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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 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0304270N / <i>Electronic Warfare Development - MIP</i>
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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	5.961	0.609	0.805	0.506	-	0.506	-	-	-	-	-	-
2260: <i>Specific Emitter ID</i>	5.961	0.609	0.805	0.506	-	0.506	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.

Advanced Component Development and Prototypes (ACD&P) efforts necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment are funded in this Program Element (PE). Most of the work in this PE can be classified between Technology Readiness Level (TRL) 6 (system/subsystem model or prototype demonstration in a relevant environment) and TRL 7 (system prototype demonstration in an operational environment).

This PE is a Military Intelligence Program (MIP).

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.609	0.809	0.578	-	0.578
Current President's Budget	0.609	0.805	0.506	-	0.506
Total Adjustments	0.000	-0.004	-0.072	-	-0.072
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	-0.072	-	-0.072

Change Summary Explanation

Funding: No significant change

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Technical: Not applicable.		
Schedule: Not applicable.		

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0304270N / <i>Electronic Warfare Development - MIP</i>	Project (Number/Name) 2260 / <i>Specific Emitter ID</i>
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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
2260: <i>Specific Emitter ID</i>	5.961	0.609	0.805	0.506	-	0.506	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.

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

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Title: Sensor Fusion</p> <p align="right">Articles:</p> <p>Description: This effort supports systems development and information fusion of improved SEI technology for automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals.</p> <p>FY 2021 Plans: Development of advanced technologies to improve signal processing, signal characterization, de-interleaving of signals, and sensor fusion for national collection systems which employ SEI technology will continue.</p> <p>FY 2022 Base Plans: - Continue development of advanced technologies to improve signal processing, signal characterization, de-interleaving of signals, and sensor fusion for national collection systems, which employ SEI technology.</p> <p>FY 2022 OCO Plans: N/A</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: No significant change from FY 2021 to FY 2022.</p>	0.167	0.172	0.130	0.000	0.130
Articles:	-	-	-	-	-
<p>Title: System Automation</p> <p align="right">Articles:</p>	0.196	0.406	0.200	0.000	0.200
Articles:	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
<p>Description: This effort supports development of an autonomous surveillance system capable of providing emitter signal information to a central location.</p> <p>FY 2021 Plans: Development of technologies for an autonomous surveillance system that provides emitter signal information to a central location will continue.</p> <p>Develop improvements and automation of Specific Emitter Identification (SEI) certification hardware and software.</p> <p>FY 2022 Base Plans: Continue development of technologies for an autonomous surveillance system that provides emitter signal information to a central location. Continue development of improvements and automation of Specific Emitter Identification (SEI) certification hardware and software.</p> <p>FY 2022 OCO Plans: N/A</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: No significant change from FY 2021 to FY 2022.</p>					
<p>Title: Technology Refresh and Communication Enhancement</p> <p align="right">Articles:</p> <p>Description: This effort improves SEI system performance, real-time communication and tactical use of SEI which will be expanded with next generation SEI technology.</p> <p>FY 2021 Plans: Improving next generation SEI system performance through developmental improvements in SEI hardware, software and real-time communications remains a priority.</p> <p>Originate evaluations of new SEI hardware subsystems for improved SEI system performance.</p> <p>FY 2022 Base Plans:</p>	0.246 -	0.227 -	0.176 -	0.000 -	0.176 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Continue improving next generation SEI system performance through developmental improvements in SEI hardware, software and real-time communications. Continue evaluations of new SEI hardware subsystems for improved SEI system performance. <i>FY 2022 OCO Plans:</i> N/A <i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> No significant change from FY 2021 to FY 2022.					
Accomplishments/Planned Programs Subtotals	0.609	0.805	0.506	0.000	0.506

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

N/A

Remarks

D. Acquisition Strategy

Not applicable.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy **Date:** May 2021

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Proj 2260	FY 2020				FY 2021				FY 2022			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Demonstration												
	Installation and Testing											

2022PB - 0304270N - 2260

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2260				
Demonstration: Installation and Testing	1	2020	4	2022