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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	39.792	42.244	20.229	-	20.229	29.813	23.972	22.066	22.554	Continuing	Continuing
0604: <i>Training Range & Instr Dev</i>	9.818	3.452	3.482	-	3.482	3.465	3.524	3.571	3.640	Continuing	Continuing
1427: <i>Surface Tactical Team Trainer (STTT)</i>	5.455	23.972	12.596	-	12.596	10.067	10.213	8.116	8.283	Continuing	Continuing
2124: <i>Air Warfare Training</i>	1.627	1.648	1.640	-	1.640	1.597	1.620	1.640	1.681	Continuing	Continuing
3087: <i>Curriculum & Trainer Development</i>	17.808	-	-	-	-	-	-	-	-	0.000	17.808
3093: <i>TACTS/LATR Replacement</i>	5.084	13.172	2.511	-	2.511	14.684	8.615	8.739	8.950	Continuing	Continuing

A. Mission Description and Budget Item Justification

A. MISSION DESCRIPTION:

0604 - The Training Range and Instrumentation Development Systems (TRIDS) program provides development of range systems including Large Area Tracking Range (LATR), Test & Training Enabling Architecture (TENA) interoperability and Tactical Training Ranges (TTR) infrastructure improvements.

1427/3087 - Surface Tactical Team Trainer (STTT) develops modifications during inactive sustainment of Battle Force Tactical Training (BFTT) system. This is required to maintain capabilities and interfaces to provide realistic combat system coordinated team, unit and Fleet Synthetic Training (FST) collective Group/Force level training events. In addition, BFTT supports the embedded trainer "family of systems" approach for the development of a Total Ship Training Capability (TSTC). Specific improvements include improved integration with the Navy Continuous Training Environment (NCTE) and development of a High Level Architecture (HLA) capable, integrated shipboard network to meet increasing Commander Naval Surface Forces (CNSF) and United States Fleet Forces Command (USFFC) FST requirements. The need for transforming training is documented within the Office of Force Transformation Military Transformation Initiative, DoD Training Transformation Plan, the Chief of Naval Operations Fleet Response Plan and Commander United States Fleet Forces Command Fleet Readiness Training Plan.

2124 - The Air Warfare Training Development (AWTD) program provides advanced component technology development, transition and risk mitigation for aviation training systems, including mission rehearsal simulation technologies, Live-Virtual Constructive (LVC) and the Aviation Training Technology Integration Facility (ATTIF). The ATTIF provides for incremental development, prototype evaluation, technology readiness level assessment and final fleet Test and Evaluation prior to technology transition.

3093 - The Tactical Combat Training System (TCTS) will provide the Navy a replacement for the Tactical Aircrew Combat Training System and LATR systems. TCTS will provide fleet deployable instrumentation for at sea training and tactics development. By providing a rangeless capability, the system will greatly increase the

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area where live instrumented training can be conducted. Initial fielding of a Non Developmental Item (NDI) Pod system at NAS Key West and Beaufort is complete. The program incorporates evolutionary development (incremental) towards an encrypted system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation and open architecture.

B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	50.750	42.244	31.239	-	31.239
Current President's Budget	39.792	42.244	20.229	-	20.229
Total Adjustments	-10.958	-	-11.010	-	-11.010
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.896	-			
• SBIR/STTR Transfer	-0.804	-			
• Program Adjustments	-	-	-10.908	-	-10.908
• Rate/Misc Adjustments	-	-	-0.102	-	-0.102
• Congressional General Reductions Adjustments	-0.258	-	-	-	-

Change Summary Explanation

0604: No changes.

2124: R-4/4a reflects individual schedules for each accomplishment/planned program vice a single consolidated schedule. No changes to planned events within the budget.

3093: R-4/4a reflects Milestone Decision Authority (MDA) program rebaseline from five phases to two increments.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 0604: Training Range & Instr Dev			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0604: Training Range & Instr Dev	9.818	3.452	3.482	-	3.482	3.465	3.524	3.571	3.640	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
This project develops specialized instrumentations for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: LATR improvements and TTR infrastructure improvements to include: the Joint Display Subsystem (JDS), Low Activity Pre-Processor (LAPP), Radar Acquisition Display Subsystem, Electronic Warfare (EW) server, Link 16 interface, TTR shipboard rotary platform technology improvements and Radiant Mercury (RM) Cross Domain Solution (CDS).											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: LATR								2.100	2.145	2.166	
Articles:								0	0	0	
Description: Design, integrate and test modules to eliminate obsolete components in the LATR Pod. Design, integrate and test LATR software baseline upgrades. Design, integrate and test 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 Rehosts. Conduct and complete security testing and assessment for LATR system certification and accreditation for Ground System Rehosts. Develop, test and integrate software and hardware modifications to system test sets. Develop LATR rotary wing re-size and LATR Datalink emulators. Develop, test and integrate LATR data translators. Conduct follow-on obsolescence studies to identify sub-projects required through FY16. Complete ground system and PIP refresh sub-projects, in conjunction with, semi-annual system block upgrades. Conduct LATR Operational Security (OPSEC) Posture Improvements Sub-Project.											
FY 2011 Accomplishments: Developed and tested LATR ground software version 5.5.0. New capabilities will include: an upgraded operating system to meet Information Assurance and obsolescence issues, an EW interface and software enhancements requested by fleet users. Continue LATR OPSEC posture improvements sub-project and initiate phase II Link-16 interface. Develop and test rotary wing/ shipboard tracking improvement subproject.											
FY 2012 Plans: Develop and test LATR ground software version 5.6.0. Continue LATR OPSEC posture improvements sub-project and complete phase II Link-16 interface. Continue LATR EW interface development.											
FY 2013 Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev	PROJECT 0604: Training Range & Instr Dev		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Develop and test LATR ground software version 5.7.0. Continue LATR Electronic Warfare (EW) interface development. Complete LATR Operational Security Posture Improvements.				
Title: TENA Description: Develop and test TTR Object Model (OM) for use with the OSD TENA Software Development Agency (SDA) TENA Middleware versions 5.0-11.0. Develop TTR TENA Gateway for use with the TTR EW server and JDS and Tactical Combat Training System instrumentation set. Develop TTR TENA Monitoring Tool for diagnostic use by TTR personnel and TTR System Support Activities. Develop and test TTR TENA product upgrades to be compatible with TENA SDA Middleware. Host TENA on the TTR EW server and JDS. FY 2011 Accomplishments: Developed and tested TTR TENA OM upgrade to be compatible with TENA SDA Middleware 6.0. Developed and tested TTR TENA Gateway upgrade to be compatible with TENA SDA Middleware 6.0. Developed and tested TTR TENA Monitoring Tool upgrade to be compatible with TENA SDA Middleware 6.0. Hosted TENA on the TTR EW server and JDS. FY 2012 Plans: Develop Graphical User Interface (GUI) for TTR TENA Monitoring Tool as requested by Fleet users. Develop and test TTR TENA 7.0 product upgrades to be compatible with evolving TENA SDA Middleware. Develop interfaces with evolving Joint TENA training events. FY 2013 Plans: Develop GUI for TTR TENA Monitoring Tool as requested by Fleet users. Develop and test TTR TENA 8.0 product upgrades to be compatible with evolving TENA SDA Middleware. Develop interfaces with evolving Joint TENA training events.		Articles: 7.200 0	0.800 0	0.800 0
Title: TTR Description: Develop and test upgrades to the JDS, LAPP, Radar Acquisition Display Subsystem (RADS), and EW server. Develop and test upgrades to the Link-16 Interface, JDS, LAPP, RADS, and EW server. Develop and test TTR shipboard and rotary platform tracking solution set. FY 2011 Accomplishments: Develop and test 2011.1 & 2011.2 upgrades to the JDS, LAPP, RADS, and EWS. Initiate development and test of TTR shipboard and rotary platform tracking solution set. FY 2012 Plans:		Articles: 0.518 0	0.507 0	0.516 0

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
Develop and test 2012.1 & 2012.2 upgrades to the JDS, LAPP, RADS, and EWS. Complete Phase I of sub-project to develop and test TTR shipboard and rotary platform tracking solution set.			
FY 2013 Plans: Develop and test 2013.1 & 2013.2 upgrades to the JDS, LAPP, RADS, and EWS. Complete TTR ship/rotary platform tracking set.			
Accomplishments/Planned Programs Subtotals		9.818	3.452
C. Other Program Funding Summary (\$ in Millions) N/A			
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.			
E. Performance Metrics Metric/Description: NAWC-AD: # of LATR software product improvements and new capabilities. Successful application of system engineering processes. Design and development of improvements. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of 1 upgrade per year. Tybrin Corp: # of Training Enabling Architecture software product improvements and new capabilities. Successful design, development and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports. NAWC-WD: # of TTR upgrades per year. Successful application of system engineering processes. Design and development of improvements. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of 2 upgrade per year. Tybrin Corp: # of TTR software product improvements and new capabilities. Successful design, development, and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports. L-3 Corp: # of TTR software product improvements and new capabilities. Successful design, development, and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 0604: Training Range & Instr Dev					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC-AD:PAX RIVER, MD	5.780	0.583	Nov 2011	0.804	Nov 2012	-		0.804	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWC-WD:CHINA LAKE, CA	5.095	0.181	Nov 2011	0.670	Nov 2012	-		0.670	0.000	5.946	
Systems Engineering	C/CPFF	TYBRIN CORP:RIDGECREST, CA	7.979	1.961	Nov 2011	1.480	Nov 2012	-		1.480	0.000	11.420	11.420
Systems Engineering	C/CPFF	L-3 CORP:RIDGECREST,CA	-	0.600	Nov 2011	0.400	Nov 2012	-		0.400	0.000	1.000	1.000
Systems Engineering	WR	NSWC:CORONA, CA	1.360	-		-		-		-	0.000	1.360	
Systems Engineering	WR	NAWC-TSD:ORLANDO, FL	0.220	-		-		-		-	0.000	0.220	
Prior Year Prod Dev No Longer Funded in the Budget or Out Years (Systems Engineering)	Various	Various:Various	89.925	-		-		-		-	0.000	89.925	
Subtotal			110.359	3.325		3.354		-		3.354			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Support No Longer Funded in the Budget or Out Years (Software Development)	Various	Various:Various	10.576	-		-		-		-	0.000	10.576	
Subtotal			10.576	-		-		-		-	0.000	10.576	

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 0604: Training Range & Instr Dev					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year T&E No Longer Funded in the Budget or Out Years (Development Test & Evaluation)	Various	Various:Various	5.299	-		-		-		-	0.000	5.299	
Subtotal			5.299	-		-		-		-	0.000	5.299	
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWC-TSD:ORLANDO, FL	2.513	0.127	Nov 2011	0.128	Nov 2012	-		0.128	0.000	2.768	
Subtotal			2.513	0.127		0.128		-		0.128	0.000	2.768	
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			128.747	3.452		3.482		-		3.482			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Training Range & Instr Dev - Large Area Tracking Range</i>				
System Development: LATR - 5.5 UPGRADE	1	2011	4	2011
System Development: LATR - 5.6 UPGRADE	1	2012	4	2012
System Development: LATR - 5.7 UPGRADE	1	2013	4	2013
System Development: LATR - 5.8 UPGRADE	1	2014	4	2014
System Development: LATR - 5.9 UPGRADE	1	2015	4	2015
System Development: LATR - 6.0 UPGRADE	1	2016	4	2016
System Development: LATR - 6.1 UPGRADE	1	2017	4	2017
System Development: LATR - LINK-16 INTERFACE (PHASE I & II)	1	2011	2	2012
System Development: LATR - OPSEC POSTURE IMPROVEMENTS	1	2011	4	2013
System Development: LATR - EW INTERFACE	4	2011	1	2015
Production Milestones: Deliveries: LATR - 5.5 UPGRADE	4	2011	4	2011
Production Milestones: Deliveries: LATR - 5.6 UPGRADE	4	2012	4	2012
Production Milestones: Deliveries: LATR - 5.7 UPGRADE	4	2013	4	2013
Production Milestones: Deliveries: LATR - 5.8 UPGRADE	4	2014	4	2014
Production Milestones: Deliveries: LATR - 5.9 UPGRADE	4	2015	4	2015
Production Milestones: Deliveries: LATR - 6.0 UPGRADE	4	2016	4	2016
Production Milestones: Deliveries: LATR - 6.1 UPGRADE	4	2017	4	2017
Production Milestones: Deliveries: LATR - LINK-16 INTERFACE (PHASE I & II)	2	2012	2	2012
Production Milestones: Deliveries: LATR - OPSEC POSTURE IMPROVEMENTS	4	2013	4	2013
Production Milestones: Deliveries: LATR - EW INTERFACE	1	2015	1	2015
<i>Training Range & Instr Dev - Test & Training Enabling Architecture</i>				

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev		PROJECT 0604: Training Range & Instr Dev	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
System Development: TENA - 6.0	1	2011	4	2011
System Development: TENA - 7.0	1	2012	4	2012
System Development: TENA - 8.0	1	2013	4	2013
System Development: TENA - 9.0	1	2014	4	2014
System Development: TENA - 10.0	1	2015	4	2015
System Development: TENA - 11.0	1	2016	4	2016
System Development: TENA - 12.0	1	2017	4	2017
Production Milestones: Deliveries: TENA - 6.0	4	2011	4	2011
Production Milestones: Deliveries: TENA - 7.0	4	2012	4	2012
Production Milestones: Deliveries: TENA - 8.0	4	2013	4	2013
Production Milestones: Deliveries: TENA - 9.0	4	2014	4	2014
Production Milestones: Deliveries: TENA - 10.0	4	2015	4	2015
Production Milestones: Deliveries: TENA - 11.0	4	2016	4	2016
Production Milestones: Deliveries: TENA - 12.0	4	2017	4	2017
Training Range & Instr Dev - Tactical Training Ranges				
System Development: TTR - 2011.1 + 2011.2 UPGRADE	1	2011	4	2011
System Development: TTR - 2012.1 + 2012.2 UPGRADE	1	2012	4	2012
System Development: TTR - 2013.1 + 2013.2 UPGRADE	1	2013	4	2013
System Development: TTR - 2014.1 + 2014.2 UPGRADE	1	2014	4	2014
System Development: TTR - 2015.1 + 2015.2 UPGRADE	1	2015	4	2015
System Development: TTR - 2016.1 + 2016.2 UPGRADE	1	2016	4	2016
System Development: TTR - 2017.1 + 2017.2 UPGRADE	1	2017	4	2017
System Development: TTR SHIPBOARD/ROTARY PLATFORM TRACKING SET	1	2011	1	2013
Production Milestones: Deliveries: TTR - 2011.1 + 2011.2 UPGRADE	4	2011	4	2011
Production Milestones: Deliveries: TTR - 2012.1 + 2012.2 UPGRADE	4	2012	4	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012	
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	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Production Milestones: Deliveries: TTR - 2013.1 + 2013.2 UPGRADE	4	2013	4	2013
Production Milestones: Deliveries: TTR - 2014.1 + 2014.2 UPGRADE	4	2014	4	2014
Production Milestones: Deliveries: TTR - 2015.1 + 2015.2 UPGRADE	4	2015	4	2015
Production Milestones: Deliveries: TTR - 2016.1 + 2016.2 UPGRADE	4	2016	4	2016
Production Milestones: Deliveries: TTR - 2017.1 + 2017.2 UPGRADE	4	2017	4	2017
Production Milestones: Deliveries: TTR SHIPBOARD/ROTARY PLATFORM TRACKING SET	1	2013	1	2013

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 1427: Surface Tactical Team Trainer (STTT)			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1427: Surface Tactical Team Trainer (STTT)	5.455	23.972	12.596	-	12.596	10.067	10.213	8.116	8.283	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
BFTT Program provides realistic joint warfare training across the spectrum of armed conflict, realistic unit level team training in all warfare areas (e.g. BMD missions to support IAMD capabilities). BFTT will link ships together via USFFC NCTE. BFTT is evolving to an open distributed architecture with maximum commonality across ship classes, integrating existing training systems and evolving to HLA 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 Organization, the Tactical Training Groups and C2F/C3F FSTs. BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD). Without an operating BFTT system, the ship will be unable to complete system level testing impacting overall combat system operational testing.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: Surface Tactical Team Trainer (STTT)								5.455	23.972	12.596	
Articles:								0	0	0	
FY 2011 Accomplishments: Certifies and fields BFTT 3.5B (critical Information Assurance (IA) & obsolescence corrections). Develops BFTT 3.5.1 (Aegis ACB 12, LSD 41/49 Class, LHA 7 & CVN 72) providing Editable Missile profiles, SM-6 Extended Range Automated Munition (ERAM) Display and Scripting, SSDS MK2 MOD5C Close In Weapon System simulation capability, IA improvements & supportability investments in Navigation Simulation (NAVSIM) & Data Collection Modules. Begin testing initiatives and define requirements for BFTT Build 5.0.											
FY 2012 Plans: Completes development and starts testing & certification of BFTT 3.5.1. Starts development of BFTT Build 5.0 (CVN 78 & Aegis 9B with back fit to various ships) provides Dual Band Radar interface, Corporative Engagement Capability Training Adjunct replacement along with AN/SPY-1 & AEGIS Combat Training System (ACTS) improvements allows Engage On Remote Training capability supporting NIFC-CA requirements, allows HLA path from NCTE to SQQ-89 for ASW training and SLQ-32 for EW training, database and modeling improvements along with IA improvements & supportability investments.											
FY 2013 Plans:											

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013		
Certifies and fields BFTT 3.5.1. Continue development of Build 5.0. Start requirements definition of BFTT Build 6.0/ACB 16 including de-integrating Scenario Generation & Control, Data Collection, Fusion & Debrief to create a common Combat System capability that supports the Combat System Product Line Architecture.											
Accomplishments/Planned Programs Subtotals							5.455	23.972	12.596		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN 276200: (Surface BFTT/ TSTC portion only)	20.232	24.597	36.639	0.000	36.639	35.936	40.859	36.043	35.280	0.000	253.637
D. Acquisition Strategy											
The BFTT acquisition strategy for system development utilizes the Advanced Capability Build (ACB) development model, as mandated by OPNAV. Incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible, is in accordance with OPNAV LTR Ser N86/9U179029 dtd 31 Jul 09.											
E. Performance Metrics											
NSWC Dam Neck: Number of BFTT modification product improvements and new capabilities. Successful design, development, testing and fielding of product improvements, and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of one upgrade per ACB.											
NSWC Dahlgren: Number of Test events completed. Training system interface problem resolutions documented. Safety Reviews in direct support of Element Certification.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 1427: Surface Tactical Team Trainer (STTT)					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	WR	NAVSEA 02/ CDSA:Dam Neck	11.926	1.110	Feb 2012	1.200	Dec 2012	-		1.200	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC Dam Neck/ NSWC Dahlgren/ NAVSEA 02:Dam Neck/ NSWC Dahlgren	7.377	4.892	Feb 2012	3.000	Dec 2012	-		3.000	0.000	15.269	
Subtotal			19.303	6.002		4.200		-		4.200			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	WR	NSWC Dam Neck/ NAVSEA 02:WR/REQN	9.794	13.851	Feb 2012	5.296	Dec 2012	-		5.296	0.000	28.941	
Subtotal			9.794	13.851		5.296		-		5.296	0.000	28.941	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC PHD/NSWC Dam Neck/NAVSEA 02:WR/REQN	3.162	2.697	Feb 2012	1.700	Dec 2012	-		1.700	0.000	7.559	
Subtotal			3.162	2.697		1.700		-		1.700	0.000	7.559	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>				PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>						

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NSWC Dam Neck/ NSWC Dahlgren:WR/ REQN	3.956	1.422	Feb 2012	1.400	Dec 2012	-		1.400	0.000	6.778	
Subtotal			3.956	1.422		1.400		-		1.400	0.000	6.778	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	36.215	23.972		12.596		-		12.596			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1427				
BFTT 3.5 Installs	3	2011	3	2011
BFTT 3.5.1 CDR	1	2011	1	2011
BFTT 3.5.1 TRR	1	2012	1	2012
BFTT 3.5.1 CPR ACB 12	3	2012	3	2012
BFTT 3.5.1 Certification LSD	1	2013	1	2013
BFTT 3.5.1 Certification ACB12	1	2014	1	2014
BFTT 5.0 SRR 1A	2	2011	2	2011
BFTT 5.0 PDR/CDR 1A/SRR/SFR 1B	1	2012	1	2012
BFTT 5.0 PDR 1B	2	2012	2	2012
BFTT 5.0 SRR/SFR 2	2	2012	2	2012
BFTT 5.0 CDR 1B	3	2012	3	2012
BFTT 5.0 PDR 2	3	2012	3	2012
BFTT 5.0 CDR 2	1	2013	1	2013
BFTT 5.0 TRR 1	4	2013	4	2013
BFTT 5.0 TRR 2	1	2014	1	2014
BFTT 5.0 CPR CVN 78	1	2015	1	2015
BFTT 5.0 Certification 1 CVN 78	2	2016	2	2016
BFTT 5.0 Certification 2 CVN 78	2	2017	2	2017
BFTT 6.0 SWTC	4	2011	4	2011
BFTT 6.0 SRR	3	2014	3	2014
BFTT 6.0 PDR	1	2015	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0204571N: Consolidated Trng Sys Dev

PROJECT

1427: *Surface Tactical Team Trainer (STTT)*

	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
BFTT 6.0 CDR	1	2016	1	2016
BFTT 6.0 TRR	2	2017	2	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 2124: Air Warfare Training			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2124: Air Warfare Training	1.627	1.648	1.640	-	1.640	1.597	1.620	1.640	1.681	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project transitions new training system technologies for use in Naval Aviation training. Products from this effort are directly tied to the Navy Aviation Simulation Master Plan (NASMP), NASMP technology upgrades, MH-60R/S master plan, Unmanned Aerial Systems (UAS) master plan, Live Virtual Constructive (LVC), F/A-18C-F Requirements Procurement Plan (RPP), multiple platform technology refresh efforts and the Multi-Mission Maritime Aircraft (MMA/P-8) programs. These efforts will support the development and design of future naval aviation training/mission rehearsal systems (fixed, deployed and unmanned). Tasks include: Advanced training systems specification development to provide for common, modular, High Level Assembly (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilities ashore and afloat. Technologies to be developed and integrated include: intelligent semi-automated forces technologies, automated performance measurement technology, advanced net-ready weapons simulation, Air to Air/Air to Ground (AA/AG), sensor weather server, common Mission Training Station (MTS) technologies, advanced visual-sensor technology, high resolution helmet mounted, and/or flat panel displays, 20-20 visual acuity image generation, NAVAIR Portable Source Initiative (NSPI), common correlated data set technologies, common software/database reuse technologies, advanced environmental effects modeling, fused radar/infra-red/electro-optic and acoustic sensor simulations, physics-based infra-red simulations, comms degradation modeling and final T&E within the Aviation Training Technology Integration Facility (ATTIF), NAWCAD, which is a man-in-the loop test bed for the integration of software, hardware and operational equipment. This ATTIF capability provides a window to fleet aviators for critical comment, evaluation and fine tuning of new, interoperable, and innovative technologies before final transition to the fleet. MTS, debrief/After Action Review (AAR) and intelligent training tools for the virtual environment are focused on human performance enhancements for fleet readiness and distributed mission training at all levels.

Metrics: These technology transitions seek to lower Total Ownership Costs (TOC) of the training systems and life cycle costs, including: increasing software 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 readiness improvements are conservatively forecasted at 12-35% following associated technology upgrades to stand-alone and networked simulators. Individual technology transition investments have routinely exceeded 300+% financial Return On Investment (ROI). Technology Readiness Levels (TRL), Training and Readiness, fleet readiness, and financial metrics are used.

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

	FY 2011	FY 2012	FY 2013
Title: HUMAN/INSTRUCTIONAL SYSTEMS INTEGRATION	0.785	0.742	0.515
Articles:	0	0	0
Description: Develop common and platform unique MTS, Intelligent Tactical Semi-Automated-Forces (SAF) and high fidelity simulator component technologies. MTS and Intelligent SAF designs lower NASMP upgrade and simulator life-cycle costs. Integrate Voice-Capable SAF component technologies, improve common instructor interface effectiveness and provide for multi-SAF exercise utilization. Analyze, develop, and integrate open architecture components for F/A-18C-F, MH-60R/S, UAS, E-2C/D			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev		PROJECT 2124: Air Warfare Training
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>& USMC mission areas, intelligent instructor operator components, Tactical Air (TACAIR) Multi-Mission Aircraft (MMA)/Reduced Oxygen Breathing Device-Spatial Disorientation common graphic user interface initiatives, common threat system formats and Next Generation Threat System connectivity, Joint Semi-Automated-Forces (SAF) compatability, performance measurement, and after action review/ debrief innovations, thereby maximizing return on investment for mission training station-related technology investments.</p> <p>FY 2011 Accomplishments: Provided modular MTS designs to lower fixed-wing F/A-18, ROBD-SD and NASMP/Platform simulator life-cycle costs. Completed the following: Integrated Voice-Capable SAF archive technologies, improved common instructor interface effectiveness for P-8A and first phase of multi-SAF exercise capability. Analyzed, developed and integrated open architecture component improvements for Hypoxia and General Training including MH-60R/S, UAS, E-2C and USMC mission areas, intelligent instructor operator components, TACAIR/ MMA)/ROBD-SD common graphic user interface, common threat system formats and Next Generation Threat System (NGTS) connectivity, Joint SAF compatability, performance measurement and after action review/ debrief thereby maximizing return on investment for mission training station related technology investments.</p> <p>FY 2012 Plans: Provide for modular MTS designs to lower NASMP/Platform simulator upgrade life-cycle costs, integrate TACAIR Voice-Capable SAF component technologies, improve common instructor interface effectiveness and provide for multi-SAF exercise utilization. Continue to analyze, develop, and integrate open architecture components for FA-18C-F, MH-60R/S, UAS, E-2C/D & USMC mission areas, intelligent instructor operator components, TACAIR/MMA/ROBD-SD common graphic user interface initiatives, common threat system formats and NGTS connectivity, Joint SAF compatability, performance measurement, and after action review/ debrief, thereby maximizing return on investment for mission training station-related technology investments.</p> <p>FY 2013 Plans: Provide for ongoing modular MTS designs to lower NASMP upgrade and simulator upgrade life-cycle costs, integrate Voice-Capable SAF component technologies, improve P-8A and UAS common instructor interface effectiveness and provide for multi-SAF exercise utilization. Continue to analyze, develop, and integrate open architecture components for UAS/Broad Area Maritime Surveillance (BAMS), F/A-18C-F, MH-60R/S, E-2C/D & USMC mission areas, intelligent instructor operator components, TACAIR/ MMA/ROBD-SD common graphic user interface initiatives, common threat system formats and NGTS, Joint SAF compatability, performance measurement, and after-action review/ debrief, thereby maximizing fleet efficiencies and ROI for mission training station-related technology investments.</p>				
Title: SENSORS AND ENVIRONMENT		0.300	0.350	0.450
Articles:		0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev	PROJECT 2124: Air Warfare Training		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: Develop common and platform unique sensor and environmental simulation into fidelity upgrades with Government Off the Shelf Software (GOTS). Perform risk reduction, advanced displays innovation, test and evaluation, integration, and production of Inter-service Common Sensor Model and Integrated Distributed Sensor Scene Simulation System for Navy DMT, new ROBD-SD and legacy devices. Demonstrate GOTS capability for cost-effective database materialization, associated NPSI specifications and processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. In support of NASMP upgrade efforts, develop texture storage, sensor-environmental effects, Sensor-Scene Environmental Radiometry Engine (SERE) NPSI material reference processes/standards, automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution visualization technologies.</p> <p>FY 2011 Accomplishments: Integrated Out of The Window (OTW) Inter-Service Common Sensor Model (ICSM) and environmental modeling with GOTS for the F/A-18 and ROBD-SD class of trainers. Performed risk reduction, advanced displays T&E, integration and production of ICSM for Navy DMT and legacy devices with first article implementation of Distributed Sensor Scene Simulation System (DS4)on the ROBD-SD. Demonstrated GOTS capability for cost-effective database materialization, and developed NPSI specifications and processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Developed texture storage, sensor-environmental effects, environment technology maturation, NPSI material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution visualization for planned F/A-18 C-G visual system upgrades.</p> <p>FY 2012 Plans: Continue to integrate common and platform specific sensors/GOTS implementations. Perform risk reduction, advanced displays T&E, integration and production of ICSM for Navy DMT and legacy devices. Demonstrate SERE GOTS capability for cost-effective environmental effects database materialization, and develop associated NPSI common specifications/processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs in accordance with platform and NASMP priorities. Develop texture storage, weather and sensor-environmental effects, Environment NPSI common material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution sensor visualization</p> <p>FY 2013 Plans: Continue to integrate common and platform unique real-time sensor simulation with GOTS implementations. Perform risk reduction, advanced displays T&E, integration and production of ICSM for UAS, Navy DMT and legacy devices. Demonstrate SERE GOTS capability for cost-effective environmental effects database materialization, and develop associated NPSI specifications and processes for implementation on DMT, deployed mission readiness trainers, legacy, and new visual system upgrade programs in accordance with NASMP priorities. Develop texture storage, weather and sensor-environmental effects,</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev	PROJECT 2124: Air Warfare Training		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
SERE Environment NPSI material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects, communication and radio frequency models and very high-resolution sensor visualization for multiple platform upgrade initiatives.				
Title: SYSTEM ENGINEERING & INTEGRATION Articles: Description: Integrate and test legacy and General Training/Hypoxia system components for Navy survivability and deployable readiness training devices. Provide GOTS component TRL assessment for general training components, tactical GUI and performance measurement and tactical scenario-control technologies. Test and demonstrate E-2C Distributed Mission Readiness Trainer (DMRT) configurations and General Training technologies, while maintaining or increasing fidelity. Analyze GOTS/ Commercial Off the Shelf (COTS) alternatives for network centric warfare compliance connectivity in the simulated battlespace, NCTE interoperability and human mission performance measurements while reducing training system life cycle cost. Ensure proper TRL levels for integrating software components, achieve readiness and create a financial ROI. FY 2011 Accomplishments: Integrated and tested F/A-18, ROBD-SD and E-2C deployable readiness and rehearsal system technologies into training devices. Provided GOTS component TRL assessment for General Training, intelligent synthetic forces, tactical debrief GUIs, performance measurement and tactical scenario-control technologies. Demonstrated low-cost NCTE capable DMT & DMRT configuratons, and virtual range technologies while maintaining or increasing fidelity. Analyzed GOTS/COTS alternatives for general training and network centric warfare connectivity in the simulated battlespace and NCTE interoperability while reducing training system life cycle cost. Ensured proper TRL levels for integrating software components. FY 2012 Plans: Continue to integrate and test open architecture components for Navy DMT and deployable readiness and rehearsal systems and training devices. Provide GOTS component TRL assessment for "mixed-SAF" intelligent synthetic forces, tactical GUIs, and tactical scenario-control technologies. Demonstrate low-cost LVC capable DMT & DMRT configuratons, and virtual range technologies, while maintaining or increasing fidelity. Analyze GOTS/COTS alternatives for network centric warfare connectivity in the simulated battlespace, NCTE interoperability, while reducing training system life cycle cost. Ensure proper TRL levels for integrating software components.		0.368 0	0.327 0	-
Title: LIVE VIRTUAL CONSTRUCTIVE (LVC) AND VISUALS Articles: Description: AWTB provides for risk mitigation and next generation LVC and advanced visualization component development for distributed mission training and stand-alone and small footprint deployable devices. Support the NASMP upgrade efforts and Type/Model/Series (T/M/S) programs with advanced visual system display configurations requirements. Assess trainee cognitive		0.174 0	0.229 0	0.675 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev			PROJECT 2124: Air Warfare Training					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013		
requirements and the development and incorporation of next generation LVC and visualization technologies. Additionally, AWTD provides for advanced virtual component fidelity improvements for LVC capability (such as "Mobility" Part-Task Trainers (PTT) and DMTR class devices).											
FY 2011 Accomplishments: Supported the NASMP upgrade efforts, F/A-18, LVC cognitive front-end analysis, survival/spatial disorientation training and T/ M/S visual research programs to include the development of advanced visual system display configurations, low cost display configurations and advanced Helmet Mounted Displays (HMD) using next generation technology for both stand-alone and small footprint deployable devices.											
FY 2012 Plans: Continue to support the NASMP and T/M/S visual research programs to include the development of advanced visual system display configurations using next generation technology for both stand-alone and small footprint deployable devices.											
FY 2013 Plans: Continue to support NASMP upgrades and T/M/S visual research programs to include the development of high fidelity advanced visual system display configurations using next generation technology for both stand-alone and small footprint deployable devices. Apply advanced visualization to after action review systems.											
Accomplishments/Planned Programs Subtotals											
							1.627	1.648	1.640		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN/0705: COMMON GROUND EQUIPMENT - TRAINING	137.056	152.186	162.371	0.000	162.371	162.490	198.599	164.127	202.169	Continuing	Continuing
D. Acquisition Strategy AWTD is a 6.7 RDT&E joint technology transition program tied to NASMP upgrades and the various platform simulation master plans with the purpose of transitioning advanced training and mission rehearsal technologies. AWTD provides risk mitigation, test and evaluation, and prototype development for stand-alone, distributed, and deployed training systems for the warfighter utilizing an Integrated Product Team approach and a combination of reimbursable and direct cite/cost-plus T&M contracts.											
E. Performance Metrics NAWC-TSD: # of transitions to Fleet Platforms. For each transition, successful TRL testing and device Ready for Training (RFT) to Fleet platforms. Seminal transition events are either RFT or tech-refresh Authority to Operate. NAWC-AD: Complete TRL & compliance testing for NASMP and Information Assurance directives.											

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
<p>Alion Science and Technology, Inc: Initial Training Capability passes Contractor/Government testing and evaluation.</p> <p>RSC Inc: Successful Small Business Innovation Research evaluation of device testing.</p> <p>Aptima Inc: Successful Small Business Innovation Research evaluation of device testing.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 2124: Air Warfare Training						
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Systems Engineering	WR	NAWC-TSD:ORLANDO, FL	15.689	0.269	Nov 2011	0.327	Nov 2012	-		0.327	0.000	16.285		
Systems Engineering	WR	NAWC-AD:PAX RIVER, MD	1.136	-		0.200	Nov 2012	-		0.200	0.000	1.336		
Systems Engineering	WR	NPS:MONTEREY, CA	0.300	-		-		-		-	0.000	0.300		
Systems Engineering	C/CPFF	ALION SCIENCE:NORFOLK, VA	-	0.456	Mar 2012	-		-		-	0.000	0.456	0.456	
TBD	C/CPFF	TBD:TBD	-	-		0.353	Mar 2013	-		0.353	0.000	0.353	0.353	
Systems Engineering	C/CPFF	APTIMA:ORLANDO, FL	0.250	0.100	Feb 2012	0.241	Mar 2013	-		0.241	0.000	0.591	0.591	
Systems Engineering	C/CPFF	RSC INC.:ORLANDO, FL	-	0.350	Mar 2012	0.300	Mar 2013	-		0.300	0.000	0.650	0.650	
Systems Engineering	FFRDC	SANDIA, NATIONAL LAB:ALBUQUERQUE, NM	-	0.150	Feb 2012	-		-		-	0.000	0.150		
Subtotal			17.375	1.325		1.421		-		1.421	0.000	20.121		
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Support Equipment Development	WR	NAWC-TSD:ORLANDO, FL	0.040	-		-		-		-	0.000	0.040		
Prior Year Support No Longer Funded in the Budget or Out Years (Support Equipment Development)	Various	Various:Various	1.713	-		-		-		-	0.000	1.713		
Subtotal			1.753	-		-		-		-	0.000	1.753		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 2124: Air Warfare Training					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (Sys Eng & Test)	WR	NAWC AD:PAX RIVER, MD	5.868	0.102	Nov 2011	-		-		-	0.000	5.970	
Subtotal			5.868	0.102		-		-		-	0.000	5.970	
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	METI CORP:PAX RIVER, MD	0.491	0.206	Dec 2011	0.204	Dec 2012	-		0.204	0.000	0.901	0.901
Travel	PO	NAVAIR:PAX RIVER, MD	0.481	0.015	Dec 2011	0.015	Dec 2012	-		0.015	0.000	0.511	
Subtotal			0.972	0.221		0.219		-		0.219	0.000	1.412	
Remarks PO used for travel orders.													
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			25.968	1.648		1.640		-		1.640	0.000	29.256	
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Human/Instructional Systems Integration</i>				
Systems Development: Common MTS/TACSAF Technology Development	4	2011	4	2017
Systems Development: DMRT/Class Debrief & APAARS	1	2011	2	2012
Systems Development: Hypoxia/Spatial Disorientation Technology (Fixed/Rotary)	1	2011	4	2014
Production Milestones: DMRT-CLASS DEBRIEF & APAARS	4	2012	4	2012
Production Milestones: FIXED WING HYPOXIA	4	2011	4	2011
Production Milestones: ROTARY WING HYPOXIA/SPATIAL DISORIENTATION	4	2014	4	2014
Production Milestones: TACT AIR MTS	4	2013	4	2013
Production Milestones: P-3C MTS	4	2014	4	2014
Production Milestones: P-8A MTS	4	2015	4	2015
Production Milestones: UAS MTS	4	2016	4	2016
Production Milestones: LVC MTS	4	2017	4	2017
<i>Sensors and Environment</i>				
Systems Development: Common/Platform Sensors	1	2011	4	2017
Systems Development: Atmospherics/Weather	1	2011	4	2013
Systems Development: COMMS/EW	1	2013	4	2017
Production Milestones: INTERSERVICE COMMON SENSOR MODEL (ICSM)	4	2011	4	2011
Production Milestones: SERE	4	2012	4	2012
Production Milestones: REAL-TIME ATMOSPHERICS	4	2013	4	2013
Production Milestones: IDS4	4	2013	4	2013
Production Milestones: UAS/LVC	4	2016	4	2016
Production Milestones: COMMS/EW	4	2017	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev		PROJECT 2124: Air Warfare Training	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Systems Engineering and Integration				
Systems Development: TACAIR HYPOXIA	1	2011	4	2012
Systems Development: EDRT/APAARS	1	2011	4	2012
Production Milestones: F/A-18 ROBD-SD	4	2012	4	2012
Production Milestones: DMRT/EDRT	4	2012	4	2012
Live Virtual Constructive (LVC) and Visuals				
Systems Development: Live	1	2012	4	2016
Systems Development: Virtual/Visuals	1	2011	4	2017
Systems Development: Constructive	1	2012	4	2017
Production Milestones: SYMBOLIGY SET	4	2014	4	2014
Production Milestones: LVC DATALINK	4	2016	4	2016
Production Milestones: TACTICAL PTT DEMO	4	2013	4	2013
Production Milestones: COGNITIVE FEA	4	2011	4	2011
Production Milestones: NASMP/TACTAIR UPGRADE	4	2012	4	2012
Production Milestones: MOBILITY PTT	4	2015	4	2015
Production Milestones: CNATRA PTT	4	2016	4	2016
Production Milestones: VIRTUAL/CONSTRUCTIVE MISSION REHERSAL	4	2017	4	2017
Production Milestones: TACSAF DEMO 1	4	2014	4	2014
Production Milestones: TACSAF DEMO 2	4	2016	4	2016
Production Milestones: TACSAF MISSION REHERSAL	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 3087: Curriculum & Trainer Development			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3087: Curriculum & Trainer Development	17.808	-	-	-	-	-	-	-	-	0.000	17.808
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

TSTC 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 in-port CONUS to in-theater mission rehearsal. TSTC Spiral 1 ship and shore based capabilities are critical to accomplishing Fleet Training Board of Directors strategy and objectives for warfighting performance improvements in the areas of ASW, BMD, and Surface Warfare and Information Warfare improvements. The TSTC Combat System Trainer (CST) enhancements to ship and shore trainers 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. TSTC will improve upon the current embedded trainer and interface 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 TSTC is required to ensure continued, persistent FST interoperability via the NTCE. TSTC 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 through On-Demand, Just In Time, scenario-driven, Objective Based Training, and mission rehearsal capabilities initially available in port, and ultimately underway and in-theater.

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

	FY 2011	FY 2012	FY 2013
Title: Curriculum & Trainer Development	17.808	-	-
Articles:	0		
Description: Funds development of ship and shore TSTC core capabilities. TSTC shall be implemented as a System of Systems (SoS) capability. In the near term, TSTC development is focused on Combat Systems improvements and Navigation and Engineering trainer integration. In the long term, TSTC may expand to include Damage Control, Logistics, Aviation, Visit, Board, Search, and Seizure, Medical, Sentry/Lookout, Intelligence, and Security Force training. Development of TSTC Spiral 1 includes development of the completely redesigned, re-architected, and enhanced CST with the following characteristics: decoupled models and entity database; FST HLA compatibility; FST filtering improved training system usability; readiness based assessment objective based planning; and high band width encryption. TSTC shall integrate internal environments and interoperate with external environments via the NCTE. The TSTC common integrating element will be the Training Management System (TMS) capability. Establishing the architecture of the TMS is also part of TSTC Spiral 1 development. The need for transforming training is documented within the Office of Force Transformation Military Transformation Initiative, DoD Training Transformation Plan, the Chief of Naval Operations Fleet Response Plan, and Commander United States Fleet Forces Command Fleet Readiness Training			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev			PROJECT 3087: Curriculum & Trainer Development					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2011	FY 2012	FY 2013		
Plan. TSTC 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 TSTC hardware and software subsystems will be designed and documented in design specifications.											
FY 2011 Accomplishments: Certifies and fields BFTT 3.5B (critical Information Assurance (IA) & obsolescence corrections). Develops BFTT 3.5.1 (Aegis ACB 12, LSD 41/49 Class, LHA 7 & CVN 72) providing Editable Missile profiles, SM-6 ERAM Display and Scripting, SSDS MK2 MOD5C Close In Weapon System simulation capability, IA improvements & supportability investments in NAVSIM & Data Collection Modules. Defines requirements for BFTT Build 5.0											
Accomplishments/Planned Programs Subtotals							17.808	-	-		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cos
• OPN 276200: (Surface (N86) BFTT/TSTC portion only)	20.232	24.597	36.639	0.000	36.639	35.936	40.859	36.043	35.280	0.000	253.637
D. Acquisition Strategy											
The TSTC 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.											
E. Performance Metrics											
NSWC Dam Neck: # of BFTT/TSTC software and hardware product improvements and new capabilities. Successful design, development, and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.											
NSWC Dahlgren: # of Test events and Training System interface problem resolutions documented. Successful application of system engineering processes. Safety Reviews in direct support of Element Certifications. Completion of 1 upgrade per year.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 3087: Curriculum & Trainer Development					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	C/CPFF	CDSA Contracts:Virginia Beach, VA	2.800	-		-		-		-	0.000	2.800	
Systems Engineering	WR	NSWC PHD/CDSA/ NUWC Newport/ NSWC Dahlgren/ NAVSEA:PHD, CA/ Virginia Beach,VA/ Newport, RI	5.224	-		-		-		-	0.000	5.224	
Subtotal			8.024	-		-		-		-	0.000	8.024	
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	WR	NSWC PHD/CDSA/ NUWC Newport/ NSWC:Dahlgren/ NAVSEA 02	24.057	-		-		-		-	0.000	24.057	
Technical Documentation	WR	NSWC PHD/CDSA/ NUWC:Newport/NSWC Dahlgren/NAVSEA 02	0.548	-		-		-		-	0.000	0.548	
Subtotal			24.605	-		-		-		-	0.000	24.605	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC PHD/ CDSA:PHD,CA/Virginia Beach,VA	3.015	-		-		-		-	0.000	3.015	
Subtotal			3.015	-		-		-		-	0.000	3.015	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>				PROJECT 3087: <i>Curriculum & Trainer Development</i>					

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Services	WR	CDSA/NSWC Dahlgren:Virginia Beach, VA/Dahlgren, VA	5.080	-		-		-		-	0.000	5.080	
DAWDF	Various	VARIOUS:VARIOUS	0.051	-		-		-		-	0.000	0.051	
Subtotal			5.131	-		-		-		-	0.000	5.131	

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	40.775	-	-	-	-	0.000	40.775	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3087: <i>Curriculum & Trainer Development</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3087: <i>Curriculum & Trainer Development</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 3087</i>				
TSTC SRR 5.0	2	2011	2	2011
TSTC Installs 3.5	3	2011	3	2011
TSTC SWTC 6.0	4	2011	4	2011
TSTC CDR 3.5.1	1	2011	1	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 3093: TACTS/LATR Replacement			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3093: TACTS/LATR Replacement	5.084	13.172	2.511	-	2.511	14.684	8.615	8.739	8.950	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
TCTS will provide the Navy a replacement for major portions of the TACTS and LATR systems. 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. Fielding of a pod system is complete at TACTS sites. The program incorporates an evolutionary development (incremental) towards an encrypted system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture and an encrypted/long range secure data link.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2011	FY 2012	FY 2013	
Title: TACTS/LATR REPLACEMENT								5.084	13.172	2.511	
								Articles: 0	0	0	
Description: TCTS: Qualify and complete the Rangeless Pod system fielded at NAS Key West and Beaufort, including the complete Integrated Logistics products and training. Define Test and Training Enabling Architecture (TENA) compliant interface between TCTS and an Advance Display System (ADS). Develop a Rack-Mounted subsystem for use on rotary wing and transport aircraft. Continue development of the Advanced Data Link (ADL) waveform and to produce an encrypted data link. Develop related training range integration.											
FY 2011 Accomplishments: Plan delivery of an encrypted Engineering Development Model to support integration of ADL with TCTS participant and ground subsystems. Coordinate ADL development with National Security Agency to support encryption certification. Release Request for Proposal for ADL integration contract with associated activities to support contract award.											
FY 2012 Plans: Begin encryption integration activities into TCTS and conduct integration Preliminary Design Review.											
FY 2013 Plans: Continue encryption integration activities into TCTS and conduct integration Critical Design Review.											
Accomplishments/Planned Programs Subtotals								5.084	13.172	2.511	

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 3093: TACTS/LATR Replacement			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/4204: Weapons Range Support Equipment (WRSE)/TCTS	5.119	5.156	5.230	0.000	5.230	5.364	5.401	5.504	5.606	0.000	42.718
• APN/0725: Other Production Charges/Tactical Combat Training System (TCTS)	7.536	10.124	3.399	0.000	3.399	13.909	14.123	15.515	15.790	0.000	104.183
D. Acquisition Strategy											
TCTS will employ an evolutionary incremental acquisition strategy from base systems and provide for the development of the system to meet the full Operational Requirements Document requirements. TCTS is a cooperative program with the United States Air Force (USAF) P5 Combat Training System program.											
E. Performance Metrics											
General Dynamics: NSA approved encrypted Data Link Transceiver (DLT). Successful Engineering Development Model testing of encrypted DLT requirements with NSA.											
Rockwell Collins: NSA approved encrypted DLT. Successful Engineering Development Model testing of encrypted DLT requirements with NSA.											
Cubic DAI: Integration of encryted DLT with TCTS equipment. Full integration of encryted DLT with TCTS equipment.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0204571N: Consolidated Trng Sys Dev				PROJECT 3093: TACTS/LATR Replacement					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIF	GENERAL DYNAMICS:SCOTTSDALE, AZ	1.090	2.027	Mar 2012	-		-		-	0.000	3.117	3.117
Primary Hardware Development	C/CPIF	CUBIC DEFENSE APPL:SAN DIEGO, CA	9.811	-		-		-		-	0.000	9.811	9.811
Subtotal			10.901	2.027		-		-		-	0.000	12.928	12.928
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	SS/CPIF	CUBIC DEFENSE APPL:SAN DIEGO, CA	10.378	8.405	Dec 2011	-		-		-	0.000	18.783	18.783
Software Development	SS/CPIF	GENERAL DYNAMICS:SCOTSDALE, AZ	5.548	-		-		-		-	0.000	5.548	5.548
Software Development	SS/CPIF	ROCKWELL COLLINS:CEDAR RAPIDS, IA	4.562	-		-		-		-	0.000	4.562	4.562
Integrated Logistics Support	SS/CPIF	CUBIC DEFENSE APPL:SAN DIEGO, CA	1.907	-		-		-		-	0.000	1.907	1.907
Prior Year Support No Longer Funded in the Budget or Out Years (Software Development)	Various	VARIOUS:VARIOUS	1.462	-		-		-		-	0.000	1.462	
Subtotal			23.857	8.405		-		-		-	0.000	32.262	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				PE 0204571N: Consolidated Trng Sys Dev				3093: TACTS/LATR Replacement						
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Operational Test & Evaluation	WR	OPER T&E:NORFOLK, VA	0.043	0.080	Nov 2011	0.030	Nov 2012	-		0.030	0.000	0.153		
Developmental Test & Evaluation	WR	NAWC-AD:PAX RIVER, MD	0.300	0.700	Nov 2011	0.220	Nov 2012	-		0.220	0.000	1.220		
Prior Year T&E No Longer Funded in the Budget or Out Years (Developmental Test & Evaluation)	Various	VARIOUS:VARIOUS	3.382	-		-		-		-	0.000	3.382		
Subtotal			3.725	0.780		0.250		-		0.250	0.000	4.755		
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Engineering Support	C/CPFF	TYBRIN:CHINA LAKE, CA	2.675	0.764	Nov 2011	0.795	Nov 2012	-		0.795	0.000	4.234	4.234	
Contractor Engineering Support	C/CPFF	SRI:INDIAN HEAD, MD	-	0.050	Nov 2011	-		-		-	0.000	0.050	0.050	
Contractor Engineering Support	C/CPFF	CUBIC DEFENSE:SAN DIEGO, CA	-	0.200	Jan 2012	-		-		-	0.000	0.200	0.200	
Government Engineering Support	WR	NSWC:INDIAN HEAD, MD	-	0.081	Nov 2011	-		-		-	0.000	0.081		
Government Engineering Support	WR	NAWC-WD:CHINA LAKE, CA	-	0.300	Nov 2011	0.548	Nov 2012	-		0.548	0.000	0.848		
Travel	WR	VARIOUS:VARIOUS	0.028	0.042	Nov 2011	0.043	Nov 2012	-		0.043	0.000	0.113		
Government Engineering Support	WR	NAWC-AD:PAX RIVER, MD	1.502	0.523	Nov 2011	0.875	Nov 2012	-		0.875	0.000	2.900		
Contractor Engineering Support	WR	NAWC-WD:CHINA LAKE, CA	0.150	-		-		-		-	0.000	0.150		
Prior Year Mgmt No Longer Funded in the Budget or Out	Various	VARIOUS:VARIOUS	7.008	-		-		-		-	0.000	7.008		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>				PROJECT 3093: <i>TACTS/LATR Replacement</i>					

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Years (Contractor Engineering Support)													
Subtotal			11.363	1.960		2.261		-		2.261	0.000	15.584	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.846	13.172		2.511		-		2.511	0.000	65.529	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>TACTS/LATR Replacement</i>				
Acquisition Milestones: Encryption MS B	3	2012	3	2012
Acquisition Milestones: Encryption MS C	4	2015	4	2015
Systems Development: Increment 2 Encrypted Datalink Capability	1	2011	4	2017
Production Milestones: Increment 1 - NDI - Transportable (GS, AS)	1	2011	4	2012
Production Milestones: Increment 2 Encrypted Datalink Capability	4	2015	4	2017