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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
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Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603851M / Joint Non-Lethal Weapons Testing							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	547.856	23.934	27.581	28.466	-	28.466	28.079	29.705	30.282	30.908	Continuing	Continuing
2319: Non-Lethal Weapons	547.856	23.934	27.581	28.466	-	28.466	28.079	29.705	30.282	30.908	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		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)		PE 0603851M / Joint Non-Lethal Weapons Testing			
B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	29.873	27.581	28.611	-	28.611
Current President's Budget	23.934	27.581	28.466	-	28.466
Total Adjustments	-5.939	0.000	-0.145	-	-0.145
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.271	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.145	-	-0.145
• Congressional Directed Reductions Adjustments	-5.668	-	-	-	-
Change Summary Explanation					
The increase between FY19 and FY20 is due to a combination of inflation and a greater demand for experimentation, demonstration and assessment of NL capabilities.					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603851M / Joint Non-Lethal Weapons Testing				Project (Number/Name) 2319 / Non-Lethal Weapons			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
2319: Non-Lethal Weapons	547.856	23.934	27.581	28.466	-	28.466	28.079	29.705	30.282	30.908	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This project develops non-lethal weapon (NLW) 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 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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Counter-Personnel Advanced Component Development and Prototypes								11.762	11.324	11.646	0.000	11.646
								Articles: - - - - -				
FY 2019 Plans: - 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. - Continue the advanced development of CP emerging technologies to support Service capability gaps and priorities as they support the Combatant Commanders. - Continue technology maturation and risk reduction of competing approaches to inform decisions for Service capability development. Specifically complete multi-sensory applications supporting Global Strike for USAF. - Continue prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-personnel capability gaps. - Continue coordination and requirements development for Service counter-personnel (CP) prototyping initiatives within the JNLWP. This includes SOCOM and USCG. - Continue development and assessment of Service-led CP NL prototype initiatives. - Continue prototype development and demonstration for the most promising technologies employing multisensory stimuli. - Continue program management support for CP efforts. - Continue munitions testing and acquisition documentation of NL capability to deny, move and suppress individuals at long ranges from currently fielded weapons systems.												
FY 2020 Base Plans:												

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Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603851M / Joint Non-Lethal Weapons Testing		Project (Number/Name) 2319 / Non-Lethal Weapons		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<div>- 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.</div> <div>- Continue the advanced development of CP emerging technologies to support Service capability gaps and priorities as they support the Combatant Commanders.</div> <div>- Continue technology maturation and risk reduction of competing approaches to inform decisions for Service capability development.</div> <div>- Continue prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-personnel capability gaps.</div> <div>- Continue coordination and requirements development for Service counter-personnel (CP) prototyping initiatives within the JNLWP. This includes SOCOM and USCG.</div> <div>- Continue development and assessment of Service-led CP NL prototype initiatives.</div> <div>- Continue prototype development and demonstration for the most promising technologies employing multisensory stimuli.</div> <div>- Continue program management support for CP efforts.</div> <div>- Complete munitions testing and acquisition documentation of NL capability to deny, move and suppress individuals at long ranges from currently fielded weapons systems.</div> <div>FY 2020 OCO Plans: N/A</div> <div>FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$0.322M from FY19 to FY20 is a result of inflation rate assumptions.</div>						
<div>Title: Counter-Materiel Advanced Component Development and Prototypes</div> <div>Articles:</div> <div>FY 2019 Plans: - Initiate advanced component development and prototyping support to the U.S. Navy's candidate Maritime Vessel Stopping capability.</div> <div>- Continue 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.</div> <div>- Continue 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.</div>		5.668 -	10.574 -	10.801 -	0.000 -	10.801 -

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Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603851M / Joint Non-Lethal Weapons Testing		Project (Number/Name) 2319 / Non-Lethal Weapons		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<div>- Continue coordination and requirements development for Service counter-material (CM) prototyping initiatives within the JNLWP. This includes SOCOM and USCG.</div> <div>- Continue development and assessment of Service-led CM NL prototype initiatives.</div> <div>- Continue 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 Maritime System Attack and WASP SEWMOD technologies for USSOCOM.</div> <div>- Continue technology maturation and risk reduction of competing approaches to inform decisions for Service capability development.</div> <div>- Continue prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-materiel capability gaps.</div> <div>- Continue program management support for CM efforts.</div> <div>- Continue Critical Design Review for counter material: Radio Frequency vehicle stopper prototype capability.</div> <div>- Continue production qualification testing of a Service-endorsed pre-emplaced, counter-materiel, counter vehicle stopping capability.</div> <div>FY 2020 Base Plans:</div> <div>- Continue advanced component development and prototyping support to the U.S. Navy's candidate Maritime Vessel Stopping capability.</div> <div>- Continue 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.</div> <div>- Continue 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.</div> <div>- Continue coordination and requirements development for Service counter-material (CM) prototyping initiatives within the JNLWP. This includes SOCOM and USCG.</div> <div>- Continue development and assessment of Service-led CM NL prototype initiatives.</div> <div>- Continue 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.</div> <div>- Continue technology maturation and risk reduction of competing approaches to inform decisions for Service capability development.</div> <div>- Continue prototype development and assessment of advanced payloads for technological capabilities relevant to emerging counter-materiel capability gaps.</div>						

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<div>- Continue program management support for CM efforts.</div> <div>- Complete Critical Design Review for counter material: Radio Frequency vehicle stopper prototype capability.</div> <div>- Complete production qualification testing of a Service-endorsed pre-emplaced, counter-materiel, counter vehicle stopping capability.</div> <div>FY 2020 OCO Plans:</div> <div>N/A</div> <div>FY 2019 to FY 2020 Increase/Decrease Statement:</div> <div>Increase of \$0.227M from FY19 to FY20 is a result of inflation rate assumptions.</div>						
<div>Title: Joint and Allied Exercise, Experimentation, Demonstration and Assessment</div> <div>Articles:</div> <div>FY 2019 Plans:</div> <div>- Continue support of two CCMDs by demonstrating and assessing NLW capabilities for vessel interdiction and counter-migration exercises. Specifically, complete support to USAFRICOM in exercise African Lion 2019 and continue support to USEUCOM/USAFRICOM through engagement with NATO's Maritime Interdiction Operations Training Center (MIOTC).</div> <div>- Continue 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.</div> <div>- Continue 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.</div> <div>- Continue 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.</div> <div>- Continue interaction with Combatant Commander staffs to evaluate emerging NLW capabilities and their utility in theater operations and Defense of the Homeland missions.</div> <div>- Continue 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, continue vehicle stopping pilot programs for USAF and USMC.</div> <div>- Continue to identify, test, and evaluate newly developed commercial products that may meet Joint service requirements for specific non-lethal capability set common items.</div>		6.504	5.683	6.019	0.000	6.019
		-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<ul style="list-style-type: none">- Continue program management support for Joint and Allied Exercise, Experimentation, Demonstration and Assessment efforts.- Continue 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 (HA/DR) and Counter-Transnational Organized Crime (CTOC) operations; and harbor and in-transit security operations.- Continue leadership of the NATO Special Area Study 133 (SAS-133) panel addressing challenges in fielding NL capabilities.- Complete the 2018 NATO Non-Lethal Technology Exercise-Counter Unmanned Aerial Systems (NNTEX-18C). <p>FY 2020 Base Plans:</p> <ul style="list-style-type: none">- Continue support of two CCMDs by demonstrating and assessing NLW capabilities for vessel interdiction and counter-migration exercises.- Continue 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.- Continue 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.- Continue 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.- Continue interaction with Combatant Commander staffs to evaluate emerging NLW capabilities and their utility in theater operations and Defense of the Homeland missions.- Continue 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.- Continue to identify, test, and evaluate newly developed commercial products that may meet Joint service requirements for specific non-lethal capability set common items.- Continue program management support for Joint and Allied Exercise, Experimentation, Demonstration and Assessment efforts.- Continue 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						

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
(HA/DR) and Counter-Transnational Organized Crime (CTOC) operations; and harbor and in-transit security operations. - Complete leadership of the NATO Special Area Study 133 (SAS-133) panel addressing challenges in fielding NL capabilities. <i>FY 2020 OCO Plans:</i> N/A <i>FY 2019 to FY 2020 Increase/Decrease Statement:</i> Increase of \$0.336M from FY19 to FY20 is a result of the greater demand for experimentation, demonstration and assessment of NL capabilities.					
Accomplishments/Planned Programs Subtotals	23.934	27.581	28.466	0.000	28.466

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTEN/0602651M/0000: <i>Joint Non-Lethal Weapons Applied Research</i>	6.229	6.349	6.346	-	6.346	6.343	6.468	6.600	6.732	Continuing	Continuing
• RDTEN/0603651M/3022: <i>Joint Non-Lethal Weapons Advanced Technology Development</i>	13.090	13.313	13.307	-	13.307	13.301	13.564	13.840	14.116	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.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603851M / Joint Non-Lethal Weapons Testing						Project (Number/Name) 2319 / Non-Lethal Weapons			
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
NLW Product Development	MIPR	ARDEC : Picatinny, NJ	55.742	1.129	Oct 2017	3.192	Oct 2018	2.757	Oct 2019	-		2.757	Continuing	Continuing	Continuing
NLW Product Development	MIPR	SOCOM : McDill AFB, FL	26.340	0.000		0.289	Oct 2018	0.000		-		0.000	Continuing	Continuing	Continuing
NLW Product Development	Various	NSWC : Various	46.952	3.841	Oct 2017	6.175	Oct 2018	6.297	Oct 2019	-		6.297	Continuing	Continuing	Continuing
NLW Product Development	MIPR	USAF : Ft. Sam Houston AFB, TX	58.886	0.690	Oct 2017	0.525	Oct 2018	0.515	Oct 2019	-		0.515	Continuing	Continuing	Continuing
NLW Product Development	Various	MCSC : Quantico, VA	33.719	1.475	Oct 2017	0.475	Oct 2018	0.395	Oct 2019	-		0.395	Continuing	Continuing	Continuing
NLW Product Development	Various	Uniformed Services : Various	177.416	7.774	Oct 2017	7.718	Oct 2018	9.629	Oct 2019	-		9.629	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			464.456	14.909		18.374		19.593		-		19.593	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 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
NLW Support Cost	WR	NSWC : Dahlgren, VA	17.374	0.618	Oct 2017	0.632	Oct 2018	0.737	Oct 2019	-		0.737	Continuing	Continuing	Continuing
Subtotal			17.374	0.618		0.632		0.737		-		0.737	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603851M / Joint Non-Lethal Weapons Testing				Project (Number/Name) 2319 / Non-Lethal Weapons					
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
JNLW Management Support	Various	MCSC : Quantico, VA	25.305	8.407	Oct 2017	8.575	Oct 2018	8.136	Oct 2019	-		8.136	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			66.026	8.407		8.575		8.136		-		8.136	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 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			547.856	23.934		27.581		28.466		-		28.466	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 2020 Navy										Date: March 2019			
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										Project (Number/Name) 2319 / <i>Non-Lethal Weapons</i>			

	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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): Size Weight Power and Cooling Improvements																												
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																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019
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>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2319</i>				
Counter Vehicle: Radio Frequency Vehicle Stopping (RFVS) Technologies: Critical Design Review	4	2018	2	2020
Counter Vessel: Vessel Stopping Prototype (VSP) Technology Development: Preliminary Design Review	3	2018	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	2018	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): Size Weight Power and Cooling Improvements	1	2018	4	2018
Millimeter Wave (mmW) Radio Frequency (RF): Active Denial Technologies (ADT): ADM Military Utility Assessment (MUA)	4	2018	1	2020
Counter Personnel: Long Range Suppression Prototype: Ballistics and qualification testing	1	2018	3	2020