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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 4: Advanced Component Development & Prototypes (ACD&P)</i>					R-1 Program Element (Number/Name) PE 0304270N / <i>Electronic Warfare Development - MIP</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	5.495	0.466	0.609	0.809	-	0.809	0.578	0.576	0.576	0.571	Continuing	Continuing
2260: <i>Specific Emitter ID</i>	5.495	0.466	0.609	0.809	-	0.809	0.578	0.576	0.576	0.571	Continuing	Continuing

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 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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	0.466	0.609	0.561	-	0.561
Current President's Budget	0.466	0.609	0.809	-	0.809
Total Adjustments	0.000	0.000	0.248	-	0.248
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	0.001	-	0.001
• Rate/Misc Adjustments	0.000	0.000	0.247	-	0.247

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 2021 Navy										Date: February 2020		
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>			
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
2260: <i>Specific Emitter ID</i>	5.495	0.466	0.609	0.809	-	0.809	0.578	0.576	0.576	0.571	Continuing	Continuing
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Sensor Fusion	0.130	0.167	0.172	0.000	0.172
Articles:	-	-	-	-	-
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.					
FY 2020 Plans: This subarea develops advanced technologies that support the tracking of commercial ships over 200 gross registered tons through improvements in signal processing, de-interleaving of signals, information fusion, and hardware of national collection systems which employ SEI technology.					
FY 2021 Base 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.					
FY 2021 OCO Plans: N/A					
FY 2020 to FY 2021 Increase/Decrease Statement: No significant changes from FY 2020 to FY 2021; no programmatic impact.					
Title: System Automation	0.149	0.196	0.410	0.000	0.410
Articles:	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 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 2020 Plans: This subarea develops technologies that support improvements and enhancements to Electronic Intelligence capabilities using associated technology that provides emitter signal information to a central location from an autonomous surveillance system.</p> <p>FY 2021 Base 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 2021 OCO Plans: N/A</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: No significant changes from FY 2020 to FY 2021; no programmatic impact.</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 2020 Plans: This subarea improves next generation SEI system performance, situational awareness and the tactical employment of SEI technology through developmental improvements in software and real-time communications.</p> <p>FY 2021 Base Plans: Improving next generation SEI system performance through developmental improvements in SEI hardware, software and real-time communications remains a priority.</p>	0.187 -	0.246 -	0.227 -	0.000 -	0.227 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Originate evaluations of new SEI hardware subsystems for improved SEI system performance.					
<i>FY 2021 OCO Plans:</i> N/A					
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> No significant changes from FY 2020 to FY 2021; no programmatic impact.					
Accomplishments/Planned Programs Subtotals	0.466	0.609	0.809	0.000	0.809

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 2021 Navy **Date:** February 2020

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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Proj 2260	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024							
	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				
Demonstration																																

2020DON - 0304270N - 2260

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2260				
Demonstration: Installation and Testing	1	2019	4	2024