Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0204571N: *Consolidated Trng Sys Dev*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	35.912	50.750	42.244	-	42.244	31.239	21.961	22.461	22.883	Continuing	Continuing
0604: *Training Range & Instr Dev*	3.686	3.335	3.452	-	3.452	3.480	3.509	3.580	3.629	Continuing	Continuing
1427: *Surface Tactical Team Trainer (STTT)*	8.259	5.485	23.972	-	23.972	17.335	8.010	8.222	8.450	Continuing	Continuing
2124: *Air Warfare Training*	1.694	1.665	1.648	-	1.648	1.653	1.671	1.702	1.725	Continuing	Continuing
3087: *Curriculum & Trainer Development*	13.911	24.146	-	-	-	-	-	-	-	0.000	38.057
3093: *TACTS/LATR Replacement*	5.972	16.119	13.172	-	13.172	8.771	8.771	8.957	9.079	Continuing	Continuing
9999: *Congressional Adds*	2.390	-	-	-	-	-	-	-	-	0.000	2.390

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.

1427/3087/3087A - 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 realist 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 component 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 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 area

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy	DATE: February 2011
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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 a high capacity/long range system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation and open architecture.

10C183 - Develop algorithms for deep water multistatic active sonar simulation, investigate and incorporate higher fidelity ocean model algorithms, facilitate flexibility in scenario generation and modify existing Ocean Model engineering tool to facilitate test and debug. Research new algorithms for real-time ocean modeling scheduling, parallel computing and new database architectures for high fidelity environmental modeling.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	41.511	50.750	46.510	-	46.510
Current President's Budget	35.912	50.750	42.244	-	42.244
Total Adjustments	-5.599	-	-4.266	-	-4.266
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-4.466	-			
• SBIR/STTR Transfer	-0.882	-			
• Program Adjustments	-	-	-3.108	-	-3.108
• Section 219 Reprogramming	-0.259	-	-	-	-
• Rate/Misc Adjustments	-	-	-1.158	-	-1.158
• Congressional General Reductions Adjustments	0.008	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Project: 9999: *Congressional Adds*		
Congressional Add: *NAVAIR High Fidelity Oceanographic Library*	2.390	-
Congressional Add Subtotals for Project: 9999	2.390	-
Congressional Add Totals for all Projects	2.390	-

Change Summary Explanation

Schedule Changes: Block 6.4 through 6.9 on the President's Budget R-4 has been renamed LATR -5.4 Upgrade through LATR 5.9 Upgrade. No change was made to the actual schedule.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0604: *Training Range & Instr Dev*	3.686	3.335	3.452	-	3.452	3.480	3.509	3.580	3.629	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, Test and Test & TENA interoperability and TTR infrastructure improvements to include: the Joint Display Subsystem (JDS), Low Activity Pre-Processor (LAPP), Radar Acquistion Display Subsystem (RADS), Electronic Warfare Server (EWS), 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: LATR	1.938	2.100	2.145	-	2.145
Articles:	0	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 conjuction with, semi-annual system block upgrades. Conduct LATR Operational Security (OPSEC) Posture Improvements Sub-Projects.					
FY 2010 Accomplishments: Developed and updated LATR ground software to 5.4.0. New capabilities included: Link-16 interface, display archive capability and major software enhancements requested by fleet users. Initiated LATR OPSEC posture improvements.					
FY 2011 Plans: Develop and test LATR ground software version 5.5.0. New capabilities will include: an upgraded operating system to meet Information Assurance (IA) and obsolescence issues, an EW interface and software					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
enhancements requested by fleet users. Continue LATR OPSEC posture improvements sub-project and initiate phase II Link-16 interface. ***FY 2012 Base 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.					
Title: TENA ***Articles:*** ***Description:*** Develop and test TTR Object Model (OM) for use with 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 TCTS instrumentation set. Develop TTR TENA Monitoring Tool for diagnostic use by TTR personnel and TTR System Support Activities (SSA). Develop and test TTR TENA product upgrades to be compatible with TENA SDA Middleware. Host TENA on the TTR EWS and JDS. ***FY 2010 Accomplishments:*** Completed development and test of TTR OM for use with OSD TENA SDA TENA Middleware versions 5.0. Completed development of TTR TENA Gateway for use with the TTR EW Server and JDS and TCTS instrumentation set. Completed development of TTR TENA Monitoring Tool for diagnostic use by TTR personnel and TTR SSA. ***FY 2011 Plans:*** Develop and test TTR TENA OM upgrade to be compatible with TENA SDA Middleware 6.0. Develop and test TTR TENA Gateway upgrade to be compatible with TENA SDA Middleware 6.0. Develop and test TTR TENA Monitoring Tool upgrade to be compatible with TENA SDA Middleware 6.0. Host TENA on the TTR EWS and JDS. ***FY 2012 Base 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.	0.900 0	0.700 0	0.800 0	-	0.800 0
Title: TTR Infrastructure ***Articles:***	0.848 0	0.535 0	0.507 0	-	0.507 0

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Develop and test upgrades to the JDS, LAPP, RADS, and EWS. Develop and test upgrades to the Link-16 Interface, JDS, LAPP, RADS, and EWS. Develop and test TTR shipboard and rotary platform tracking solution set. ***FY 2010 Accomplishments:*** Developed and tested 2010.1 & 2010.2 upgrades to the JDS, LAPP, RADS, and EWS. ***FY 2011 Plans:*** 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 Base Plans:*** 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.					
Accomplishments/Planned Programs Subtotals	3.686	3.335	3.452	-	3.452

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The 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 TENA 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.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC-AD:PAX RIVER, MD	4.402	0.828	Nov 2010	0.583	Nov 2011	-		0.583	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWC-WD:CHINA LAKE, CA	3.488	0.907	Nov 2010	0.181	Nov 2011	-		0.181	0.000	4.576	
Systems Engineering	C/CPFF	TYBRIN CORP:RIDGECREST, CA	2.726	1.270	Nov 2010	1.961	Nov 2011	-		1.961	0.000	5.957	5.957
Systems Engineering	C/CPFF	L-3 CORP:RIDGECREST,CA	-	-		0.600	Nov 2011	-		0.600	0.000	0.600	0.600
Systems Engineering	WR	NSWC:CORONA, CA	-	0.110	Nov 2010	-		-		-	0.000	0.110	
Systems Engineering	WR	NAWC-TSD:ORLANDO, FL	-	0.220	Nov 2010	-		-		-	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	100.541	3.335		3.325		-		3.325			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total 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	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total 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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWC-TSD:ORLANDO, FL	2.513	-		0.127	Nov 2011	-		0.127	0.000	2.640	
		Subtotal	2.513	-		0.127		-		0.127	0.000	2.640	

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	118.929	3.335		3.452		-		3.452			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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*

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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*

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Training Range & Instr Dev - Large Area Tracking Range				
System Development: LATR - 5.4 UPGRADE	1	2010	4	2010
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 - LINK-16 INTERFACE (PHASE I & II)	1	2010	2	2012
System Development: LATR - OPSEC POSTURE IMPROVEMENTS	1	2010	4	2012
System Development: LATR - EW INTERFACE	4	2010	1	2015
Production Milestones: Deliveries: LATR - 5.4 UPGRADE	4	2010	4	2010
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 - LINK-16 INTERFACE (PHASE I & II)	2	2012	2	2012
Production Milestones: Deliveries: LATR - OPSEC POSTURE IMPROVEMENTS	4	2012	4	2012
Production Milestones: Deliveries: LATR - EW INTERFACE	1	2015	1	2015
Training Range & Instr Dev - Test & Training Enabling Architecture				

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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 - 5.0	1	2010	4	2010
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
Production Milestones: Deliveries: TENA - 5.0	4	2010	4	2010
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
Training Range & Instr Dev - Tactical Training Ranges				
System Development: TTR - 2010.1 + 2010.2 UPGRADE	1	2010	4	2010
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 SHIPBOARD/ROTARY PLATFORM TRACKING SET	1	2011	1	2013
Production Milestones: Deliveries: TTR - 2010.1 + 2010.2 UPGRADE	4	2010	4	2010

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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**
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
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 SHIPBOARD/ROTARY PLATFORM TRACKING SET	1	2011	1	2011

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1427: *Surface Tactical Team Trainer (STTT)*	8.259	5.485	23.972	-	23.972	17.335	8.010	8.222	8.450	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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Surface Tactical Team Trainer (STTT)	8.259	5.485	23.972	-	23.972
Articles:	0	0	0		0
FY 2010 Accomplishments: Government Acceptance Testing (GAT), testing, certification, and safety assessment of BFTT Build 3.5; scope, design and begin development of build 3.5.1 to address database improvements, architecture and content improvements to support LSD 41/49 Class mid-life combat system upgrade; AEGIS ACB12, T46D installation on SSDS ships and continue development and integration of new software capabilities and system interfaces to address emergent requirements. Funding was also provided for a Joint Threat Emitter (JTE) Shipboard Compatibility effort.					
FY 2011 Plans: Fielding BFTT Build 3.5.1, begins development of Build 5.0 & starting requirements definition for Advanced Capability Build (ACB)14 Build 6.0					
FY 2012 Base Plans: Fielding BFTT Build 3.5.1, continue development of Build 5.0 & finish requirements definition for ACB14 Build 6.0					
Accomplishments/Planned Programs Subtotals	8.259	5.485	23.972	-	23.972

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN 276200: *(Surface BFTT/ TSTC portion only)*	24.051	21.606	35.397	0.000	35.397	37.422	36.850	40.645	35.226	0.000	231.197

D. Acquisition Strategy

The BFTT acquisition strategy for system development utilizes the 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	WR	NAVSEA 02/ CDSA:Dam Neck	11.926	-		0.600	Dec 2011	-		0.600	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC Dam Neck/ NSWC Dahlgren/ NAVSEA 02:Dam Neck/ NSWC Dahlgren	5.805	1.574	Dec 2010	3.254	Dec 2011	-		3.254	0.000	10.633	
		Subtotal	17.731	1.574		3.854		-		3.854			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	WR	NSWC Dam Neck/ NAVSEA 02:WR/REQN	7.313	2.481	Feb 2011	15.238	Dec 2011	-		15.238	0.000	25.032	
		Subtotal	7.313	2.481		15.238		-		15.238	0.000	25.032	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC PHD/NSWC Dam Neck/NAVSEA 02:WR/REQN	2.251	0.911	Dec 2010	3.458	Dec 2011	-		3.458	0.000	6.620	
		Subtotal	2.251	0.911		3.458		-		3.458	0.000	6.620	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NSWC Dam Neck/ NSWC Dahlgren:WR/ REQN	3.437	0.519	Jan 2011	1.422	Dec 2011	-		1.422	0.000	5.378	
		Subtotal	3.437	0.519		1.422		-		1.422	0.000	5.378	

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.732	5.485		23.972		-		23.972			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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)*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1427				
BFTT 3.5 GAT	1	2010	1	2010
BFTT 3.5 TRR	2	2010	2	2010
BFTT 3.5 ET&T	3	2010	3	2010
BFTT 3.5 Certification	4	2010	4	2010
BFTT 3.5 Installs	2	2011	2	2012
BFTT 3.5.1 SRR	2	2010	2	2010
BFTT 3.5.1 PDR	2	2010	3	2010
BFTT 3.5.1 CDR	3	2010	3	2010
BFTT 3.5.1 TRR	2	2011	2	2011
BFTT 3.5.1 Certification	3	2012	3	2012
BFTT 5.0 CDR	2	2012	2	2012
BFTT 5.0 GAT	2	2013	2	2013
BFTT 5.0 TRR	1	2014	2	2014
BFTT 5.0 ET&E	1	2014	2	2014
BFTT 5.0 Certification	4	2014	1	2015
BFTT 6.0 SRR	1	2013	2	2013
BFTT 6.0 PDR	4	2013	1	2014
BFTT 6.0 CDR	2	2014	3	2014
BFTT 6.0 GAT	2	2015	3	2015
BFTT 6.0 TRR	4	2015	4	2015
BFTT 6.0 ET&E	4	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2124: *Air Warfare Training*	1.694	1.665	1.648	-	1.648	1.653	1.671	1.702	1.725	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, F/A-18C-F Requirements Procurement Plan (RPP), Multi-Mission Maritime Aircraft (MMA/P-8) program 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, HLA-compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilites 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/A-G), 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, Navy Portable Source Initiative (NPSI), 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 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 will both lower Total Ownership Costs (TOC) of the training systems and life cycle costs, including: increasing 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 readiness improvements are conservatively forecasted at 12-35% following associated technology upgrades to stand-alone or networked simulators. Individual technology transition investments have routinely exceeded 300+% financial Return on Investment (ROI). Technology readiness levels (TRL), fleet readiness and financial metrics are used.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: HUMAN SYSTEMS INTEGRATION	0.471	0.780	0.742	-	0.742
Articles:	0	0	0		0
Description: Develop MTS and Intelligent Semi-Automated-Forces (SAF) technologies. MTS and Intelligent SAF designs lower NASMP/Platform 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 FA-18C-F, MH-60R/S, UAS, E-2C/D & USMC					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
mission areas, intelligent instructor operator components, TACAIR/MMA/Reduced Oxygen Breathing Device-Spatial Disorientation (ROBD-SD) common Graphical User Interface (GUI) initiatives, common threat system formats and Next Generation Threat System connectivity, Joint SAF compatability, performance measurement, and AAR/debrief, thereby maximizing ROI for mission training station-related technology investments. ***FY 2010 Accomplishments:*** Provided modular MTS designs to lower 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 utilization. Analyzed, developed and integrated open architecture component improvements for F/A-18C-F, MH-60R/S, UAS, E-2C & USMC mission areas, intelligent instructor operator components, TACAIR/MMA/ROBD-SD common GUI initiatives, common threat system formats and Next Generation Threat System connectivity, Joint SAF compatability, performance measurement, and AAR/debrief, thereby maximizing ROI for mission training station-related technology investments. ***FY 2011 Plans:*** Continue to provide for modular MTS designs to lower NASMP/Platform simulator life-cycle costs for P-8A, UAS, MH-60R/S and E-2C. Integrate VOICE-Capable SAF component technologies, improve common instructor interface effectiveness and provide for mixed SAF exercise utilization. Analyze, develop, and integrate open architecture components for MH-60R/S, UAS, E-2C/D & USMC mission areas, intelligent instructor operator components, TACAIR/MMA/ROBD-SD common GUI initiatives, common threat system formats and Next Generation Threat System connectivity, Joint SAF compatability, performance measurement, and multiple Type/Model/Series (T/M/S) AAR/debrief, thereby maximizing ROI for distributed mission training station-related technology investments. ***FY 2012 Base Plans:*** Provide for modular MTS designs to lower NASMP/Platform simulator upgrade life-cycle costs, integrate 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 GUI initiatives, common threat system formats and Next Generation Threat System connectivity, Joint SAF compatability, performance measurement, and AAR/debrief, thereby maximizing ROI for mission training station-related technology investments.					
Title: SENSORS	0.479	0.325	0.350	-	0.350

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Articles:	0	0	0		0

Description: Integrate common Infra-Red (IR) and Forward Looking IR sensor simulation and sensor environment fidelity upgrades with Government Off the Shelf Software (GOTS). Perform risk reduction, advanced displays T&E, integration and production of Inter-service Common Sensor Model (ICSM) for Navy DMT 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. Develop texture storage, sensor-environmental effects, Sensor-Scene Environmental Radiometry Engine (SERE) NPSI material reference processes/standards, and automated technology applications for Real Time (RT) publishing, RT shadows, cultural lighting, RT combat and weather effects and very high-resolution visualization.

FY 2010 Accomplishments:
Integrated common IR and Forward Looking IR sensor simulation with GOTS. Performed risk reduction, advanced displays T&E, integration and production of ICSM for Navy DMT and legacy devices with 1st article implementation of ICSM on the ROBD-SD. Demonstrated GOTS capability for cost-effective database materialization, and develop NPSI specifications and processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Developed texture storage, sensor-environmental effects, SERE technology maturation, NPSI material reference processes/standards, and automated technology applications for RT publishing, RT shadows, cultural lighting, RT combat effects and very high-resolution visualization.

FY 2011 Plans:
Continue to integrate common IR and Forward Looking IR sensor simulation with 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 database materialization, and develop associated NPSI specifications and processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Develop texture storage, weather and sensor-environmental effects, SERE Environment NPSI material reference processes/standards, and automated technology applications for RT publishing, RT shadows, cultural lighting, RT combat effects and very high-resolution visualization.

FY 2012 Base Plans:
Continue to integrate common IR and Forward Looking IR sensor simulation with GOTS implementations. Perform risk reduction, advanced displays T&E, integration and production of ICSM for Navy DMT and legacy

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
devices. Demonstrate SERE GOTS capability for cost-effective environmental effects database materialization, and develop associated NPSI specifications and processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs IAW NASMP priorities. Develop texture storage, weather and sensor-environmental effects, SERE Environment NPSI material reference processes/standards, and automated technology applications for RT publishing, RT shadows, cultural lighting, RT combat effects and very high-resolution sensor visualization					
Title: SYSTEM ENGINEERING & INTEGRATION	0.408	0.460	0.327	-	0.327
Articles:	0	0	0		0
Description: Integrate and test open architecture Live Virtual Construct (LVC) components for Navy DMT and deployable readiness, rehearsal systems and training devices. Provide GOTS component TRL assessment for intelligent synthetic forces, tactical GUIs and performance measurement and tactical scenario-control technologies. Demonstrate low-cost LVC capable DMT & Distributed Mission readiness Trainer (DMRT) configuratons, and virtual range technologies, while maintaining or increasing fidelity. Analyze Government-off-the-shelf/Commercial-off-the-shelf (GOTS/COTS) alternatives for network centric warfare connnectivity in the simulated battlespace, Network-centric Training Environment (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 2010 Accomplishments: Integrated and test open architecture LVC components for Navy DMT, deployable readiness and rehearsal systems and training devices (P-8A and MH-60R initial phase). Provided GOTS component TRL assessment for intelligent synthetic forces, tactical GUIs, performance measurement and tactical scenario-control technologies. Demonstrated low-cost LVC capable DMT & DMRT configuratons, ROBD-SD and virtual range technologies while maintaining or increasing fidelity. Analyzed GOTS/COTS alternatives for network centric warfare connnectivity in the simulated battlespace, interoperability, while reducing training system life cycle cost. Ensured proper TRL levels for integrating software components.					
FY 2011 Plans: Continue to integrate and test open architecture LVC components for Navy DMT, ROBD-SD 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					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
fidelity. Analyze GOTS/COTS alternatives for network centric warfare connnectivity in the simulated battlespace, NCTE interoperability, while reducing training system life cycle cost. Ensure proper TRL levels for integrating software components. ***FY 2012 Base Plans:*** Continue to integrate and test open architecture LVC 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 connnectivity in the simulated battlespace, NCTE interoperability, while reducing training system life cycle cost. Ensure proper TRL levels for integrating software components.					
Title: VISUALS ***Articles:*** ***Description:*** AWTD visual engineering provide for risk mitigation and next generation visual system component test and evaluation for both stand-alone and small footprint deployable devices. Support the NASMP and Type/ Model/Series (T/M/S) programs and advanced visual system display configurations by assessing, development and incorporation of next generation technologies. ***FY 2010 Accomplishments:*** Supported the NASMP and T/M/S visual research programs to include the development of advanced visual system display configurations, low cost eye-went analysis and advanced Helmet-Mounted Display (HMD) using next generation technology for both stand-alone and small footprint deployable devices. ***FY 2011 Plans:*** Continue to support the NASMP planned upgrades 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. Provide analysis of alternatives for small and medium display-projector configurations. ***FY 2012 Base Plans:***	0.336 0	0.100 0	0.229 0	-	0.229 0

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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.					
Accomplishments/Planned Programs Subtotals	1.694	1.665	1.648	-	1.648

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• APN/0705/1: *USMC Federation Simulators*	48.508	32.723	32.954	0.000	32.954	32.738	36.113	86.825	38.891	0.000	308.752
• APN/0705/2: *Fleet Aircrew Simulator Training (FAST)*	43.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	43.230
• APN/0705/3: *Naval Aviation Simulator Master Plan (NASMP)*	0.000	37.521	64.401	0.000	64.401	69.684	65.057	73.864	76.004	0.000	386.531

D. Acquisition Strategy

AWTD is a 6.7 RDT&E joint technology transition program tied to the NASMP upgrade 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 (IPT) approach and a combination of reimbursable and direct cite/ cost-plus time and materials (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 ATO.

NAWC-AD: Complete TRL & compliance testing for NASMP and Information Assurance.

Alion Science and Technology, Inc: Initial Training Capability (ITC) passes Contractor/Government testing and evaluation.

RSC Inc: Successful Small Business Innovation Research evaluation of device testing.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering (Adv Sensor)	WR	NAWC-TSD:ORLANDO, FL	9.419	0.351	Nov 2010	0.269	Nov 2011	-		0.269	0.000	10.039	
Systems Engineering (ITST)	WR	NAWC-TSD:ORLANDO, FL	5.224	0.733	Feb 2011	-		-		-	0.000	5.957	
Systems Engineering (Visuals)	WR	NAWC-AD:PAX RIVER, MD	1.243	0.143	Feb 2011	-		-		-	0.000	1.386	
Systems Engineering (Synthetic)	WR	NPS:MONTEREY, CA	0.200	0.100	Nov 2010	-		-		-	0.000	0.300	
Systems Engineering	C/CPFF	ALION SCIENCE:NORFOLK, VA	-	-		0.456	Mar 2012	-		0.456	0.000	0.456	0.456
Systems Engineering	C/CPFF	APTIMA:CHINA LAKE, CA	-	-		0.100	Feb 2012	-		0.100	0.000	0.100	0.100
Systems Engineering	C/CPFF	RSC INC.:ORLANDO, FL	-	-		0.350	Mar 2012	-		0.350	Continuing	Continuing	Continuing
Systems Engineering	FFRDC	SANDIA, NATIONAL LAB:ALBUQUERQUE, NM	-	-		0.150	Feb 2012	-		0.150	0.000	0.150	
		Subtotal	16.086	1.327		1.325		-		1.325			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Equipment Development	WR	NAWC-TSD:ORLANDO, FL	0.020	0.020	Dec 2010	-		-		-	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	1.733	0.020		-		-		-	0.000	1.753	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC AD:PAX RIVER, MD	5.768	0.100	Nov 2010	0.102	Nov 2011	-		0.102	0.000	5.970	
		Subtotal	5.768	0.100		0.102		-		0.102	0.000	5.970	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	METI CORP:PAX RIVER, MD	0.288	0.203	Dec 2010	0.206	Dec 2011	-		0.206	0.000	0.697	0.696
Travel	PO	NAVAIR:PAX RIVER, MD	0.466	0.015	Dec 2010	0.015	Dec 2011	-		0.015	0.000	0.496	
		Subtotal	0.754	0.218		0.221		-		0.221	0.000	1.193	

Remarks

PO used for travel orders.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	24.341	1.665		1.648		-		1.648			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air Warfare Training				
Acquisition Milestones: Acquistion 6.7 RDT&E Milestones: Transfer to NASMP and CSP	4	2010	4	2010
Acquisition Milestones: Acquistion 6.7 RDT&E Milestones: Transfer to NCTE	4	2011	4	2011
Acquisition Milestones: Acquistion 6.7 RDT&E Milestones: Trans to NASMP-CSP	4	2012	4	2012
Acquisition Milestones: Acquistion 6.7 RDT&E Milestones: Trans to FFC-JNTC	4	2013	4	2013
Acquisition Milestones: Acquistion 6.7 RDT&E Milestones: Trans to NCTE	4	2014	4	2014
Acquisition Milestones: Acquistion 6.7 RDT&E Milestones: Trans to JNTC	4	2015	4	2015
Acquisition Milestones: Acquistion 6.7 RDT&E Milestones: Trans to TACTRAGRU	4	2016	4	2016
Systems Development: AWTD Support of Naval Aviation Simulation Master Plan (NASMP): AWTD Support of Naval Aviation Simulation Master Plan (NASMP)	1	2010	4	2016
Systems Development: Weapons Server and Network Technologies: NASMP Upgrade Technologies	1	2010	4	2016
Systems Development: Instructor/Human Systems: Integration and Intelligent workload reduction (12WRT) support tools	1	2010	4	2016
Test & Evaluation: TACAIR/MARITIME: Net ready Technologies	1	2010	1	2010
Test & Evaluation: TACAIR/MARITIME: LVC Roadmap	4	2010	4	2010
Test & Evaluation: TACAIR/MARITIME: Fallon Tests	4	2011	4	2011
Test & Evaluation: TACAIR/MARITIME: TACTAIR LVC - ITC Fallon & CLK	4	2012	4	2012
Test & Evaluation: TACAIR/MARITIME: Virtual Ranges	4	2013	4	2013
Test & Evaluation: TACAIR/MARITIME: CLK	4	2014	4	2014
Test & Evaluation: TACAIR/MARITIME: Key West	4	2015	4	2015
Test & Evaluation: TACAIR/MARITIME: TACTRAGRU PAC & LANT	4	2016	4	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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**
Test & Evaluation: CDMTS & AARS: Spec/Demos	1	2010	4	2016
Test & Evaluation: CDMTS & AARS: AARS NASMP	4	2010	4	2010
Test & Evaluation: CDMTS & AARS: CLK IBAR	4	2011	4	2011
Test & Evaluation: CDMTS & AARS: AARS NCTE-Joint	4	2012	4	2012
Test & Evaluation: CDMTS & AARS: NCTE	4	2013	4	2013
Test & Evaluation: CDMTS & AARS: Integ to JLVC	4	2014	4	2014
Test & Evaluation: CDMTS & AARS: Key West	4	2015	4	2015
Test & Evaluation: CDMTS & AARS: TACTRAGRU PAC & LANT	4	2016	4	2016
Test & Evaluation: Sensor: Sensor stimulation (3)/Sensor Fusion	1	2010	4	2016
Test & Evaluation: Sensor: NXT-Gen HMDS	4	2010	4	2010
Test & Evaluation: Sensor: JHMCS w/NVD	4	2011	4	2011
Test & Evaluation: Sensor: F-35 HMDS	4	2012	4	2012
Test & Evaluation: Sensor: JTFX Integ	4	2013	4	2013
Test & Evaluation: Sensor: JLVC Test	4	2014	4	2014
Test & Evaluation: Sensor: Key West	4	2015	4	2015
Test & Evaluation: Sensor: TACTRAGRU PAC & LANT	4	2016	4	2016
Test & Evaluation: AARS w/automated Performance Measure (PM): P-8A ITC	4	2011	4	2011
Test & Evaluation: AARS w/automated Performance Measure (PM): PM-JMTC	4	2012	4	2012
Test & Evaluation: AARS w/automated Performance Measure (PM): PM GOTS Upgrade	4	2013	4	2013
Test & Evaluation: Visual Systems: Common Sensor Models/Env, Adv sensor-capable NPSI, collaborative sensor/env depiction for MR & DMRT	1	2010	4	2016
Test & Evaluation: Visual Systems: NXT Gen Env Upgrade/SERE	4	2010	4	2010
Test & Evaluation: Visual Systems: Adv IG/Laser	4	2012	4	2012
Test & Evaluation: Visual Systems: 20-20 Class Sys	4	2014	4	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Test & Evaluation: Visual Systems: TACAIR DMRT	4	2016	4	2016
Test & Evaluation: Deployed SIMS: DMT/Sensor capable	1	2010	4	2016
Test & Evaluation: Deployed SIMS: DMRT Req Anal	1	2010	1	2010
Test & Evaluation: Deployed SIMS: DMRT Specs	4	2010	4	2010
Test & Evaluation: Deployed SIMS: ROBD-SD 1st Article	1	2011	1	2011
Test & Evaluation: Deployed SIMS: Trans Maritime	4	2012	4	2012
Test & Evaluation: Deployed SIMS: LVC Enhanced TACTAIR	4	2013	4	2013
Test & Evaluation: Deployed SIMS: ROBD-SD Mult TMS	4	2014	4	2014
Test & Evaluation: Deployed SIMS: DMRT TACTAIR net	4	2016	4	2016
Deliveries: Weapons Server and Network Technologies: LVC Init Demo	4	2010	4	2010
Deliveries: Weapons Server and Network Technologies: MMA/NCTE	4	2011	4	2011
Deliveries: Weapons Server and Network Technologies: JNTC-1	4	2012	4	2012
Deliveries: Weapons Server and Network Technologies: NCTE	4	2013	4	2013
Deliveries: Weapons Server and Network Technologies: LVC	4	2014	4	2014
Deliveries: Weapons Server and Network Technologies: JNTC-2	4	2015	4	2015
Deliveries: Weapons Server and Network Technologies: TACTRAGRU	4	2016	4	2016
Deliveries: Instructor/Human Systems Integration and Intelligence: MMA	4	2010	4	2010
Deliveries: Instructor/Human Systems Integration and Intelligence: NCTE	4	2011	4	2011
Deliveries: Instructor/Human Systems Integration and Intelligence: JNTC	4	2012	4	2012
Deliveries: Instructor/Human Systems Integration and Intelligence: P-8/NCTE	4	2013	4	2013
Deliveries: Instructor/Human Systems Integration and Intelligence: LVC	4	2014	4	2014
Deliveries: Instructor/Human Systems Integration and Intelligence: Joint/Coalition	4	2015	4	2015
Deliveries: Instructor/Human Systems Integration and Intelligence: TACTRAGRU	4	2016	4	2016
	4	2010	4	2010

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: ATTIF Modular/Open Product Types - Integration, Test and Prototype: Visuals and Dynamic Models				
Deliveries: ATTIF Modular/Open Product Types - Integration, Test and Prototype: DMRT	4	2011	4	2011
Deliveries: ATTIF Modular/Open Product Types - Integration, Test and Prototype: NET SIMS-1	4	2012	4	2012
Deliveries: ATTIF Modular/Open Product Types - Integration, Test and Prototype: NET SIMS-2	4	2013	4	2013
Deliveries: ATTIF Modular/Open Product Types - Integration, Test and Prototype: NET SIMS-3	4	2014	4	2014
Deliveries: ATTIF Modular/Open Product Types - Integration, Test and Prototype: Joint SIMS	4	2015	4	2015
Deliveries: ATTIF Modular/Open Product Types - Integration, Test and Prototype: Coalition SIMS	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3087: *Curriculum & Trainer Development*	13.911	24.146	-	-	-	-	-	-	-	0.000	38.057
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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Curriculum & Trainer Development	13.911	24.146	-	-	-
Articles:	0	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					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 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 2010 Accomplishments:*** Planned Accomplishments: Commence overall TSTC design. For all identified requirements for TSTC Baseline 1, development of TSTC will start the Design Phase for the TMS Services. The combat system stimulation elements of the CST component support the stimulation of a training environment for the AEGIS modernization and CVN 78 platforms. ASW, BMD, IW enhanced Warfighter capabilities and requirements identified shall start development. Integration of the Service Oriented Architecture elements of TMS shall start design phase to allow integration of planning and assessment tools into shipboard training systems. Requirements engineering for the SSDS CVNs. ***FY 2011 Plans:*** Planned Accomplishments - Continue development, prototyping and element testing.					
Accomplishments/Planned Programs Subtotals	13.911	24.146	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN 276200: *(Surface (N86) BFTT/TSTC portion only)*	24.051	21.606	35.397	0.000	35.397	37.422	36.850	40.645	35.226	0.000	231.197

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.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	C/CPFF	CDSA Contracts:Virginia Beach, VA	2.200	0.600	Mar 2011	-		-		-	0.000	2.800	
Systems Engineering	WR	NSWC PHD/CDSA/ NUWC Newport/ NSWC Dahlgren/ NAVSEA:PHD, CA/ Virginia Beach,VA/ Newport, RI	4.570	1.754	Dec 2010	-		-		-	0.000	6.324	
		Subtotal	6.770	2.354		-		-		-	0.000	9.124	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	WR	NSWC PHD/CDSA/ NUWC Newport/ NSWC:Dahlgren/ NAVSEA 02	11.381	16.676	Mar 2011	-		-		-	0.000	28.057	
Technical Documentation	WR	NSWC PHD/CDSA/ NUWC:Newport/NSWC Dahlgren/NAVSEA 02	0.548	-		-		-		-	0.000	0.548	
		Subtotal	11.929	16.676		-		-		-	0.000	28.605	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC PHD/ CDSA:PHD,CA/Virginia Beach,VA	1.470	2.558	Dec 2010	-		-		-	0.000	4.028	
		Subtotal	1.470	2.558		-		-		-	0.000	4.028	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Services	WR	CDSA/NSWC Dahlgren:Virginia Beach, VA/Dahlgren, VA	2.624	2.558	Jan 2011	-		-		-	0.000	5.182	
DAWDF	Various	VARIOUS:VARIOUS	0.051	-		-		-		-	0.000	0.051	
		Subtotal	2.675	2.558		-		-		-	0.000	5.233	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	22.844	24.146		-		-		-	0.000	46.990	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3087				
TSTC SRR 5.0	1	2011	2	2011
TSTC PDR 5.0	3	2011	3	2011

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3093: *TACTS/LATR Replacement*	5.972	16.119	13.172	-	13.172	8.771	8.771	8.957	9.079	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. Initial fielding of a NDI Pod system was at NAS Key West and Beaufort. 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: TACTS/LATR REPLACEMENT	5.972	16.119	13.172	-	13.172
Articles:	0	0	0		0
Description: TCTS: Qualify and complete the NDI Rangeless Pod system fielded at NAS Key West and Beaufort, including the complete Integrated Logistics products and training. Define Test and TENA compliant interface between TCTS and an Advance Display System (ADS). Develop F/A-18 (C/D/E/F) and AV-8B Internal Subsystem and began qualification testing. Initiate 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. Initiate the development of a Rack-Mounted subsystem for use on rotary wing and transport aircraft. Continue development of the Advanced Data Link (ADL) waveform and the Joint Tactical Radio System (JTRS) advance data link. Address and fund development of the JTRS radio and synchronize the budget to schedule. Develop shipboard ground subsystem and related training range integration.					
FY 2010 Accomplishments: Completed SFF-K Critical Design Review with transition to development of JTRS SFF-K radio. Coordinate ADL development with National Security Agency (NSA) to support encryption certification.					
FY 2011 Plans: Plan delivery of JTRS SFF-K Engineering Development Model (EDM) to support integration of ADL with TCTS participant and ground subsystems. Conduct TCTS ADL integration Preliminary Design Review. Coordinate					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
ADL development with NSA to support encryption certification. Release Request for Proposal for ADL integration contract with associated activities to support contract award. ***FY 2012 Base Plans:*** Begin ADL integration activities into TCTS and conduct integration Critical Design Review.					
Accomplishments/Planned Programs Subtotals	5.972	16.119	13.172	-	13.172

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPN/4204: *Weapons Range Support Equipment (WRSE)/TCTS*	5.338	5.200	5.156	0.000	5.156	5.276	5.427	5.474	5.587	0.000	37.458
• APN/0725: *Other Production Charges/Tactical Combat Training System (TCTS)*	23.787	7.579	10.124	4.100	14.224	12.244	14.010	14.239	15.638	0.000	101.721

D. Acquisition Strategy

TCTS will employ an evoluntionary incremental acquisition strategy to procure base NDI Systems and provide for the development of the system to meet the full Operational Requirements Document requirements. TCTS is a cooperative program with the USAF P5 Combat Training System program. The USAF awarded a 10-year contract in June 2003.

E. Performance Metrics

General Dynamics: NSA approved JTRS SFF-K . Successful Engineering Development Model testing of JTRS SFF-K performance requirements with NSA and Joint Threat Emitter.

Cubic DAI: Integration of JTRS SFF-K with TCTS equipment. Full integration of JTRS SFF-K with TCTS equipment.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPAF	GENERAL DYNAMICS:SCOTTSDALE, AZ	-	-		1.784	Mar 2012	-		1.784	Continuing	Continuing	Continuing
Award Fees	SS/CPAF	GENERAL DYNAMICS:SCOTTSDALE, AZ	1.090	-		0.243	Mar 2012	-		0.243	0.000	1.333	1.333
Primary Hardware Development	SS/CPAF	CUBIC DEFENSE APPL:SAN DIEGO, CA	9.811	-		-		-		-	0.000	9.811	9.811
		Subtotal	10.901	-		2.027		-		2.027			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	SS/CPAF	CUBIC DEFENSE APPL:SAN DIEGO, CA	12.058	10.960	Nov 2010	7.396	Dec 2011	-		7.396	0.000	30.414	30.414
Award Fees	C/CPAF	CUBIC DEFENSE APPL:SAN DIEGO, CA	1.530	-		1.009	Dec 2011	-		1.009	0.000	2.539	2.539
Software Development	SS/CPAF	GENERAL DYNAMICS:SCOTSDALE, AZ	3.800	1.748	Nov 2010	-		-		-	0.000	5.548	5.548
Software Development	SS/CPAF	ROCKWELL COLLINS:CEDAR RAPIDS, IA	4.562	-		-		-		-	0.000	4.562	4.562
Integrated Logistics Support	SS/CPAF	CUBIC DEFENSE APPL:SAN DIEGO, CA	-	1.907	Nov 2010	-		-		-	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	23.412	14.615		8.405		-		8.405	0.000	46.432	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total 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	-		0.080	0.000	0.123	
Developmental Test & Evaluation	WR	NAWC-AD:PAX RIVER, MD	-	0.300	Nov 2010	0.700	Nov 2011	-		0.700	0.000	1.000	
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	3.425	0.300		0.780		-		0.780	0.000	4.505	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	TYBRIN:CHINA LAKE, CA	-	-		0.764	Nov 2011	-		0.764	0.000	0.764	0.764
Contractor Engineering Support	C/CPFF	SRI:INDIAN HEAD, MD	-	-		0.050	Nov 2011	-		0.050	0.000	0.050	0.050
Contractor Engineering Support	C/CPFF	CUBIC DEFENSE:SAN DIEGO, CA	-	-		0.200	Jan 2012	-		0.200	0.000	0.200	0.200
Government Engineering Support	WR	NSWC:INDIAN HEAD, MD	-	-		0.081	Nov 2011	-		0.081	0.000	0.081	
Government Engineering Support	WR	NAWC-WD:CHINA LAKE, CA	-	-		0.300	Nov 2011	-		0.300	0.000	0.300	
Travel	WR	VARIOUS:VARIOUS	0.016	0.002	Nov 2010	0.042	Nov 2011	-		0.042	0.000	0.060	
Government Engineering Support	WR	NAWC-AD:PAX RIVER, MD	-	1.052	Nov 2010	0.523	Nov 2011	-		0.523	0.000	1.575	
Contractor Engineering Support	WR	NAWC-WD:CHINA LAKE, CA	-	0.150	Nov 2010	-		-		-	0.000	0.150	
Prior Year Mgmt No Longer Funded in the Budget or Out	Various	VARIOUS:VARIOUS	7.008	-		-		-		-	0.000	7.008	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
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*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Years (Contractor Engineering Support)													
		Subtotal	7.024	1.204		1.960		-		1.960	0.000	10.188	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	44.762	16.119		13.172		-		13.172			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
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*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TACTS/LATR Replacement				
Acquisition Milestones: Phase 5 MS B	1	2010	1	2010
Acquisition Milestones: Phase 4 MS C	4	2012	4	2012
Systems Development: NDI - Transportable (GS, AS)	1	2010	4	2011
Systems Development: Phase 2 - Internal Subsystem (IS) & Rack Mounted Subsystem (RS)	1	2010	4	2011
Systems Development: Phase 4 Advanced Datalink.	1	2010	4	2016
Systems Development: Phase 5 Battle Group.	1	2011	4	2016
Production Milestones: Phase 1 - NDI - Transportable (GS, AS)	1	2010	1	2012
Production Milestones: Phase 2 - Internal Subsystem (IS) & Rack-Mount Subsystem (RS)	1	2010	1	2012
Production Milestones: Phase 4 Advanced Datalink	4	2010	4	2016
Production Milestones: Phase 4 - LRIP	4	2012	4	2012
Production Milestones: Phase 5 Battle Group	1	2012	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
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 9999: *Congressional Adds*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9999: *Congressional Adds*	2.390	-	-	-	-	-	-	-	-	0.000	2.390
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Congressional Add

A. Mission Description and Budget Item Justification

NAVAIR High Fidelity Oceanographic Library: Develop algorithms for deep water multistatic active sonar simulation, investigate and incorporate higher fidelity ocean model algorithms, facilitate flexibility in scenario generation and modify existing Ocean Model engineering tool to facilitate test and debug. Research new algorithms for real-time ocean modeling scheduling, parallel computing and new database architectures for high fidelity environmental modeling.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011
Congressional Add: NAVAIR High Fidelity Oceanographic Library	2.390	-
FY 2010 Accomplishments: Developed algorithms for deep water multistatic active sonar simulation, investigated and incorporated higher fidelity ocean model algorithms, facilitated flexibility in scenario generation and modified existing Ocean Model engineering tools to facilitate test and debug. Researched new algorithms for real-time ocean modeling scheduling, parallel computing and new database architectures for high fidelity environmental modeling.		
Congressional Adds Subtotals	2.390	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.