysis	1	2022	4	2028
R&D: Prototyping	1	2024	4	2028
R&D: Digital Engineering	1	2023	4	2028
R&D: Infrastructure	1	2024	4	2028
R&D: Baseline Roadmaps	4	2022	4	2022
R&D: Integrated R&D Roadmap Rev 0	3	2023	3	2023
R&D: Integrated R&D Roadmap Rev 1	3	2024	3	2024
R&D: Integrated R&D Roadmap Rev 2	2	2025	2	2025