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**Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy** **Date:** April 2022

<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>											
1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 7: Operational Systems Development</i>	PE 0604227N / Harpoon Modifications											
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	2.302	0.694	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.996
1843: <i>Harpoon Block II+</i>	2.302	0.694	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.996

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

The Encapsulated (ENCAP) Harpoon Block IC (HIC) missiles provides Navy Los Angeles-class nuclear attack submarines (SSN) a subsurface-launched, all-weather, long-range Anti-Surface Warfare (ASuW) missile to attack enemy warships at stand-off ranges. The ENCAP Reconstitution Program will refurbish and recertify 60 ENCAP HIC all-up rounds currently in deep storage to an "as-new" war-ready material condition (ENCAP Harpoons were placed in deep storage in 1996). The controlled storage the missiles were placed in have preserved the material condition of the weapon system, allowing for relatively quick recertification and reissue. Due to the ease and speed of missile recertification's the ENCAP HIC Reconstitution Program will fill a critical and time sensitive ASuW capability gap and meet Speed to the Fleet requirements.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it requires development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

Harpoon Block II+ development program concluded in FY 2021.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	0.697	0.000	0.000	-	0.000
Current President's Budget	0.694	0.000	0.000	-	0.000
Total Adjustments	-0.003	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.003	0.000			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0604227N / Harpoon Modifications				<b>Project (Number/Name)</b> 1843 / Harpoon Block II+			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
1843: Harpoon Block II+	2.302	0.694	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.996
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The Encapsulated (ENCAP) Harpoon Block IC (HIC) missiles provides Navy Los Angeles-class nuclear attack submarines (SSN) a subsurface-launched, all-weather, long-range Anti-Surface Warfare (ASuW) missile to attack enemy warships at stand-off ranges. The ENCAP Reconstitution Program will refurbish and recertify 60 ENCAP HIC all-up rounds currently in deep storage to an "as-new" war-ready material condition (ENCAP Harpoons were placed in deep storage in 1996). The controlled storage the missiles were placed in have preserved the material condition of the weapon system, allowing for relatively quick recertification and reissue. Due to the ease and speed of missile recertifications, the ENCAP HIC Reconstitution Program will fill a critical and time sensitive ASuW capability gap and meet Speed to the Fleet requirements.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it requires development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

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

	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
<b>Title:</b> ENCAP Reconstitution Program	0.694	0.000	0.000	0.000	0.000
<b>Articles:</b>	-	-	-	-	-
<b>FY 2022 Plans:</b> N/A					
<b>FY 2023 Base Plans:</b> N/A					
<b>FY 2023 OCO Plans:</b> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>	0.694	0.000	0.000	0.000	0.000

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

<b>Line Item</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/5227: Harpoon Support Equipment	0.000	0.204	0.217	-	0.217	0.222	0.225	0.230	0.234	0.000	1.332

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy	<b>Date:</b> April 2022
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<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0604227N / <i>Harpoon Modifications</i>	<b>Project (Number/Name)</b> 1843 / <i>Harpoon Block II+</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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**Remarks**

**D. Acquisition Strategy**

The Encapsulated Harpoon Block IC (ENCAP HIC) Reconstitution Program will refurbish and recertify 60 ENCAP HICs to an as-new war-ready material condition. Coordinated contracting efforts between NAVAIR and NAVSEA offices will reintegrate and supply ENCAP HICs. Vendor support for all associated activities will leverage existing vendor relationships, and exiting contracts when able. All required manufacturing processes, support facilities, and tooling currently exist and are in current use for this program. Due to updated munitions requirements analysis indicating that sufficient Harpoon Block II+ Kits were procured through FY 2020, procurement program concluded end of FY 2020 and will begin fielding in FY 2022.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0604227N / Harpoon Modifications	<b>Project (Number/Name)</b> 1843 / Harpoon Block II+
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<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Primary Hardware Development	SS/CPPIF	Mustang/L3 : Plano, TX	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Missile Support- Encap	C/CPFF	BSC : Chantilly, VA	0.124	0.200	Feb 2021	0.000		0.000		-		0.000	0.000	0.324	0.324
<b>Subtotal</b>			0.124	0.200		0.000		0.000		-		0.000	0.000	0.324	N/A

<b>Support (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Support	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Missile Support - ENCAP CSS	C/CPFF	MCLAUGHLIN RESEARCH CORPORATION : New London, CT	0.327	0.000		0.000		0.000		-		0.000	0.000	0.327	0.327
<b>Subtotal</b>			0.327	0.000		0.000		0.000		-		0.000	0.000	0.327	N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
T&E - Encap	WR	NUWC Naval Undersea Warfare Center : Newport, RI	1.851	0.494	Nov 2020	0.000		0.000		-		0.000	0.000	2.345	-
<b>Subtotal</b>			1.851	0.494		0.000		0.000		-		0.000	0.000	2.345	N/A

**Remarks**  
Test and Evaluation cost for the Harpoon HIC ENCAP reconstitution efforts includes conclusion of sea trial activities, and safety, shock, and implosion studies and analysis.

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	2.302	0.694	0.000	0.000	-	0.000	0.000	2.996	N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2023 Navy	<b>Date:</b> April 2022
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<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0604227N / <i>Harpoon Modifications</i>	<b>Project (Number/Name)</b> 1843 / <i>Harpoon Block II+</i>
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	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
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<u>Remarks</u>									
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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2023 Navy		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0604227N / Harpoon Modifications	<b>Project (Number/Name)</b> 1843 / Harpoon Block II+

HARPOON MODIFICATION	FY 2021				FY 2022			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Program Milestones					◇ Fielding			
Test & Evaluation Activities	D	◇ Sea Trials						
Support	ENCAP Refurbishment and Maintenance							

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2023 Navy **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0604227N / <i>Harpoon Modifications</i>	<b>Project (Number/Name)</b> 1843 / <i>Harpoon Block II+</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Harpoon Modifications</i></b>				
Program Milestones: Fielding	1	2022	1	2022
Test and Evaluation: Developmental Tests	1	2021	1	2021
Test and Evaluation: Sea Trials	2	2021	2	2021
Support: ENCAP Refurbishment and Maintenance	1	2021	4	2022