

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification								DATE: FEBRUARY 2002			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0204571N Consolidated Training Systems Development					
COST (\$ in Millions)	Prior Year Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost	280.823		30.146	25.233	31.421	36.718	30.396	23.573	24.753	Continuing	Continuing
21427/22449** Surface Tactical Team Trainer (STTT)	69.696		11.357	5.595	15.340	20.841	18.822	12.613	13.689	Continuing	Continuing
22449 Shipboard Electronic Attack Training (SEAT)			0.000	0.991						0.000	0.991
S9106 Tactical Communications On-Board Trainer			0.000	0.991						0.000	0.991
S9107 Link On-Board Trainer			0.000	0.991						0.000	0.991
W0431 Tactical Aircrew Combat Training System (TACTS)	53.659		1.474	0.000	0.000	0.000	0.000	0.000	0.000	0.000	55.133
W0604 Training Range and Instrumentation Development (TRIDS)			1.521	3.570	3.141	2.936	2.524	2.611	2.705	Continuing	Continuing
W1998 Joint Tactical Combat Training System (JTCTS)	148.833		2.757	0.000	0.000	0.000	0.000	0.000	0.000		151.590
W2124 Air Warfare Training Development (AWTD)			2.006	1.887	2.115	2.163	1.832	1.887	1.907	Continuing	Continuing
X1823 Training and Modeling Systems (TMS)	8.635		11.031	11.208	10.825	10.778	7.218	6.462	6.452	Continuing	Continuing
Quantity of RDT&E Articles	Not applicable										
<p>* This amount includes FY90- FY99. **This amount includes a FY01 Congressional Add in FY 01 under PU 22449 for BFTT Windows NT</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The STTT will develop the Battle Force Tactical Training (BFTT) System to provide realistic Combat System team training including a means to link surface ships together for coordinated unit and Battle Group level training using Distributed Interactive Simulation (DIS) and High Level Architecture (HLA) protocols. The migration of BFTT software to Windows NT from UNIX OS is underway. BFTT developed the BFTT Electronic Warfare Trainer (BEWT) and applicable BFTT System software to provide EW operator and team training for Fleet EW Systems. The Congressional adds initiate the development of the Electronic Attack training capability for BEWT and develops the Tactrcal Communication software interfaces and the BFTT Link Stimulation control software.</p> <p>TACTS provides real-time monitoring and post-exercise debrief of aircrews flying on instrumented training ranges. This system is the primary training tool used by the Naval Strike and Air Warfare Center and the Marine Aviation Weapons and Tactics Squadron.</p> <p>The TRID program provides development of many range systems including range electronic warfare simulator, advanced weapons training systems, laser training systems, Large Area Tracking Range (LATR), combat training system improvements and shallow water range technology.</p>											

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 1 of 32)

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EXHIBIT R-2, RDT&E Budget Item Justification		DATE: FEBRUARY 2002
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7	0204571N Consolidated Training Systems Development	
<p>JTCTS is planned to provide U.S. Navy fleet deployable instrumentation for at sea surface, subsurface, air training and tactics development, and fixed/transportable air range instrumentation for U.S. Navy and U.S. Air Force air training and tactics development. JTCTS incorporates the Defense Modeling and Simulation Office sponsored Distributed Interactive Simulation Protocol Data Unit for interoperability with Navy and other service live, virtual (simulators), and constructive (war games) simulations. JTCTS will initially deliver prototype hardware/software for a mobile/rangeless capability for a Carrier Air Wing 5 (CAG-5) after undergoing development/operational testing. It will further develop, test, and field fixed air range and fixed fleet range hardware/software in subsequent phases of the program. This summary reflects only the USN funding component of the JTCTS.</p> <p>The AWTD program provides development of many aviation training systems including mission rehearsal simulation technologies, and the Aviation Training Technology Integration Facility (ATTIF).</p> <p>The TMS encompasses the requirements analysis and software development associated with the Navy's Maritime Development Agent function as part of the Joint Simulation System (JSIMS). The BFTT will develop the BFTT Electronic Warfare Trainer (BEWT) and applicable BFTT system software to provide EW operator and team training for Fleet EW Systems.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.</p>		

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2002					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME Program Element (PE) No. and Name 0204571N CTSD					PROJECT NUMBER AND NAME 21429 Surface Tactical Team Trainer (STTT)/ 22449 SEAT/S9106 Tactical Comms OBT/S9107 LINK OBT					
COST (\$ in Millions)	Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost	N/A	** 10.553	** 11.357	*** 8.568	15.340	20.841	18.822	12.613	13.689	Continuing	Continuing
RDT&E Articles Qty											
<p>**Includes Congressional Plus up funding for BFTT Windows NT. ***Includes Congressional Plus up funding for: 22449 SEAT; S9106 Tactical COMMS OBT; and S9107 LINK OBT.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Battle Force Tactical Training (BFTT) Program provides realistic joint warfare training across the spectrum of armed conflict; realistic unit level team training in all warfare areas; a means to link ships together which are in different homeports for coordinated training; external stimulation of shipboard training systems; and simulation of non-shipboard forces. BFTT uses a distributed architecture, integrating existing training systems, and uses Distributed Interactive Simulation (DIS) protocols, with planned migration to High Level Architecture (HLA). BFTT provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system team training as an integral part of the Afloat Training Organization. BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD). Stimulator/Simulators (STIM/SIM) provides standardized Radio Frequency (RF), Intermediate Frequency (IF), and/or Digital injection into surface ship radars and fire control systems for training of shipboard operators/teams as part of the BFTT System. The BFTT Electronic Warfare Trainer (BEWT) effort provides embedded operator and team electronic emissions recognition training capability, integrated into BFTT. BFTT software is being migrated from UNIX/TAC to a Windows-NT/PC Operating System (OS). The Shipboard Electronic Attack Training (SEAT) effort initiates development of the active electronic countermeasures training capability to BEWT. The Tactical Communications On-Board Trainer effort modifies the tactical Link communications software to accept training data inputs. The Link On-Board Trainer effort modifies the BFTT operating software to provide control of the Link 4/10/16 Stimulator.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2001 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$2.584) BFTT - Continue development of Link software, developing/integrating new software capabilities and automating debrief products. - (U) (\$1.540) HLA - Continue conversion of the DIS protocol based software to the HLA mandated architecture for the Entity Motioning and Modeling portion of the BFTT software in accordance with DoD directives. -(U) (\$7.233) BFTT Windows NT - Complete migration of BFTT software elements to Windows-NT for UNIX Operating System (OS). 											

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME Program Element (PE) No. and Name 0204571N CTSD	PROJECT NUMBER AND NAME 21429 Surface Tactical Team Trainer (STTT)/ 22449 SEAT/S9106 Tactical Comms OBT/S9107 LINK OBT
<p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS: CONTINUATION SHEET</p> <p>2. FY 2002 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$3.869) BFTT - Completing development of data Link simulation software, develop/integrate new s/w capabilities and system interfaces, develop BG level Display and Debrief software. - (U) (\$1.674) HLA - Complete conversion of the BFTT software to the existing HLA Standards. - (U) (\$.052) MMTT - Software development for the Multi-Mission Team Trainer (MMTT). - (U) (\$.991) SEAT - Initiate development of the Shipboard Electronic Attack Training (SEAT) software for BEWT. - (U) (\$.991) Tactical Communications On-Board Trainer - Software development for tactical communications system to accept training inputs. - (U) (\$.991) Link On-Board Trainer - Software development for BFTT software control of Link Stimulator. <p>3. FY 2003 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$15.288) BFTT - Develop/integrate new software capabilities and system interfaces. Initiate development of Battle Group level Display and Debrief software. System/Communication Engineering & Management to include the following: TACDEW Replacement (SG&C/JSAF); Consistent Readiness Status Display; Slave Multiple Special Points; Automate Displays; Script Fly-to Points/Slaved & Auto Maneuvers; Integrate CMTpc; Add Air Corridors to BOPC; Add Airways to BOPC; Default Emitters ON; Inactive Entities for Rapid Entity Initiation; Provide SIPRNET Access for Scenario & Dbase Xfer; Pause DCM without Closing D/C File; Allow Effects of IREPS Data to be applied by TSSS; and Allow Effects of IREPS Data to be applied by BEWT. - (U) (\$.052) MMTT - Software development for the Multi-Mission Team Trainer (MMTT). 		

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(U) B. PROGRAM CHANGE SUMMARY: (Show total funding, schedule, and technical changes for the program element that have occurred since the last President's submission.								
	FY2001	FY2002	FY2003					
(U) FY 2002 President's Budget:	11.450	5.593	5.625					
(U) Appropriated Value:	11.784	8.593	0					
(U) Adjustments to FY 2001/2002 Appropriated Value/ FY 2002 President's Budget:	-0.427	-0.025	9.715					
(U) FY 2003 Pres Budget Submit:	11.357	8.568	15.340					
CHANGE SUMMARY EXPLANATION:								
(U) Funding: The net decrease of (-\$.427M) in FY 2001 consists of minor pricing adjustments. FY 2002: The net decrease of (-\$.025M) consists of minor pricing adjustments; a Congressional plus up under PU 22449 for Shipboard Electronic Attack Training (SEAT), Issue 67261, in the amount of +\$1.0M; a Congressional plus-up under PU S9106, under Issue 67262, for the Tactical Communications On-Board Trainer in the amount of +\$1.0M; and a Congressional plus up under PU S9107 for the Link On-Board Trainer in the amount of +\$1.0M. The net increase of \$9.715M in FY 2003 consists of the following: Issue 59085 for a BFTT Plus up in the amount of \$4.380M; Issue 65365 for MMTT Plus up in the amount of \$5.608M; and minor pricing adjustments of (-\$.273M)								
(U) Schedule: Not Applicable.								
(U) Technical: Not Applicable.								
(U) C. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete
OPN 276200	24.318	40.145	9.554	10.447	23.711	22.795	9.336	CONT.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME Program Element (PE) No. and Name 0204571N CTSD	PROJECT NUMBER AND NAME 21427 Surface Tactical Team Trainer (STTT)																				
<p>(U) D. ACQUISITION STRATEGY: * The BFTT Program is designated as an ACAT IV-M Program consisting of four (4) phases - Concept Exploration and Definition, Demonstration and Validation, Engineering and Manufacturing Development, and Production and Deployment.</p> <p>(U) E. SCHEDULE PROFILE:</p> <div style="text-align: center;"> <p>BFTT SCHEDULE</p> <p>92 93 94 95 96 97 98 99 00 01 02 03 04 05</p> <table border="1" style="margin-top: 10px; width: 100%; border-collapse: collapse;"> <caption>Milestone Schedule Data</caption> <thead> <tr> <th>Milestone</th> <th>Year</th> </tr> </thead> <tbody> <tr><td>ORD APPROVED MILESTONE 0/I</td><td>1992</td></tr> <tr><td>DT-I completion</td><td>1993</td></tr> <tr><td>ORD RE-VALIDATION</td><td>1994</td></tr> <tr><td>DT-IIA completion</td><td>1995</td></tr> <tr><td>DT-IIB completion MILESTONE III</td><td>1996</td></tr> <tr><td>IOC</td><td>1997</td></tr> <tr><td>DT-III</td><td>1998</td></tr> <tr><td>HLA CONVERSION</td><td>1999 - 2001</td></tr> <tr><td>FOC</td><td>2005</td></tr> </tbody> </table> </div>			Milestone	Year	ORD APPROVED MILESTONE 0/I	1992	DT-I completion	1993	ORD RE-VALIDATION	1994	DT-IIA completion	1995	DT-IIB completion MILESTONE III	1996	IOC	1997	DT-III	1998	HLA CONVERSION	1999 - 2001	FOC	2005
Milestone	Year																					
ORD APPROVED MILESTONE 0/I	1992																					
DT-I completion	1993																					
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FOC	2005																					

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Exhibit R-3 Cost Analysis (page 1)							DATE: February 2002					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			Program Element (PE) No. and Name 0204571N CTSD			21429 Surface Tactical Team Trainer (STTT)/ 22449 SEAT/S9106 Tactical Comms OBT/S9107 LINK OBT						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	*	AAI/MD & EWA/WV	11.514							0.000	11.514	11.514
Ancillary Hardware Development	WR	PHD/NSWC	1.000							0.000	1.000	1.000
Systems Engineering	**	PHD NSWG/NUWC/GSA	17.696	0.700	01/01	1.182	01/02	2.780	01/03	Continuing	Continuing	N/A
Licenses	WR/RCP	PHD NSWG	2.037	0.035	01/01	0.100	01/02	0.278	01/03	Continuing	Continuing	N/A
Tooling											0.000	
GFE			2.500							0.000	2.500	2.500
Award Fees			0.357							0.000	0.357	0.357
Subtotal Product Development			35.104	0.735		1.282		3.058		Continuing	Continuing	
Remarks: * AAI Contract Award 3/98 CPIF; EWA Contract Award 6/98 CPFF **WR/RCP/MIPR												
Development Support Equipment											0.000	
Software Development	*	PHDNSWC/NAWCTSD/GSA/SP	26.210	10.187	01/01	5.661	01/02	7.764	01/03	Continuing	Continuing	N/A
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data	*	PHDNSWC/NAWCTSD/GSA	7.709	0.385	01/01	0.725	01/02	2.016	01/03	Continuing	Continuing	N/A
GFE											0.000	
Subtotal Support			33.919	10.572		6.386		9.780		Continuing	Continuing	
Remarks: *WR/RCP/MIPR												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			Program Element (PE) No. and Name 0204571N CTSD			21429 Surface Tactical Team Trainer (STTT)/ 22449 SEAT/S9106 Tactical Comms OBT/S9107 LINK OBT						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	*	NSWC Crane/PHD/NAWC	3.257	0.050	01/01	0.400	01/02	1.112	01/03	Continuing	Continuing	N/A
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			3.257	0.050		0.400		1.112		Continuing	Continuing	
Remarks: *WR/RCP/MIPR **NSWC PHD/Crane/NAWC TSD/GSA												
Contractor Engineering Support											0.000	
Government Engineering Support	*	NSWC PHD/GSA	2.183			0.500	01/02	1.390	01/03	Continuing	Continuing	N/A
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			2.183	0.000		0.500		1.390		Continuing	Continuing	
Remarks: *WR/RCP/MIPR												
Total Cost			74.463	11.357		8.568		15.340		Continuing	Continuing	
Remarks:												

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development				PROJECT NUMBER AND NAME W0431 Tactical Aircrew Combat Training System (TACTS)					
COST (\$ in Millions)		Prior Year Cost	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost		53.659	1.474								55.133

RDT&E Articles Qty
Project Units W0431, W0604, W1998, and W2124 do not match the budgets controls in FY 2001 due to the FY 2001 \$8.8 million Congressional Recission in the FY 2002 Defense Appropriation Act. The FY 2001 amounts reflected actual obligations and projected expenditures for these programs.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops new TACTS capabilities primarily through the integration of additional types of aircraft and weapons. This requires development of new aircraft interfaces, weapons and countermeasures simulations, and modifications to displays. Software is also developed to produce computer generated Electronic Warfare (EW) threats to enhance the system's ability to provide training in a realistic EW environment. Various other system performance improvements are also developed to make the system more effective and reliable.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$.536) Weapons Integration - Completed development and integration of block 5.2 CCS software.
- (U) (\$.718) Systems Upgrades – Commenced and completed development and integration of AIS A10 software.
- (U) (\$.220) Studies/Analysis/T&E – Completed testing and acceptance of block 5.2 CCS software. Commenced and completed testing and acceptance of AIS A10 software.

2. FY 2002 PLANS: Not Applicable

3. FY 2003 PLANS: Not Applicable

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(U) B. PROGRAM CHANGE SUMMARY:		
	<u>FY2001</u>	<u>FY2002</u> <u>FY2003</u>
(U) FY2002 President's Budget:	1.569	
(U) Adjustments from the FY2002 President's Budget:	-0.095	
(U) FY2003 President's Budget Submit:	1.474	
CHANGE SUMMARY EXPLANATION:		
(U) Funding: The FY2001 net decrease of \$.095 million reflects a \$.058 million decrease for a reprioritization of requirements within the Navy and a \$.037 million decrease for a Small Business Innovative Research Assessment.		
(U) Schedule: Not Applicable		
(U) Technical: Not Applicable		
(U) C. OTHER PROGRAM FUNDING SUMMARY: Not Applicable		

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<p>(U) D. ACQUISITION STRATEGY: The TACTS program is a non-ACAT program. The integrated program teams that develop new TACTS capabilities include contractors whose products and services are obtained by means of competitive award, indefinite deliveries/indefinite quantity, and cost-type contracts. Individual delivery orders are awarded for specific development efforts.</p> <p>(U) E. SCHEDULE PROFILE:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>TO COMPLETE</u></th> </tr> </thead> <tbody> <tr> <td>(U) Program Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Engineering Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) T&E Milestones</td> <td colspan="4">2Q01/4Q01 A10 DT II 1Q01/4Q01 Blk 5.2 DTII</td> </tr> <tr> <td>(U) Contract Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>	(U) Program Milestones					(U) Engineering Milestones					(U) T&E Milestones	2Q01/4Q01 A10 DT II 1Q01/4Q01 Blk 5.2 DTII				(U) Contract Milestones				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>																							
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Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems/Software Development	Various	Various	34.982	1.130	1Q/01						36.112	
Subtotal Product Development			34.982	1.130							36.112	
Remarks:												
Software Development (Misc. <\$1M)	Various	Various	3.695	0.104	1Q/01						3.799	
Subtotal Support			3.695	0.104							3.799	
Remarks:												

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RDT&E, N / BA-7			0204571N Consolidated Training Systems Development			W0431 Tactical Aircrew Combat Training System (TACTS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (Misc. <\$1M)	Various	Various	14.982	0.220	1Q/01						15.202	
Subtotal T&E			14.982	0.220							15.202	
Remarks:												
Travel				0.020	1Q/01						0.020	
Subtotal Management				0.020							0.020	
Remarks:												
Total Cost			53.659	1.474							55.133	
Remarks:												

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COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost			1.521	3.570	3.141	2.936	2.524	2.611	2.705	Continuing	Continuing
RDT&E Articles Qty											
<p>Project Units W0431, W0604, W1998, and W2124 do not match the budgets controls in FY 2001 due to the FY 2001 \$8.8 million Congressional Recission in the FY 2002 Defense Appropriation Act. The FY 2001 amounts reflected actual obligations and projected expenditures for these programs.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops specialized instrumentation systems for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: electronic warfare simulators and associated subsystems, target control systems, Large Area Tracking Range (LATR) improvements, combat training systems improvements, underwater technology, ranges interoperability and information architecture, shallow water range activity which includes establishment of capability at Pacific Missile Range Facility Shallow Water Training Range (PMRF SWTR) and assorted Advanced Weapons Training Systems (AWTS), such as Imaging Weapons Training System (IWTS), Remote Strafe Scoring System (RSSS), and weapon and countermeasure simulations for use with various range training systems.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - (U) (\$.598) Completed integration of LATR Block 3.0 software upgrade. Commenced development of Block 4.0 software upgrade. Continued aircraft integration requirements analyses, prototype development and testing, and developing LATR system hardware upgrades. - (U) (\$.105) Developed and integrated platform interface improvements for combat training systems. - (U) (\$.310) Developed and integrated display system improvements for combat training systems. - (U) (\$.336) Developed and integrated new weapons training capabilities for combat training systems. - (U) (\$.172) Studied platform interfaces and methods for joint use of frequencies. 											

R-1 SHOPPING LIST - Item No. 184

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 14 of 32)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N Consolidated Training Systems Development	PROJECT NUMBER AND NAME W0604 Training Range and Instrumentation Development (TRID)
<p>2. FY 2002 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$.890) Continue development of Block 4.0 software upgrade, analysis of range integration requirements, and development of hardware upgrades for the LATR system. Redesign, integrate and test modules to eliminate obsolete components with completion of the LATR power conditioner. - (U) (\$1.182) Develop additional training capabilities for the Control and Computational Subsystem (CCS). - (U) (\$.637) Develop additional training capabilities for the Personal Computer Advanced Display and Debriefing Subsystem (PCADDS). - (U) (\$.510) Develop a formalized interface between the CCS and the LATR. - (U) (\$.243) Analyze existing range instrumentation to determine where technology upgrades are needed to ensure that training ranges are able to support readiness objectives. - (U) (\$.108) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15USC 638. <p>3. FY 2003 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$.865) Complete operational test and evaluation, and integration of Block 4.0 software upgrade for LATR system. Continue development, test and integration of hardware and software upgrades. Continue redesign, integrate and test modules to eliminate obsolete components with completion of the design integration and test of the Advance Digital Interface Unit and GPS receiver. Perform security analysis of upgraded LATR ground system for system certification and accreditation. - (U) (\$1.096) Continue development of additional training capabilities for the Control and Computational Subsystem (CCS). Complete CCS Block 6.0 upgrade. - (U) (\$.580) Complete development of an interface between the CCS and the LATR. - (U) (\$.600) Continue analysis of existing range instrumentation to determine where technology upgrades are needed to ensure that training ranges are able to support readiness objectives. 		

R-1 SHOPPING LIST - Item No. 184

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE:													
						February 2002													
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME															
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development			W0604 Training Range and Instrumentation Development (TRID)															
(U) B. PROGRAM CHANGE SUMMARY:																			
	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>																
(U) FY2002 President's Budget:	1.741	3.600																	
(U) Adjustments from the FY2002 President's Budget:	-0.220	-0.030																	
(U) FY2003 President's Budget Submit:	1.521	3.570	3.141																
CHANGE SUMMARY EXPLANATION:																			
<p>(U) Funding: The FY 2001 net decrease of \$.220 million reflects a \$.185 million decrease for a reprioritization of requirements within the Navy and a \$.035 million decrease for a Small Business Innovative Research Assessment. The FY 2002 net decrease of \$.030 million reflects a \$.032 million decrease for an undistributed congressional reduction offset by a \$.002 million increase in minor price adjustments.</p> <p>(U) Schedule: The following milestones have been added, changed or deleted due to better reflect program status:</p>																			
<p style="margin-left: 40px;">ADDED:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">CCS Blk 5.3 Upgrade IOC 4Q/02</td> <td style="width: 33%;">LATR Recert./Acc. IOC 4Q/04</td> <td style="width: 33%;">CCS Blk 6.0 Upgrade IOC 4Q/03</td> </tr> <tr> <td>PCADDS IOC 4Q/02</td> <td>LATR Multi-GIS OT&E 2Q/02</td> <td>LATR ADIU OT&E 4Q/03</td> </tr> <tr> <td>LATR GPS Receiver OT&E 4Q/02</td> <td>CCS/LATR HLA IOC 4Q/03</td> <td>LATR Power Coniditioner OT&E 3Q/02</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">CCS/LATR Interface IOC 4Q/03</td> </tr> </table>								CCS Blk 5.3 Upgrade IOC 4Q/02	LATR Recert./Acc. IOC 4Q/04	CCS Blk 6.0 Upgrade IOC 4Q/03	PCADDS IOC 4Q/02	LATR Multi-GIS OT&E 2Q/02	LATR ADIU OT&E 4Q/03	LATR GPS Receiver OT&E 4Q/02	CCS/LATR HLA IOC 4Q/03	LATR Power Coniditioner OT&E 3Q/02			CCS/LATR Interface IOC 4Q/03
CCS Blk 5.3 Upgrade IOC 4Q/02	LATR Recert./Acc. IOC 4Q/04	CCS Blk 6.0 Upgrade IOC 4Q/03																	
PCADDS IOC 4Q/02	LATR Multi-GIS OT&E 2Q/02	LATR ADIU OT&E 4Q/03																	
LATR GPS Receiver OT&E 4Q/02	CCS/LATR HLA IOC 4Q/03	LATR Power Coniditioner OT&E 3Q/02																	
		CCS/LATR Interface IOC 4Q/03																	
<p style="margin-left: 40px;">CHANGED:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">From:</td> <td style="width: 33%;">To:</td> <td style="width: 33%;"></td> </tr> <tr> <td>Block 4.0 LATR 2Q/03</td> <td>Block 4.0 LATR 4Q/03</td> <td></td> </tr> <tr> <td>LATR Multi-GIS OT&E 2Q/02</td> <td>LATR Multi-GIS OT&E 3Q/02</td> <td></td> </tr> <tr> <td>LATR GPS Receiver OT&E 4Q/02</td> <td>LATR GPS Receiver OT&E 2Q/03</td> <td></td> </tr> </table>								From:	To:		Block 4.0 LATR 2Q/03	Block 4.0 LATR 4Q/03		LATR Multi-GIS OT&E 2Q/02	LATR Multi-GIS OT&E 3Q/02		LATR GPS Receiver OT&E 4Q/02	LATR GPS Receiver OT&E 2Q/03	
From:	To:																		
Block 4.0 LATR 2Q/03	Block 4.0 LATR 4Q/03																		
LATR Multi-GIS OT&E 2Q/02	LATR Multi-GIS OT&E 3Q/02																		
LATR GPS Receiver OT&E 4Q/02	LATR GPS Receiver OT&E 2Q/03																		
(U) Technical: Not Applicable																			
(U) C. OTHER PROGRAM FUNDING SUMMARY:																			
<u>Line Item No. & Name</u>	<u>FY 2001</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>To Complete</u>											
Related OPN:	1.040	1.650	0.000	0.000	0.000	0.000	0.000	Cont.											
Related RDT&E: Not Applicable																			

R-1 SHOPPING LIST - Item No. 184

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2002	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0204571N Consolidated Training Systems Development	W0604 Training Range and Instrumentation Development (TRID)		
<p>(U) D. ACQUISITION STRATEGY: The TRID program is a non-ACAT program. The integrated program teams that develop new TRID capabilities include contractors whose products and services are obtained by means of competitive award, indefinite deliveries/indefinite quantity (IDIQ), and cost-type contracts. Individual delivery orders are awarded for specific development efforts.</p> <p>(U) E. SCHEDULE PROFILE:</p>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>
(U) Program Milestones	1Q/01 Block3.0 LATR Upgrade IOC	4Q/02 CCS Block 5.3 Upgrade IOC 4Q/02 PCADDS IOC	4Q/03 Block 4.0 LATR Upgrade IOC 4Q/03 CCS/LATR Interface IOC 4Q/03 CCS Block 6.0 IOC	4Q/04 LATR Recert./Acc IOC
(U) Engineering Milestones				
(U) T&E Milestones		3Q/02 LATR Multi-GIS OT&E 3Q/02 LATR Power Conditioner OT&E	1Q/03 Block 4.0 LATR Upgrade DT III 4Q/03 LATR Advanced Digital Interface Unit (ADIU) OT&E	
(U) Contract Milestones			2Q/03 LATR GPS Recv. OT&E	

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204571N Consolidated Training Systems Development			W0604 Training Range and Instrumentation Development (TRID)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering and Software Development (Misc. < \$1M)	Various	Various	79.890	1.186	1Q/01	2.224	1Q/02	2.003	1Q/03	Continuing	Continuing	
Subtotal Product Development			79.890	1.186		2.224		2.003		Continuing	Continuing	
Remarks:												
Development Support (Misc. <\$1M)	Various	Various	5.898	0.302	1Q/01	0.585	1Q/02	0.425	1Q/03	Continuing	Continuing	
Subtotal Support			5.898	0.302		0.585		0.425		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0204571N Consolidated Training Systems Development				W0604 Training Range and Instrumentation Development (TRID)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (Misc. <\$1M)	Various	Various	3.638			0.606	1Q/02	0.589	1Q/03	Continuing	Continuing	
Subtotal T&E			3.638			0.606		0.589		Continuing	Continuing	
Remarks:												
Mangement Support	WX	NAWCAD Patuxent River	1.641	0.033	1Q/01	0.047	1Q/02	0.124	1Q/03	Continuing	Continuing	
SBIR Assessment						0.108					0.108	
Subtotal Management			1.641	0.033		0.155		0.124		Continuing	Continuing	
Remarks:												
Total Cost			91.067	1.521		3.570		3.141		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development				PROJECT NUMBER AND NAME W2124/Air Warfare Training Development						
COST (\$ in Millions)		Prior Years Cost	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Project Cost				2.006	1.887	2.115	2.163	1.832	1.856	1.887	Continuing	Continuing
RDT&E Articles Qty		Not applicable										

Project Units W0431, W0604, W1998, and W2124 do not match the budgets controls in FY 2001 due to the FY 2001 \$8.8 million Congressional Recission in the FY 2002 Defense Appropriation Act. The FY 2001 amounts reflected actual obligations and projected expenditures for these programs.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project develops new training system technologies for use in naval aviation. Products from this effort directly support the Marine Corps Aviation Simulation Master Plan, and will support the development and design of future naval aviation training/mission rehearsal systems. Tasks include: 1) Advanced training systems development to provide for transportable, modular, High Level Architecture (HLA) compliant, high fidelity mission rehearsal capabilities. Mission rehearsal is defined as the practice of planned tasks and functions critical to mission success using a true-to-life, interactive representation of the expected operating environment. Technologies to be developed and integrated include: helmet mounted and/or flat panel displays, photographic quality image generation, advanced environmental effects models, radar/infra-red/electro-optic and acoustic sensor simulations; and 2) the Aviation Training Technology Integration Facility (ATTIF), which is a man-in-the-loop testbed for the integration of software, hardware, and networked systems. ATTIF will include a HLA node for participation in fleet exercise synthetic battlespace. This ATTIF capability provides a window to fleet aviators for critical comment, evaluation, and fine tuning of new and innovative training technology before it is fielded.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$.480) Demonstrated forward looking infrared (FLIR) sensor, water NVD effects, and integration of night vision training system (NVTS) with a PC IG.
- (U) (\$.180) Continued to analyze and integrate performance specifications for modular weapons systems/deployable simulator systems.
- (U) (\$.812) Analyzed, developed, integrated (ATTIF) modular architecture components for threat generation, instructor operating station (IOS), visuals, E-2C station, and intelligent synthetic forces.
- (U) (\$.534) Integrated (ATTIF) and demonstrated low-cost/PC-based technologies.

2. FY 2002 PLANS:

- (U) (\$.610) Analyze, develop, and integrate (ATTIF) modular architecture components for intelligent wingman, E-2C avionics, intelligent agents, F/A-18 OFP and weapon systems.
- (U) (\$.430) Integrate FLIR sensor simulation with sensor host.
- (U) (\$.127) Demonstrate (ATTIF) low-cost training and Mission rehearsal configurations, while maintaining or increasing fidelity.
- (U) (\$.385) Develop applications for texture storage and PC based visual system technologies.
- (U) (\$.278) Upgrade common IOS to the Joint Mission Planning System (JMPS) version.
- (U) (\$.057) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME W2124/Air Warfare Training Development

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

4. FY 2003 PLANS:

- (U) (\$.146) Demonstrate (ATTIF) low-cost training and mission rehearsal configurations and evaluate medium fidelity cockpits.
- (U) (\$.680) Analyze, develop, and integrate (ATTIF) modular architecture components for F/A-18 cockpit avionics, intelligent wingman, E-2C platform, and intelligent synthetic forces.
- (U) (\$.481) Demonstrate ability to input variables that affect FLIR imagery, analyze mission rehearsal database interoperability, and tool requirements.
- (U) (\$.808) Develop applications for real-time shadows on PC video cards and a software only visual application, that requires no graphics hardware acceleration to implement simulation features.

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EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2002	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N / BA-7	0204571N/Consolidated Training Systems Development			W2124/Air Warfare Training Development			
(U) B. PROGRAM CHANGE SUMMARY:							
	<u>FY2001</u>	<u>FY2002</u>	<u>FY 2003</u>				
(U) FY 2002 President's Budget:	2.134	1.904					
(U) Adjustments from the President's Budget:	-0.128	-0.017					
(U) FY 2003 President's Budget Submit:	2.006	1.887	2.115				
CHANGE SUMMARY EXPLANATION:							
<p>(U) Funding: FY 2001 adjustment of -\$0.128 reflects a decrease of -\$0.094 for reprioritization of requirements within the Navy and a decrease of -\$0.034 million for a Small Business Innovative Research Assessment (SBIR).</p> <p>(U) Funding: FY 2002 adjustment of -\$0.017 reflects a decrease for an undistributed congressional reduction.</p> <p>(U) Schedule: Not Applicable</p> <p>(U) Technical: Not Applicable</p>							
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007 To Complete</u>
APN Line 51 BA-7 (47C2) Common Ground Equipment (USMC Aviation Simulation Master Plan)	24.778	0	20.496	0	0	0	0 0
<u>Related RDT&E</u>							
(U) P.E. 0603707N, Project #R1773, Sub-Project Title: Transportable Strike Assault Rehearsal System (T-STARS)							
(U) P.E. 0604245N, Project #H2279, Sub-Project Title: USMC H-1 Upgrades							

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2002																										
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME W2124/Air Warfare Training Development																											
<p>(U) D. ACQUISITION STRATEGY:</p> <p>(U) E. SCHEDULE PROFILE:</p> <table style="width: 100%; border-collapse: collapse; margin-top: 20px;"> <thead> <tr> <th style="width: 35%;"></th> <th style="width: 15%; text-align: center;"><u>FY 2001</u></th> <th style="width: 15%; text-align: center;"><u>FY 2002</u></th> <th style="width: 15%; text-align: center;"><u>FY 2003</u></th> <th style="width: 20%; text-align: center;"><u>TO COMPLETE</u></th> </tr> </thead> <tbody> <tr> <td style="padding-top: 10px;">(U) Program Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-top: 10px;">(U) Engineering Milestones</td> <td>Modular architecture for common IOS, E-2C station, visuals (4Q) Modular architecture = reconfigurable</td> <td>Modular architecture for avionics, intelligent forces (4Q)</td> <td>Modular architecture for cockpit avionics. (4Q)</td> <td></td> </tr> <tr> <td style="padding-top: 10px;">(U) T&E Milestones</td> <td>Modular architecture components integration and test for I/ITSEC. (1Q)</td> <td>Modular architecture components integration and test. (2Q)</td> <td>Modular architecture components integration & test (2Q)</td> <td>Modular architecture components integration & test (FY04, 2Q)</td> </tr> <tr> <td style="padding-top: 10px;">(U) Contract Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>	(U) Program Milestones					(U) Engineering Milestones	Modular architecture for common IOS, E-2C station, visuals (4Q) Modular architecture = reconfigurable	Modular architecture for avionics, intelligent forces (4Q)	Modular architecture for cockpit avionics. (4Q)		(U) T&E Milestones	Modular architecture components integration and test for I/ITSEC. (1Q)	Modular architecture components integration and test. (2Q)	Modular architecture components integration & test (2Q)	Modular architecture components integration & test (FY04, 2Q)	(U) Contract Milestones				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>																									
(U) Program Milestones																													
(U) Engineering Milestones	Modular architecture for common IOS, E-2C station, visuals (4Q) Modular architecture = reconfigurable	Modular architecture for avionics, intelligent forces (4Q)	Modular architecture for cockpit avionics. (4Q)																										
(U) T&E Milestones	Modular architecture components integration and test for I/ITSEC. (1Q)	Modular architecture components integration and test. (2Q)	Modular architecture components integration & test (2Q)	Modular architecture components integration & test (FY04, 2Q)																									
(U) Contract Milestones																													

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204571N/Consolidated Training Systems Development			W2124/Air Warfare Training Development						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	Air Force Research Lab		0.415	01/01	0.430	02/02	0.481	01/03	Continuing	Continuing	
Systems Engineering	WX & WR	NAWCTSD, NAMRL		0.813	01/01	0.674	02/02	0.808	01/03	Continuing	Continuing	
Award Fees												
Subtotal Product Development				1.228		1.104		1.289		Continuing	Continuing	
Remarks:												
Trainer Development Support	FP/C	NAWC-AD		0.110	12/00	0.120	02/02	0.130	12/02	Continuing	Continuing	
Subtotal Support				0.110		0.120		0.130		Continuing	Continuing	
Remarks:												

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 24 of 32)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RD&E, N / BA-7			0204571N/Consolidated Training Systems Development			W2124/Air Warfare Training Development						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC-AD		0.637	01/01	0.579	01/02	0.660	01/03	Continuing	Continuing	
Subtotal T&E				0.637		0.579		0.660		Continuing	Continuing	
Remarks:												
Travel	WX	NAWC-AD		0.031	12/00	0.027	01/02	0.036	12/02	Continuing	Continuing	
SBIR Assessment						0.057						0.057
Subtotal Management				0.031		0.084		0.036		Continuing	Continuing	
Remarks:												
Total Cost				2.006		1.887		2.115		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E,N Project Justification						DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development				PROJECT NUMBER AND NAME X1823/Training & Modeling Systems (TMS)			
COST (\$ in Millions)	ACTUAL FY 2001	ESTIMATE FY 2002	ESTIMATE FY 2003	ESTIMATE FY 2004	ESTIMATE FY 2005	ESTIMATE FY 2006	ESTIMATE FY 2007	Cost to Complete	Total Program
Project Cost	11.031	11.208	10.825	10.778	7.218	6.462	6.452	Continuing	Continuing
RDT&E Articles Qty									
<p>(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The employment of naval forces in a multi-dimensional warfare environment is a complex operational problem. To counter the threat expected in hostile environments, naval officer training must be provided for all mission areas on a real-time basis at the Battle Force/Group level. This training must focus on tactical decision-making, tactics development/evaluation, and operational planning/execution. Shore-based classroom training and at-sea exercises have historically satisfied the Battle Group tactical training requirement. However, the effectiveness of this approach to training was reduced by the lack of a real-time decision-making environment during shore-based training and the reduction in number and scope of at-sea exercises. This requirement is fulfilled by the Joint Simulation System (JSIMS), which will replace the Enhanced Naval Warfare Gaming System (ENWGS), a legacy modeling and simulation training system.</p> <p>(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Joint Simulation System (JSIMS) will replace ENWGS and provide expanded functionality. The mission of JSIMS is to provide a readily available, operationally valid synthetic environment for the Commanders-in-Chief (CINCs), their components, other Joint organizations and the Services to: Jointly train, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations, define operational requirements, and provide operational inputs to the acquisition process. In short, JSIMS will provide not only an improved certified capability for inter-Service operability but also an enhanced Joint Battle Staff training capability for the warfighting CINCs. All service Executive Agents (EAs) and Development Agents (DAs) are required to contribute to the initial population of the JSIMS architecture with facilities, services and tools, to meet an Initial Operational Capability (IOC) for Joint Task Force (JTF) training of no later than March 2003. In keeping with the premise that the Services/components are best able to define their own capabilities and functionality, the JSIMS Alliance Executive Office (AEO) is working in concert with the Services to import Service-provided functionality such as land, air, and naval and littoral warfare to JSIMS. The AEO will integrate these functionalities for use by Joint Army/Marine/Navy/Air Force exercise. JSIMS development is incremental.</p> <p>In June 1994 the Services and Director Joint Program Office signed a Memorandum of Agreement (MOA) to establish JSIMS, a critical next-generation Modeling and Simulation (M&S) system. The long-term goal of the agreement is to integrate the range of missions of the Armed Forces within a common framework. That framework provides a balanced melding of live, virtual and constructive M&S representations, with Command, Control, Communications, Computers and Intelligence (C4I) fully supported, and interfaces using real-world equipment. As the Maritime Warfare EA, OPNAV N7, on 29 August 1995, assigned NAVSEA as the JSIMS Maritime Development Agent (DA). The objective of the JSIMS Maritime portion of the JSIMS Program is to train at all levels of command, in all warfare areas, including joint and service specific training. JSIMS Maritime is developing the Maritime Mission Space Objects for the JSIMS Program, as well as selected portions of the core infrastructure and services to be determined when the Joint Object Model is partitioned. JSIMS was transferred from NAVSEA to SPAWAR PD13 at the beginning of FY 1999. Due to a reorganization at SPAWAR, the JSIMS-M Program now resides in PD15. On 16 December 1999, USD (AT&L) published a memorandum directing that JSIMS be reorganized per the recommendations made by the JSIMS Senior Review Board. These recommendations were detailed in a 19 November 1999 Senior Review Board memorandum. Specifically, JSIMS was directed to convert system architecture to the High-Level Architecture (HLA) standard, establish a JSIMS Alliance Executive Office, develop a new Acquisition Program Baseline (APB), and transfer Program Executive Office (PEO) responsibilities from Air Force to Army. USD (AT&L) has also designated JSIMS as an ACAT-1D program.</p>									

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EXHIBIT R-2a, RDT&E,N Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME X1823/Training & Modeling Systems (TMS)
<p>(U) B. PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> ·(\$9.205) – Completed all Object Oriented Analyses for Increments 3, 4, 5 and 6 models which included close in weapons systems, cruise missiles, fixed wing aircraft, flight deck operations, Identify Friend or Foe (IFF), rockets, surface-to-air missiles, battle damage assessment, infrared sensors, radar, torpedoes, towing, ship and submarine kinematics, tactical organizations, platform track processing, dipping sonar, flight deck operations part 2, logistics, and mine-laying. · (\$1.176) - Conducted testing and validation for Maritime models included in increments 1-3. · (\$0.096) - Conducted JSIMS Federation Integration and testing events 1-3. · (\$0.554) - Developed database attribute libraries for fixed wing aircraft, rotary wing aircraft, and naval bases. Developed databases for sensors, weapons and countermeasures. <p>2. (U) FY 2002 PLAN:</p> <ul style="list-style-type: none"> · (\$1.183) - Provide Maritime Content Library, Data Management Tool, and Data Element Description Document for JSIMS Version 1.0 Provide metadata and battlespace data for Maritime Federate for associated Alliance Integration Events. Provide operational support for associated functional verification tests and user events. · (\$2.652) - Complete requirements analysis and define design requirements for Maritime Federate development of JSIMS Version 2.0. Provide model expositions for Maritime Domain scripted missions and model representations for JSIMS Version 2.0. Provide operational support for associated functional verification tests and user events. · (\$4.252) - Provide unit-tested Maritime Federate and master track processor software for JSIMS Version 1.0. Provide unit-tested Maritime Federate software for initial Federation Integration Events for JSIMS Version 2.0. ·(\$1.988) - Provide engineering verification test (EVT) results for Maritime Federate software for functional increments for JSIMS Version 1.0. Provide EVT results for first increment of Maritime Federate software for JSIMS Version 2.0. Complete functional verification testing for Maritime Federate software for Version Release Milestone (VRM) 1.0. Provide technical support for associated Alliance integration/system test and user events. 		

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EXHIBIT R-2a, RDT&E,N Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME X1823/Training & Modeling Systems (TMS)
<p>(U) B. PROGRAM ACCOMPLISHMENTS AND PLANS (CONTINUED):</p> <p>·(\$1.133) - Provide assigned software products to support Maritime workstation displays and interactive controls to Common Component Workstation Developer. Provide operational support for JSIMS Alliance integration/system test and user events. Provide operational and training support for deployment of JSIMS to Navy sites. Complete requirements analysis for Maritime workstation for VRM 2.0.</p> <p>3. (U) FY 2003 PLAN:</p> <p>·(\$1.461) - Provide Maritime content library, data management tool and data element description document for JSIMS Version 2.0. Provide metadata and battlespace data for Maritime Federate for associated Alliance Integration Events. Continue to provide operational support for functional verification tests and user events.</p> <p>·(\$2.978) - Provide remaining model expositions for Maritime Domain scripted missions and model representations for JSIMS Version 2.0. Complete requirements analysis and define design requirements for Maritime Federate development JSIMS Version 3.0.</p> <p>·(\$3.809) - Provide unit-tested Maritime Federate software for remaining Federation Integration Events for JSIMS Version 2.0.</p> <p>·(\$2.277) - Provide EVT results for remainder of Maritime Federate software for JSIMS Version 2.0. Complete functional verification testing for Maritime Federate software for VRM 2.0. Provide technical support for associated Alliance integration/system test and user events.</p> <p>·(\$300) - Provide assigned software products to support Maritime workstation displays and interactive controls. Complete requirements analysis for Maritime workstation VRM 3.0.</p>		

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EXHIBIT R-2a, RDT&E,N Project Justification						DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development				PROJECT NUMBER AND NAME X1823/Training & Modeling Systems (TMS)			
(U) B. PROGRAM CHANGE SUMMARY:									
		<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>					
(U) FY 2002 President's Budget:		9.579	11.308	11.548					
(U) Appropriated Value:		9.579	11.308						
(U) Adjustments from the President's Budget:		1.452	-0.100	-0.723					
(U) FY 2003 President's Budget Submit:		11.031	11.208	10.825					
CHANGE SUMMARY EXPLANATION:									
(U) Funding: FY 2001: Section 8086: 0.7% Pro-Rata Reduction (-\$0.067M), Government-Wide Rescission: PL 106-554, Sec 14 (-\$0.021M), SBIR Assessment (-\$.160M), ASN(RDA) BTR for Naval Surface Studies (-\$.187M), ASN(RDA) BTR for JSIMS (+\$2.0M), Miscellaneous Navy Adjustments (-\$.113M). FY 2002: Section 8123, Management Reform Initiative (-\$.100M). FY 2003: Miscellaneous Navy Adjustments (-\$.723M) for carryover, rates, inflation, etc.									
(U) Schedule: No significant adjustments. Current schedule displayed in paragraph E, below.									
(U) Technical: "Not Applicable"									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2001</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>To Complete</u>	<u>Total Cost</u>
BLI: 2760 / Other SPAWAR Training	1.319	1.777	1.001	2.911	2.197	2.447	2.625	Continuing	Continuing
BA: 1 AGSAG: 1C4C JSIMS-M	1.885	4.723	4.416	5.682	5.675	5.752	5.920	Continuing	Continuing

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EXHIBIT R-2a, RDT&E,N Project Justification			DATE: February 2002	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/Consolidated Training Systems Development	PROJECT NUMBER AND NAME X1823/Training & Modeling Systems (TMS)		
(U) D. ACQUISITION STRATEGY: N/A				
(U) E. SCHEDULE PROFILE:				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>
(U) Program Milestones			Q4 M/S C Q4 Navy IOC	
(U) Engineering Milestones	Federation Integration Events 1-3	Federation Integration Events 4 and 5 VRM 1.0		
(U) T&E Milestones		Functional Assess- ments 1 & 2	OT&E Continues	
		Early Operational Assessment System Functional Assessment Domain Validation Security Test & Evaluation Functional Testing Operational Assessment OT&E		
(U) Contract Milestones	N/A			

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Exhibit R-3 Project Cost Analysis (page 1)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY				PROJECT NUMBER AND NAME								
RDT&E, N / BA-7				0204571N/Consolidated Training Systems Development				X1823/Training & Modeling Systems (TMS)				
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Systems Engineering	WR/RCP	VARIOUS	5.615	2.046	11/00	2.567	11/01	2.248	11/02	Continuing	Continuing	
Licenses	WR/RCP	SSCSD, CA	0.408							Continuing	Continuing	
Software Development	WR/RCP	VARIOUS	0.000	3.282	11/00	3.513	11/01	3.429	11/02	Continuing	Continuing	
Software Development	WR/RCP	SSCSD, CA	17.956	1.356		1.576		1.210		Continuing	Continuing	
Subtotal Product Development			23.979	6.684		7.656		6.887		Continuing	Continuing	
Remarks:												
Technical Data	WR/RCP	SSCSD, CA	2.318	0.404		0.689		0.654		Continuing	Continuing	
Subtotal Support			2.318	0.404		0.689		0.654		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Project Cost Analysis (page 2)									DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0204571N/Consolidated Training Systems Development			X1823/Training & Modeling Systems (TMS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR/RCP	VARIOUS	2.419	1.284	11/00	0.881	11/01	1.031	11/02	Continuing	Continuing	
Development Test & Evaluation	WR/RCP	SSCSD, CA		0.344		0.587		0.688		Continuing	Continuing	
Operational Test & Evaluation	WR/RCP	VARIOUS	0.134	0.101	11/00	0.144	11/01	0.203	11/02	Continuing	Continuing	
Subtotal T&E			2.553	1.729		1.612		1.922		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	WR/RCP	VARIOUS	2.193	1.854	11/00	0.858	11/01	0.940	11/02	Continuing	Continuing	
Government Engineering Support	WR/RCP	SSCSD, CA	2.029	0.300		0.328		0.357	11/02	Continuing	Continuing	
Travel	WR/RCP	SPAWAR	0.093	0.060	11/00	0.065	11/01	0.065	11/02	Continuing	Continuing	
Subtotal Management			4.315	2.214		1.251		1.362		Continuing	Continuing	
Remarks:												
Total Cost			33.165	11.031		11.208		10.825		Continuing	Continuing	
Remarks:												