

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2003	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-6					0604256N, Threat Simulator Development			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	29.811	29.891	28.004	29.185	29.678	30.153	30.682	31.215
E0602 Electronic Warfare Environment SIM (ECHO)	15.112	15.993	14.155	14.637	14.891	15.127	15.415	15.697
R0672 Effectiveness of Navy E.W. Systems (ENEWS)	13.203	13.898	13.849	14.548	14.787	15.026	15.267	15.518
C9132 Battle Effect Simulator	1.496							
<p>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 (DT&E/OT&E) environments to test Tri-Services EW systems and defensive tactics. These projects develop former Soviet and Free-World Anti-Air and Anti-Ship weapon systems simulators in accordance with the Services requirements.</p> <p>The E0602 Project, EW Environment Simulation (ECHO) provides airborne system component level Test and Evaluation (T&E) at the Electronic Combat Simulation and Evaluation Laboratory (ECSEL), Naval Air Warfare Center Weapons Division (NAWCWD), Point Mugu, CA. ECHO also provides a secure anechoic closed loop T&E facility for fully integrated, aircraft-installed systems testing at the EW Integrated Systems Test Laboratory (EWISTL) at the Naval Air Warfare Center Aircraft Division (NAWCAD), Patuxent River, MD. Included in this Project is the T&E of airborne systems and tactics in flight, against the open air range at the Electronic Combat Range (ECR) complex located at the NAWCWD, China Lake, CA.</p> <p>The R0672 Project (formally E0672), Effectiveness of Navy EW Systems (ENEWS), is a Department of the Navy (DON) unique project that supports Test and Evaluation of Ships EW efforts. ENEWS provides T&E for surface and subsurface shipboard systems and tactics in digitally modeled battle scenarios at the component, fully integrated single ship, multi-ship and full-up multi-platform battle group levels. ENEWS also provides a secure anechoic closed loop T&E facility specifically designed to test shipboard systems at the stand alone subsystem or fully integrated systems level. The last and largest portion of this project addresses the flyable Infrared and Radio Frequency simulators flown on specially configured NP-3D aircraft to provide at-sea open air T&E for systems and tactics. All ENEWS assets are developed, operated and maintained by the Naval Research Laboratory (NRL), Washington, DC.</p> <p>C9132 Project, Battle Effects Simulator, this project supports the Omega 36 Battle Effects Simulator Device. This is potentially a direct replacement for the M-21 pyrotechnic device along with the Hoffman Firing Device and Armored Target Kills Simulator Device.</p>								

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6		PROGRAM ELEMENT NUMBER AND NAME 0604256N, Threat Simulator Development			PROJECT NUMBER AND NAME E0602, ECHO			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	15.112	15.993	14.155	14.637	14.891	15.127	15.415	15.697
RDT&E Articles Qty	Not Applicable							
<p>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.</p> <p>The EW Environment Simulation (ECHO) project is unique in that it is the only program within the Department of Defense (DOD) which develops and provides Naval anti-air warfare threat assets for Testing and Evaluation (T&E) and is a critical part of the Office of the Secretary of Defense (OSD) Test Resource Master Plan. The OSD Master Plan employs many ECHO project resources for planning, analysis, testing and verification of airborne EW equipment.</p> <p>This project directly supports the Test and Evaluation resource requirements for all Naval Air Electronic Warfare (EW) development programs to include multi-spectral situational awareness and countermeasures. Programs in development and future programs include: Advanced Anti-Radiation Guided Missile (AARGM), ALR-67 (v) 2 and (v) 3, Integrated Defensive Electronic Countermeasures Suite (IDECM) ALQ-214, AAR-47 (v) 2 and the AAR-47 (v) 3, AVR -2, Advanced 6" Expendable, Advanced Strategic Tactical Expendable (ASTE), ALQ-144A, Directed Infrared Countermeasures (DIRCM), EA-6B Improved Capability Program (ICAP III), LR700 and the Low Band Transmitter (LBT). This program also supports Joint Service EW systems with initial operational capability in the mid to late 2000's.</p> <p>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.</p>								

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6	PROGRAM ELEMENT NUMBER AND NAME PE0604256N, Threat Simulator Development	PROJECT NUMBER AND NAME E0602, ECHO																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">InfraRed/Ultra Violet (IR/UV) Mobile Stimulator</td><td style="width: 10%;">FY 02</td><td style="width: 10%;">FY 03</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>1.015</td><td>0.900</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><p>FY2002 - Initiated Infrared/Ultraviolet (IR/UV) Mobile Stimulator. Conducted market survey and perform field tests to down select source. Initiated procurement action for commercial off the shelf equipment.</p><p>FY2003 - Complete Infrared/Ultraviolet (IR/UV) Mobile Stimulator. Procure additional hardware, install and test.</p></div>					InfraRed/Ultra Violet (IR/UV) Mobile Stimulator	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	1.015	0.900			RDT&E Articles Quantity				
InfraRed/Ultra Violet (IR/UV) Mobile Stimulator	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	1.015	0.900																	
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Ground Based IR Stimulator</td><td style="width: 10%;">FY 02</td><td style="width: 10%;">FY 03</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>1.150</td><td>0.800</td><td>1.975</td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><p>FY2002 - Initiated Ground Based IR Stimulator. Conducted preliminary analysis and design trade-off studies. Developed specifications and designs. Developed and test prototype system.</p><p>FY2003 - Continue Ground Based IR Stimulator. Finalize design and begin fabrication of field units.</p><p>FY2004 - Complete Ground Based IR Stimulator. Complete fabrication. Integrate into the Range and perform initial operational capabilities (IOC) testing.</p></div>					Ground Based IR Stimulator	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	1.150	0.800	1.975		RDT&E Articles Quantity				
Ground Based IR Stimulator	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	1.150	0.800	1.975																
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<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">IR Target Array</td><td style="width: 10%;">FY 02</td><td style="width: 10%;">FY 03</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>2.379</td><td>3.081</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><p>FY2002 - Continued IR Target Array. Completed prototype development and testing. Performed fabrication of field units.</p><p>FY2003 - Complete IR Target Array. Complete fabrication. Integrate into the Range and perform IOC testing.</p></div>					IR Target Array	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	2.379	3.081			RDT&E Articles Quantity				
IR Target Array	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	2.379	3.081																	
RDT&E Articles Quantity																			

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B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Advanced Man Portable Air Defense Systems</td><td style="width: 10%;">FY 02</td><td style="width: 10%;">FY 03</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>0.380</td><td>0.597</td><td>0.750</td><td>0.750</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; min-height: 60px;">FY2002 - Initiated Advanced Man Portable Air Defense Systems. Procured additional manpad seekers, install and test at the Navy open air range. FY2003 - FY2005 - Continue Advanced Man Portable Air Defense Systems. Procure additional manpad seekers, install and test at the Navy open air range.</div>					Advanced Man Portable Air Defense Systems	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.380	0.597	0.750	0.750	RDT&E Articles Quantity				
Advanced Man Portable Air Defense Systems	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	0.380	0.597	0.750	0.750															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Advanced Multiple-Emitter Simulator Direction Finding</td><td style="width: 10%;">FY 02</td><td style="width: 10%;">FY 03</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>0.722</td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; min-height: 60px;">FY2002 - Completed Advanced Multiple-Emitter Simulator Direction Finding Modification. Completed fabrication, installation and test of hardware.</div>					Advanced Multiple-Emitter Simulator Direction Finding	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.722				RDT&E Articles Quantity				
Advanced Multiple-Emitter Simulator Direction Finding	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	0.722																		
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Radar Signal Density Environment (RSDE) Mobile</td><td style="width: 10%;">FY 02</td><td style="width: 10%;">FY 03</td><td style="width: 10%;">FY 04</td><td style="width: 10%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td>0.250</td><td></td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; min-height: 60px;">FY2002 - Completed Radar Signal Density Environment (RSDE) Mobile. Completed hardware fabrication and final integration. Performed initial operational capabilities testing at Navy open air range.</div>					Radar Signal Density Environment (RSDE) Mobile	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.250				RDT&E Articles Quantity				
Radar Signal Density Environment (RSDE) Mobile	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	0.250																		
RDT&E Articles Quantity																			

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6	PROGRAM ELEMENT NUMBER AND NAME PE0604256N, Threat Simulator Development	PROJECT NUMBER AND NAME E0602, ECHO		
B. Accomplishments/Planned Program				
Hybrid Laboratory Simulator (HLS) MOBCAP	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.000			
RDT&E Articles Quantity				
FY2002 - Completed Hybrid Laboratory Simulator (HLS) MOBCAP Upgrades. Conducted final factory acceptance testing. Installed and test at Navy laboratories.				
1V1 IR Alert/Response System	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.809	0.263		
RDT&E Articles Quantity				
FY2002 - Initiated 1V1 IR Alert/Response System. Conducted trade-off analysis and design studies. Developed hardware and software subsystems, and system architecture. FY2003 - Completed 1V1 IR Alert/Response System. Complete development efforts, integrate and test at Navy open air range.				
1V2 IR Alert/Response System	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.410	2.655	0.450	
RDT&E Articles Quantity				
FY2002 - Initiated 1V2 IR Alert/Response System. Developed interface specifications for connection to 1V1 System. FY2003 - Continue 1V2 IR Alert/Response System. Develop hardware and software subsystems. Install and interface to 1V1 subsystems. FY2004 - Complete 1V2 IR Alert/Response System. Complete installation of hardware and software. Conduct initial operational capabilities testing at the Navy open air range.				

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B. Accomplishments/Planned Program				
SIMVAL	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.100	0.121	0.100	0.100
RDT&E Articles Quantity				
Continue SIMEVAL (Simulator Evaluation). Conduct and evaluate measurements and document results to provide customers with confidence in simulator performance.				
Radar and Weapon Simulator	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.457	0.542	0.525	0.525
RDT&E Articles Quantity				
Continue Radar and Weapon Simulator Updates. Perform intelligence based updates to threat radar and weapon system simulators.				
Missile/Gun	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.552	0.872	0.450	0.450
RDT&E Articles Quantity				
Continue Missile and Gun System Simulator Updates. Perform intelligence based updates to threat missile and gun system software flyout models.				

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B. Accomplishments/Planned Program				
Reprogrammable Early Warning Acquisition Radar	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.325		0.525	
RDT&E Articles Quantity				
<p>FY2003 - Initiate Reprogrammable Early Warning (EW) Acquisition (ACQ) Radar. Design and begin fabrication of new capability for laboratory EW/ACQ Threat Radar System.</p> <p>FY2004 - Complete Reprogrammable Early Warning (EW) Acquisition (ACQ) Radar. Complete fabrication and perform IOC testing of laboratory EW/ACQ Threat Radar System.</p>				
Real/Time Electronic Combat Range	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.223			
RDT&E Articles Quantity				
<p>FY2003 - Initiate and complete Real/Time Electronic Combat Range - Electronic Combat Simulation and Evaluation Laboratory (R/T ECR-ECSEL) Link. Design, install and test realtime link between Navy hardware-in-the-loop (HITL) and open-air-range (OAR).</p>				
1VM RF Alert/Response	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.687		2.692	
RDT&E Articles Quantity	2.800			
<p>FY2003 - Initiate 1 vs M RF Alert Response. Develop design and interface specifications. Begin prototype hardware and software development.</p> <p>FY2004 - Continue 1 vs M RF Alert Response. Continue hardware and software development.</p> <p>FY2005 - Continue 1 vs M RF Alert Response. Continue hardware and software development. Begin installation and interface with 1V1 and 1V2 systems.</p>				

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6	PROGRAM ELEMENT NUMBER AND NAME PE0604256N, Threat Simulator Development	PROJECT NUMBER AND NAME E0602, ECHO		
B. Accomplishments/Planned Program				
Validation	FY 02	FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost	0.400	0.400	0.400	0.400
RDT&E Articles Quantity				
Continue Validation. Generate Validation Reports using Simulator Evaluation (SIMEVAL) results and forward for Director Test and Evaluation (DOT&E) approval.				
ECHO Technical & Engineering support	FY 02	FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost	3.488	3.527	2.765	2.674
RDT&E Articles Quantity				
Continue ECHO Technical & Engineering support. Provide Program Management, Systems Engineering and Requirements support at all three Navy Electronic Warfare Test and Evaluation (EWT&E) facilities.				
Advanced Multiple-Emitter Simulator Advanced Modu	FY 02	FY 03	FY 04	FY 05
Accomplishments/Efforts/Subtotal Cost			0.750	0.925
RDT&E Articles Quantity				
FY2004 - Initiate Advanced Multiple-Emitter Simulator Advanced Modulation. Develop design and interface specifications and begin hardware and software development. FY2005 - Complete Advanced Multiple-Emitter Simulator Advanced Modulation. Complete development, install and perform initial operational capabilities testing at the Navy laboratory facilities.				

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B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">MVM RF Alert/Response</td><td style="width: 15%;">FY 02</td><td style="width: 15%;">FY 03</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td style="text-align: center;">2.773</td><td style="text-align: center;">2.073</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; min-height: 60px;">FY2004 - Initiate M vs M Radio Frequency (RF) Alert/Response. Develop design and interface specifications. Begin prototype hardware and software development. FY2005 - Continue M vs M RF Alert/Response. Continue hardware and software development.</div>					MVM RF Alert/Response	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost			2.773	2.073	RDT&E Articles Quantity				
MVM RF Alert/Response	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost			2.773	2.073															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">RF/IR Air Intercept Environment Evaluation System</td><td style="width: 15%;">FY 02</td><td style="width: 15%;">FY 03</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td style="text-align: center;">3.340</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; min-height: 60px;">FY2005 - Initiate RF/Infrared (IR) Air Intercept Environment Evaluation System. Perform design trade-off analysis, develop specifications and begin hardware and software development.</div>					RF/IR Air Intercept Environment Evaluation System	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost				3.340	RDT&E Articles Quantity				
RF/IR Air Intercept Environment Evaluation System	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost				3.340															
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<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 30%;">Advanced Threat Simulator</td><td style="width: 15%;">FY 02</td><td style="width: 15%;">FY 03</td><td style="width: 15%;">FY 04</td><td style="width: 15%;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td></td><td></td><td style="text-align: center;">0.600</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; min-height: 60px;">FY2005 - Initiate Advanced Threat Simulator. Conduct design trade-off analysis and begin hardware and software development.</div>					Advanced Threat Simulator	FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost				0.600	RDT&E Articles Quantity				
Advanced Threat Simulator	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost				0.600															
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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2002</th> <th style="text-align: right;">FY 2003</th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget:</td> <td style="text-align: right;">16.276</td> <td style="text-align: right;">16.372</td> <td style="text-align: right;">14.733</td> <td style="text-align: right;">15.215</td> </tr> <tr> <td>Current BES/President's Budget</td> <td style="text-align: right;">15.112</td> <td style="text-align: right;">15.993</td> <td style="text-align: right;">14.155</td> <td style="text-align: right;">14.637</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-1.164</td> <td style="text-align: right; border-top: 1px solid black;">-0.379</td> <td style="text-align: right; border-top: 1px solid black;">-0.578</td> <td style="text-align: right; border-top: 1px solid black;">-0.578</td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Summary of Adjustments</td> </tr> <tr> <td> Congressional program reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Congressional undistributed reductions</td> <td></td> <td style="text-align: right;">-0.096</td> <td></td> <td></td> </tr> <tr> <td> Congressional rescissions</td> <td style="text-align: right;">-0.039</td> <td></td> <td></td> <td></td> </tr> <tr> <td> SBIR/STTR Transfer</td> <td style="text-align: right;">-0.488</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Economic Assumptions</td> <td style="text-align: right;">-0.042</td> <td style="text-align: right;">-0.283</td> <td style="text-align: right;">-0.368</td> <td style="text-align: right;">-0.393</td> </tr> <tr> <td> Reprogrammings</td> <td style="text-align: right;">-0.595</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other program adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.210</td> <td style="text-align: right;">-0.185</td> </tr> <tr> <td> Congressional increases</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-1.164</td> <td style="text-align: right; border-top: 1px solid black;">-0.379</td> <td style="text-align: right; border-top: 1px solid black;">-0.578</td> <td style="text-align: right; border-top: 1px solid black;">-0.578</td> </tr> </tbody> </table> <p>Schedule:</p> <p>Schedule changes from President's budget are a direct result of the funding changes identified above.</p> <p>The FY2002 decrease resulted in a 3 month slip in the prototype development effort for the IR Target Array project (from 4th QTR FY02 to 1st QTR FY03) and a delay of 1 year in the procurement of additional seeker assets for Advanced ManPads (from FY02 to FY03) .</p> <p>The FY2003 decrease resulted in a delay of 1 year in the procurement of additional seeker assets for Advanced ManPads (from FY03 to FY04)</p> <p>The FY2004 decrease resulted in a 1 year delay in fielding the Reprogrammable SAMs/AIs (from 4th QTR FY07 to 4th QTR FY08)</p> <p>The FY2005 decrease resulted in a 1 year delay in fielding the Reprogrammable SAMs/AIs (from 4th QTR FY07 to 4th QTR FY08)</p> <p>Technical: Not Applicable.</p>						FY 2002	FY 2003	FY 2004	FY 2005	Funding:					Previous President's Budget:	16.276	16.372	14.733	15.215	Current BES/President's Budget	15.112	15.993	14.155	14.637	Total Adjustments	-1.164	-0.379	-0.578	-0.578	Summary of Adjustments					Congressional program reductions					Congressional undistributed reductions		-0.096			Congressional rescissions	-0.039				SBIR/STTR Transfer	-0.488				Economic Assumptions	-0.042	-0.283	-0.368	-0.393	Reprogrammings	-0.595				Other program adjustments			-0.210	-0.185	Congressional increases					Subtotal	-1.164	-0.379	-0.578	-0.578
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Exhibit R-2a, RD TEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6	PROGRAM ELEMENT NUMBER AND NAME PE 0604256N, Threat Simulator Development	PROJECT NUMBER AND NAME E0602, ECHO
<p>D. OTHER PROGRAM FUNDING SUMMARY: Not Applicable</p> <p>E. ACQUISITION STRATEGY: Not Applicable</p>		

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME		
RDT&E, N / BA-6		0604256N, Threat Simulator Development				R0672, Effectiveness of Navy Electronic Warfare Systems (ENEWS)		
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	13.203	13.898	13.849	14.548	14.787	15.026	15.267	15.518
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <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 (NAVSEA), Operational Test and Evaluation Force (OPTEVFOR), Special Operations and other EW Research Development Test and Evaluation (RDT&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. Builder, an ENEWS digital modeling tool that was developed and is maintained to support surface EW Test and Evaluation (T&E) has migrated outside the T&E arena and is being used by special forces and carrier battle groups as a mission planning tool. Simulation Display (SIMDIS) is another ENEWS modeling tool that was developed to support T&E and 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 (ASCM) systems. The ENEWS Project is unique in that it is the only project within the Department of Defense (DOD) dedicated to developing and providing realistic ASCM 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 (OSD) 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), Operations Test and Evaluation (OT&E) and Follow-on Operations 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 (RAIDS), all MK245 Giant tests, advanced Infrared (IR) decoys, decoy placement (Littoral), ship IR signature and Radar Cross Section (RCS) measurement of DDG-51, LPD-17, DD-21 and PC class ships, High Power Microwave (HPM) program, and other ship self-defense initiatives, including test and evaluation of Future Naval Capability (FNC) process. In addition, ENEWS assets are regularly employed to test the effectiveness of North Atlantic Treaty Organization (NATO) ships' EW systems in joint allied exercises.</p>								

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Exhibit R-2a, RDTEN Project Justification
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6	PROGRAM ELEMENT NUMBER AND NAME 0604256N, Threat Simulator Development	PROJECT NUMBER AND NAME R0672, Effectiveness of Navy Electronic Warfare Systems (ENEWS)																	
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	FY 02	FY 03	FY 04	FY 05															
Simulator Hardware Upgrades	1.040	0.947	0.896	0.995															
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	FY 02	FY 03	FY 04	FY 05															
Simulator Software Upgrades	0.975	0.700	0.705	0.786															
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	FY 02	FY 03	FY 04	FY 05															
Simulator Characterization	0.100	0.200	0.145	0.147															
RDT&E Articles Quantity																			

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	FY 02	FY 03	FY 04	FY 05															
Simulator Maintenance	1.078	1.070	1.009	1.073															
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	FY 02	FY 03	FY 04	FY 05															
Intelligence Upgrades	0.000	0.000	0.000	0.100															
RDT&E Articles Quantity																			
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	FY 02	FY 03	FY 04	FY 05															
Simulator Control Panels	0.300	0.300	0.295	0.302															
RDT&E Articles Quantity																			

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Exhibit R-2a, RDTEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6	PROGRAM ELEMENT NUMBER AND NAME 0604256N, Threat Simulator Development	PROJECT NUMBER AND NAME R0672, Effectiveness of Navy Electronic Warfare Systems (ENEWS)																	
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	FY 02	FY 03	FY 04	FY 05															
Laboratory Facilities	1.070	1.110	1.000	1.190															
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	FY 02	FY 03	FY 04	FY 05															
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	FY 02	FY 03	FY 04	FY 05															
Simulation Instrumentation	0.678	0.426	0.455	0.495															
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	FY 02	FY 03	FY 04	FY 05															
Simulation Validation	0.543	0.575	0.530	0.565															
RDT&E Articles Quantity																			
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	FY 02	FY 03	FY 04	FY 05															
Electronic Attack/Electronic Support Simulations	0.754	0.594	0.523	0.550															
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	FY 02	FY 03	FY 04	FY 05															
Program Management	0.520	0.547	0.581	0.635															
RDT&E Articles Quantity																			

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(U) B. Accomplishments/Planned Program				
	FY 02	FY 03	FY 04	FY 05
Classified Program	6.100	7.400	7.700	7.700
RDT&E Articles Quantity				
Classified Program				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																																																																																	
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R-1 SHOPPING LIST - Item No. 146

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-6		PROGRAM ELEMENT NUMBER AND NAME 0604256N, Threat Simulator Development			PROJECT NUMBER AND NAME R0672, Effectiveness of Navy Electronic Warfare Systems (ENEWS)					
(U) D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	To <u>Complete</u>	Total <u>Cost</u>
NONE										
(U) E. ACQUISITION STRATEGY: *										
N/A										

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-6			0604256N, Threat Simulator Development			R0672, Effectiveness of Navy Electronic Warfare Systems (ENEWS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
HDW/SW Dev, Sys Eng/Integ	WX	NRL, Washington, DC	184.664	13.898	10/02	13.849	10/03	14.548	10/04	Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Product Development			184.664	13.898		13.849		14.548		Continuing	Continuing	
Remarks:												
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-6					R-1 ITEM NOMENCLATURE 0604256N, Threat Simulator Development			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	1.496							
C9132 Battle Effect Simulator	1.496							
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Titan Dynamic Systems, Inc of Marshall, TX manufactures the Omega 36 Battle Effects Simulator Device. This is potentially a direct replacement for the M-21 .								