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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 0603851M / <i>Joint Non-Lethal Weapons Testing</i>
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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	571.790	26.695	28.466	28.435	-	28.435	29.917	30.484	31.115	31.738	Continuing	Continuing
2319: <i>Non-Lethal Weapons</i>	571.790	26.695	28.466	28.435	-	28.435	29.917	30.484	31.115	31.738	Continuing	Continuing

A. Mission Description and Budget Item Justification

The DoD Non-Lethal Weapons Program was established by the FY96 National Defense Authorization Act. The Office of the Secretary of Defense designated the Commandant of the Marine Corps (CMC) as the DoD NLW Executive Agent (EA). The EA exercises centralized responsibility for joint research and development of non-lethal weapons and technology through the Joint Non-Lethal Weapons Program (JNLWP). The Office of the Under Secretary of Defense for Acquisition and Sustainment serves as the OSD Principal Staff Assistant and oversees, in consultation with the Under Secretary of Defense for Policy, the DoD NLW Executive Agent.

The efforts described in this Program Element (PE) reflect Joint Service research and development (R&D) investment decisions by the Joint Non-Lethal Weapons Integrated Product Team, a multi-service flag level corporate board that provides executive oversight and management of the JNLWP for the EA. Research conducted is based on the requirements and capabilities sought by the Services and the Coast Guard, as identified in JROC-approved Joint Non-Lethal Effects Initial Capabilities Documents. This coordinated joint Research and Development approach addresses mutual capability gaps and assures the most relevant non-lethal technologies, capabilities and equipment are provided to the operating forces while eliminating duplicative Service investment. Advanced Component Development and Prototypes non-lethal weapons initiatives provide non-lethal capabilities in direct support of the National Defense Strategy (NDS) objective of strategic competition by providing options to the joint force in pursuit of national objectives in legal or policy constrained scenarios, as well as complementing the use of lethal effects in complex combat scenarios, for example, in urban environments with large civilian populations. Ongoing NLW studies, analyses and exercise efforts with NATO and Allies also support NDS objectives to strengthen alliances and partnerships. Resulting capabilities facilitate a fully integrated non-lethal competency as a complement to lethal firepower, providing force application options for below lethal threshold engagements.

This PE funds Joint Service research, development, test, and evaluation of non-lethal weapons, devices, munitions and technologies which provide a non-lethal capability to minimize significant injuries as well as undesired damage to property and the environment. Counter-personnel and counter-materiel capability investment areas include directed energy (lasers, millimeter wave and high power microwave), multi-sensory suppression/incapacitation initiatives (acoustics, optical, electro-muscular incapacitation), and other emergent technologies transitioning from coordinated JNLWP Science and Technology PE initiatives. Investments also focus on Joint and allied experimentation, exercise, demonstration and assessment of advanced component and prototype initiatives in order to assist transition of suitable and effective capabilities to both joint and allied operational applications.

The Joint Non-Lethal Weapons Directorate is designated as a R&D organization and was established by the EA to manage the day to day research and development activities of the DoD's JNLWP. Each Service is responsible for their procurement and operating support costs.

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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 0603851M / <i>Joint Non-Lethal Weapons Testing</i>
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B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	27.581	28.466	28.079	-	28.079
Current President's Budget	26.695	28.466	28.435	-	28.435
Total Adjustments	-0.886	0.000	0.356	-	0.356
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.465	0.000			
• SBIR/STTR Transfer	-0.422	0.000			
• Program Adjustments	0.000	0.000	0.096	-	0.096
• Rate/Misc Adjustments	0.001	0.000	0.260	-	0.260

Change Summary Explanation

The decrease of \$0.31M between FY20 and FY21 is due to NWCF rate adjustments.

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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 0603851M / <i>Joint Non-Lethal Weapons Testing</i>	Project (Number/Name) 2319 / <i>Non-Lethal Weapons</i>
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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
2319: <i>Non-Lethal Weapons</i>	571.790	26.695	28.466	28.435	-	28.435	29.917	30.484	31.115	31.738	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops intermediate force capabilities that minimize fatal or permanent injuries and undesired damage to property and the environment. These capabilities are designed to incapacitate or hinder movement of individuals, crowds or equipment. The availability of non-lethal weapons (NLW) allows commanders less lethal options across the range of military operations, particularly in urban warfare and military operations other than war, i.e. peacekeeping, humanitarian assistance and disaster relief, as well as special operations.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Counter-Personnel Advanced Component Development and Prototypes	10.961	11.646	11.646	0.000	11.646
Articles:	-	-	-	-	-
FY 2020 Plans:					
<ul style="list-style-type: none"> - Continue maturation of CP directed energy technologies to increase system efficiencies and reduce system size, weight and cost in preparation for transition to joint acquisition programs of record. - Continued the advanced development of CP emerging technologies to support Service capability gaps and priorities as they support the Combatant Commanders. - Continued technology maturation and risk reduction of competing approaches to inform decisions for Service capability development. - Continued prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-personnel capability gaps. - Continued coordination and requirements development for Service counter-personnel (CP) prototyping initiatives within the JNLWP. This includes SOCOM and USCG. - Continued development and assessment of Service-led CP NL prototype initiatives. - Continued prototype development and demonstration for the most promising technologies employing multisensory stimuli. - Continued program management support for CP efforts. - Completed munitions testing and acquisition documentation of NL capability to deny, move and suppress individuals at long ranges from currently fielded weapons systems. 					
FY 2021 Base Plans:					

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603851M / <i>Joint Non-Lethal Weapons Testing</i>	Project (Number/Name) 2319 / <i>Non-Lethal Weapons</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"> - Continuing maturation of counter-personnel (CP) directed energy technologies to increase system efficiencies and reduce system size, weight and cost in preparation for transition to joint acquisition programs of record. - Continuing development of CP emerging technologies to support Service capability gaps and priorities as they support the Combatant Commanders. - Continuing technology maturation and risk reduction of competing approaches to inform decisions for Service capability development. - Continuing prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-personnel capability gaps. - Continuing coordination and requirements development for Service counter-personnel (CP) prototyping initiatives within the Joint Non-Lethal Weapons Program. - Continuing Service-led CP intermediate force prototype initiatives. - Continuing prototype development and demonstration for the most promising technologies employing multisensory stimuli. - Continuing program management support for CP efforts. - Complete non-pyrotechnic flashbang non-developmental item (NDI) testing and high intensity light evaluation. - Initiate integration of current intermediate force capabilities into an established service platform for demonstration and prototyping purposes. <p>FY 2021 OCO Plans: N/A</p>					
<p>Title: Counter-Materiel Advanced Component Development and Prototypes</p> <p align="right">Articles:</p>	10.237	10.801	10.770	0.000	10.770
<p>FY 2020 Plans:</p> <ul style="list-style-type: none"> - Continued advanced component development and prototyping support to the U.S. Navy's candidate Maritime Vessel Stopping capability. - Continued development of the conceptual design of non-lethal Directed Energy (DE) vessel-stopping capability, including electro-magnetic and engagement modeling, platform feasibility and integration studies, and target characterization and validation. - Continued maturation of CM directed energy technologies to increase system efficiencies and reduce system size, weight and cost in preparation for transition to joint acquisition programs of record. - Continued coordination and requirements development for Service counter-material (CM) prototyping initiatives within the JNLWP. This includes SOCOM and USCG. 	-	-	-	-	-

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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
<ul style="list-style-type: none"> - Continued development and assessment of Service-led CM NL prototype initiatives. - Continued the advanced development of Counter-Materiel emerging technologies to support Service capability gaps and priorities as they support the Combatant Commanders. Specifically, complete advanced development of 40mm non-lethal counter material round for USSOCOM. - Continued technology maturation and risk reduction of competing approaches to inform decisions for Service capability development. - Continued prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-materiel capability gaps. - Continued program management support for CM efforts. - Completed Critical Design Review for counter material: Radio Frequency vehicle stopper prototype capability. - Completed production qualification testing of a Service-endorsed pre-emplaced, counter-materiel, counter vehicle stopping capability. <p><i>FY 2021 Base Plans:</i></p> <ul style="list-style-type: none"> - Continuing advanced component development and prototyping support to the Department of the Navy's candidate Maritime Vessel Stopping capability. (Vessel Stopping Prototype) - Continuing development of the conceptual design of non-lethal directed energy vessel-stopping capability, including electro-magnetic and engagement modeling, platform feasibility and integration studies, target characterization and validation. - Continuing maturation of counter-materiel (CM) directed energy technologies to increase system efficiencies and reduce system size, weight and cost in preparation for transition to joint acquisition programs of record. - Continuing coordination and requirements development for Service CM prototyping initiatives within the Joint Non-Lethal Weapons Program. - Continuing development and assessment of Service-led CM intermediate force prototype initiatives. - Continuing maturation of CM directed energy technologies to increase system efficiencies such as reduce system size, weight and cost in preparation for transition to joint acquisition programs of record. - Continuing the advanced development of CM emerging technologies to support Service capability gaps and priorities as they support the Combatant Commanders. - Continuing technology maturation and risk reduction of competing approaches to inform decisions for Service capability development. - Continuing prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-materiel capability gaps. - Continuing program management support for CM efforts. 					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
<ul style="list-style-type: none"> - Completing production qualification testing of a Service-endorsed pre-emplaced, counter-materiel vehicle stopping capability. - Complete advanced development of 40 mm CM round for USSOCOM. <p>FY 2021 OCO Plans: N/A</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease of \$0.31M from FY20-21 is due to NWCF rate adjustments.</p>					
<p>Title: Joint and Allied Exercise, Experimentation, Demonstration and Assessment</p>					
Articles:					
<p>FY 2020 Plans:</p> <ul style="list-style-type: none"> - Continued support of two CCMDs by demonstrating and assessing NLW capabilities for vessel interdiction and counter-migration exercises. - Continued modeling and simulation (M&S) of NLWs in warfighter training/gaming models and performance effects data collection/population to demonstrate/analyze NL effects and support optimization of training. - Continued evaluation of NLWs by Service warfighting laboratories and Joint Staff, J7, Joint and Coalition Warfighting for direct user feedback of various non-lethal (NL) technologies and munitions to include policy and strategy and strategic communication. - Continued engagement with NATO on cooperative security efforts, to include providing input for Systems Analysis and Studies (SAS) Panels and NATO assessment of NLW in appropriate allied scenarios and exercises. - Continued interaction with Combatant Commander staffs to evaluate emerging NLW capabilities and their utility in theater operations and Defense of the Homeland missions. - Continued effort to assess the utility, effect, and effectiveness of technologies for incapacitating personnel, clearing facilities, stopping vehicles and vessels, and denying enemy access to protected areas. Specifically, complete vehicle stopping pilot programs for USAF and USMC. - Continued to identify, test, and evaluate newly developed commercial products that may meet Joint service requirements for specific non-lethal capability set common items. - Continued program management support for Joint and Allied Exercise, Experimentation, Demonstration and Assessment efforts. - Continued support of Combatant Commanders (CCMD) by demonstrating and assessing NLW capabilities for multiple priority mission areas, such as port opening operations; Humanitarian Assistance and Disaster Relief 					
	5.497	6.019	6.019	0.000	6.019
	-	-	-	-	-

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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>(HA/DR) and Counter-Transnational Organized Crime (CTOC) operations; and harbor and in-transit security operations.</p> <ul style="list-style-type: none"> - Complete leadership of the NATO Special Area Study 133 (SAS-133) panel addressing challenges in fielding NL capabilities. <p>FY 2021 Base Plans:</p> <ul style="list-style-type: none"> - Continuing support to Combatant Commands (CCMDs) by demonstrating and assessing intermediate force capabilities in vessel interdiction and counter-migration exercises. Specifically, continue support to USEUCOM/USAFRICOM through engagement with NATO's Maritime Interdiction Operations Training Center (MIOTC). - Continuing modeling and simulation of intermediate force capabilities in warfighter training/gaming models and performance effects data collection/population to demonstrate/analyze non-lethal effects and support optimization of training. - Continuing evaluation of intermediate force capabilities by Service warfighting laboratories and Joint Staff, J7, Joint and Coalition Warfighting for direct user feedback of various non-lethal (NL) technologies and munitions to include policy and strategy and strategic communication. - Continuing engagement with NATO on cooperative security efforts, to include providing input for Systems Analysis and Studies (SAS) Panels and NATO assessment of intermediate force capabilities in appropriate allied scenarios and exercises. - Continuing interaction with Combatant Commander Staffs to evaluate emerging intermediate force capabilities and their utility in theater operations and Defense of the Homeland missions. - Continuing to assess the utility, effect, and effectiveness of technologies for incapacitating personnel, clearing facilities, stopping vehicles and vessels, and denying enemy access to protected areas. - Continuing to identify, test, and evaluate newly developed commercial products that may meet Joint service requirements for specific non-lethal capability set common items. - Continuing program management support for Joint and Allied Exercise, Experimentation, Demonstration and Assessment efforts. - Continuing support of CCMDs by demonstrating and assessing intermediate force capabilities for multiple priority mission areas, such as port opening operations; Humanitarian Assistance and Disaster Relief, Counter-Transnational Organized Crime operations; and harbor and in-transit security operations. - Complete the pre-emplaced vehicle stopping pilot program for USAF. <p>FY 2021 OCO Plans:</p>					

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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
N/A					
Accomplishments/Planned Programs Subtotals	26.695	28.466	28.435	0.000	28.435

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

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTEN/0602651M/0000: <i>Joint Non-Lethal Weapons Applied Research</i>	6.137	6.346	6.343	-	6.343	6.468	6.600	6.732	6.866	Continuing	Continuing
• RDTEN/0603651M/3022: <i>Joint Non-Lethal Weapons Advanced Technology Development</i>	12.956	13.307	13.301	-	13.301	13.564	13.840	14.116	14.399	Continuing	Continuing

Remarks

D. Acquisition Strategy

The JNLW Program strategy is to pursue the fielding of NLW systems through modifying Commercial-Off-The-Shelf (COTS) products for near term capabilities and the development of new technology NLW systems in various stages of acquisition. These are balanced with efforts in state-of-the-art technology investment, experimentation, and modeling and simulation. The acquisition strategy for each weapon system is largely Lead Service dependent. The JNLWP provides RDT&E funding while the Services are responsible for procurement and operations and maintenance funding. For complex development programs, such as directed energy research, JNLWP RDT&E funds will support each Service's RDT&E joint application efforts.

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

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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			
NLW Product Development	MIPR	ARDEC : Picatinny, NJ	56.871	2.749	Oct 2018	2.757	Oct 2019	0.461	Oct 2020	-		0.461	Continuing	Continuing	Continuing
NLW Product Development	MIPR	SOCOM : McDill AFB, FL	26.340	0.000		0.000		0.000		-		0.000	0.000	26.340	-
NLW Product Development	Various	NSWC : Various	50.793	6.175	Oct 2018	6.297	Oct 2019	8.812	Oct 2020	-		8.812	Continuing	Continuing	Continuing
NLW Product Development	MIPR	USAF : Ft. Sam Houston AFB, TX	59.576	0.371	Oct 2018	0.515	Oct 2019	0.365	Oct 2020	-		0.365	Continuing	Continuing	Continuing
NLW Product Development	Various	MCSC : Quantico, VA	35.194	0.475	Oct 2018	0.395	Oct 2019	4.851	Oct 2020	-		4.851	Continuing	Continuing	Continuing
NLW Product Development	Various	Uniformed Services : Various	185.190	7.718	Oct 2018	9.629	Oct 2019	5.090	Oct 2020	-		5.090	Continuing	Continuing	Continuing
Prior Year NLW Product Development	Various	Various : Various	65.401	0.000		0.000		0.000		-		0.000	0.000	65.401	-
Subtotal			479.365	17.488		19.593		19.579		-		19.579	Continuing	Continuing	N/A

Remarks
 Joint Program funds are prioritized and provided to the USA, USAF, USN, USMC, SOCOM, and USCG in support of NLW research and development efforts. Each Cost Category Item does not correlate to an individual project/effort. They fund multiple non-lethal projects/efforts that are incrementally funded throughout the fiscal year as each service identifies the project/effort requiring funding. October award dates reflect the start of incremental funding and does not indicate that the full amount will be awarded in October.

Support (\$ 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			
NLW Support Cost	WR	NSWC : Dahlgren, VA	17.992	0.632	Oct 2018	0.737	Oct 2019	0.268	Oct 2020	-		0.268	Continuing	Continuing	Continuing
Subtotal			17.992	0.632		0.737		0.268		-		0.268	Continuing	Continuing	N/A

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

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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			
JNLW Management Support	Various	MCSC : Quantico, VA	33.712	8.575	Oct 2018	8.136	Oct 2019	8.588	Oct 2020	-		8.588	Continuing	Continuing	Continuing
Prior Year Management Services	Various	Various : Various	40.721	0.000		0.000		0.000		-		0.000	0.000	40.721	-
Subtotal			74.433	8.575		8.136		8.588		-		8.588	Continuing	Continuing	N/A

Remarks
The JNLW Management Support was previously incorporated into the various cost categories instead of being displayed in the corresponding section of the R-3. The Management Services section of the R-3 now reflects the amounts for civilian salaries and contractor program management. The funding fluctuates across the R-2A categories based on the demand signals of the Services, USSOCOM, and the USCG.

	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	571.790	26.695	28.466	28.435	-	28.435	Continuing	Continuing	N/A

Remarks
Joint Program funds are prioritized and provided to the USA, USAF, USN, USMC, SOCOM, and USCG in support of NLW research and development efforts. Each Cost Category Item does not correlate to an individual project/effort. They fund multiple non-lethal projects/efforts that are incrementally funded throughout the fiscal year as each service identifies the project/effort requiring funding. October award dates reflect the start of incremental funding and does not indicate that the full amount will be awarded in October.

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
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FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Proj 2319	
Counter Vehicle: Radio Frequency Vehicle Stopping (RFVS) Technologies: Critical Design Review	
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Preliminary Design Review	
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Critical Design Review	
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Advanced Demonstration Model (ADM) Development and Integration on Alternative Platform	
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Land-Based Validation and Verification Testing	
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: ADM Integration on Primary Platform	
Millimeter Wave (mmW) Radio Frequency (RF): Active Denial Technologies (ADT): ADM Military Utility Assessment (MUA)	
Counter Personnel: Long Range Suppression Prototype: Ballistics and qualification testing	
Counter Personnel: Long Range Suppression Prototype: Counter Materiel: 40mm NL Round: Qualification Testing	

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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 2319				
Counter Vehicle: Radio Frequency Vehicle Stopping (RFVS) Technologies: Critical Design Review	1	2019	2	2020
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Preliminary Design Review	1	2019	1	2020
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Critical Design Review	1	2020	2	2021
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Advanced Demonstration Model (ADM) Development and Integration on Alternative Platform	1	2019	4	2023
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Land-Based Validation and Verification Testing	1	2023	4	2023
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: ADM Integration on Primary Platform	1	2023	4	2024
Millimeter Wave (mmW) Radio Frequency (RF): Active Denial Technologies (ADT): ADM Military Utility Assessment (MUA)	1	2019	1	2020
Counter Personnel: Long Range Suppression Prototype: Ballistics and qualification testing	1	2019	3	2020
Counter Personnel: Long Range Suppression Prototype: Counter Materiel: 40mm NL Round: Qualification Testing	1	2021	4	2021