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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0308601N: <i>Modeling & Simulation Support</i>								
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	7.709	8.158	8.292	-	8.292	8.438	8.628	8.808	8.960	Continuing	Continuing
2222: <i>Modeling & Simulation</i>	7.709	8.158	8.292	-	8.292	8.438	8.628	8.808	8.960	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element addresses projects under the Navy Modeling and Simulation (M&S) Office. It supports technical and management initiatives directed by Congress, Department of Defense (DoD), Secretary of the Navy (SECNAV), and Chief of Naval Operations (CNO) with the aim of bringing organization and focus to the development and use of M&S throughout the Navy and DoD. It provides a central agency for the formulation and implementation of policy and guidance in M&S, and represents Navy interests in Joint and other agency initiatives. It funds efforts to define and coordinate the corporate Navy M&S policy and guidance to evolve an interoperable and reusable core M&S capability consistent with the M&S technical framework prescribed by DoD. Efforts are organized around four product areas: (1) Engineering Studies and Analysis: identifies and measures the relevance of existing and emerging standards, technologies and services necessary to guide Navy M&S use; (2) Products and Services: promotes the policy, standards and technologies necessary to guide more efficient development and use of M&S across the Navy, including development and management of the Navy Modeling and Simulation Information Service (NMSIS); (3) M&S Quality Assurance Program: establishes and manages a disciplined process of model Verification, Validation and Accreditation (VV&A); and (4) Simulation Experiments: supports M&S use in Navy exercises and experiments across a wide variety of warfighting and supporting communities. Specifically, Simulation Experiments integrate appropriate models and simulations into Fleet exercises to test, validate and evaluate for possible transition to operationally relevant M&S products in support of Navy operations, training, acquisition, analysis and assessment.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	7.995	8.158	8.306	-	8.306
Current President's Budget	7.709	8.158	8.292	-	8.292
Total Adjustments	-0.286	-	-0.014	-	-0.014
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.249	-			
• Section 219 Reprogramming	-0.037	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.014	-	-0.014

Change Summary Explanation

Technical: Not applicable.

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Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2222: <i>Modeling & Simulation</i>	7.709	8.158	8.292	-	8.292	8.438	8.628	8.808	8.960	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project addresses critical coordination of Navy M&S efforts, integrates individual programs into a coherent whole, promotes reuse of resources, and aligns Navy efforts with Joint programs. It develops and maintains a comprehensive repository of models, simulations and authoritative data to support broad-based Navy requirements. It promotes reusability through the Quality Assurance process for models, simulations and data, and enhances interoperability by coordinating and reviewing Navy's transition to DoD-mandated standards for distributed simulations. The project participates in Fleet exercise experiments, distributed simulations and demonstrations such as Limited Objective Experiments (LOE), Virtual at Sea Training (VAST), and Virtual Missile Range (VMR).

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

	FY 2010	FY 2011	FY 2012
Title: ENGINEERING STUDIES AND ANALYSIS	3.637	3.816	3.885
Articles:	0	0	0
<p>Description: This activity conducts engineering studies and analyses aimed at determining the feasibility and applicability of proposed standards or technical approaches to Navy M&S, and investigate Service-unique requirements for standards or guidance. Individual efforts focus on developing or evaluating approaches to optimize training, assessments and acquisition functional/mission objectives through more efficient development and use of M&S. This activity develops methodologies and standards that will result in model and data reusability and interoperability through the formulation of a technical framework. These standards will support the full range of architecture and engineering design and analysis requirements across the Navy. This activity also provides an M&S degree program through the Naval Postgraduate School, Modeling Virtual Environments and Simulation (MOVES) curriculum.</p> <p>FY 2010 Accomplishments: Continued to work with the MOVES Institute and the MOVES degree program to provide military relevant thesis topics for research. Continued M&S support to Fleet Forces Command (FFC) for the CNO-directed Task Force Sim. Continued M&S utilization in Campaign/Mission assessments to support OPNAV N81 analysis of warfighting requirements.</p> <p>FY 2011 Plans: Continue all efforts of FY-2010</p> <p>FY 2012 Plans:</p>			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Continue all efforts of FY-2011				
Title: PRODUCT AND SERVICES		1.629	1.768	1.786
		0	0	0
Articles:				
Description: This activity supports development of common services, tools, databases and standards to ensure the integration and connectivity of M&S products employed in Naval assessments, in training and acquisition, and among operational communities. It manages and maintains the Navy M&S Information System (NMSIS), as a central M&S information resource to support informed M&S investment decision making across Navy. It provides essential planning and coordination of M&S efforts with other Services, the Office of Secretary of Defense (OSD), the Joint Staff, and other agencies to develop policies and procedures necessary for M&S standardization within the Navy. It provides annual updates to the Naval M&S Catalog, Master Plan, and Investment Strategy.				
FY 2010 Accomplishments: Continued to promote and enhance state-of-practice M&S catalog and technology within the Navy M&S community. Continued the development, servicing and use of M&S catalog as directed under applicable DoD DIR, SECNAVINST, and OPNAVINST. Continued to organize and facilitate quarterly NAVY M&S Technical Interchange Meetings to bring together the Navy M&S community for a direct interchange of M&S requirements, technology, standards and experience. Continued to foster and develop the DoD M&S Standards Process that draws M&S experts from the acquisition, training and operational communities, and from industry. Update DON VV&A Instructions to ensure compliance with new DoD Instructions				
FY 2011 Plans: Continue all efforts of FY-2010				
FY 2012 Plans: Continue all efforts of FY-2011				
Title: M&S QUALITY ASSURANCE PROGRAM		0.536	0.580	0.591
		0	0	0
Articles:				
Description: This activity implements and manages the Modeling and Simulation (M&S) Quality Assurance development of the VV&A process and guidelines for modeling, simulation, and data. It reviews both new and legacy M&S VV&A plans and reports, and develops and maintains the Naval M&S VV&A repository. It establishes and implements a VV&A training curriculum for developers and accreditors, and provides an annual VV&A assessment to CNO.				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> Continue to develop and update case studies within the VV&A Handbook Continued to incorporate information developed for training/education into the VV&A Handbook. Continued to coordinate with the NMSIS and DoD M&S catalog effort to update and Beta test new VV&A data entry fields as required. Assist the Navy Virtual SYSCOM in writing a VV&A Instruction for the SYSCOMS Lead the DoD Acquisition Community's VV&A Subcommittee in its attempt to bring VV&A data to the M&S catalog</p> <p><i>FY 2011 Plans:</i> Continue all efforts of FY-2010</p> <p><i>FY 2012 Plans:</i> Continue all efforts of FY-2011</p>				
<p><i>Title:</i> SIMULATION EXPERIMENTS</p> <p><i>Description:</i> This activity supports Fleet exercises and experiments through the application of distributed simulations across a wide variety of warfighting and supporting communities. Specifically, it develops and integrates appropriate M&S into Fleet Synthetic Training (FST), and develops simulation efforts to test and evolve the standards for models, interfaces, and data. It supports development of tools necessary to enable the seamless access and use of operationally relevant M&S products to support Navy training, warfare assessments and acquisition requirements.</p> <p><i>FY 2010 Accomplishments:</i> Continue all efforts of FY-2009</p> <p><i>FY 2011 Plans:</i> Continue all efforts of FY-2010</p> <p><i>FY 2012 Plans:</i> Continue all efforts of FY-2011</p>		<p><i>Articles:</i></p> <p>1.907 0</p>	<p>1.994 0</p>	<p>2.030 0</p>
Accomplishments/Planned Programs Subtotals		7.709	8.158	8.292

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

This program supports ongoing efforts to define, develop and utilize M&S technologies, standards and techniques in DoN and Joint programs across a wide range of disciplines and technical arenas. As such, performance metrics are specific to individual projects initiated under this program element. Representative examples of performance criteria for M&S support include the following: VV&A of deployed M&S systems to support Fleet and Force missions and assessments; degree of composability and adaptability of system architectures employed in M&S systems; ability of M&S systems to replicate and permit recreation of force or system interactions that otherwise would be performed by more labor-intensive or expensive personnel, forces or elements; degree to which M&S frameworks would permit rapid integration and employment of analytic capabilities for the analysis and documentation of warfighter missions, weapons systems or Tactics, Techniques and Procedures (TT&P); and ability of a specific M&S technology or technique to meet the requirements specified in an individual project supported by this program.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
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
Navy M&S Information Service	WR	MARCORSYSCOM:Quantico, VA	0.307	0.761	Oct 2010	0.403	Oct 2011	-		0.403	Continuing	Continuing	Continuing
M&S to DODAF Structural Metadata	WR	NAWC:Pax River, MD	2.114	0.757	Oct 2010	0.770	Oct 2011	-		0.770	1.527	5.168	
DODAF to M&S Structural Metadata	WR	NAWC TSD:Orlando, FL	0.850	0.757	Oct 2010	0.770	Oct 2011	-		0.770	1.527	3.904	
M&S Postgraduate Education	WR	NPS Moves Institute:Monterey, CA	0.798	0.822	Oct 2010	0.847	Oct 2011	-		0.847	0.000	2.467	
Training M&S System Integration Initiative	WR	ONR:Arlington, VA	0.850	0.695	Oct 2010	0.126	Oct 2011	-		0.126	0.835	2.506	
Navy M&S Mission Suite	WR	SPAWAR HQ:San Diego, VA	0.500	0.250	Oct 2010	1.000	Oct 2011	-		1.000	1.750	3.500	
M&S Data Visibility/Online Tools	WR	SPAWAR LANT:North Charleston, SC	1.748	0.151	Oct 2010	0.151	Oct 2011	-		0.151	0.000	2.050	
USMC STORM	WR	MCCDC:Quantico, VA	0.314	0.667	Oct 2010	0.588	Apr 2012	-		0.588	0.750	2.319	
Navy Future Campaign Model	WR	NAVAIR:Pax River, MD	-	0.500	Oct 2010	0.500	Oct 2011	-		0.500	0.750	1.750	
Subtotal			7.481	5.360		5.155		-		5.155			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
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
Navy M&S Archiving	WR	NAVAIR:Pax River, MD	-	0.083	Oct 2010	0.086	Oct 2011	-		0.086	0.170	0.339	
Subtotal			-	0.083		0.086		-		0.086	0.170	0.339	

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
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
NMSO Director, VV&A	WR	SPAWAR LANT:North Charleston, SC	-	0.719	Oct 2010	0.741	Oct 2011	-		0.741	0.000	1.460	

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