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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 0603790N / NATO Research and Deve							
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	81.154	8.752	9.652	7.697	-	7.697	8.793	9.013	9.238	9.469	Continuing	Continuing
2293: NATO Cooperative R & D	81.154	8.752	9.652	7.697	-	7.697	8.793	9.013	9.238	9.469	Continuing	Continuing

A. Mission Description and Budget Item Justification

In accordance with Title 10 United States Code, Section 2350a, this Program Element (PE) provides funding for research and development (R&D) programs with approved allies under international agreements. These funds can only be applied to work efforts in the U.S.. The Under Secretary of Defense, Acquisition and Technology and Logistics (USD, AT&L) must approve each international agreement. The program provides funds for multiple projects under separately approved international agreements as well as funds that support the establishment of such agreements. Each international agreement is summarized in a separate Summary Statement of Intent (SSOI) that also states why the project serves to increase the defense capabilities of the U.S. The SSOI is used to obtain project approval by the Department of the Navy and the Office of the Secretary of Defense.

The North Atlantic Treaty Organization (NATO) R&D cooperative programs differ from other Research, Development, Test and Evaluation (RDT&E) programs because issuance of funding from this PE coincides with the signature of international agreements. These signatures occur throughout the fiscal year and often encounter unexpected delays during the staffing and negotiation phases of agreement processing prior to signature.

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	9.099	9.652	11.121	-	11.121
Current President's Budget	8.752	9.652	7.697	-	7.697
Total Adjustments	-0.347	0.000	-3.424	-	-3.424
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.347	0.000			
• Program Adjustments	0.000	0.000	-3.424	-	-3.424
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

The FY2020 funding request for project 2293 was reduced by \$2.154 million to account for the availability of prior year execution balances.

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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 0603790N / NATO Research and Deve				Project (Number/Name) 2293 / NATO Cooperative R & D			
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
2293: NATO Cooperative R & D	81.154	8.752	9.652	7.697	-	7.697	8.793	9.013	9.238	9.469	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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The North Atlantic Treaty Organization (NATO) R&D cooperative programs differ from other Research, Development, Test and Evaluation (RDT&E) programs because issuance of funding from this PE coincides with the signature of international agreements. These signatures occur throughout the fiscal year and often encounter unexpected delays during the staffing and negotiation phases of agreement processing prior to signature.

This NATO Research and Development funding provides funding for U.S. efforts under established International agreements (IAs) intended to address CNO priorities and identified interoperability gaps, as well as activities to support the identification and implementation of those agreements.

- Projects depend on commitment of U.S. and Ally, and are subject to imprecise staffing timelines (funding typically provided when international agreement is signed, often later in the FY)
- Funds must be identified/committed early (1-2 years prior) to indicate support during processing (in Summary Statement of Intent)
- These funds only constitute a portion of U.S. project funding

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: NATO Cooperative R & D	8.752	9.652	7.697	0.000	7.697
Articles:	-	-	-	-	-
FY 2019 Plans: -Continue to support approved Cooperative projects signed in prior fiscal years. -Plan and support approved FY2019 Cooperative projects.					
Potential Projects include, but are not limited to: -Advanced Structural Monitoring Techniques (ASMT) U.S. and Australia -Advanced Surveillance Technology (AST) U.S. and Australia					

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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>-Allied Munitions Detection-Underwater Initiative (ALMOND-U) U.S. and Germany</div> <div>-Arctic Hydrodynamics U.S. and Finland</div> <div>-Autonomous Maritime Asset Protection Systems (AMAPS) U.S. and United Kingdom</div> <div>-Biomimetic Threat Detection System (BTDS) U.S. and United Kingdom</div> <div>-Coalition Underwater Mine and IED Defeat (CUMID) U.S., Canada, and Norway</div> <div>-Collaborative Situational Awareness Development (CSA DEV) U.S. and Italy</div> <div>-Dynamic System Mechanics Advanced Simulation-Shallow Confined Waters (DYSMAS-SCW) U.S. and Germany</div> <div>-Electromagnetic Silencing U.S. and United Kingdom</div> <div>-Helo Seat Damper U.S. and Canada</div> <div>-Hull Treatments U.S. and United Kingdom</div> <div>-International Programs Opportunities Engagement Tool (iPoet)</div> <div>-Japan U.S. Amphibious Vehicle Technology Cooperation (JUSAV) U.S. and Japan</div> <div>-Optical Materials Amendment 1 U.S. and Israel</div> <div>-Submarine Superiority U.S. and Australia</div> <div>-Superconducting Quantum Small Electromagnetic Sensor System Research and Development (Super QSES) U.S. and Australia</div> <div>-Ultra Heavy Lift Amphibious Connector (UHAC) U.S. and Singapore</div> <div>-Undersea Surveillance and Communications (USC) U.S. and Sweden</div> <div>FY 2020 Base Plans: FY 2020 Base Plans: -Continue to support approved Cooperative projects from FY18/FY19. -Plan and support approved FY20 Cooperative projects.</div> <div>Projects include, but are not limited to: -Advanced Material Propeller U.S. and Australia -Advanced Surveillance Technology U.S. and Australia -Allied Munitions Detection-Underwater Initiative (ALMOND-U) U.S. and Germany - Amphibious Vehicle Technology Cooperation U.S. and Japan -Arctic Hydrodynamics U.S. and Finland -Autonomous Maritime Asset Protection Systems (AMAPS) U.S. and United Kingdom -Biomimetic Threat Detection System (BTDS) U.S. and United Kingdom -Coalition Underwater Mine and IED Defeat U.S., Canada, and Norway</div>						

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Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603790N / NATO Research and Deve		Project (Number/Name) 2293 / NATO Cooperative R & D	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
-Collaborative Situational Awareness Development (CSA DEV) U.S. and Italy -Dynamic System Mechanics Advanced Simulation-Shallow Confined Waters (DYSMAS-SCW) U.S. and Germany -Electromagnetic Silencing U.S. and United Kingdom -Helo Seat Damper U.S. and Canada -Hull Treatments U.S. and United Kingdom -Optical Materials Amendment 1 U.S. and Israel -Submarine Superiority U.S. and Australia -Superconducting Quantum Small Electromagnetic Sensor System Research and Development (Super QSES) U.S. and Australia -Ultra Heavy Lift Amphibious Connector (UHAC) U.S. and Singapore -Undersea Surveillance and Communications (USC) U.S. and Sweden -Advanced Structural Monitoring Techniques (ASMT)U.S. and Australia -Japan U.S. Amphibious Vehicle Technology Cooperation (JUSAV) U.S. and Japan -Background Nuclear Radiation Measurement (BANRAM) U.S. and Finland -Coalition Open System Diagnostic Environment (CODE) -Buried IED FY 2020 OCO Plans: N/A FY 2019 to FY 2020 Increase/Decrease Statement: The FY 2020 funding request was reduced by \$2.154 million to account for the availability of prior year execution balances.					
Accomplishments/Planned Programs Subtotals	8.752	9.652	7.697	0.000	7.697
C. Other Program Funding Summary (\$ in Millions)					
N/A					
Remarks					
D. Acquisition Strategy					
N/A					

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E. Performance Metrics <p>The intent of the North Atlantic Treaty Organization (NATO) cooperative R&D program is to provide initial funds for projects seeking allied contributions into cooperative research and development projects with the U.S. The primary metric used in the program is foreign contributions into projects supported by the program. The performance goal is met if total foreign contributions into projects exceed total NATO cooperative R&D program funds by over 100%.</p> <p>This program historically does not meet established execution benchmarks. The North Atlantic Treaty Organization (NATO) R&D cooperative programs differ from other Research, Development, Test and Evaluation (RDT&E) programs because issuance of funding from this PE coincides with the signature of international agreements. These signatures occur throughout the fiscal year and often encounter unexpected delays during the staffing and negotiation phases of agreement processing prior to signature.</p>		

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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 0603790N / NATO Research and Deve				Project (Number/Name) 2293 / NATO Cooperative R & D					
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
Developmental Test and Evaluation	C/FP	NAVSEA : Washington Navy Yard, DC	26.626	0.250	Apr 2018	0.669	Dec 2018	0.668	Dec 2019	-		0.668	Continuing	Continuing	Continuing
Developmental Test and Evaluation	C/FP	NSWC : West Bethesda, MD	13.621	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test and Evaluation	C/FP	NUWC : Newport, RI	2.352	0.409	Dec 2017	0.300	Dec 2018	0.300	Dec 2019	-		0.300	Continuing	Continuing	Continuing
Developmental Test and Evaluation	C/FP	SPAWAR : San Diego, CA	5.353	0.818	Apr 2018	1.000	Jan 2019	0.850	Jan 2020	-		0.850	Continuing	Continuing	Continuing
Developmental Test and Evaluation	C/FP	NAVAIR : Patuxent River, MD	2.136	1.893	Dec 2017	0.353	Dec 2018	0.349	Dec 2019	-		0.349	Continuing	Continuing	Continuing
Developmental Test and Evaluation	C/FP	NRL : Washington, DC	2.484	1.392	Oct 2017	1.830	Nov 2018	1.180	Nov 2019	-		1.180	Continuing	Continuing	Continuing
Developmental Test and Evaluation	C/FP	NAWC : Point Mugu, CA	7.100	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test and Evaluation	C/FP	Miscellaneous : Washington Navy Yard	15.723	1.170	Mar 2018	1.500	Apr 2019	1.300	May 2020	-		1.300	Continuing	Continuing	Continuing
Deveiopmental Test and Eevaluation	C/FP	MARCOR : Washington.DC	1.200	0.000		0.000		0.000		-		0.000	0.000	1.200	-
Developmental Test and Evaluation	C/FP	NSWCCD : Carderock, MD	2.035	0.900	May 2018	0.625	Apr 2019	0.625	Apr 2020	-		0.625	0.000	4.185	-
Developmental Test and Evaluation	C/FP	ONR : Arlington, VA	2.475	0.000		0.775	Mar 2019	0.725	Mar 2020	-		0.725	0.000	3.975	-
Developmental Test and Evaluation	C/FP	USMC : Qunatic VA	0.000	0.000		0.500	May 2019	0.550	May 2020	-		0.550	0.000	1.050	-
Developmental Test and Evaluation	C/FP	NSWC : Indian Head, MD	0.000	0.250	Jan 2018	0.000		0.000		-		0.000	0.000	0.250	-
Developmental Test and Evaluation	C/FP	NSWC : Panama City , FL	0.000	0.250	Dec 2017	0.200	Oct 2018	0.200	Oct 2019	-		0.200	0.000	0.650	-
Developmental Test and Evaluation	C/FP	GSA : Washington, DC	0.000	0.400	Feb 2018	0.400	Mar 2019	0.200	Mar 2020	-		0.200	0.000	1.000	-
Developmental Test and Evaluation	C/FP	DISA : Ft Meade MD	0.000	0.000		1.500	Dec 2018	0.750	Dec 2019	-		0.750	0.000	2.250	-

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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
Developmental Test and Evaluation	C/FP	CDSA : Dam Neck, VA	0.000	1.020	Mar 2018	0.000		0.000		-		0.000	0.000	1.020	-
Subtotal			81.105	8.752		9.652		7.697		-		7.697	Continuing	Continuing	N/A
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
ACQ Workforce Fund	Various	Various : Various	0.049	0.000		0.000		0.000		-		0.000	0.000	0.049	-
Subtotal			0.049	0.000		0.000		0.000		-		0.000	0.000	0.049	N/A
			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			81.154	8.752		9.652		7.697		-		7.697	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy										Date: March 2019									
Appropriation/Budget Activity										R-1 Program Element (Number/Name)					Project (Number/Name)				
1319 / 4										PE 0603790N / NATO Research and Deve					2293 / NATO Cooperative R & D				

	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 2293																												
International Agreements																												

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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 0603790N / NATO Research and Deve	Project (Number/Name) 2293 / NATO Cooperative R & D

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2293				
International Agreements	1	2018	4	2020