

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7			0204571N, CONSOLIDATED TRAINING SYSTEMS				
COST (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	20.296	9.620	28.017	22.149	25.357	25.809	26.315
0604 TRNG RANGE & INST DEV (TRID)	2.930	1.284	3.869	4.313	4.109	4.185	4.265
1427 SURFACE TACTICAL TEAM TRAINER (STTT)	5.298	0.393	5.875	5.875	5.980	6.041	6.144
2124 AIR WARFARE TRAINING DEVEP	1.643	1.698	1.769	1.798	1.836	1.876	1.917
3087 CURRICULUM & TRAINER DEVELOPMENT	2.861	0.000	13.475	4.749	4.266	4.364	4.465
3093 TACTICAL COMBAT TRAINING SYSTEM (TCTS).	7.564	3.462	3.029	5.414	9.166	9.343	9.524
9999 / CONGRESSIONAL ADDS	0.000	2.783	0.000	0.000	0.000	0.000	0.000

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

0604 - The Training Range and Instrumentation Development Systems (TRIDS) program provides development of range systems including a range electronic warfare simulator, advanced weapons training systems, laser training systems, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR), and Training Enabling Architecture (TENA) interoperability, combat training system improvements, and undersea warfare range technology (previously called shallow water range technology).

1427/3087/3087C - The Surface Tactical Team Trainer (STTT) develops Battle Force Tactical Training (BFTT) system capabilities and interfaces to provide realistic combat system coordinated Team, Unit, and collective Strike Group/Force level training events using Distributed Interactive Simulation (DIS) protocols. The Total Ship Training System (TSTS) is a Pre-Planned Program Improvement (P3I) to the BFTT system that facilitates evolving combat system interfaces, implements High Level Architecture (HLA) and common modeling for future interoperability and integrates advanced technology and open design required for future combat systems. TSTS supports the future readiness elements of Sea Power 21 addressed in the Naval Transformation Roadmap dated October 2002. FY06 and FY07 Congressional Adds provided to analyze requirements, design, develop, and deliver functional Training Management System prototypes with related documentation for elements of TSTS.

2124 - The Air Warfare Training Development (AWTD) program provides technology development and risk mitigation for aviation training systems, including mission rehearsal simulation technologies and the Aviation Training Technology Integration Facility (ATTIF). The ATTIF provides for incremental development, prototype evaluation, and final fleet T&E prior to technology transition.

3093 - The Tactical Combat Training System (TCTS) will provide the Navy a replacement for the TACTS and LATR systems. TCTS will also provide fleet deployable instrumentation for at sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Initial fielding of a Non-Developmental Item (NDI) Pod system at NAS Key West is complete. The program incorporates evolutionary development (incremental) towards a system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture, and a high capacity/long range secure datalink.

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS		
B. PROGRAM CHANGE SUMMARY				
Funding:		FY 2007	FY 2008	FY 2009
Previous President's Budget:		19.085	6.987	19.971
Current BES/President's Budget:		20.296	9.620	28.017
Total Adjustments		<u>1.211</u>	<u>2.633</u>	<u>8.046</u>
Summary of Adjustments				
Congressional Undistributed Reductions		-0.382	-0.062	
Congressional Increases			2.800	0.000
Economic Assumptions				-0.040
Miscellaneous Adjustments		1.593	-0.105	8.086
Subtotal		<u>1.211</u>	<u>2.633</u>	<u>8.046</u>
Schedule:				
TRIDS CHANGES: NONE				
AWTD Changes:				
<p>The R-4 was revised to more clearly show: 1. The overall requirement of AWTD across the FYDP for Risk Mitigation, and Technology Transition(top row). 2. Transitions to major programs such as NASMP, MH-60R, and MMA (second row). 3. Major project categories to be prototyped and tested in the ATTIF (third row). 4. The two major task performance areas are specification and government software development (rows 4 and 5). 5. Test and Evaluation of the prototype technologies. Some intermediate milestones/activities from the previous Schedule R-4 have been included in the roll-up for clarity.</p>				
Transition Milestones				
FM:	TO:			
ATTIF MOD Architecture Products changed to "ATTIF Modular Product Type"				
FY07 3Q-4Q		4Q		
FY08 3Q-4Q		1Q-4Q		
NO OTHER CHANGES				

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RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS	
<p>Software (specifications & GOTS) Weapons Server software (F/A 18C) changed to "Weapons Server and Network Technologies" FY09 1Q-2Q FY09 2Q FY10 BLANK FY10 1Q-4Q*** FY11 BLANK FY11 1Q-4Q*** FY12 BLANK FY12 1Q-4Q***</p> <p>Int to ATTIF (NGTS GUI), Int to ATTIF (C-DMTS) (4) & Int Trng Supp Tools, (ITST) MARITIME replaced with Instructor/Human Systems Integration and Intelligent Workload Reduction Tools (I2WRT) NO CHANGES</p> <p>Test and Evaluation (Prototypes) replaced with Test and Evaluation (Prototypes, GOTS) - WEAPS server (TACAIR & MARITIME) – changed to "TACAIR/MARITIME Net Ready Technologies" FY09 BLANK FY09 1Q-4Q FY10 BLANK FY10 1Q-4Q*** FY11 BLANK FY11 1Q-4Q*** FY12 BLANK FY12 1Q-4Q***</p> <p>CDMTS Spec/Demo changed to CDMTS & AARS Specifications/ Demos – OTHER CHANGES</p> <p>ITST/AAR toolset DEMO was deleted</p> <p>Sensor Stimulation (3)/ Sensor Fusion – more accurate description FY13 BLANK FY13 1Q-4Q***</p>		

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EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0204571N, CONSOLIDATED TRAINING SYSTEMS
<p>AARS with Performance Measurement (PM) FY07 1Q,4Q 4Q FY08 1Q,4Q 1Q-4Q FY09 1Q,4Q 1Q-4Q</p> <p>VISUALS/ Helmet-mounted Systems Common Advanced Sensor Models/Environments Super resoluiton IGs w/sensor capability FY07 2Q-4Q 4Q FY08 1Q,4Q 1Q-4Q FY09 1Q,4Q 1Q-4Q FY10 1Q,4Q 1Q-4Q FY13 3Q BLANK</p> <p>Deployable SIMS (DMT/ Sensor capable) changed to Deployable SIMS – small footprint, DMT, Sensor-capable – more accurate description FY13 BLANK FY13 4Q NO OTHER CHANGES</p> <p>MMA/NUCAV JSF DMT specifications (3) – deleted.</p> <p>NOTES * - Intermediate milestone previously shown, not necessary ** - 2 product deliverables vice 1 *** - No product deliverables previously planned, now 1 or 2 planned **** - Production previously planned, now rescheduled.</p> <p>CTS CHANGES: The following have been made to better reflect program status From To Acquisition Milestone Phase 4 MS C FY10 4Q Phase 4 MS C FY11 3Q</p>	

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS	
Acquisition Phase		
Rack-Mount Subsystem Dev FY07 1Q-3Q	Rack-Mount Subsystem Dev FY07 1Q-4Q	Schedule updated to reflect Aircraft Integration delays
Ground Subsystem Dev FY06 3Q - FY07 2Q	Ground Subsystem Dev FY06 3Q - FY07 4Q	Schedule updated to reflect Cross Domain Solution delays
Advanced Datalink Dev FY06 1Q - FY10 3Q	Schedule updated to include Advanced datalink Development Test & Evaluation Milestones	
Fixed Range DTD2-6, DTD 2-7 FY08 1Q	Fixed Range DTD1-5 2-6/7 FY08 1Q	Updated to include DTD1-5
Production Milestones		

EXHIBIT R-2a, RDT&E Project Justification							DATE:																																																							
							February 2008																																																							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME																																																								
RDT&E,N / BA-7			0204571N, CONSOLIDATED TRAINING SYSTEMS			0604, TRNG RANGE & INST DEV (TRID)																																																								
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012																																																						
0604 TRNG RANGE & INST DEV (TRID)			2.930	1.284	3.869	4.313	4.109	4.185																																																						
RDT&E Articles Qty																																																														
<p>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, Tactical Aircrew Combat Training System (TACTS), Large Area Tracking Range (LATR) improvements, Test and Training Enabling Architecture (TENA) interoperability, combat training systems improvements, underwater technology, ranges interoperability and information architecture, and assorted Advanced Weapons Training Systems (AWTS), such as Imaging Weapons Training Systems (IWTS), Remote Strafe Scoring System (RSSS), and weapon and countermeasure simulations for use with various range training systems.</p> <p>B. ACCOMPLISHMENTS / PLANNED PROGRAM:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">Designed, Integrated and tested modules</td> <td style="text-align: center;">FY 2007</td> <td style="text-align: center;">FY 2008</td> <td style="text-align: center;">FY 2009</td> </tr> <tr> <td>Accomplishments / Effort / Sub-total Cost</td> <td style="text-align: center;">1.568</td> <td style="text-align: center;">.835</td> <td style="text-align: center;">2.976</td> </tr> <tr> <td>RDT&E Articles Qty</td> <td></td> <td></td> <td></td> </tr> </table> <p>LATR: Designed, integrated and tested modules to eliminate obsolete components in the LATR Pod. Completed design, integration and test of LATR software 5.0 baseline upgrade. Complete design, integration, and test of participant instrumentation packages (PIP) modules to address obsolescence, high failure components and to improve operability and performance. Conduct and complete installation of the Ground System Rehost. Conduct and complete security testing and assessment for LATR system certification and accreditation for Ground System Rehost. Complete development, test and integration of software and hardware modifications to system test sets. Develop interface software using Test and Training Enabling Architecture (TENA) to increase Tactical Training Range systems interoperability with other services training instrumentation. Continue development of LATR rotary wing re-size and LATR Datalink emulator.</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">Developed additional Training capabilities</td> <td style="text-align: center;">FY 2007</td> <td style="text-align: center;">FY 2008</td> <td style="text-align: center;">FY 2009</td> </tr> <tr> <td>Accomplishments / Effort / Sub-total Cost</td> <td style="text-align: center;">1.362</td> <td style="text-align: center;">.449</td> <td style="text-align: center;">.893</td> </tr> <tr> <td>RDT&E Articles Qty</td> <td></td> <td></td> <td></td> </tr> </table> <p>TACTS: Developed additional training capabilities for the personal computer based Joint Display Subsystem (JDS) and the Electronic Warfare Processor (EW PROC). Enhance capability for Advanced Systems Operator console (ASOC), enhanced Radar Display Subsystem (RADS), and ancillary systems interfaces. Continued development and deployment of LINK 16 interface for TTR applications. Complete Semi-annual CCS Block upgrades.</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">C. OTHER PROGRAM FUNDING SUMMARY:</td> <td style="text-align: center;">FY 2007</td> <td style="text-align: center;">FY 2008</td> <td style="text-align: center;">FY 2009</td> <td style="text-align: center;">FY 2010</td> <td style="text-align: center;">FY 2011</td> <td style="text-align: center;">FY 2012</td> <td style="text-align: center;">FY 2013</td> <td style="text-align: center;">To Complete</td> <td style="text-align: center;">Total Cost</td> </tr> <tr> <td>Related OPN (LATR)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Weapons Range Support Equipment LI 420400</td> <td style="text-align: center;">0.237</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">0.237</td> </tr> </table> <p>D. ACQUISITION STRATEGY: The Training Range and Instrumentation Development (TRID) program is a non-ACAT program. The integrated program teams that develop new TRID capabilities include government and contractor engineering personnel.</p>									Designed, Integrated and tested modules	FY 2007	FY 2008	FY 2009	Accomplishments / Effort / Sub-total Cost	1.568	.835	2.976	RDT&E Articles Qty				Developed additional Training capabilities	FY 2007	FY 2008	FY 2009	Accomplishments / Effort / Sub-total Cost	1.362	.449	.893	RDT&E Articles Qty				C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	Related OPN (LATR)										Weapons Range Support Equipment LI 420400	0.237								0.237
Designed, Integrated and tested modules	FY 2007	FY 2008	FY 2009																																																											
Accomplishments / Effort / Sub-total Cost	1.568	.835	2.976																																																											
RDT&E Articles Qty																																																														
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C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost																																																					
Related OPN (LATR)																																																														
Weapons Range Support Equipment LI 420400	0.237								0.237																																																					

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Exhibit R-3 Cost Analysis (page 1)										DATE:		February 2008	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME							
RDT&E,N / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS				0604, TRNG RANGE & INST DEV (TRID)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
PRODUCT DEVELOPMENT													
Sys Eng/Software/Hardware Develop.	VARIOUS	VARIOUS	86.226	1.362	VARIOUS	.459	VARIOUS	.893	VARIOUS		88.940		
Systems Eng	VARIOUS	NAWCAD, PATUXENT RIVER MD	1.334	.676	VARIOUS	.203	VARIOUS	1.152	VARIOUS		3.365		
Systems Eng	VARIOUS	VARIOUS	.400	.692	VARIOUS	.175	VARIOUS	.265	VARIOUS		1.532		
Systems Eng	SS FFP	TYBRIN Corp, Ridgecrest, CA				.275	TBD	1.345	TBD		1.620	1.620	
SUBTOTAL PRODUCT DEVELOPMENT			87.960	2.730		1.112		3.655			95.457		
Remarks:													
SUPPORT													
Develop Support Equip		TBD											
Software Development	VARIOUS	VARIOUS	10.451								10.451		
Software Development	VARIOUS	NAWCWD, PT MUGU CA	.100	.025	VARIOUS			.007	VARIOUS		.132		
SUBTOTAL SUPPORT			10.551	.025	VARIOUS			.007	VARIOUS		10.583		
Remarks:													
TEST & EVALUATION													
TEST & EVALUATION	VARIOUS		5.299								5.299		
SUBTOTAL TEST & EVALUATION			5.299								5.299		
Remarks:													
MANAGEMENT													
Management	VARIOUS	TBD	2.166	.175	VARIOUS	.172	VARIOUS	.207	VARIOUS	16.872	19.592		
SUBTOTAL MANAGEMENT			2.166	.175		.172		.207		16.872	19.592		
Remarks:													
Total Cost			105.976	2.930		1.284		3.869		16.872	130.931		
Remarks:													

EXHIBIT R4, Schedule Profile																			DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME									PROJECT NUMBER AND NAME														
RDT&E,N / BA-7					0204571N, CONSOLIDATED TRAINING SYSTEMS									0604, TRNG RANGE & INST DEV (TRID)														
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TACTS Acquisition Milestones EW Processor																												
PDR																												
CDR																												
DEV																												
T&E																												
IOC																												
FOC																												
RADS Upgrades																												
PDR																												
CDR																												
DEV																												
T&E																												
Semi-Annual Blk Upgrades																												
Link 16 TACTS Dev																												
PDR																												
CDR																												
DEV																												
T&E																												
IOC																												
ASOC Upgrades																												
PDR																												
CDR																												
DEV																												
T&E																												
Semi-Annual Blk Upgrades																												
JDS Upgrades																												
PDR																												
CDR																												
DEV																												
T&E																												
Semi-Annual Blk Upgrades																												

EXHIBIT R4, Schedule Profile																				DATE: February 2008								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E,N / BA-7					0204571N, CONSOLIDATED TRAINING SYSTEMS										0604, TRNG RANGE & INST DEV (TRID)													
FY 2007					FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
Fiscal Year																												
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
LATR																												
LATR GPS UPGRADE																												
LATR ADIU UPGRADE																												
LATR LRWS REHOST																												
LATR RECERTIFICATION																												
LATR RW RESIZE																												
LATR R-3 EMULATOR																												
BLOCK 5.1 UPGRADE																												
BLOCK 6.0																												
BLOCK 6.3																												
LATR/TCTS TECH XFER																												

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Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7			PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
TACTS							
EW Processor							
PDR	4Q						
CDR		1Q					
DEV	1Q-3Q	2Q-3Q					
T&E	3Q	3Q					
IOC	4Q						
FOC		4Q					
RADS Upgrades							
PDR	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q				
CDR	2Q, 4Q	2Q, 4Q	2Q, 4Q				
DEV	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
T&E	1Q, 3Q	1Q, 3Q	1Q, 3Q	1Q			
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
Link 16 TACTS Dev							
PDR							
CDR	1Q						
DEV	1Q-4Q	1Q-4Q					
T&E		4Q	1Q				
IOC			1Q				
ASOC Upgrades							
PDR	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q				
CDR	2Q, 4Q	2Q, 4Q	2Q, 4Q				
DEV	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
T&E	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q			
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
JDS Upgrades							
PDR	1Q-2Q, 3Q-4Q	1Q-2Q, 3Q-4Q					
CDR	2Q, 4Q	2Q, 4Q					
DEV	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q				
T&E	1Q, 2Q-3Q, 4Q	1Q, 2Q-3Q, 4Q	1Q				
Semi-Annual Blk Upgrades	1Q-4Q	1Q-4Q	1Q				

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Exhibit R-4a, Schedule Detail				DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7				PROJECT NUMBER AND NAME 0604, TRNG RANGE & INST DEV (TRID)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
LATR							
LATR GPS UPGRADE							
LATR ADIU UPGRADE							
LATR LRWS REHOST	1Q-2Q						
LATR RECERTIFICATION	1Q-4Q	1Q-2Q					
LATR RW RESIZE	1Q-4Q						
LATR R-3 EMULATOR	1Q-4Q						
BLOCK 5.1 UPGRADE							
BLOCK 6.0	1Q-4Q						
BLOCK 6.3			1Q-4Q				
LATR/TCTS TECH XFER	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q		

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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 1427/Surface Tactical Team Trainer (STTT)		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.298	0.393	5.875	5.875	5.980	6.041	6.144
RDT&E Articles Qty	0	0	0	0	0	0	0

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. BFTT provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organizations, the Tactical Training Groups and C2F/C3F Fleet Synthetic Training Exercises (FSTs). BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD).

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION								DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPM				PROJECT NUMBER AND NAME 1427/Surface Tactical Team Trainer (STTT)					
B. ACCOMPLISHMENTS/PLANNED PROGRAM:											
						FY 2007		FY 2008		FY 2009	
Accomplishments/Effort/Subtotal Cost						5.298		0.393		5.875	
RDT&E Articles Quantity						0		0		0	
<p>K1427:</p> <p>Funds develop critical Battle Force Tactical Training (BFTT) System improvements and interface upgrades required to preserve training capability in response to evolving combat system capabilities (e.g. AEGIS Modernization) and to Fleet prioritized Training Systems capabilities in multiple mission areas including Anti-Submarine Warfare, Electronic Warfare, Air Warfare, Strike Warfare, Ballistic Missile Defense, Anti-Surface Warfare, and Amphibious Warfare.</p> <p>Efforts include architecture migration, model database improvement, scenario development, system/software engineering, program management, security/safety assessment, software design, software development, and system integration, test and evaluation, logistics support and life cycle sustainment planning.</p> <p>FY07 Accomplishments include: Software design, Government Acceptance Test (GAT) and certification of BFTT Build 3.3.1A for AEGIS 7ph1 & 7.1.2; Software design, Government Acceptance Test (GAT) and certification of BFTT Build 3.3.2 Phase I for CG Mod.</p> <p>FY08 Planned Accomplishments include: Initialize GAT for BFTT Build 3.3.2 Phase II.</p> <p>FY09 Planned Accomplishments include: Completion of GAT for BFTT Build 3.3.2; and scope and define BFTT T46D Build.</p>											
C. OTHER PROGRAM FUNDING SUMMARY:											
Line Item No. and Name		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	
OPN 276200 (Surface (N86) BFTT/TSTS portion only)		14.567	12.931	21.115	25.503	20.793	20.852	20.654		136.415	
D. ACQUISITION STRATEGY:											
The BFTT acquisition strategy for system development utilizes the spiral development model, as mandated by OSD. Incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible, is in accordance with the BFTT ACAT IVM Milestone III approved documentation.											

CLASSIFICATION:		UNCLASSIFIED										
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE			
									February 2008			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDTEN/BA 7		0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT					1427/Surface Tactical Team Trainer (STTT)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Hardware Development		NAVSEA 02/CDSA	1.599	0.916	JUN-07	0.000		2.235	DEC-08		4.750	0.000
Systems Engineering	WR/REQN	CDSA/NSWC PHD/NUWC Newport/NSWC Dahlgren/NAVSEA 02	1.413	1.269	MAR-07	0.000		1.273	DEC-08	0.000	3.955	0.000
Subtotal Product Development			3.012	2.185		0.000		3.508		0.000	8.705	0.000
Remarks:												
Software Development	WR/REQN	CDSA/NAWC TSD/NAVSSSES/NAVSEA 02	1.200	1.854	MAR-07	0.217	NOV-07	1.171	DEC-08	0.000	4.442	0.000
Subtotal Support Costs			1.200	1.854		0.217		1.171		0.000	4.442	0.000
Remarks:												
Developmental Test & Evaluation	WR/REQN	NSWC PHD/CDSA/NAWC TSD/NAVSSSES/NAVSEA 02	0.400	0.350	DEC-06	0.176	OCT-07	0.424	DEC-08	0.000	1.350	0.000
Subtotal Test and Evaluation			0.400	0.350		0.176		0.424		0.000	1.350	0.000
Remarks:												
Government Engineering Support	WR/REQN	CDSA/NAVSSSES	1.070	0.909	JUN-07	0.000		0.772	DEC-08	0.000	2.751	0.000
Subtotal Management Services			1.070	0.909		0.000		0.772		0.000	2.751	0.000
Remarks:												
Total Cost			5.682	5.298		0.393		5.875		0.000	17.248	0.000

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS	PROJECT NUMBER AND NAME 2124, AIR WARFARE TRAINING DEVEP							
COST (\$ in Millions)			FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
2124 AIR WARFARE TRAINING DEVEP			1.643	1.698	1.769	1.798	1.836	1.876	1.917
RDT&E Articles Qty									

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project transitions new training system technologies for use in naval aviation training. Products from this effort are directly tied to the Navy and Marine Corps Aviation Simulation Master Plans (\$479M), the MH-60R/S master plan, the Multi-Mission Maritime Aircraft (MVA) program, and will support the development and design of future naval aviation training/mission rehearsal systems. Tasks include: 1) Advanced training systems specification development to provide for modular, High Level Architecture (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilities, ashore and afloat. 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: 1) DMT weapons server, weather server, common mission training stations, high-resolution helmet mounted, and/or flat panel displays, photographic quality image generation, portable source initiative (PSI) database reuse, advanced environmental effects modeling, fused radar/infra-red/electro-optic and acoustic sensor simulations, physics-based IR stimulations; and 2) the Aviation Training Technology Integration Facility (ATTIF), which is a man-in-the-loop test bed for the integration of software, hardware, and networked systems. New technologies will include intelligent computer generated forces (CGFs) as virtual and constructive entities for threat or friendly interaction. Additionally, "man-in-the-loop" intelligent agents will be integrated to the ATTIF, including an HLA node for participation and benchmarking fleet exercises in the synthetic battle space. This ATTIF capability provides a window to fleet aviators for critical comment, evaluation, and fine tuning of new and innovative technologies before final transition to the Fleet. Debrief/AAR and intelligent training support tools are focused on human performance enhancements for Fleet readiness and distributed mission training exercises.

Metrics - These technology transitions will both lower total ownership costs (TOC) of the training systems, and life-cycle costs, including: visual system database re-use, reduced instructor manning profiles, software-based fidelity enhancements), and increased fleet readiness by enhancing overall system fidelity to the projected operating environments. NASMP/MCSMP readiness improvements are conservatively forecast at 14-28% following associated technology upgrades to stand alone, or networked simulators. Individual technology transition investments have exceeded 300+% Return on Investment (ROI).

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Provided upgrades	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.707	.744	.812
RDT&E Articles Qty			

HUMAN SYSTEMS INTEGRATION: Provide for upgraded and modular Mission Training Station (MTS) designs to lower NASMP/platform simulator life-cycle costs, improve instructor effectiveness and provide for multi-SAF exercise utilization. Analyze, develop, and integrate ATTIF modular architecture components for FA-18 cockpit avionics, MH-60R avionics, intelligent instructor operator agents, small footprint E-2C, TACAIR/MVA common GUI initiatives, threat system (NGTS) compatibility, MCSMP TEN compatibility, and JSAF compatibility, performance measurement, and after-action review (AAF) / debrief, thereby maximizing ROI for mission training station-related technology investments for multi-platform services.

Integrated IR (NVG and FLIR)	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.321	.294	.250
RDT&E Articles Qty			

SENSORS: Integrate IR (NVG & Forward Looking Infra-Red (FLIR) sensor simulation) with Sensor Host Government, Off the Shelf Software (GOTS). Perform risk reduction, integration and production of Sensor host for Navy DMT and legacy devices. Demonstrate GOTS capability for cost-effective database materialization, and develop PSI/RSD specifications for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Develop texture storage, PSI material reference processes/standards, and automated applications for R/T publishing, R/T shadows, R/T combat effects, and very high-resolution visuals.

APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS	PROJECT NUMBER AND NAME 2124, AIR WARFARE TRAINING DEVEP
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Integrated ATTIF	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.554	.331	.407
RDT&E Articles Qty			

SYSTEMS ENGINEERING AND INTEGRATION: Integrate ATTIF modular architecture components for Navy DMT, deployable E-2C/D crew stations, intelligent sythetic forces, and tactical scenario control. Demonstrate low-cost DMT configurations, while maintaining or increasing fidelity. Demonstrate low cost training and mission rehearsal configurations, and evaluate variable fidelity cockpits. Demonstrate instructor support technology including advanced scenario generation, multi-SAF control, automated measures of performance (MCP), and debrief/AAR products for NASMP. Analyze GOTS/COTS alternatives for network centric warfare connectivity in the simulated battlespace, while reducing training system life cycle costs.

Provided risk mitigation	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.061	.329	.300
RDT&E Articles Qty			

VISUALS: AWTd visual engineering provides for risk mitigation and next generation visual system prototype test & evaluation for both stand-alone and small footprint/deployable devices. Supporting the NASMP and T/M/S platform programs, advanced visual system display configuration are assessed, and developed to include: next generation helmet mounted displays (HMDs), laser visual systems, and associated database technologies.

C. OTHER PROGRAM FUNDING SUMMARY:	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
APN Line 19-BA-7 BLI 0705									
USMC Federation Simulators	26.735	75.329	41.129	32.993	31.723	32.389	33.069		273.367
APN Line 15-BA-7 BLI 0705									
Fleet Aircrew Simulator Training (FAST)	50.210	51.375	51.922	54.972	47.039	42.754	43.862		342.134

Related RDT&E
PE 0604245N, Project #H2279, Sub-Project Title: USMC H-1 Upgrades

D. ACQUISITION STRATEGY: Air Warfare Training Development (AWTD) is a 6.4 RDT&E joint technology transition program tied to the Naval Aviation Simulation Master Plan (NASMP) and the various platform simulation master plans with the purpose of transitioning advanced training and mission rehearsal technologies. AWTD provides risk mitigation, test & evaluation, and prototype development for stand-alone, distributed, and deployed training systems for the warfighter utilizing an IPT approach and a combination of reimbursable and direct cite T&M contracts.

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS				2124, AIR WARFARE TRAINING DEVEP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Sys Engr (AFRL, Advance Sensor Dev)	VARIOUS	VARIOUS	8.440	.321	VARIOUS	.300	VARIOUS	.250	VARIOUS		9.311	
Sys Engr (NAWCTSD, ITST)	VARIOUS	VARIOUS	2.094	.707	VARIOUS	.722	VARIOUS	.806	VARIOUS	7.457	11.786	
Sys Engr (NAWCTSD, Visuals)	VARIOUS	VARIOUS		.060	VARIOUS	.100	VARIOUS	.150	VARIOUS		.310	
Sys Engr (NAWCTSD, Visuals)	VARIOUS	TBD	.396			.238	VARIOUS	.154	VARIOUS		.788	
SUBTOTAL PRODUCT DEVELOPMENT			10.930	1.089		1.360		1.360		7.457	22.196	
Remarks: Dollars may not add due to rounding.												
SUPPORT												
Develop Support Equipment	VARIOUS	TBD	.410	.212	VARIOUS	.165	VARIOUS	.167	VARIOUS		.954	
Develop Support Equipment	VARIOUS	TBD	.742								.742	
SUBTOTAL SUPPORT			1.152	.212		.165		.167			1.696	
Remarks:												
TEST & EVALUATION												
Developmental Test and Evaluation	VARIOUS	VARIOUS	.565	.320	VARIOUS	.150	VARIOUS	.220	VARIOUS		1.255	
Developmental Test and Evaluation	VARIOUS	TBD	4.508								4.508	
SUBTOTAL TEST & EVALUATION			5.073	.320		.150		.220			5.763	
Remarks:												
MANAGEMENT												
Travel	VARIOUS	VARIOUS	.024	.022	VARIOUS	.023	VARIOUS	.022	VARIOUS		.091	
Travel	VARIOUS	TBD	.374								.374	
SUBTOTAL MANAGEMENT			.398	.022		.023		.022			.465	
Remarks:												
Total Cost			17.553	1.643		1.698		1.769		7.457	30.120	
Remarks:												

EXHIBIT R4, Schedule Profile																DATE: February 2008												
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																
RDT&E,N / BA-7				0204571N, CONSOLIDATED TRAINING SYSTEMS								2124, AIR WARFARE TRAINING DEVEP																
Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<p>AWTD Support of NAVAL Aviation Sim. Master Plan (NASMP)</p> <p style="text-align: center;">RISK MITIGATION and TECHNOLOGY TRANSITION TO NASMP, PLATFORM, DISTRIBUTED, and DEPLOYED SYSTEMS</p>																												
<p>Acquisition 6.4 RDT&E Milestones</p> <p style="text-align: center;">TRANS. TO NASMP TRANS. TO NASMP E-2D TRANS. TO MMA TRANS. TO NASMP TRANS. TO NCTE TRANS. TO NASMP TRANS. TO FFC - JNTC</p>																												
<p>ATTIF Modular Product type ATTIF Integr., testing, prototyping</p> <p style="text-align: center;">AARS - Visuals CDMTS - AARS - Sensors Auto-PM - Visuals - Sensors Visuals/Models DMRT NET SIMS NET SIMS</p>																												
<p>Software (specifications & GOTS) Weapons Server and Network Technologies Instructor/Human Systems Integration and intell. workload reduction (I2WRT) support tools</p> <p>MH-60R/S E-2C/D & MMA NASMP common LVC Net Ready</p>																												
<p>Test & Evaluation Milestones TACAIR / MARITIME Net Ready Technologies</p> <p style="text-align: center;">NASMP/4-ship MARITIME Final TACAIR/Maritime LVC T&E</p>																												
<p>CDMTS & AARS Spec/Demos</p> <p>MH-60R MH-60R/S CDMTS final AARS NASMP AARS NASMP - DMRTs AARS NCTE - Joint / JNTC INTEG to JLVC</p>																												
<p>Sensor stimulation (3) / Sensor Fusion</p> <p>MH-60S LITENING Pod F/A-18D JHMCS w/NVD HMCS - Cobra NXT gen HMDS F-35 HMDS FST-J 3rd Fleet INTEG</p>																												
<p>AARS w/ automated Performance Meas. (PM)</p> <p style="text-align: center;">AARS Demo PM - Maritime PM-MMA PM - JNTC - N. Air GOTS upg.</p>																												
<p>VISUALS/Helmet-mounted Systems Common Sensor Models/Environments Super resolution IGs w/sensor capability</p> <p style="text-align: center;">EO Data Prep Spec. CSM FLIR NXT gen Environ Upgrade Adv IG/LASER Visuals (LV)</p>																												
<p>Deployed SIMS (DMT/Sensor capable)</p> <p style="text-align: center;">DMRT Specs TRANSITION MARITIME LV Enhanced TACAIR</p>																												
<p>Production Milestones N/A See above transitions to NASMP/Platforms</p>																												

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Exhibit R-4a, Schedule Detail					DATE: FEBRUARY 2008		
APPROPRIATION/BUDGET ACTIVITY RDT& BA-7				PROJECT NUMBER AND NAME 2124/Air Warfare Training Development			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
AWTD Support of Naval Aviation Sim. Master Plan (NASMP)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Acquisition 6.4 RDT&E Milestones	4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q	1Q, 4Q
ATTIF Modular Product Type							
ATTIF Integ. Testing, Prototyping	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Software (specifications & GOTS)							
Weapons Server and Network Technologies	1Q-4Q	1Q-4Q	1Q-2Q, 3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Instructor/Human Systems Integration and intell. workloac reduction (I2WRT) support tools	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Test & Evaluation Milestones							
TACAIR/MARITIME Net Ready Technologies	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
CDMTS & AARS Spec/Demos	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Sensor stimulation (3) / Sensor Fusion	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
AARS w/ automated Performance Meas. (PM)	4Q	4Q	4Q			4Q	3Q-4Q
VISUALS/Helmet-mounted Systems							
Common Sensor Models/Environments							
Super resolution IGs w/sensor capability	3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		4Q	
Deployed SIMS (DMT/Sensor capable)							
Production Milestones					1Q, 4Q		4Q
N/A see above							

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 7		PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT			PROJECT NUMBER AND NAME 3087C/Curriculum & Trainer Development		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	2.861	0.000	13.475	4.749	4.266	4.364	4.465
RDT&E Articles Qty	0	0	0	0	0	0	0
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>Total Ship Training System (TSTS) supports DoD Training Transformation and the updated Surface Warfare Training Manual COMNAVSURFOR INST 3502.01D (1 July 07) requirements which call for continuous learning and realistic mission training environments with measurable warfighter performance linked to readiness across the training continuum from inport CONUS to in-theater mission rehearsal. TSTS Spiral 1 is the cornerstone of shipboard embedded training and critical to accomplishing Training Transformation Governance Board (T2GB) strategy and objectives for warfighting performance improvements in the areas of Anti-Submarine Warfare (ASW), Ballistic Missile Defense (BMD), and Surface Warfare and Information Warfare improvements. The TSTS Combat System Trainer (CST) enhancement to BFTT shall employ a spiral development process to allow continuous incremental implementation of core training system functionality and critical warfighting training capabilities in multiple mission areas as prioritized by the Fleet. TSTS will improve upon the current BFTT DIS interoperability limitations and model databases by developing the requisite architecture and associated computer programs to facilitate the transition to HLA and common modeling, scenario generation and control and assessment. Migration to TSTS is required to ensure continued, persistent Fleet Synthetic Training (FST) interoperability. TSTS will integrate existing and emergent onboard training and assessment system capabilities to simulate realistic, "train like you fight", combat-like conditions across combat systems, engineering, damage control and navigation systems. It shall provide a continuous shipboard organic learning environment interoperable with NCTE through On-Demand, Just In Time (JIT), scenario-driven, Objective Based Training (OBT), and mission rehearsal capabilities initially available in port, and ultimately underway and in-theater.</p>							

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPM	PROJECT NUMBER AND NAME 3087C/Curriculum & Trainer Development	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	2.861	0.000	13.475
RDT&E Articles Quantity	0	0	0
<p>K3087C:</p> <p>Funds develop of the Total Ship Training System (TSTS) Baselines 1.0, 1.1 and 2.0 as well as the completely redesigned, re-architected, and enhanced Combat System Trainer (CST) enhancement to BFTT. TSTS training elements include Navigation Seamanship & Shiphandling, Engineering, Damage Control Training & Management, Naval Gunfire Support, Augmented Reality Fire Fighting, Anti-Submarine Warfare, Command and Control, Air Warfare, Strike Warfare, Ballistic Missile Defense, Anti-Surface Warfare, Amphibious Warfare and the Scalable Shore Based Trainer (SSBT) LCS component. TSTS efforts include scenario development, knowledge management, common environment system/software engineering, technical system design, software design, safety assessment, program management, software development, system integration, test and evaluation and logistics support. Prototypes of the various TSTS hardware and software subsystems, including the LCS Simulators, will be designed and documented in a design specification. Reductions in FY07 and FY08 considerably delayed the development of TSTS Baseline 1.0. Current funds will focus primarily upon the initial planning and requirements definition documentation of the first combat system spiral (TSTS Baseline 1.0). FY09 and out funds will focus on development of TSTS Baseline 1.0 and the initial planning/requirements definition of the second and third spirals (Baseline 1.1 and 2.0). FY07 Congressional Add was provided to analyze requirements, design, develop, and deliver functional Training Management System (TMS) prototypes with related documentation for elements of TSTS.</p> <p>FY07 Accomplishments include: Analyze requirements, design, develop, and deliver functional Training Management System (TMS) prototypes with related documentation for elements of TSTS; and develop, integrate, test, and deliver the TSTS/BFTT/Battle Force Electronic Warfare Trainer (BEWT) interface update required to support the Surface Electronic Warfare Improvement Program (SEWIP) spiral development plan.</p> <p>FY08 Planned Accomplishments include: N/A</p> <p>FY09 Planned Accomplishments include: Restarts development of TSTS Baseline 1.0 (Spiral 1) identified by the Total Ship Training Capability (TSTC) Initial Capabilities Document (ICD). The TSTC ICD defines TSTS as the Combat Systems Training program targeted to meet COMNAVSURFOR's requirements for synthetic combat systems crew training for AEGIS Modernization, CVN-72 CAPSTONE, CVN-78, and all subsequent ships after FY12. TSTS supports DoD Training Transformation and the updated Surface Warfare Training Manual COMNAVSURFOR INST 3502.01D (1 July 07) requirements which call for continuous learning and realistic mission training environments with measurable warfighter performance linked to readiness across the training continuum from inport CONUS to in-theater mission rehearsal. TSTS Spiral 1 is the cornerstone of shipboard embedded training and critical to accomplishing Training Transformation Governance Board (T2GB) strategy and objectives for warfighting performance improvements in the areas of Anti-Submarine Warfare (ASW), Ballistic Missile Defense (BMD), and Surface Warfare and Information Warfare improvements within the Open Architecture (OA) and COTS modernization standards for shipboard systems in FY12. Efforts will include EDM/prototype development of the completely redesigned, re-architected, and enhanced Combat System Trainer (CST) with the following characteristics: decoupled models and entity database; Fleet Synthetic Training (FST) High Level Architecture (HLA) compatibility; FST filtering improved training</p>			

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)	DATE February 2008
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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 7	PROGRAM ELEMENT NUMBER AND NAME 0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPM	PROJECT NUMBER AND NAME 3087C/Curriculum & Trainer Development
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system usability; readiness based assessment objective based planning, high band width encryption. CST must be fielded by FY12 to address the BFTT technology obsolescence window and preserve training capability in support of AEGIS Modernization.

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
OPN 276200 (Surface (N86) BFTT/TSTS portion only)	14.567	12.931	21.115	25.503	20.793	20.852	20.654		136.415

D. ACQUISITION STRATEGY:

The TSTS acquisition strategy for system development utilizes the spiral development model, as mandated by OSD and incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible.

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EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE		
										February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDTE/BA 7		0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT					3087C/Curriculum & Trainer Development					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)	FY 2007 Cost (\$000)	FY 2007 Award Date	FY 2008 Cost (\$000)	FY 2008 Award Date	FY 2009 Cost (\$000)	FY 2009 Award Date	Cost to Complete (\$000)	Total Cost (\$000)	Target Value of Contract
Hardware Development		NAVSEA 02	8.940	2.861	JUN-07	0.000		3.130	DEC-08	0.000	14.931	0.000
Ship Integration			1.725	0.000		0.000		0.000		0.000	1.725	0.000
Systems Engineering	WR/REQN	NSWC PHD/CDSA/NUWC Newport/NSWC Dahlgren/NAVSES/NAVSEA 02	1.292	0.000		0.000		1.239	DEC-08	0.000	2.531	0.000
Subtotal Product Development			11.957	2.861		0.000		4.369		0.000	19.187	0.000
Remarks:												
Software Development			4.435	0.000	JUN-07	0.000		4.802	DEC-08	0.000	9.237	0.000
Technical Documentation			1.100	0.000		0.000		1.500	DEC-08	0.000	2.600	0.000
Subtotal Support Costs			5.535	0.000		0.000		6.302		0.000	11.837	0.000
Remarks:												
Developmental Test & Evaluation	WR/REQN	NSWC PHD/NAWC TSD/CDSA/NAVSES/NAVSEA 02	2.800	0.000		0.000		1.990	DEC-08	0.000	4.790	0.000
Subtotal Test and Evaluation			2.800	0.000		0.000		1.990		0.000	4.790	0.000
Remarks:												
Government Engineering Services	WR/REQN	CDSA/NAVSES	0.165	0.000		0.000		0.814	DEC-08	0.000	0.979	0.000
Subtotal Management Services			0.165	0.000		0.000		0.814		0.000	0.979	0.000
Remarks:												
Total Cost			20.457	2.861		0.000		13.475		0.000	36.793	0.000

EXHIBIT R-2a, RDT&E Project Justification							DATE:																																																															
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7							PROGRAM ELEMENT NUMBER AND NAME 0204571N, CONSOLIDATED TRAINING SYSTEMS		PROJECT NUMBER AND NAME 3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).																																																													
COST (\$ in Millions)							FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013																																																									
3093 TACTICAL COMBAT TRAINING SYSTEM (TCTS).							7.564	3.462	3.029	5.414	9.166	9.343	9.524																																																									
RDT&E Articles Qty							6																																																															
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tactical Combat Training System (TCTS) will provide the navy a replacement for major portions of the Tactical Aircrew Combat Training System (TACTS) and Large Area Tracking Range (LATR). TCTS will also provide fleet deployable training for at-sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Initial fielding of a Non-Developmental Item (NDI) Pod system was at NAS Key West. The program incorporates an evolutionary development (incremental) towards a system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture and a high capacity/long range secure data link. The milestone Decision Authority (MDA) approved program rebaseline on May 23, 2005. The MDA approved acquisition streamlining February 2006, which included additional R,D,T&E test articles to support Operational Test.</p> <p>B. ACCOMPLISHMENTS / PLANNED PROGRAM: Qualified and completed the NDI Rangeless Pod Sys FY 2007 FY 2008 FY 2009</p> <table border="1"> <thead> <tr> <th>Accomplishments / Effort / Sub-total Cost</th> <th>FY 2007</th> <th>FY 2008</th> <th>FY 2009</th> </tr> </thead> <tbody> <tr> <td>RDT&E Articles Qty</td> <td>6</td> <td></td> <td></td> </tr> </tbody> </table> <p>TCTS: Qualified and completed the NDI Rangeless Pod system fielded at NAS Key West, including the complete Integrated Logistics products and training. Developed and implemented track exchange interface between TCTS live monitor and TACTS Control and Computation Subsystem (CCS). Defined Test and Training Enabled Architecture (TENA) compliant interface between TCTS and an Advance Display System. Developed F/A-18 (C/D/E/F) and AV-8B Internal Subsystem (IS) and began qualification testing. Initiated development of the Fixed Ground Subsystem and data link uplink control for fielding at larger Navy training ranges. Develop and deliver Integrated Logistics products for the IS and for fielding the TCTS system for deployed and fixed Range applications. Initiated the development of a Rack-Mounted Subsystem for use on rotary wing and transport aircraft. Continue development of the Advanced Data link waveform and the Joint Tactical Radio System (JTRS) advance data link. Develop shipboard ground subsystem and related training range integration.</p> <p>C. OTHER PROGRAM FUNDING SUMMARY:</p> <table border="1"> <thead> <tr> <th></th> <th>FY 2007</th> <th>FY 2008</th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td>Related OPN:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Weapons Range Support Equipment, LI 420400</td> <td>7.847</td> <td>5.640</td> <td>7.643</td> <td>5.507</td> <td>5.313</td> <td>5.463</td> <td>5.620</td> <td></td> <td>43.033</td> </tr> <tr> <td>Related APN:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> Other Production Charges, LI 072500</td> <td>19.888</td> <td>20.491</td> <td>27.870</td> <td>27.879</td> <td>22.604</td> <td>23.007</td> <td>23.465</td> <td></td> <td>165.204</td> </tr> </tbody> </table> <p>D. ACQUISITION STRATEGY: TCTS will employ an evolutionary incremental acquisition strategy to procure a base Non-Developmental Item Systems and development of the system to meet the full ORD requirements. TCTS is a cooperative program with the USAF P5 CTS program. The USAF awarded a 10-year contract in June 2003.</p>													Accomplishments / Effort / Sub-total Cost	FY 2007	FY 2008	FY 2009	RDT&E Articles Qty	6				FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost	Related OPN:										Weapons Range Support Equipment, LI 420400	7.847	5.640	7.643	5.507	5.313	5.463	5.620		43.033	Related APN:										Other Production Charges, LI 072500	19.888	20.491	27.870	27.879	22.604	23.007	23.465		165.204
Accomplishments / Effort / Sub-total Cost	FY 2007	FY 2008	FY 2009																																																																			
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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E,N / BA-7		0204571N, CONSOLIDATED TRAINING SYSTEMS				3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Dev	SS CPAF	CUBIC DEFENSE APPLICATIONS, INC, SAN DIEGO, CA	9.165	1.336	11/06	.400	11/07				10.901	10.901
SUBTOTAL PRODUCT DEVELOPMENT			9.165	1.336		.400					10.901	
Remarks:												
SUPPORT												
Contractor Eng Sup	SS CPAF	CUBIC DEFENSE APPLICATIONS, INC, SAN DIEGO, CA	.200	.614	11/06	.100	11/07	.100	11/08		1.014	1.014
Integrated Logistics Sup	VARIOUS	VARIOUS	.243	.210	VARIOUS	.050	VARIOUS	.045	VARIOUS		.548	
Software Development	SS CPAF	CUBIC DEFENSE APPLICATIONS, INC, SAN DIEGO, CA	9.455	1.221	11/06	.100	11/07	.645	11/08		11.422	11.422
Software Development	SS CPAF	ROCKWELL COLLINS SER., CO., CEDAR RAPIDS, IA		2.300	11/06	2.224	11/07	1.500	11/08		6.024	3.100
SUBTOTAL SUPPORT			9.899	4.346		2.474		2.290			19.008	
Remarks: Dollars may not add due to rounding.												
TEST & EVALUATION												
DT&E - ETS	VARIOUS	VARIOUS	.244	.025	11/06						.269	
DT&E - Reimb Fld Spt	VARIOUS	VARIOUS	2.179	.300	11/06	.200	11/07	.100	11/08		2.779	
OT&E - Military Travel	WR	OPER T & E FOR CD 30, NORFOLK VA	.023	.010	VARIOUS	.010	VARIOUS		VARIOUS		.043	
SUBTOTAL TEST & EVALUATION			2.446	.335		.210		.100			3.091	
Remarks:												
MANAGEMENT												
Contractor Eng Sup - ETS	VARIOUS	VARIOUS	.352	.425	11/06	.050	11/07	.050	11/08		.877	
Government Eng Sup	VARIOUS	VARIOUS	2.786	1.120	11/06	.326	11/07	.586	11/08		4.818	
NATEC Travel	VARIOUS	NAV AIR TEC EN SV CMD, SAN DIEGO CA	.008	.002	VARIOUS	.002	VARIOUS	.003	VARIOUS		.015	
SUBTOTAL MANAGEMENT			3.145	1.547		.378		.639			5.709	
Remarks: Dollars may not add due to rounding.												
Total Cost			24.655	7.564		3.462		3.029			38.710	
Remarks:												

EXHIBIT R4, Schedule Profile																			DATE: February 2008									
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E,N / BA-7					0204571N, CONSOLIDATED TRAINING SYSTEMS										3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).													
Fiscal Year	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones	Phase 2 MS C ▲								Phase 5 MS B ▲								Phase 4 MS C ▲											
Acquisition Phase	Phase 1 NDI - Transportable (GS, AS) Phase 2 Internal Subsystem (IS) Rack-Mount Subsystem (RS) Phase 4 Advanced Datalink Phase 5 Battle Group																											
Internal Subsystem Dev	[Bar chart showing development schedule for Internal Subsystem Dev]																											
Rack-Mount Subsystem Dev	[Bar chart showing development schedule for Rack-Mount Subsystem Dev]																											
Ground Subsystem Dev	[Bar chart showing development schedule for Ground Subsystem Dev]																											
Advanced Datalink Dev	[Bar chart showing development schedule for Advanced Datalink Dev]																											
Test & Evaluation Milestones	Phase 1 (NDI) Phase 2: Internal Subsystem (IS) Rack-Mount Subsystem (RS) System: CVW-5 Fixed Range																											
DTB2-1, 2-2A, 2B OTD2-1 DTD2-3 DTD2-5 DTD2-4 DTD1-5, 2-6/7																												
Production Milestones	Phase 1 NDI - Transportable (GS, AS) Phase 2 Internal Subsystem (IS) Rack Mounted Subsystem (RS) Phase 4 Advanced Datalink Phase 5 Battle Group																											
FRP ▲ LRIP ▲ FRP ▲ FRP ▲ LRIP ▲																												
Deliveries IOC	▼ Yuma CVW-5																											

UNCLASSIFIED

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME						
RDT&E,N / BA-7	0204571N, CONSOLIDATED TRAINING SYSTEMS	3093, TACTICAL COMBAT TRAINING SYSTEM (TCTS).						
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Acquisition Milestones								
Phase 2 MS C		3Q						
Phase 5 MS B				4Q				
Phase 4 MS C						3Q		
Acquisition Phase								
Phase 1 NDI - Transportable (GS, AS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 2 Internal Subsystem (IS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Rack-Mount Subsystem (RS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 4 Advanced Datalink		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 5 Battle Group					1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Internal Subsystem Dev		1Q-3Q						
Rack-Mount Subsystem Dev		1Q-4Q						
Ground Subsystem Dev		1Q-4Q						
Advanced Datalink Dev		1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q			
Test & Evaluation Milestones								
Phase 1 (NDI)								
Phase 2 Internal Subsystem (IS)		1Q-2Q						
Rack-Mount Subsystem (RS)		4Q	1Q					
System: CVW-5			1Q					
Fixed Range			1Q					
Production Milestones								
Phase 1 NDI - Transportable (GS, AS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 2 Internal Subsystem (IS)		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Rack-Mount Subsystem (RS)			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 4 Advanced Datalink					4Q	1Q-4Q	1Q-4Q	1Q-4Q
Phase 5 Battle Group							1Q-4Q	1Q-4Q
Deliveries IOC			1Q-2Q					

CLASSIFICATION:**UNCLASSIFIED****EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION**

DATE

February 2008

APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NUMBER AND NAME

PROJECT NUMBER AND NAME

RDTEN/BA 7**0204571N/CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT****9999/CONGRESSIONAL ADDS**

COST (\$ in Millions)

FY 2007

FY 2008

FY 2009

FY 2010

FY 2011

FY 2012

FY 2013

9999 CONGRESSIONAL ADDS

2.783

RDT&E Articles Qty

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.590	0.000
RDT&E Articles Quantity	0	0	0

3087C: FY08 Congressional Plus up provided for Total Ship Training System (TSTS) (Issue 70866) to migrate audio capture, screen capture, and video capture capabilities into TSTS Efforts include requirements analysis, systems engineering, hardware/software prototype production, testing, safety analysis and logistics. These efforts are required to meet the technical, performance and schedule goals of the TSTS program.

	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.000	1.193	0.000
RDT&E Articles Quantity	0	0	0

9999 (K3087): FY08 Congressional Plus up provided for set up of an acoustic simulator stimulator test bed for P-3, H-60F, H-60B, H-60R, and P-8.