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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 6: <i>RDT&E Management Support</i>				PE 0604256N: <i>Threat Simulator Development</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	18.353	28.318	30.790	-	30.790	43.893	43.129	40.585	21.705	Continuing	Continuing
0602: <i>Eletronics W/F Env Simulation (ECHO)</i>	7.915	15.108	17.390	-	17.390	30.227	33.179	27.320	7.502	Continuing	Continuing
0672: <i>Effect Nav E/W (ENEWS)</i>	10.438	13.210	13.400	-	13.400	13.666	9.950	13.265	14.203	Continuing	Continuing

A. Mission Description and Budget Item Justification

This is a continuing program that consolidates the design, fabrication and integration of Naval Electronic Warfare (EW) threat simulators for increased managerial emphasis and coordination. These simulator development efforts provide realistic Developmental and Operational Test and Evaluation environments to test EW systems and defensive tactics. These projects develop threat Anti-Air and Anti-Ship weapon system simulators in accordance with the Services' requirements.

The 0602 Project, Electronic Warfare Environment Simulation, directly supports the Test and Evaluation resource requirements for all Naval Air EW development programs to include multi-spectral situational awareness and countermeasures. Programs in development and future programs include: Advanced Anti-Radiation Guided Missile, ALR-67 (v) 3, Integrated Defensive Electronic Countermeasures Suite ALQ-214, the AAR-47 (v) 3, AVR-2, Advanced 6" Expendable, Advanced Strategic Tactical Expendable, ALQ-144A, Joint and Allied Threat Awareness System, Joint Strike Fighter, EA-18G, LR700, Low Band Transmitter, P-8A, and the Next Generation Jammer.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	18.755	28.318	20.928	-	20.928
Current President's Budget	18.353	28.318	30.790	-	30.790
Total Adjustments	-0.402	-	9.862	-	9.862
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.307	-			
• Program Adjustments	-	-	9.959	-	9.959
• Rate/Misc Adjustments	-	-	-0.097	-	-0.097
• Congressional General Reductions	-0.095	-	-	-	-
Adjustments					

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<u>Change Summary Explanation</u> Technical: Not applicable. Schedule: Not applicable.		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0604256N: Threat Simulator Development				PROJECT 0602: Eletronics W/F Env Simulation (ECHO)			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0602: Eletronics W/F Env Simulation (ECHO)	7.915	15.108	17.390	-	17.390	30.227	33.179	27.320	7.502	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The objective of this project is development of necessary simulation facilities and approaches to allow determination of the effectiveness of Electronic Warfare (EW) in real world engagement situations and to support the introduction of modern, effective systems into Naval Aviation. The heavy use of test resources by all Services demonstrates the importance of these assets. The Navy has been very successful in executing all of its major programs, and to date has had no major technical problems.

The Electronic Warfare Environment Simulation project is unique because it is the only program within the Department of Defense which develops and provides Naval anti-air warfare threat assets for Test and Evaluation (T&E).

This project directly supports the T&E resource requirements for all Naval Air EW development programs, to include multi-spectral situational awareness and countermeasures. Programs in development and future programs include: Advanced Anti-Radiation Guided Missile, ALR-67 (v) 3, Integrated Defensive Electronic Countermeasures Suite ALQ-214, the AAR-47 (v) 3, AVR-2, Advanced 6" Expendable, Advanced Strategic Tactical Expendable, ALQ-144A, Joint and Allied Threat Awareness System, Joint Strike Fighter, EA-18G, LR700, Low Band Transmitter, P-8A, and the Next Generation Jammer.

This project provides for the development of an Integrated Air Defense T&E capability to be fielded at each of the three sites comprising the Navy's Tri-Center complex: Naval Air Warfare Center Weapons Division, China Lake and Point Mugu in CA, and Naval Air Warfare Center Aircraft Division, Patuxent River, MD.

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

	FY 2011	FY 2012	FY 2013
Title: RADIO FREQUENCY (RF) THREAT CAPABILITIES	6.936	14.129	16.411
Articles:	0	0	0
Description: Provide the test community with the modern threat systems necessary for T&E of airborne RF alert, Situation Awareness, targeting systems and airborne RF response systems.			
Funding increases from FY 2011 to FY 2012 due to the need to address additional double digit threat systems at the Electronic Combat Range (ECR) by initiating the development of the Long Range Threat Systems simulator (LRTS) at ECR. Funding increases from FY 2012 to FY 2013 due to the need for additional test capability for the Next Generation Jammer and the Joint Strike Fighter programs.			

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 6: RDT&E Management Support	R-1 ITEM NOMENCLATURE PE 0604256N: Threat Simulator Development	PROJECT 0602: Eletronics W/F Env Simulation (ECHO)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: - Continued the development of the LRTS in laboratories. - Continued the upgrade to the J-32B Advanced Threat System (ATS) at Eletronic Combat Range (ECR). - Continued the development of an advanced Early Warning and Acquisition radar hybrid laboratory simulator. FY 2012 Plans: - Continue all efforts from FY 2011. - Complete the upgrade of an ATS at ECR. - Initiate and complete the upgrade of advanced manpad system simulators. - Initiate the development of the Long Range Threat Systems Simulator (LRTS) at ECR. - Initiate the update to existing laboratory simulators of foreign radars. - Initiate the development of a Digital Radio Frequency Memory jammer simulator. FY 2013 Plans: - Continue all efforts from FY 2012 except those listed as complete above. - Complete the development of the LRTS in laboratories. - Complete the development of a Digital Radio Frequency Memory jammer simulator. - Initiate the upgrade and integration of missile simulation models. - Initiate the upgrade of open-loop threat simulators at ECR. - Initiate the development of an open air radio frequency beam measurement capability. - Initiate the development of a closed-loop threat surface to air missile system simulator. - Initiate the conversion of a threat system.				
Title: REQUIREMENTS AND VALIDATION Articles: Description: Validate and track intel updates of the threat systems necessary for the operation and continuous improvement of Navy laboratories and ranges which provide engineering support, testing and analysis to the developers, integrators, testers and users of systems and technologies that counter or penetrate air defenses. FY 2011 Accomplishments: - Continued to provide program management, systems engineering, and requirements identification for the development of simulators and foreign material acquisition. - Continued to validate simulators and stimulators at the Navy tri-lab centers. FY 2012 Plans:		0.979 0	0.979 0	0.979 0

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 6: <i>RDT&E Management Support</i>	R-1 ITEM NOMENCLATURE PE 0604256N: <i>Threat Simulator Development</i>	PROJECT 0602: <i>Eletronics W/F Env Simulation (ECHO)</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
- Continue all efforts of FY 2011.			
FY 2013 Plans: - Continue all efforts of FY 2012.			
Accomplishments/Planned Programs Subtotals		7.915	15.108
C. Other Program Funding Summary (\$ in Millions) N/A			
D. Acquisition Strategy Not Applicable.			
E. Performance Metrics Successfully achieve Initial Operational Capability of Navy Threat Simulation projects within 60 days of approved schedule and have test capabilities scheduled in support of Navy test programs within 180 days.			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0604256N: Threat Simulator Development				PROJECT 0672: Effect Nav E/W (ENEWS)			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0672: Effect Nav E/W (ENEWS)	10.438	13.210	13.400	-	13.400	13.666	9.950	13.265	14.203	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
<p>The objective of the Effectiveness of Navy Electronic Warfare (EW) Systems (ENEWS) Project is the development and application of necessary simulation assets to determine the effectiveness of EW for Navy ships in simulated real-world engagement situations. The project primarily supports the introduction of modern, effective shipboard and offboard EW systems, and tactics for the Surface Navy. The heavy use of ENEWS resources by Naval Sea Systems Command, Operational Test and Evaluation (OT&E) Force, Special Operations, and other EW Research, Development, Test and Evaluation (T&E) agencies speaks to the overall importance of this project. The project provides support for EW system design Engineering Test (ET), Development Test (DT), Operational Test (OT), and the development of utilization tactics. Its quick reaction capabilities have had great impact on crisis situations such as the Lebanon and Libyan crises, Iran Harpoon threat, Persian Gulf crisis, and Operation Desert Shield/Storm. Simulation Display is another ENEWS modeling tool that was developed to support T&E. The display has been adopted by most Department of Defense (DoD) T&E and training ranges to provide visualization of T&E and training scenarios. The primary threat to surface ships is Anti-Ship Capable Missile systems. The ENEWS Project is unique in that it is the only project within DoD dedicated to developing and providing realistic Anti-Ship Capable Missile assets to test and evaluate the effectiveness of shipboard EW systems and tactics against these type threats. The ENEWS Project is a critical part of the Office of the Secretary of Defense Test Resource Master Plan. This plan employs many of the ENEWS assets for planning, analysis, testing, and verification of shipboard and offboard EW systems techniques and tactics. As part of its normal activities, ENEWS provides Development Test and Evaluation (DT&E), OT&E, and Follow-on Operational Test and Evaluation (FOT&E) support to the surface Navy for all ship classes. DT, OT and FOT&E support includes AN/SLQ-32 Surface Electronic Warfare Improvement Program (SEWIP), R17.OX NULKA, Rapid Anti-ship Integrated Defense System, all MK245 Giant tests, advanced InfraRed (IR) decoys, decoy placement, ship IR signature and radar cross section measurement of DDG-51, LPD-17, DD-21 and PC class ships, High Power Microwave program, and other ship self-defense initiatives, including T&E of Future Naval Capability process. In addition, ENEWS assets are regularly employed to test the effectiveness of North Atlantic Treaty Organization ships' EW systems in joint allied exercises. ENEWS assets also support Joint EW exercises that are conducted with Rim of the Pacific (RIMPAC) nations.</p>											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: CLASSIFIED PROGRAM								5.510	8.418	8.462	
								Articles: 0	0	0	
Description: Details about this program are classified.											
Details about this program and any changes are classified.											
FY 2011 Accomplishments:											

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
- Details are of a higher classification. FY 2012 Plans: - Details are of a higher classification. FY 2013 Plans: - Details are of a higher classification.				
Title: HARDWARE SIMULATION SYSTEMS Articles: Description: Maintain and perform Hardware and Software Upgrades to the inventory of ENEWS flyable and shore based Anti-Ship Capable Missile (ASCM) Electro-Optic/Infrared, Visible and Radio Frequency (RF) Simulators. Perform characterization of IR and RF simulators as part of periodic evaluation of simulation performance and collect performance data for comparison with previously recorded data. Development and maintenance of all simulator control panels. FY 2011 Accomplishments: - Continued annual maintenance on ENEWS simulators to support flight/shore based tests. - Continued intelligence upgrades to SUMMIT simulators and VICTOR 1 Standard Instrumentation Pods (SIP). - Continued software intelligence upgrades to VICTOR 1 SIP and SUMMIT simulators. - Completed intelligence upgrades to MEIR 2-2, MEIR 3 simulators the MIKE 2 & 3 SIPs. - Completed transition of the TANGO simulator into the NRL Learjet Electronics Pod (LEP). - Initiated software intelligence upgrades to the towed FOXTROT 3 simulator. FY 2012 Plans: - Continue annual maintenance on ENEWS simulators to support flight/shore based tests. - Continue software intelligence upgrades to the towed FOXTROT 3 simulator. - Complete software intelligence upgrades to the VICTOR 1 SIP and SUMMIT simulators. - Complete intelligence upgrades to the VICTOR 1 SIP and SUMMIT simulators. - Initiate characterization of NOVEMBER Va/Vb simulators. - Initiate and complete characterization of GAMMA simulator. FY 2013 Plans: - Continue annual maintenance of ENEWS simulators to support flight/shore based tests. - Complete software intelligence upgrades to the FOXTROT 3 towed simulator (TOWSIM). - Complete characterization of NOVEMBER Va/Vb simulator. - Initiate software intelligence upgrades to the MEIR 3 and MIKE 3.		1.680 0	1.695 0	1.919 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
- Initiate and complete characterization of the OMEGA simulator.				
Title: SIMULATION VALIDATION AND REQUIREMENTS		0.952	0.987	0.940
Articles:		0	0	0
Description: Provides for the validation of hardware simulators and digital models. Develops reports that contain detailed descriptions and parametric data of the threat simulators or digital models and compares the simulator's parametric data to the actual threats parametric data. Provide technical management functions in support of the ENEWS project; engineering and technical support requirements for the overall efforts of ASCM simulator and digital model development to meet DT/OT testing requirements, development of detailed test resource requirements and provides an interface between N-912, N-433, Office of Naval Research and other ENEWS oversight activities.				
FY 2011 Accomplishments:				
- Continued management of the Simulator Validation Working Group SVWG.				
- Completed INDIA I, PAPA, and KILO hardware validation reports.				
- Initiated QUESTION and UNIFORM hardware validation reports.				
- Initiated and completed update of FY 2011 Program Management Plan.				
- Initiated and completed FY 2011 quarterly reports, earned value management analysis, progress tracking and analysis.				
FY 2012 Plans:				
- Continued management of the Simulator Validation Working Group SVWG.				
- Continue QUESTION and UNIFORM hardware validation reports.				
- Initiate and complete update of the FY 2012 Program Management Plan.				
- Initiate and complete FY 2012 quarterly reports, earned value management analysis, progress tracking and analysis.				
- Initiate FOXTROT 3 TOWSIM, OMEGA and GAMMA hardware validation reports.				
FY 2013 Plans:				
- Continue management of the Simulator Validation Working Group SVWG.				
- Complete QUESTION and UNIFORM hardware validation reports.				
- Complete FOXTROT 3 TOWSIM, OMEGA and GAMMA hardware validation reports				
- Initiate and complete update of the FY 2013 Program Management Plan.				
- Initiate and complete FY 2013 quarterly reports, earned value management analysis, progress tracking and analysis.				
- Initiate SIGMA hardware validation report.				
Title: SUPPORT AND COMPUTERS SIMULATION SYSTEMS		2.296	2.110	2.079
Articles:		0	0	0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
<p>Description: Perform maintenance and intelligence upgrades to EO/IR, Digital, and RF Laboratory Simulation testing facilities and flight support equipment based on existing and emerging complex threat systems. Development of T&E scenarios and environmental modeling to support electronic support (ES) and electronic attack (EA) testing; modify ASCM Digital Models based on the latest intelligence data obtained from threat databases.</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continued maintenance and upgrades to shore-based test facilities and mobile test vans as required to conduct tests in support of SEWIP, NULKA and multi function EW programs. - Continued transitioning environmental, threat and platform simulations to the subversion software configuration management program. Upgraded subversion software library as new releases became available. - Continued to develop new digital models of Anti-ship Cruise Missile (ASCM) threats as they became available. - Continued upgrades and maintenance of flight support systems as necessary to support the IR/RF ENEWS simulators. - Continued improvements and intelligence upgrades to ALPHA I, INDIA I, II, III, LIMA, NOVEMBER III, QUEBEC, TANGO, and TANGO II. In all, a total of 9 digital models. - Continued improvements and intelligence upgrades to the COHERENT and foreign anti-ship missile (FASM) digital models. - Continued intelligence updates and simulation user friendly enhancements for the Long Range High Altitude (LRHA) digital model. - Initiated improvements and intelligence upgrades to the Millimeter Wave (mmW) digital models. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of FY2011, less those noted as complete below. - Complete improvements and intelligence upgrades to the COHERENT and FASM digital models. - Complete the simulation user friendly enhancements for the LRHA digital model. - Initiate simulation user friendly enhancements for the TANGO and TANGO II digital models. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Continue all efforts of 2012, less those noted as completed below. - Continue improvements and upgrades to mmW digital models - Complete the simulator user friendly enhancements for the TANGO and TANGO II digital models - Initiate the simulator user friendly enhancements for the NOVEMBER IV digital model. 			
Accomplishments/Planned Programs Subtotals		10.438	13.210
C. Other Program Funding Summary (\$ in Millions)			
N/A			

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D. Acquisition Strategy Not applicable.		
E. Performance Metrics Performance metrics are discussed within each project (R2a).		