Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

1319: Research, Development, Test & Evaluation, Navy

PE 0603790N: NATO Research and Deve

BA 4: Advanced Component Development & Prototypes (ACD&P)

COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	10.767	10.152	9.196	0.000	9.196	9.962	10.271	10.504	10.723	Continuing	Continuing
2293: NATO Cooperative R & D	10.767	10.152	9.196	0.000	9.196	9.962	10.271	10.504	10.723	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., and 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.

This program historically does not meet established execution benchmarks. 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 2009	FY 2010	<b>FY 2011 Base</b>	FY 2011 OCO	FY 2011 Total
Previous President's Budget	10.094	10.194	0.000	0.000	0.000
Current President's Budget	10.767	10.152	9.196	0.000	9.196
Total Adjustments	0.673	-0.042	9.196	0.000	9.196
<ul> <li>Congressional General Reductions</li> </ul>		-0.042			
<ul> <li>Congressional Directed Reductions</li> </ul>		0.000			
<ul> <li>Congressional Rescissions</li> </ul>	0.000	0.000			
<ul> <li>Congressional Adds</li> </ul>		0.000			
<ul> <li>Congressional Directed Transfers</li> </ul>		0.000			
Reprogrammings	0.800	0.000			
SBIR/STTR Transfer	-0.127	0.000			
<ul> <li>Program Adjustments</li> </ul>	0.000	0.000	9.196	0.000	9.196

### **UNCLASSIFIED**

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY  319: Research, Development, Test & Evaluation, Navy  3A 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603790N: NATO Research and Deve	
Change Summary Explanation Technical: Not applicable.		
Schedule: Not applicable.		
FY11 from previous President's Budget is shown as zero becar	use no FY11-15 data was presented in President's Budget 201	0.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy

R-1 ITEM NOMENCLATURE

PE 0603790N: NATO Research and Deve

2293: NATO

1319: Research, Development, Test & Evaluation, Navy
BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603790N: NATO Research and Deve
2293: NATO Cooperative R & D

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2293: NATO Cooperative R & D	10.767	10.152	9.196	0.000	9.196	9.962	10.271	10.504	10.723	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

### A. Mission Description and Budget Item Justification

In accordance with Title 10 U.S. Code Section 2350a, this project provides funding for research and development projects with approved allies under international agreements. These funds can only be applied to work efforts in the U.S., and the Office of Secretary of Defense 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 SSOI which also states why the project serves to increase the conventional 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.

### B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
NATO Cooperative R & D	10.767	10.152	9.196	0.000	9.196
<ul> <li>FY 2009 Accomplishments:</li> <li>Continued to plan and/or support approved cooperative projects.</li> <li>Continued support for the Failure Prediction of Composite and Hybrid Naval Structures (DYCOSS-3D) cooperative project between the U.S. and the Netherlands.</li> <li>Continued support for Torpedo Guidance and Control; False Targets cooperative project between the U.S. and the U.K.</li> <li>Completed support for Amendment One to the Advanced Radar Technology Integrated System Testbed (ARTIST) cooperative project between the U.S and the U.K.</li> <li>Completed support for the Advanced Hull Materials and Structures Technology (AHM&amp;ST) cooperative project between the U.S. and Japan.</li> <li>Completed support for the Multiplexed Fiber Laser Sensors cooperative project between the U.S. and Australia.</li> </ul>					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy **DATE:** February 2010 **PROJECT** APPROPRIATION/BUDGET ACTIVITY **R-1 ITEM NOMENCLATURE** 1319: Research, Development, Test & Evaluation, Navy PE 0603790N: NATO Research and Deve 2293: NATO Cooperative R & D BA 4: Advanced Component Development & Prototypes (ACD&P) B. Accomplishments/Planned Program (\$ in Millions) FY 2011 FY 2011 FY 2011 **FY 2009 FY 2010** Base OCO Total - Completed support for the Open Architecture Radar Interface Standard Project (OARIS) cooperative project between the U.S. and multiple nations. - Completed support for the Medusa Joint Capability Technology Demonstration (JCTD) cooperative project between the U.S. and the Republic of Korea. - Completed support for High Frequency (HF) Radar Science and Technology cooperative project between the U.S. and Australia. - Initiated support for Advanced Non-Acoustic Sensing Technologies cooperative project between the U.S. and Sweden. - Initiated support for the Coalition Maritime Missile Defense Battle Management C4I (BMC4I PA2) Architecture Definition cooperative project between the U.S. and multiple nations. - Initiated support for Enhancing and Validating the Dynamic System Mechanics Advanced Simulation (DYSMAS) to meet Emerging Modeling and Simulation Changes cooperative project between the U.S. and Germany. - Initiated support for the Surface Combatant Aluminum Structure Design cooperative project between the U.S., Finland and Germany. - Initiated support for the Submarine Hydrodynamics Maneuvering & Control cooperative project between the U.S. and the U.K.

#### Acquisition Workforce Fund

- Funded DoD Acquisition Workforce Fund.

#### FY 2010 Plans:

- Continue to plan and/or support FY09 approved cooperative projects less those noted as completed above.
- Complete support for Infrared Search and Track (IRST) Definition Project cooperative project between the U.S. and multiple nations.
- Complete support for Torpedo Guidance and Control; False Targets cooperative project between the U.S. and the U.K.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603790N: NATO Research and Deve

# B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
- Complete support for Advanced Non-Acoustic Sensing Technologies cooperative project between the U.S. and Sweden.					
<ul> <li>Plan support for the Coalition Network for Secure Information Sharing (CoNSIS) cooperative project between the U.S. and multiple nations.</li> </ul>					
- Plan support for Advanced Electromagnetic Silencing Technologies cooperative project between the U.S. and the U.K.					
- Plan support for the Maritime Missile Defense Modeling and Simulation Synthetic Interoperability Testing and Evaluation (Site) cooperative project between the U.S. and multiple nations.					
- Plan support for Submarine Communication Buoy Replacement cooperative project between the U.S. and the U.K.					
<ul> <li>Plan support for the Alternate Material Propeller cooperative project between the U.S. and Australia.</li> <li>Plan support for the Coalition Distributed Engineering Plant Baseline Architecture (CDEP-BA) cooperative project between the U.S. and multiple nations.</li> </ul>					
- Plan support for the Defensive Aids Suite/Next Generation Torpedo Defense cooperative project between the U.S. and the U.K.					
- Plan support for the Six Degrees of Freedom (6DOF) Amendment 1 cooperative project between the U.S. and Italy.					
<ul> <li>Plan support for the Submarine Sonar Telemetry cooperative project between the U.S. and the U.K.</li> <li>Plan support for the Submarine Advanced Autopilot Development cooperative project between the U.S. and the U.K.</li> </ul>					
- Plan support for the Ballistic Missile Defense Open Architecture Research Follow-On Cooperative Development (BMDOAR-FCD) cooperative project between the U.S. and Japan.					
- Plan support for the Ice Capable Surface Combatant cooperative project between the U.S. and Finland.					
<ul> <li>Plan support for Ultra Heavy-Lift Amphibious Connector (UHAC) Development and Testing cooperative project between the U.S. and the Republic of Singapore.</li> </ul>					

**Exhibit R-2A**, **RDT&E Project Justification**: PB 2011 Navy

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603790N: NATO Research and Deve

2293: NATO Cooperative R & D

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<ul> <li>FY 2011 Base Plans: <ul> <li>Continue to plan and/or support FY10 approved cooperative projects less those noted as complete above.</li> <li>Plan support for Advanced Fiber Optic Miniaturized Acoustic Sensors cooperative project between the U.S. and Australia.</li> <li>Plan support for the Submarine Composite Secondary Structures cooperative project between the U.S. and the U.K.</li> </ul> </li> </ul>					
Accomplishments/Planned Programs Subtotals	10.767	10.152	9.196	0.000	9.196

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

N/A

# **D. Acquisition Strategy**

Not applicable.

#### **E. Performance Metrics**

The intent of the North Atlantic Treaty Organization (NATO) cooperative R&D program is to provide "start-up" 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%.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

**PROJECT** 

1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603790N: NATO Research and Deve

2293: NATO Cooperative R & D

**Product Development (\$ in Millions)** 

				FY 2	010	FY 2 Ba	-	FY 2		FY 2011 Total				
Cost Category Item	Contract Method n & Type	Method	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete Total Co	Total Cost	Target Value of Contract
NAVSEA	C/FP	Not Specified Not Specified	2.851	3.516		2.040		0.000		2.040	Continuing	Continuing	Continuing	
NSWC	C/FP	Not Specified Not Specified	2.167	2.814		3.140		0.000		3.140	Continuing	Continuing	Continuing	
NUWC	C/FP	Not Specified Not Specified	0.552	0.450		0.000		0.000		0.000	Continuing	Continuing	Continuing	
SPAWAR	C/FP	Not Specified Not Specified	0.345	0.858		0.650		0.000		0.650	Continuing	Continuing	Continuing	
NAVAIR	C/FP	Not Specified Not Specified	0.000	0.500		0.500		0.000		0.500	Continuing	Continuing	Continuing	
NRL	C/FP	Not Specified Not Specified	0.300	0.200		0.400		0.000		0.400	Continuing	Continuing	Continuing	
NAWC	C/FP	Not Specified Not Specified	2.000	0.500		0.000		0.000		0.000	Continuing	Continuing	Continuing	
Miscellaneous	C/FP	Not Specified Not Specified	2.503	1.314		2.466		0.000		2.466	Continuing	Continuing	Continuing	
		Subtotal	10.718	10.152		9.196		0.000		9.196				

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy

**DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

**PROJECT** 

1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)

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**Support (\$ in Millions)** 

				FY 2010			FY 2011 F Base		FY 2011 OCO				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	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 Various	0.049	0.000		0.000		0.000		0.000	0.000	0.049	Continuing
		Subtotal	0.049	0.000		0.000		0.000		0.000	0.000	0.049	

#### Remarks

	Total Prior Years Cost FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.767	10.152	9.196		0.000		9.196			

#### **Remarks**