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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy I BA 3: Advanced Technology Development (ATD)</i>					R-1 Program Element (Number/Name) PE 0603729N / <i>Warfighter Protection Adv Tech</i>							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	0.000	39.486	4.878	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	44.364
2914: <i>Warfighter Protection Adv Tech</i>	0.000	4.669	4.878	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.547
9999: <i>Congressional Adds</i>	0.000	34.817	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	34.817

Note

The funding decrease from FY18 to FY19 reflects the realignment and consolidation of resources from the current Program Element (PE) and Project 2914 to the new FY19 Navy Advanced Technology Development (ATD) PE 0603671N, and into the Navy Advanced Technology Project 3433. Specific efforts transferred from this PE include all planned continuing and initiating research associated with the Navy Noise-Induced Hearing Loss research effort.

A. Mission Description and Budget Item Justification

The efforts described in this Program Element (PE) are based on investment directions as defined in the Naval S&T Strategic Plan approved by the S&T Corporate Board. This strategy is based on needs and capabilities from Navy and Marine Corps guidance and input from the Naval Research Enterprise (NRE) stakeholders (including the Naval enterprises, the combatant commands, the Chief of Naval Operations (CNO), and Headquarters Marine Corps). It provides the vision and key objectives for the essential science and technology efforts that will enable the continued supremacy of U.S. Naval forces in the 21st century. The Strategy focuses and aligns Naval S&T with Naval missions and future capability needs that address the complex challenges presented by both rising peer competitors and irregular/asymmetric warfare.

This program supports the development and demonstration of field medical equipment and technologies to improve warfighter safety and to enhance personnel performance under adverse conditions. Navy investment in these areas is essential because Navy/USMC mission needs are not adequately addressed by the civilian sector or other Federal agencies.

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

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PE 0603729N: *Warfighter Protection Adv Tech*
Navy

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 3					R-1 Program Element (Number/Name) PE 0603729N / Warfighter Protection Adv Tech				Project (Number/Name) 2914 / Warfighter Protection Adv Tech			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
2914: Warfighter Protection Adv Tech	0.000	4.669	4.878	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.547
Note												
The funding decrease from FY18 to FY19 reflects the realignment and consolidation of resources from the current Program Element (PE)and Project 2914 to the new FY19 Navy Advanced Technology Development (ATD) PE 0603671N, and into the Navy Advanced Technology Project 3433. Specific efforts transferred from this PE include all planned continuing and initiating research associated with the Navy Noise-Induced Hearing Loss research effort.												
A. Mission Description and Budget Item Justification												
This program supports the development and demonstration of field medical equipment, diagnostic capabilities and treatments; technologies to improve warfighter safety and to enhance personnel performance under adverse conditions; and systems to prevent occupational injury and disease in hazardous, deployment environments. Navy investment in these areas is essential because Navy/USMC mission needs are not adequately addressed by the civilian sector or other Federal agencies. For example, civilian emergency medicine does not address casualty stabilization during long transit times to definitive care. The National Institutes for Health (NIH) focuses on the basic science of disease processes and not product development. Programs are coordinated with other Services through the Armed Services Biomedical Research Evaluation and Management (ASBREM) Committee to prevent duplication of effort.												
B. Accomplishments/Planned Programs (\$ in Millions)												
								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: NAVAL NOISE-INDUCED HEARING LOSS (NIHL)								4.669	4.878	0.000	0.000	0.000
Description: The goal of this program is to reduce the incidence of NIHL by nearly 100%. This program employs a total systems engineering approach that includes advancements in medical technology, jet engine physics, personal protective equipment, and mitigation analyses.												
FY 2018 Plans: NOISE INDUCED HEARING LOSS: Conduct advanced research in medical prevention and treatment of NIHL and tinnitus. Investigate the incidence and susceptibility of NIHL and tinnitus, and evaluate mitigation strategies. Study the reduction of noise at the source, jet engine quieting and flight deck noise reduction and improve personal protective equipment technology. REGENERATIVE MEDICINE: Complete the effort with the Army, in regenerative medicine (Armed Forces Institute of Regenerative Medicine (AFIRM II).												
FY 2019 Base Plans:												

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Appropriation/Budget Activity 1319 / 3		R-1 Program Element (Number/Name) PE 0603729N / <i>Warfighter Protection Adv Tech</i>		Project (Number/Name) 2914 / <i>Warfighter Protection Adv Tech</i>		
B. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A						
FY 2019 OCO Plans:						
N/A						
FY 2018 to FY 2019 Increase/Decrease Statement:						
The funding decrease from FY18 to FY19 reflects the realignment and consolidation of resources from the current Program Element (PE)and Project 2914 to the new FY19 Navy Advanced Technology Development (ATD) PE 0603671N, and into the Navy Advanced Technology Project 3433.						
Accomplishments/Planned Programs Subtotals		4.669	4.878	0.000	0.000	0.000
C. Other Program Funding Summary (\$ in Millions)						
N/A						
Remarks						
D. Acquisition Strategy						
N/A						
E. Performance Metrics						
Efforts within this PE are measured at two levels. At the lower level, each is measured against technical and financial milestones on a monthly basis. Annually, each project is reviewed in depth for technical and transition performance by the Chief of Naval Research (CNR).						

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Appropriation/Budget Activity 1319 / 3					R-1 Program Element (Number/Name) PE 0603729N / <i>Warfighter Protection Adv Tech</i>				Project (Number/Name) 9999 / <i>Congressional Adds</i>			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	34.817	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	34.817
<p>A. Mission Description and Budget Item Justification Congressional Interest Items not included in other Projects.</p>												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2017	FY 2018			
<i>Congressional Add:</i> CW Bill Young Marrow Donor Program								30.465	0.000			
<i>FY 2017 Accomplishments:</i> Increase the enrollment of volunteer donors to the national registry by expanding participation of transplant centers; and improve the accuracy of scientific and clinical matching systems. MAJOR PERFORMERS: National Marrow Donor Program, Minneapolis NM, Naval Medical Research Center, Bethesda MD, and Georgetown University, Washington DC. <i>FY 2018 Plans:</i> N/A												
<i>Congressional Add:</i> Naval Special Warfare Performance and Injury Prevention Program								4.352	0.000			
<i>FY 2017 Accomplishments:</i> Collect and analyze data to strategically maximize human capital by reducing the rate of unintentional musculoskeletal injury, sharpen battlefield performance, optimize military readiness, extend tactical life cycle and enhance the quality of life after service. <i>FY 2018 Plans:</i> N/A												
Congressional Adds Subtotals								34.817	0.000			
<p>C. Other Program Funding Summary (\$ in Millions) N/A</p> <p>Remarks</p>												
<p>D. Acquisition Strategy N/A</p>												
<p>E. Performance Metrics Congressional Interest Items not included in other Projects.</p>												