

UNCLASSIFIED

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

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>
---	---

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	29.212	26.294	26.779	6.697	-	6.697	8.147	8.143	7.977	8.137	Continuing	Continuing
2466: <i>NSRP ASE</i>	29.212	4.150	3.752	4.418	-	4.418	4.504	4.599	4.692	4.786	Continuing	Continuing
3435: <i>Advanced Shipyard Technology</i>	0.000	2.849	3.027	2.279	-	2.279	3.643	3.544	3.285	3.351	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	19.295	20.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	39.295

A. Mission Description and Budget Item Justification

The National Shipbuilding Research Program (NSRP) is an industry and enterprise wide research collaboration that seeks to reduce the Navy's shipbuilding and repair cost. The resulting technologies implemented in NSRP-ASE member shipyards, benefit both the shipyard and the US Navy.

The Advanced Shipyard Technology (AST) seeks to improve the productivity, quality, and reduce costs of maintenance performed by the Naval public shipyards. The resulting technologies implemented by this program benefit both the naval shipyard and the US Navy.

B. Program Change Summary (\$ in Millions)

	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>
Previous President's Budget	27.284	6.779	7.512	-	7.512
Current President's Budget	26.294	26.779	6.697	-	6.697
Total Adjustments	-0.990	20.000	-0.815	-	-0.815
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	20.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.990	0.000			
• Program Adjustments	0.000	0.000	-0.811	-	-0.811
• Rate/Misc Adjustments	0.000	0.000	-0.004	-	-0.004

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Advanced Additive Technologies for Sustainment of Navy Assets*

Congressional Add Subtotals for Project: 9999

	FY 2019	FY 2020
	19.295	20.000
	19.295	20.000

UNCLASSIFIED

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

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>
---	---

Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2019		FY 2020
Congressional Add Totals for all Projects		19.295		20.000

Change Summary Explanation

The FY 2020 funding request was increased by 20 million for a Congressional Plus Up for Advanced Additive Technologies for Sustainment of Navy Assets.

The FY 2021 funding request was reduced by \$0.815 million to account for the availability of prior year execution balances.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>				Project (Number/Name) 2466 / <i>NSRP ASE</i>			
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
2466: <i>NSRP ASE</i>	29.212	4.150	3.752	4.418	-	4.418	4.504	4.599	4.692	4.786	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

NSRP ASE is a collaboration of U.S. shipyards working with the Navy customer to reduce the cost of building and repairing naval ships and improving shipbuilding industry productivity through advanced technology and processes. NSRP ASE is an innovative and proven approach to public/private cooperation to manage cost-shared R&D based on a national consensus Strategic Investment Plan. The Plan targets potential industry-wide technology and process solutions which are vetted by industry experts and builds upon the progress made over the previous years. The collaboration's organizational structure promotes teaming of industry, government and academia to achieve the continuous product and process improvements necessary for improved Navy ship affordability. Solutions include both leverage of best commercial practices and creation of industry-wide initiatives with aggressive technology transfer to, and buy-in by, multiple U.S. shipyards. Navy PEOs (Ships, Subs and Carriers) and NAVSEA are directly involved in NSRP. The Plan calls for matching government and industry investments over several years.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Technology Development Projects	4.150	3.752	4.418	0.000	4.418
Articles:	-	-	-	-	-
Description: The NSRP is an ongoing Research and Development program. This program awards small research projects and large research projects to (1) Improve Quality; (2) Reduce Total Ownership Costs; and, (3) Increase Energy Efficiency. These research projects have been known to produce technological advances in shipbuilding that once implemented have resulted in savings for the Navy.					
FY 2020 Plans: (1) Complete technology development projects in the four major initiative areas (Ship Design and Material Technologies, Ship Production Technologies, Business Process and Information Systems, and Infrastructure and Support (Regulatory Compliance, Technology Transfer and Workforce Development)) that will be competitively selected by industry subject matter experts and Navy stakeholders during GFY20, targeting the following priorities in Naval shipbuilding and repair: (1) Improving Quality; (2) Reduction of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects selected will continue to be focused in the following areas: - Promotion of Modular Construction - Reduction of Re-work - Improving Production Engineering - Improving Specifications and Standards					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy	Date: February 2020
--	----------------------------

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 2466 / <i>NSRP ASE</i>
--	---	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<ul style="list-style-type: none"> - Improving Manufacturing Processes - Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost <p>(2) Continue technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community</p> <p><i>FY 2021 Base Plans:</i> (1) Complete technology development projects in the four major initiative areas (Ship Design and Material Technologies, Ship Production Technologies, Business Process and Information Systems, and Infrastructure and Support (Regulatory Compliance, Technology Transfer and Workforce Development)) that will be competitively selected by industry subject matter experts and Navy stakeholders during GFY20, targeting the following priorities in Naval shipbuilding and repair: (1) Improving Quality; (2) Reduction of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects selected will continue to be focused in the following areas:</p> <ul style="list-style-type: none"> - Promotion of Modular Construction - Reduction of Re-work - Improving Production Engineering - Improving Specifications and Standards - Improving Manufacturing Processes - Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost <p>(2) Continue technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community</p> <p><i>FY 2021 OCO Plans:</i> N/A</p> <p><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i></p>					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy	Date: February 2020
--	----------------------------

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 2466 / <i>NSRP ASE</i>
--	---	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
The increase from FY20 to FY21 will allow the NSRP to perform up to 5 additional projects and better support ship acquisition and sustainment, especially for new classes such as the large surface combatant.					
Accomplishments/Planned Programs Subtotals	4.150	3.752	4.418	0.000	4.418

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

N/A

Remarks

D. Acquisition Strategy

R&D projects have been solicited and awarded by an industry collaboration represented by the Executive Control Board (ECB) of the National Shipbuilding Research Program (NSRP). The Navy has entered into an agreement with the industry collaboration using "other transaction" authority pursuant to 10 U.S.C. 2371.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy												Date: February 2020			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 7				PE 0708730N / Maritime Tech (MARITECH)				2466 / NSRP ASE							
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development	Various	ECB NSRP : Not Specified	28.341	4.150	Dec 2018	3.752	Dec 2019	4.418	Dec 2020	-		4.418	Continuing	Continuing	Continuing
Subtotal			28.341	4.150		3.752		4.418		-		4.418	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Gov't Support Services	WR	NSWCCD : Not Specified	0.650	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Contractor Support Services	Various	Various : Not Specified	0.221	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			0.871	0.000		0.000		0.000		-		0.000	Continuing	Continuing	N/A
Project Cost Totals			29.212	4.150		3.752		4.418		-		4.418	Continuing	Continuing	N/A
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 2466 / <i>NSRP ASE</i>
--	---	--

Proj 2466	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
	Ship Collaborative Framework Technologies																															

2021PB - 0708730N - 2466

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 2466 / <i>NSRP ASE</i>
--	---	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2466</i>				
Ship Collaborative Framework Technologies	1	2020	4	2025

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>				Project (Number/Name) 3435 / <i>Advanced Shipyard Technology</i>			
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
3435: <i>Advanced Shipyard Technology</i>	0.000	2.849	3.027	2.279	-	2.279	3.643	3.544	3.285	3.351	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Shipyard Technology (AST) develops, matures, and transitions technology (production processes, human augmentation, business process, IT, tooling, etc.), into the naval shipyards. Advanced Shipyard Technology funding will facilitate collaboration between government (Naval Sea Systems Command (NAVSEA), the public naval shipyards, Navy customers, Naval Warfare Centers, and others), academia, and industry. AST is an innovative approach to leverage public/private cooperation and target technology and process solutions that build on progress made over the previous years. Funding ensures widespread adoption of innovative improvements, enhancing proficiency and productivity of the public naval shipyard workforce to achieve the continuous product and process improvements necessary for improved Navy ship repair costs, and an overall reduction in availability duration.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Technology Transfer	2.849	3.027	2.279	0.000	2.279
Articles:	-	-	-	-	-
FY 2020 Plans:					
Complete technology development projects in the six major initiative areas (Surface Restoration, Additive Manufacturing and Repair, Expeditionary Maintenance, Automation and Robotics, Digital Shipyard, and Infrastructure) that will be competitively selected by sustainment and technology subject matter experts and Navy stakeholders.					
The following are priorities in Naval sustainment and repair: (1) Reduce Critical Path; (2) Reduce Cycle Times; (3) Reduce Life cycle Costs, (4) Increase throughput and, (5) Improve workforce safety and efficacy.					
It is anticipated that projects selected will continue to be focused in the following areas:					
<ul style="list-style-type: none"> - Modernizing Industrial Processes - Improving Material Availability - Increasing Workforce Capacity - New repair technologies - Reducing Re-work - Improving Worker Efficiency 					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy	Date: February 2020
--	----------------------------

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 3435 / <i>Advanced Shipyard Technology</i>
--	---	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<ul style="list-style-type: none"> - Improving Scheduling and Planning - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost <p>(2) Leverage technology transfer opportunities</p> <p>FY 2021 Base Plans: Complete technology development projects in the six major initiative areas (Surface Restoration, Additive Manufacturing and Repair, Expeditionary Maintenance, Automation and Robotics, Digital Shipyard, and Infrastructure) that will be competitively selected by sustainment and technology subject matter experts and Navy stakeholders.</p> <p>The following are priorities in Naval sustainment and repair: (1) Reduce Critical Path; (2) Reduce Cycle Times; (3) Reduce Life cycle Costs, (4) Increase throughput and, (5) Improve workforce safety and efficacy.</p> <p>It is anticipated that projects selected will continue to be focused in the following areas:</p> <ul style="list-style-type: none"> - Modernizing Industrial Processes - Improving Material Availability - Increasing Workforce Capacity - New repair technologies - Reducing Re-work - Improving Worker Efficiency - Improving Scheduling and Planning - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost <p>(2) Leverage technology transfer opportunities</p> <p>FY 2021 OCO Plans: N/A</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: The decrease is due projected excess carryover of prior year balances.</p>					
Accomplishments/Planned Programs Subtotals	2.849	3.027	2.279	0.000	2.279

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy Date: February 2020

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 7	PE 0708730N / <i>Maritime Tech (MARITECH)</i>	3435 / <i>Advanced Shipyard Technology</i>

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

N/A

Remarks

D. Acquisition Strategy

Technologies will be developed and fielded based on their level of maturity and measure of benefit to the public naval shipyards.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 3435 / <i>Advanced Shipyard Technology</i>
--	---	--

Project 3435	FY 2019				FY 2020				FY 2021				FY2022				FY2023				FY2024				FY2025							
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
	ADVANCED SHIPYARD TECHNOLOGY																															

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 3435 / <i>Advanced Shipyard Technology</i>
--	---	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 3435</i>				
Advanced Shipyard Technologies	1	2020	4	2025

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>				Project (Number/Name) 9999 / <i>Congressional Adds</i>			
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: <i>Congressional Adds</i>	0.000	19.295	20.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	39.295
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Shipyard Technology (AST) develops, matures, and transitions technology (production processes, human augmentation, business process, IT, tooling, etc.), into the naval shipyards. Advanced Shipyard Technology funding will facilitate collaboration between government (Naval Sea Systems Command (NAVSEA), the public naval shipyards, Navy customers, Naval Warfare Centers, and others), academia, and industry. AST is an innovative approach to leverage public/private cooperation and target technology and process solutions that build on progress made over the previous years. Funding ensures widespread adoption of innovative improvements, enhancing proficiency and productivity of the public naval shipyard workforce to achieve the continuous product and process improvements necessary for improved Navy ship repair costs, and an overall reduction in availability duration. The congressional add will accelerate the delivery of technical capabilities to support the warfighter and to advance technologies that will modernize and sustain military systems in an efficient, cost-effective manner. The additional funding will support the development of advanced additive technologies for sustainment of navy assets including Cold Spray.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2019	FY 2020
Congressional Add: Advanced Additive Technologies for Sustainment of Navy Assets	19.295	20.000
FY 2019 Accomplishments: FY19 Accomplishments include fielding of metal 3D printers at public shipyards, partnerships with various universities to further additive manufacturing technologies, and development of machines and powders to support the rapid expansion of use for additive manufacturing to support the Navy.		
FY 2020 Plans: Continuing on with the FY19 plan of projects to accomplish. FY20 funded efforts will include additive manufacturing but not Cold Spray as was indicated in the FY19 Congressional Add.		
Congressional Adds Subtotals	19.295	20.000

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

N/A

Remarks

D. Acquisition Strategy

Technologies will be developed and fielded based on their level of maturity and measure of benefit to the public naval shipyards.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	---	--

Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Technology Development	MIPR	Penn State U : University Park, PA	0.000	2.797	Dec 2018	0.000		0.000		-		0.000	0.000	2.797	-
Technology Development	WR	PNSY : Kittery, ME	0.000	1.000	Dec 2018	0.000		0.000		-		0.000	0.000	1.000	-
Technology Development	WR	NSWCPD : Philadelphia, PA	0.000	0.065	Dec 2018	0.000		0.000		-		0.000	0.000	0.065	-
Technology Development	WR	NSWCPC : Panama City, FL	0.000	0.900	Dec 2018	0.000		0.000		-		0.000	0.000	0.900	-
Technology Development	MIPR	NCMS/CTMA : Ann Arbor, MI	0.000	11.495	Aug 2019	0.000		0.000		-		0.000	0.000	11.495	-
Technology Development	MIPR	ARMY ARL : Adelphi, MD	0.000	1.350	May 2019	0.000		0.000		-		0.000	0.000	1.350	-
Technology Development	WR	ONR : Navy Yard, DC	0.000	0.500	Sep 2019	0.000		0.000		-		0.000	0.000	0.500	-
Technology Development	WR	NSWCCD : Potomac, MD	0.000	0.075	Mar 2019	0.000		0.000		-		0.000	0.000	0.075	-
Technology Development	WR	NUWCKP : Keyport, WA	0.000	0.113	Mar 2019	0.000		0.000		-		0.000	0.000	0.113	-
Technology Development	WR	NUWC Keyport : Keyport, WA	0.000	0.000		5.500	Apr 2020	0.000		-		0.000	0.000	5.500	-
Technology Development	MIPR	Pearl Harbor : Pearl Harbor, HI	0.000	0.000		9.000	Apr 2020	0.000		-		0.000	0.000	9.000	-
Technology Development	WR	TRF Bangor : Bangor, WA	0.000	0.000		2.000	May 2020	0.000		-		0.000	0.000	2.000	-
Technology Development	WR	PSNS&IMF : Bremerton, WA	0.000	0.000		0.750	Jun 2020	0.000		-		0.000	0.000	0.750	-
Technology Development	MIPR	NAVSEA 05T : Navy Yard, DC	0.000	0.000		0.500	Jun 2020	0.000		-		0.000	0.000	0.500	-
Technology Development	WR	NNSY : Portsmouth, ME	0.000	0.000		0.500	Jul 2020	0.000		-		0.000	0.000	0.500	-
Technology Development	MIPR	VRC : Rapid Ciy, SD	0.000	0.000		1.250	Jul 2020	0.000		-		0.000	0.000	1.250	-
Subtotal			0.000	18.295		19.500		0.000		-		0.000	0.000	37.795	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	---	--

Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
Funds provided to support the development of Cold Spray and Additive Manufacturing Technologies.

Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Management Services	WR	NUWC Keyport : Keyport, WA	0.000	1.000	Mar 2019	0.500	Mar 2020	0.000		-		0.000	0.000	1.500	-
Subtotal			0.000	1.000		0.500		0.000		-		0.000	0.000	1.500	N/A

Remarks
Cost-Reimbursable services for project management and technical insertion to public shipyards

	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	19.295	20.000	0.000	-	0.000	0.000	39.295	N/A

Remarks

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	---	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 9999</i>				
ADVANCED SHIPYARD TECHNOLOGY	1	2020	4	2021