Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*							
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	45.307	45.930	71.222	-	71.222	73.076	66.379	53.218	51.205	Continuing	Continuing
0166: *SPS Improvement Program*	5.230	4.739	3.871	-	3.871	3.480	3.585	-	-	0.000	20.905
2178: *QRCC*	26.925	36.594	64.360	-	64.360	67.514	60.681	51.265	49.236	Continuing	Continuing
3172: *Joint Non-Lethal Weapons*	4.089	4.597	1.334	-	1.334	0.900	0.898	0.713	0.704	Continuing	Continuing
3306: *Integrated Swimmer Defense (ISD)*	-	-	1.657	-	1.657	1.182	1.215	1.240	1.265	Continuing	Continuing
9999: *Congressional Adds*	9.063	-	-	-	-	-	-	-	-	0.000	9.063

A. Mission Description and Budget Item Justification

This program element consolidates currently ongoing and planned programmatic efforts related to Detect & Control aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture performs marginally against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets. These SSD projects address and coordinate the detect and control functions necessary to meet the rigorous SSD requirements within a development structure dedicated to systems engineering.

DETECTION: Improvements in coordinated sensor performance to increase the probability of detecting low altitude, low observable targets are to be achieved through the synergism gained from the integration of dissimilar sensor sources. Multi-sensor integration is being addressed through the efforts of Quick Reaction Combat Capability (QRCC) (2178), while sensor improvements are addressed through the SPS Improvements (0166). These provide improvements to both active and passive detection.

CONTROL: Multi-sensor integration, parallel processing and the coordination of hardkill/softkill capabilities in an automated, doctrine-based response to the ASCM threats are the cornerstones of Ship Self Defense System (SSDS) being developed through QRCC (2178) efforts. In addition, that project provides for the central system engineering management of SSD developments, including efforts required to integrate SSDS with the Advanced Combat Direction System (ACDS) functionality for those ships having a CDS with the Open Architecture Computing Environment and with advanced sensor, weapon and C4I upgrades.

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric surface threats.

Integrated Swimmer Defense (ISD) scope is to provide the Navy Expeditionary security forces with capabilities of a portable marine integrated swimmer defense system (ISDS) to engage combat swimmers/divers or unknown individuals underwater once they have been detected.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*

Non-Lethal Weapons provides a long range laser warning and dazzle systems for use in the maritime environment. Optical warning and distraction has been identified by the services as a possible technology solution to mitigate and/or address several known joint non-lethal capability gaps.

FY10 Congressional Adds: 9C23A - Expeditionary Swimmer Defense, 9C22A - Autonomous Unmanned Surface Vessel, and 9D90A - Persistent Surveillance Wave Power-Buoy System.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	44.374	45.930	41.409	-	41.409
Current President's Budget	45.307	45.930	71.222	-	71.222
Total Adjustments	0.933	-	29.813	-	29.813
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	2.516	-			
• SBIR/STTR Transfer	-1.221	-			
• Program Adjustments	-	-	31.640	-	31.640
• Section 219 Reprogramming	-0.361	-	-	-	-
• Rate/Misc Adjustments	-	-	-1.827	-	-1.827
• Congressional General Reductions Adjustments	-0.001	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Project: 9999: *Congressional Adds*		
Congressional Add: *Autonomous Unmanned Surface Vessel (AUSV)(xfer fro*	2.689	-
Congressional Add: *Expeditionary Swimmer Defense System*	3.187	-
Congressional Add: *Persistent Surveillance Wave Power-Buoy System*	3.187	-
Congressional Add Subtotals for Project: 9999	9.063	-
Congressional Add Totals for all Projects	9.063	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*

Change Summary Explanation

The increase in funding in FY12 through FY16 is for the development of new capabilities for the CVN-78 class ships to integrate new Combat System components with SSDS MK2, designated as SSDS MK2 MOD 6C ACB12/TI12. These Combat System components include a Dual Band Radar (DBR), SEWIP Block 2 ES, ESSM with JUWL uplink, MH-60R, and common product line software components for system track management and vehicle control. In CVN 78, DBR replaces all air search/air traffic control radars and missile file control illuminators. Full integration with the SSDS MK2 combat management system is critical to support mission requirements for situational awareness, combat direction, self defense, air control, and air traffic control. The integration effort requires comprehensive Combat System integration testing and land-based developmental testing with DBR and other Combat System elements. The initial land-based integration testing will begin in FY12 and will progress to developmental testing in FY14, based on the SSDS MK2 software build schedule. Operator and maintenance training course development for SSDS MK2 MOD 6C Advance Capability Build (ACB)12/Technical Insertion (TI)12 will also be initiated in FY12. Selected new capabilities that are being developed for CVN 78 ACB12 will also be implemented in CVN 68 class ships based on their specific combat system components.

Added FY 10 funds to address MH-60R and SEWIP Block 2 capability integration into SSDS MK 2 SCB 12 baseline

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 0166: *SPS Improvement Program*	

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
0166: *SPS Improvement Program*	5.230	4.739	3.871	-	3.871	3.480	3.585	-	-	0.000	20.905
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric surface threats. Capabilities include: Surface Surveillance System, MK 49 stabilized gun mounts and Non-Lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, and radar into a common tactical surveillance system. Stabilized guns: provide integrated lethal engagement capability against asymmetric threats. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in blocks through evolutionary acquisition. The block approach facilitates the early delivery of enhanced situational awareness capability. Future blocks will introduce lethal and non-lethal effectors with total detect to engage capability integration. The SPS 'End State System' will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric surface threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives. Due to the requirement for 360 degree coverage for situational awareness and engagement, design variants are required to ensure coverage requirements are met for larger (CVN, LHA, LHD) as well as smaller (DDG, CG, LSD, LPD) platforms.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: SPS Improvement Program	5.230	4.739	3.871
Articles:	0	0	0
FY 2010 Accomplishments: Shipboard Protection System - System design for other ship classes, integration with MK38 Mod 2 system.			
FY 2011 Plans: Shipboard Protection System - System design for other ship classes, integration with MK38 Mod 2 system.			
FY 2012 Plans: Shipboard Protection System - System design for other ship classes; developmental test events for previously designed systems.			
Accomplishments/Planned Programs Subtotals	5.230	4.739	3.871

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 0166: *SPS Improvement Program*

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/8128: *SPS Program*	19.198	32.472	31.291	0.000	31.291	36.320	35.417	52.209	53.091	0.000	259.998

D. Acquisition Strategy

Revised acquisition strategy is to provide capability to the fleet in blocks. (Block 1 - Enhanced Situational Awareness and Block 3 - Total System Integration including Lethal and Non-Lethal Engagement). All work is being led and performed by the Warfare Centers.

E. Performance Metrics

Successfully achieved Milestone C. Successfully conduct SPS Block 3 Release 2 Critical Design Review (CDR).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 0166: *SPS Improvement Program*

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/Software Development (Crane)	WR	NSWC Crane:Crane IN	2.377	1.000	Nov 2010	1.000	Nov 2011	-		1.000	0.000	4.377	
Hardware/Software Development (Dahlgren)	WR	NSWC Dahlgren:Dahlgren VA	4.443	1.000	Nov 2010	1.000	Nov 2011	-		1.000	0.000	6.443	
Hardware/Software Development (NG)	Various	NORTHROP GRUMMAN:Not Specified	0.236	-		-		-		-	0.000	0.236	
Hardware/Software Development (NAVAIR)	WR	NAVAIR/KDH:Pax River MD	0.200	-		-		-		-	0.000	0.200	
		Subtotal	7.256	2.000		2.000		-		2.000	0.000	11.256	

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
Engineering Services (CRANE)	WR	NSWC CRANE:Crane IN	1.807	0.519	Nov 2010	0.400	Nov 2011	-		0.400	0.000	2.726	
Engineering Services (DAHLGREN)	WR	NSWC DAHLGREN:Dahlgren VA	1.401	0.720	Nov 2010	0.411	Nov 2011	-		0.411	0.000	2.532	
Engineering Services (IWS)	C/FPIF	IWS PERISCOPE DETECT:Not Specified	4.193	-		-		-		-	0.000	4.193	
ILS FUNCTIONS	WR	NSWC DAHLGREN:Dahlgren VA	1.680	1.000	Nov 2010	0.500	Nov 2011	-		0.500	0.000	3.180	
		Subtotal	9.081	2.239		1.311		-		1.311	0.000	12.631	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 0166: *SPS Improvement Program*

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
T&E FUNCTIONS (COTF)	WR	COMOPTEVFOR:Norfolk VA	0.618	-		-		-		-	0.000	0.618	
T&E FUNCTIONS (Dahlgren)	WR	NSWC DAHLGREN:Dahlgren VA	1.248	0.250	Nov 2010	0.250	Nov 2011	-		0.250	0.000	1.748	
T&E FUNCTIONS (Crane)	WR	NSWC CRANE:Crane IN	0.664	0.250	Nov 2010	0.250	Nov 2011	-		0.250	0.000	1.164	
		Subtotal	2.530	0.500		0.500		-		0.500	0.000	3.530	

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
MANAGEMENT SUPPORT	Various	VARIOUS:VARIOUS	0.299	-		-		-		-	0.000	0.299	
TRAVEL	Various	Not Specified:Not Specified	0.168	-		0.060	Nov 2011	-		0.060	0.000	0.228	
DAWDF	Various	Not Specified:Not Specified	0.008	-		-		-		-	0.000	0.008	
		Subtotal	0.475	-		0.060		-		0.060	0.000	0.535	

	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	19.342	4.739		3.871		-		3.871	0.000	27.952	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 0166: *SPS Improvement Program*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 0166: *SPS Improvement Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0166				
Acquisition Milestones: IOC	4	2014	4	2014
Acquisition Milestones: FRP	4	2014	4	2014
Program Phases: L PLATFROM DEV	1	2010	4	2010
Program Phases: CG PLATFORM DEV	1	2012	4	2012
Program Phases: CVN PLATFORM DEV	1	2011	4	2011
Program Phases: LHD/LHA PLATFORM DEV	2	2013	1	2014
Test and Evaluation: Development Test: DT-C1 (DDG)	2	2011	3	2011
Test and Evaluation: Development Test: DT-C2 (L-class)	3	2012	4	2012
Test and Evaluation: Development Test: DT-C3 (CVN)	1	2016	2	2016
Test and Evaluation: Operational Test: OT (DDG)	2	2014	3	2014
Test and Evaluation: Operational Test: OT (L-class)	3	2015	4	2015
Test and Evaluation: Operational Test: OT (CVN)	3	2016	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 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 2178: *QRCC*	

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
2178: *QRCC*	26.925	36.594	64.360	-	64.360	67.514	60.681	51.265	49.236	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Quick Reaction Combat Capability (QRCC) project implements an evolutionary acquisition of improved ship self defense capabilities against Anti-Ship Cruise Missiles (ASCMs) for selected ships. The Ship Self Defense System (SSDS) is the integrating element of QRCC. The design integrates several existing stand-alone Anti-Air Warfare (AAW) systems that do not individually provide the complete detection, control, and engagement capabilities needed against low flying, high speed ASCMs with low radar cross sections. The SSDS integration concept fulfills the need for an automated detection, quick reaction and multi-target engagement capability emphasizing performance in the littoral environment. SSDS replaces manual control of several self-defense systems with a single integrated capability under the computer-aided control of ship operators. System design emphasizes use of non-developmental items, commercial standards, commercial processors, computer program reuse and open system architecture. SSDS is a physically distributed, open system architecture computer network consisting of commercially available or previously developed hardware. It includes the Navy's standard displays (AN/UYQ-70 and Common Display System) and command table for human-system interface, commercially based local area network access units and interface units, and commercially available fiber optic cabling.

SSDS MK1 integrates the SPS-49A(V)1 radar, SPS-67(V)1 radar, AN/SLQ-32A/B electronic warfare system, Combat Identification Friend or Foe-Self Defense (CIFF-SD), Rolling Airframe Missile (RAM) and Phalanx Close-In Weapon System and is installed on LSD41/49 class ships. SSDS MK1 successfully completed Operational Evaluation in June 1997. SSDS received Milestone III Approval for Full Rate Production (Mar 98) and authority to integrate with ACDS and Cooperative Engagement Capability (CEC) on CVN, LPD-17, LHD and LHA ship classes.

SSDS MK2 facilitates the incremental evolution and implementation of follow-on modifications. Development of SSDS MK2 leveraged critical experiments and re-use of technology and software from SSDS MK1. SSDS MK2 integrates other ship self defense elements, such as AN/SPQ-9B radar, NATO Sea-sparrow system, CEC and Tactical Data Links for joint interoperability. SSDS MK2 provides enhanced capabilities for Self Defense against air, and surface threats using both ownship and remote data to address AAW Capstone requirements. SSDS MK2 becomes the integrated, coherent real time Command and Control System for Aircraft Carriers and Amphibious ships. It will increase operational capabilities; improve combat readiness and Strike Group/Expeditionary Strike Group Interoperability; and promote standardization. It introduces new shipboard tactical displays and support equipment via Tech Insertion and warfighting capability improvements via Advanced Capability Builds (ACB). The Advanced Capability Builds integrate advanced systems such as Evolved Sea-Sparrow Missile, RAM Block 2 missile, SLQ-32 SEWIP Block 2 and MH-60R Helicopter to implement the warfighting capability improvements.

In order to meet the Navy's warfighting capabilities and modernization concepts described in SEA POWER 21, Navy Open Architecture (NOA) is being introduced in conjunction with SSDS P3I COTS Tech Refresh. This is the first step in unifying a set of war fighting functions into a single architecture shared among many ship classes. This principle of commonality is a major mechanism for cost control and avoidances in the Navy's future war fighting systems. Starting in 2008, SSDS MK 2 was rehosted existing tactical computer program applications to the Open Architecture Computing Environment (OACE) specifications/ equipment suite concurrent with P3I Commercial off the Shelf (COTS) Tech Insertion (TI) cycles, prior to migration and integration with other OA applications for implementation on future

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 2178: *QRCC*

new construction ships or during future ship modernization. Tech Insertion cycles and equipment tech refresh are driven by COTS obsolescence. In FY09, system development was initiated for SSDS MK1 Technology Refresh for the LSD 41/49 class ships. The effort will transition these ships to an SSDS MK Open Architecture Computing Environment and SSDS MK 2 single source library. New system designation is SSDS MK2 Mod 5C. The system development effort encompasses tech insertion of new OA computing and display equipment (Common Processor System (CPS) and Common Display System (CDS)), modifications and additions to the SSDS MK 2 software for an upgraded interface with the Phalanx CIWS Block 1B Baseline 2 and BFTT, and other unique LSD SSDS interfaces and functionality. The first LSD SSDS MK 2 Mod 5C is programmed for FY12 installation after land-based Combat System Integration and Certification Testing with IOC in FY13. In FY10, SSDS MK 2 system development commenced for the first phase of migration to the Navy OA objective functional architecture designated as SSDS MK 2 ACB-12/ TI-12. ACB-12/TI-12 encompasses: implementation of common product line software components for System Track Management and Vehicle Control; integration of the product line System Track Management components and associated data model with other SSDS software components and Combat System interfaces (e.g. CEC, Dual Band Radar, ESSM and JUWL up-link, RAM Block 2 and CV-TSC); integration of new interfaces with SEWIP Block 2 ES, MH-60R and GCCS-M via CANES; integration of Common Processors System and Common Display System; and expansion of SSDS MK 2 LAN to OA Combat System LAN. ACB-12/TI-12 is planned for IOC in CVN 68 class ship in FY14 and in the CVN 78 in FY16. In FY11, advanced planning and analysis will be undertaken to support the initiation of the system development effort for SSDS MK 2 ACB-16/TI-16 in FY12. ACB-16 warfighting improvement candidates include SEWIP Block 3 EA, IFF Mode S, ESSM and RAM upgrades, advanced vehicle control capabilities for MH-60R and unmanned vehicles, ASW improvements and GCCS-M Data Exchange via CANES. TI-16 will include COTS Hardware and Software Tech Insertion candidates for computing, display, network switching, interfaces and information assurance devices to support system and equipment modernization driven by COTS obsolescence. IOC for ACB-16/TI-16 is planned for FY17.

The initial Development Test and Evaluation (DT&E) and Follow On Operational Test and Evaluation (FOT&E) for SSDS MK 2 was conducted with the CVN 76 SSDS MK 2 Mod 1 configuration in FY05. In FY07, the SSDS MK 2 FOT&E requirements were linked with the Air Warfare Ship Self Defense Enterprise T&E initiative to combine At-Sea Combat System element DT&E and OT&E requirements to synergize the resources required for testing in the SSDS MK 2 ships and the Self Defense Test Ship. The LPD-17 class SSDS MK 2 Mod 2 FOT&E was conducted in FY07/FY08 as part of the Enterprise T&E initiative. Live fire, Combat System end-to-end testing was conducted against Anti Ship Cruise Missile targets in the Self Defense Test Ship in FY07/08/09 in the CVN/LHD/LPD configurations. FOT&E of ESSM integration with SSDS MK 2 was initiated in the CVN class in FY08 and will extend through FY10. FOT&E for the CVN class SSDS MK 2 Mod 1B P3I OACE COTS Tech Insertion was conducted in FY09. Future FOT&E includes the LHA 6 SSDS MK 2 Mod 4B configuration with the RAM Block 2 missile, the LSD SSDS MK 2 Mod 5C configuration with the Phalanx CIWS 1B Baseline 2 system, and CVN 78 SSDS MK 2 Mod 6C configuration with the Dual Band Radar, SEWIP Block 2 ES, ESSM with JUWL up-link, and RAM Block 2.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: SSDS MK2 Development Test & Evaluation	12.370	13.161	17.341
Articles:	0	0	0
FY 2010 Accomplishments: Prepare and conduct comprehensive Combat System tests for Combat System/SSDS MK 2 hardware/software upgrades for the CVN, LPD 17 and LHD ship classes. This includes Land Based testing at Wallops Island and At-Sea testing in the lead ships for specific ship class Combat System configuration, and testing in the Self Defense Test Ship. The testing encompasses test preparation, integration, engineering and development tests, data collection and analysis, and resolution and verification of			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 2178: *QRCC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
deficiency corrections. The SSDS MK 2 T&E supports Combat System certification, the SSDS TEMP and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP. FY10 Land Based testing includes testing for the Linux Operating System upgrade for the CVN 68 class SSDS MK 2 Mod 1B P3I OACE COTS Tech Insertion configuration. At-Sea testing includes: Enterprise test events in the LHD 8 SSDS MK 2 Mod 3A configuration with NSSMS Surface Engagements; CVN 70 SSDS MK 2 Mod 1A configuration with ESSM Engagements; CVN 76 SSDS MK 2 Mod 1B configuration with Strike Group Interoperability Tests; and Self Defense Test Ship CVN SSDS MK 2 Mod 1A configuration with ESSM/RAM Engagements. ***FY 2011 Plans:*** Prepare and conduct comprehensive Combat System test for Combat System and SSDS MK 2 hardware/software upgrades for the CVN, LPD 17, LHD, LHA 6 and LSD ship classes. This includes Land Based testing at Wallops Island and At-Sea testing in the lead ships for specific ship class Combat System configuration and testing in the Self Defense Test Ship. The testing encompasses test preparation, integration, engineering and development tests, data collection and analysis, and resolution and verification of deficiency corrections. The SSDS MK 2 T&E support Combat System certification, the SSDS TEMP and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP. FY11 Land-Based testing includes: Initial system integration and engineering test for RAM Block 2 integration in the CVN 71/LPD 24/LHA 6 SSDS MK 2 Mod 1B/2B/4B configurations with the Linux OACE, and initial system integration and engineering tests for the LSD SSDS Mk 2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/CDS equipment. ***FY 2012 Plans:*** Prepare and conduct comprehensive Combat System test for Combat System and SSDS MK 2 hardware/software upgrades for the CVN, LPD 17, LHD, LHA 6, LSD and CVN 78 ship classes. This includes Land Based testing at Wallops Island and At-Sea testing in the lead ships for specific ship class Combat System configuration and testing in the Self Defense Test Ship. The testing encompasses test preparation, integration, engineering and development tests, data collection and analysis, and resolution and verification of deficiency corrections. The SSDS MK 2 T&E support Combat System certification, the SSDS TEMP and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP. FY12 Land Based testing includes: Development Testing for the LHA 6 SSDS MK 2 Mod 4B configuration with RAM Block 2, ESSM and Linux Operating System; and initial CVN 78 SSDS MK 2 Mod 6C testing with the Dual Band Radar, CEC, TPX-42, STM, CPS/CDS and Combat System LAN. At-Sea testing is focused on the LHA 6 SSDS MK 2 Mod 4B DT/OT testing in the Self Defense Test Ship with RAM Block 2, ESSM and the Linux OACE.			
Title: SSDS MK2 Product Development-Advanced Capability Builds (ACB)/Technology Insertion	14.555	23.433	47.019

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 2178: *QRCC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Articles:	0	0	0

FY 2010 Accomplishments:

Perform SSDS MK 2 System Development including integration of government furnished hardware and software to provide Warfighting Capability Improvements via Advanced Capability Builds (ACB), and Open Architecture Computing Environment (OACE) improvements and COTS obsolescence refresh via Technology Insertion Refresh. Product development encompasses studies and analysis, modeling and simulation, system requirements engineering, critical experiments, hardware and software design, software code development, advanced production units, hardware/software integration, factory system integration testing, factory qualification testing, and system pre and post certification support during Combat System Integration Testing, Combat System Certification testing, and Development Test and Evaluation (land-based and at-sea).

For CVN/Amphib SSDS MK 2 Mod 1B/2B/4B OACE (S/W build 8.06), complete the Factory System Integration Test and initiate the Factory Qualification test for the SSDS MK 2 integration with the RAM Block 2 missile and the OACE upgrade to Linux operating systems.

For LSD SSDS MK 2 Mod 5C Tech Insertion, complete the hardware and software CDRs. SSDS MK 2 Mod 5C includes integration with Phalanx CIWS Block 1B Baseline 2, RAM Block 2, BFTT and CPS/CDS.

For CVN 78 SSDS MK 2 Mod 6C ACB-12/TI-12, complete the Software Specification Review (SSR) for the initial phase of software development that includes the integration of the product line System Track Manager, Dual Band Radar, CEC, and TPX-42 Air Traffic Control System.

FY 2011 Plans:

Perform SSDS MK 2 System Development including integration of government furnished hardware and software to provide Warfighting Capability Improvements via Advanced Capability Builds (ACB), and Open Architecture Computing Environment (OACE) improvements and COTS obsolescence refresh via Technology Insertional Refresh. Product development encompasses studies and analysis, modeling and simulation, system requirement engineering, critical experiments, hardware and software design, software code development, advanced production units, hardware/software integration, factory system integration testing, factory qualification testing, and system pre and post certification support during Combat System Integration Testing, Combat System Certification testing, and Development Test and Evaluation (land-based and at-sea).

For LSD SSDS MK 2 Mod 5C Tech Insertion, complete software code development, advanced production units, hardware/ software integration and Factory System Integration Test.

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
For CVN 78 SSDS MK 2 Mod 6C ACB-12/TI-12, complete hardware PDR and CDR, complete software CDR for phase 1 of software developments, complete SSR for phase 2 of software development for ESSM with JUWL up-link, SEWIP Block 2 ES and MH-60R, extend system and software requirements to implement ACB12/TI-12 in the CVN 68 class (SSDS MK 2 Mod 1C). Initiate planning/analysis for ACB-16/TI-16 candidates for Warfighting Capability Improvements and Technology Insertion Refresh. ***FY 2012 Plans:*** Perform SSDS MK 2 System Development including integration of government furnished hardware and software to provide Warfighting Capability Improvements via Advanced Capability Builds (ACB), and Open Architecture Computing Environment (OACE) improvements and COTS obsolescence refresh via Technology Insertional Refresh. Product development encompasses studies and analysis, modeling and simulation, system requirement engineering, critical experiments, hardware and software design, software code development, advanced production units, hardware/software integration, factory system integration testing, factory qualification testing, and system pre and post certification support during Combat System Integration Testing, Combat System Certification testing, and Development Test and Evaluation, land-based and at-sea. For LSD SSDS MK 2 Mod 5C Tech Insertion, complete Factory Qualification Testing and provide pre and post certification support during Combat System certification testing. For CVN 78 SSDS MK 2 Mod 6C, complete software CDR for second phase of software development for ESSM with JUWL up-link, SEWIP Block 2 ES and MH-60R, complete initial Factory System Integration for product line system track manager for SSDS MK 2 Mod 6C/1C. Initiate development of operator and maintenance training courses for SSDS MK 2 Mod 6C/1C ACB-12/TI-12.			
Accomplishments/Planned Programs Subtotals	26.925	36.594	64.360

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/5239: *SSDS*	33.974	54.290	60.700	0.000	60.700	57.963	52.567	53.091	54.154	0.000	838.269
• RDTEN/0603382N: *Advanced Combat System Technology*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
• RDTEN/0603658N: *Cooperative Engagement*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 2178: *QRCC*

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
• RDTEN/0604307N: *Surface Combatant Cmbt Sys Eng*											
• RDTEN/0603582N: *Combat System Integration*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D. Acquisition Strategy

The first SSDS MK 2 system procurements took place under a Cost Plus Award Fee contract in FY99 for the CVN 76, LPD 17, LPD 18 and CVN 69. Follow-on equipment procurements for additional ships of the CVN, LPD and LHD classes were awarded on FFP contracts. For those ships that will be receive P3I OACE COTS tech Refresh hardware suites, the initial system Tech Refresh Development occurred under a CPAF type contract, with ship COTS conversion equipment/kits procured on FFP contracts.

A new system engineering design/agent and Life Cycle Maintenance CPFF contract was awarded in FY05 and a follow-on cost type contract (with incentives) contract was awarded on 30 Sept 2008, to support SSDS MK 2 system/software maintenance and system upgrades through FY12 including the P3I COTS Tech Insertion cycles.

E. Performance Metrics

Requirement Documents
- Ship Self Defense System (SSDS) Operational Requirement Document (ORD) approved April 1995 and validated in 1997.
- SSDS MK2 KPPs were promulgated in OPNAV N76 letter SER N766/1S649367 of 18 Dec 01.
* Subject: Ship Self Defense System (SSDS) Requirement Clarification of Key Performance Parameters (KPP) and Measures of Suitability.
* Included the Interoperability KPP for CVN/LPD/LHD
- SSDS MK2 KPPs were clarified in OPNAV N86 letter SER N86F/7U178266 of 13 Nov 07.
* Subject: Ship Self Defense System (SSDS) Requirement Clarification of Key Performance Parameters (KPPs) and Measures of Suitability and Effectiveness
* Included Force Protection and Survivability KPPs

Background
- SSDS MK1 OPEVAL was successfully completed June 1997 with a Milestone III approval in March 1998
- SSDS MK2 MOD 1 FOT&E was conducted on CVN 76 in 2005. All KPP thresholds were met. However, the system was assessed as not suitable and not effective by COMOPTEVFOR based on the identification of SSDS MK2 and Combat Systems deficiencies (24major, 37 minor deficiencies).

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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- SSDS MK 2 Mod 2 FOT&E was conducted in LPD 17-19 in 2007/2008. All KPPs thresholds were met and the system was assessed OPERATIONALLY EFFECTIVE and OPERATIONALLY SUITABLE by COMOPTEVFOR in the 12 Feb 2010 report. 10 major and minor deficiencies were identified against SSDS MK 2. (Also, major and minor Warfare effects deficiencies were identified against other LPD 17 class Combat System elements.)

Status
CVN SSDS MK 2 Mod 1
- 12 of 24 major deficiencies and 21 of 37 minor deficiencies have been verified as corrected by COMOPTEVFOR during FOTE test events. The status of the remaining 12 major deficiencies are as follows:
1 is ready for OPTEVFOR verification during FY10 FOT&E test events
5 involve training and will be addressed with a pending Navy Training System Plan (NTSP) update and training course improvements
4 have been identified as future efforts
2 are radar design limitations that cannot be resolved.
LPD SSDS MK 2 Mod 2
- The SSDS MK 2 Mod 2 deficiencies are being analyzed for potential deficiency corrections.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 2178: *QRCC*

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
Sys Eng/Safety (Dahlgren)	WR	NSWC DD:Dalhgren, VA	46.068	1.727	Oct 2010	4.073	Oct 2011	-		4.073	Continuing	Continuing	Continuing
Systems Engineering (JHU)	SS/FP	JHU/APL:Laurel, MD	43.676	2.954	Oct 2010	6.666	Oct 2011	-		6.666	Continuing	Continuing	Continuing
Sys Eng/Training Dev (PHD)	WR	NSWC PHD:Pt Hueneme, CA	19.616	0.300	Oct 2010	2.407	Oct 2011	-		2.407	Continuing	Continuing	Continuing
Sys Eng/ILS (CDSA)	WR	CDSA DN:Dam Neck, VA	13.600	1.625	Oct 2010	2.407	Oct 2011	-		2.407	Continuing	Continuing	Continuing
Systems Engineering (IH)	WR	NSWC IH:Indian Head, MD	3.056	-		-		-		-	Continuing	Continuing	Continuing
Systems Eng/Dev/Integrate (5100)	SS/CPAF	General Dynamics:Fairfax, VA	2.000	-		-		-		-	0.000	2.000	
Display Development Kits	SS/FP	Lockheed Martin:St Paul, MN	3.958	-		-		-		-	Continuing	Continuing	Continuing
Systems Eng/Dev/Integrate (5110)	SS/CPAF	RSC (5110):San Diego, CA	34.185	15.915	Oct 2010	30.351	Oct 2011	-		30.351	Continuing	Continuing	Continuing
Systems Eng/Dev/Integrate (5132)	SS/CPAF	RSC (5132):San Diego, CA	20.576	-		-		-		-	Continuing	Continuing	Continuing
Award Fees (5132)	SS/CPAF	RSC (5132):San Diego, CA	3.603	-		-		-		-	Continuing	Continuing	Continuing
Systems Eng/Dev/Integrate (5108)	SS/CPAF	RSC (5108):San Diego, CA	98.646	-		-		-		-	Continuing	Continuing	Continuing
Systems Eng/Dev/Integrate (5466)	SS/CPAF	RSC (5466):San Diego, CA	20.353	-		-		-		-	Continuing	Continuing	Continuing
Systems Eng/Dev/Integrate (5104)	SS/CPFF	RSC (5104):San Diego, CA	23.685	-		-		-		-	Continuing	Continuing	Continuing
Award Fees (5108)	SS/CPAF	RSC (5108):San Diego, CA	11.208	-		-		-		-	Continuing	Continuing	Continuing
Award Fees (5466)	SS/CPAF	RSC (5466):San Diego, CA	2.163	-		-		-		-	Continuing	Continuing	Continuing
RisK Reduction/EMD	Various	Various:Various	76.366	-		-		-		-	Continuing	Continuing	Continuing
Misc.	Various	Various:Various	4.513	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering (NWAS)	WR		0.444	0.200	Oct 2010	0.200	Oct 2011	-		0.200	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 2178: *QRCC*	

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
		NWAS Corona:Corona, CA											
		Subtotal	427.716	22.721		46.104		-		46.104			

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
QA/RMA	WR	NWAS Corona:Corona, CA	9.954	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	9.954	-		-		-		-			

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
Development Test & Evaluation (PHD)	WR	NSWC PHD:Port Hueneme, CA	69.289	5.005	Oct 2010	6.517	Oct 2011	-		6.517	Continuing	Continuing	Continuing
Development Test & Evaluation (DD)	WR	NSWC DD:Dahlgren, VA	5.558	0.202	Oct 2010	0.205	Oct 2011	-		0.205	Continuing	Continuing	Continuing
Development Test & Evaluation (SCSC-WI)	WR	SCSC-WI:Wallops Is, VA	36.467	3.305	Oct 2010	5.944	Oct 2011	-		5.944	Continuing	Continuing	Continuing
Development Test & Evaluation (JHU)	SS/FP	JHU/APL:Laurel, MD	13.620	1.502	Oct 2010	1.100	Oct 2011	-		1.100	Continuing	Continuing	Continuing
Development Test & Evaluation (Corona)	WR	NSWC Corona:Corona, CA	3.148	0.650	Oct 2010	1.070	Oct 2011	-		1.070	Continuing	Continuing	Continuing
Development Test & Evaluation (COTF)	WR	OPTEVFOR:Norfolk, VA	2.845	0.405	Oct 2010	0.412	Oct 2011	-		0.412	Continuing	Continuing	Continuing
Development Test & Evaluation (5110)	SS/CPFF	RSC(5110):San Diego, CA	9.652	1.102	Oct 2010	1.000	Oct 2011	-		1.000	Continuing	Continuing	Continuing
	SS/CPFF	RSC(5466):Tucson, AZ	2.180	-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 2178: *QRCC*

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
Development Test & Evaluation (5466)													
Development Test & Evaluation (CDSA)	WR	CDSA DN:Dam Neck, VA	1.259	0.202	Oct 2010	0.205	Oct 2011	-		0.205	Continuing	Continuing	Continuing
Miscellaneous	Various	Various:Not Specified	5.546	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	149.564	12.373		16.453		-		16.453			

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/CPAF	Not Specified:Not Specified	18.356	1.500	Oct 2010	1.803	Oct 2011	-		1.803	Continuing	Continuing	Continuing
		Subtotal	18.356	1.500		1.803		-		1.803			

Remarks

Program Management Support accounts for three SEAPORT contracts, Alion (01D7013), NGIT (01D7026), and SAIC (04D4119), each funded less than 1.0M respectively, and therefore, account for the aggregate total specified for each fiscal year. These contracts provide services in the areas of financial management, configuration management, testing evaluation, and engineering support.

	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	605.590	36.594		64.360		-		64.360			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 2178: *QRCC*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 2178: *QRCC*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2178				
SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST	1	2010	3	2011
SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-SSR	1	2010	1	2010
SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-HW PDR	2	2010	2	2010
SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-SW PDR	3	2010	3	2010
SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-SW CDR	4	2010	4	2010
SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-HW CDR	4	2010	4	2010
SSDS MK 2 MOD 5C (LSD) - FACTORY SYS INTEGRATION TEST (FSIT)	4	2011	4	2011
SSDS MK 2 MOD 5C (LSD) - FACTORY QUALIFICATION TEST (FQT)	1	2012	1	2012
SSDS MK 2 MOD 5C (LSD) - PRE&POST CERT SUPPORT	2	2012	4	2013
SSDS MK 2 MOD 5C (LSD) - T&E - SIT/ENG TEST/WSI2T AT WALLOPS	3	2011	1	2012
SSDS MK 2 MOD 5C (LSD) - T&E - LSD 45 DT/CSSQT	3	2013	4	2013
SSDS MK 2 MOD 5C (LSD) - T&E - LSD 46 DT/OT/CSSQT	1	2014	2	2014
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST	1	2010	4	2013
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SRR	1	2010	1	2010
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SFR 1	3	2010	3	2010
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SRR 0	4	2010	4	2010
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-HW PDR	1	2011	1	2011

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 2178: *QRCC*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SSR 1	1	2011	1	2011
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-HW CDR	2	2011	2	2011
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SW PDR 1	3	2011	3	2011
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SFR 2	3	2011	3	2011
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SSR 2	4	2011	4	2011
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SW CDR 1	1	2012	1	2012
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY SYS INTEGRATION TEST (FSIT 0)	2	2012	3	2012
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST - SW PDR 2	3	2012	3	2012
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/ TEST-SW CDR 2	4	2012	4	2012
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY SYS INTEGRATION TEST (FSIT 1)	1	2013	2	2013
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY SYS INTEGRATION TEST (FSIT 2)	4	2013	1	2014
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY QUALIFICATION TEST (FQT)	2	2014	3	2014
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - PRE & POST CERT SUPPORT	3	2014	4	2016
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - T&E -SIT/ENG TEST AT WALLOPS	3	2012	2	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
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - T&E-DT/ENG TEST/WSI2T #1 AT WALLOPS	3	2014	1	2015
SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - T&E-DT/ENG TEST/WSI2T #2 AT WALLOPS	2	2015	1	2016
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16/TI16 -PLANNING /ANALYSIS	1	2011	4	2011
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/ TEST	1	2012	3	2015
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/ TEST-SRR	2	2012	2	2012
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/ TEST-SDR/SFR	4	2012	4	2012
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/ TEST-SSR	3	2013	3	2013
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/ TEST-PDR	3	2013	3	2013
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/ TEST-CDR	3	2014	3	2014
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - FACTORY SYS INTEGRATION TEST (FSIT)	4	2015	4	2015
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - FACTORY QUALIFICATION TEST (FQT)	1	2016	1	2016
SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - PRE&POST CERT SUPPORT	2	2016	4	2016
SSDS MK 2 MOD 3A (LHD 8) T&E-DT/OT-III E PH2 CSSQT	1	2010	2	2010
SSDS MK 2 P3I OACE MOD 1B (CVN 76) T&E-DT/OT-IIIG COMTUEX	4	2010	1	2011
SSDS MK 2 P3I OACE MOD 1B 8.06 (CVN 75/71) T&E-SIT/ENG TEST/WSI2T AT WI	4	2010	4	2011
SSDS MK 2 P3I OACE MOD 2B 8.06 (LPD 24) T&E-SIT/ENG TEST/WSI2T AT WI	2	2011	4	2011

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**
SSDS MK 2 P3I OACE MOD 4B 8.06 (LHA 6) T&E-SIT /ENT TEST/WSI2T AT WI	4	2011	3	2013
SSDS MK 2 P3I OACE MOD 4B 8.06 (LHA 6) T&E-DT/OT-III I PH 2 CSSQT	3	2013	2	2014
SDTS -SSDS MK 2 MOD 2 T&E -DT/OT IIID	1	2010	2	2010
SDTS-SSDS MK 2 MOD 1A T&E-DT/OT ET 03	4	2010	1	2011
SDTS-SSDS MK 2 MOD 4B T&D-DT/OT ET 05	1	2012	4	2012
SDTS-SSDS MK 2 MOD 6C T&E-DT/OT	1	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 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3172: *Joint Non-Lethal Weapons*	

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
3172: *Joint Non-Lethal Weapons*	4.089	4.597	1.334	-	1.334	0.900	0.898	0.713	0.704	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Funding for Integrated Swimmer Defense (ISD) moved to project 3306 starting in FY12.

A. Mission Description and Budget Item Justification

The scope of this project is to provide the fleet Expeditionary (specifically the Maritime Expeditionary Security Force) units with the capability of a portable maritime system to engage contacts of interest once they have been detected. Long Range Ocular Interruption (LROI) consists of efforts to develop and demonstrate a long range laser warning and dazzle system for use in maritime environment. The device is designed to issue clear and unambiguous optically dazzling warnings at long ranges (in excess of 1000m) to personnel, vehicles, vessels, (and potentially aircraft) approaching Navy, Coast Guard, or Army ships, ground assets, and critical maritime infrastructure.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Non-Lethal Weapons Development	1.282	1.066	0.409
Articles:	0	0	0
FY 2010 Accomplishments: Supports incorporation of evaluation feedback into the supporting DODAF architecture of the ISD CPD. Supports preparation for the ISD Milestone C decision. These funds also initiate the transition development work from several Future Naval Capabilities (FNC) projects geared toward increment II of ISD.			
FY 2011 Plans: Support completion of Increment I CPD, Increment I MS C and FRP development.			
FY 2012 Plans: Supports system design/refinement for the Long Range Ocular Interrupter (LROI).			
Title: Non-Lethal Weapons Testing	2.807	3.531	0.925
Articles:	0	0	0
FY 2010 Accomplishments: Resources facilitate the program management and acquisition support effort needed for the ISD capability to achieve Milestone C and its production decision. Start initial testing/certification of the full ISD system.			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3172: *Joint Non-Lethal Weapons*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Complete update of UOES2 system to the first Increment I, build test article and accomplish Development Testing (DT), facilities testing, and Operational Testing (OT) efforts. The UONS support unambiguous warning devices for Mobile Expeditionary Security Forces (MESF). ***FY 2012 Plans:*** Supports comparative performance testing of commercial systems for base lining development of the Long Range Ocular Interrupter (LROI) program.			
Accomplishments/Planned Programs Subtotals	4.089	4.597	1.334

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/8128: *NCW Forces Active*	0.000	0.000	0.000	0.000	0.000	0.000	2.762	10.950	10.133	Continuing	Continuing

D. Acquisition Strategy

The acquisition strategy includes the assessment of mature technologies, strategies and potential system capabilities matched against identified capability gaps that can be used in a flexible response posture. Selected capabilities will be based on AoA and best material approach to meet expeditionary and afloat force protection requirements. Technology development will occur in FY12-13 culminating in an EMD phase commencing in FY14. Successful capabilities will require cross-integration onto existing Navy platforms and ensure compatibility/interoperability within the expeditionary context. Multiple solutions could be output based on overall satisfaction of technical and operational requirements, acquisition life cycle costs, and forecasted procurement quantity needs.

E. Performance Metrics

Complete material solution analysis and technical development strategy. Conduct CDD development.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3172: *Joint Non-Lethal Weapons*	

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
System Engineering	WR	NSWC Dahlgren:Dahlgren VA	4.456	0.500	Feb 2011	0.500	Feb 2012	-		0.500	Continuing	Continuing	Continuing
System Engineering	WR	NSWC Port Hueneme:Port Hueneme CA	0.100	0.300	Feb 2011	0.254	Feb 2012	-		0.254	Continuing	Continuing	Continuing
System Engineering	WR	NSWC Crane:Crane IN	0.150	0.250	Feb 2011	0.180	Feb 2012	-		0.180	Continuing	Continuing	Continuing
		Subtotal	4.706	1.050		0.934		-		0.934			

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
Program Management	WR	NUWC Newport:Newport, RI	2.215	0.642	Feb 2011	-		-		-	Continuing	Continuing	Continuing
Engineering Services (NSWC)	WR	NSWC Panama City:Panama City, FL	1.200	-		-		-		-	0.000	1.200	
		Subtotal	3.415	0.642		-		-		-			

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
Test and Evaluation	WR	COMOPTEVFOR:Norfolk VA	1.875	1.450	Feb 2011	0.100	Feb 2012	-		0.100	Continuing	Continuing	Continuing
		Subtotal	1.875	1.450		0.100		-		0.100			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3172: *Joint Non-Lethal Weapons*

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	WR	NSWC Dahlgren:Dahlgren VA	1.900	1.455	Feb 2011	0.300	Feb 2012	-		0.300	Continuing	Continuing	Continuing
DAWDF	Various	Not Specified:Not Specified	0.018	-		-		-		-	0.000	0.018	
		Subtotal	1.918	1.455		0.300		-		0.300			

	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	11.914	4.597		1.334		-		1.334			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 3172: *Joint Non-Lethal Weapons*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 3172: *Joint Non-Lethal Weapons*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3172				
Acquisition Milestones: CDD	2	2013	2	2013
Acquisition Milestones: Milestone B	3	2013	3	2013
Acquisition Milestones: CPD	2	2016	2	2016
System Development: Technology Development	4	2011	4	2013
System Development: Expeditionary EDM Development	1	2014	4	2016
System Development: Ship EDM Development	3	2015	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 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3306: *Integrated Swimmer Defense (ISD)*	

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
3306: *Integrated Swimmer Defense (ISD)*	-	-	1.657	-	1.657	1.182	1.215	1.240	1.265	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Funding moved from project 3172 starting in FY12.

A. Mission Description and Budget Item Justification

The scope of this project is to provide the fleet Expeditionary (specifically the Maritime Expeditionary Security Force) units with the capability of a portable maritime Integrated Swimmer Defense (ISD) system to engage combat swimmers/divers or unknown individuals underwater once they have been detected. The ISD program combines the detection and engagement operations in order to complete the swimmer defense picture for the fleet. The objective of the integrated swimmer defense system (ISD) is the development and deployment of an integrated system capable of being deployed by the expeditionary harbor security units (primarily the Maritime Expeditionary Security Force). ISD will be designed to detect, track, classify, warn, deter and neutralize divers' and swimmers' threats. ISD is important to protecting high value assets within harbors from the increasing threat of waterborne terrorist or combatant attacks.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Integrated Swimmer Defense	-	-	1.657
Articles:			0
FY 2012 Plans: Development of project documentation (CONOPS; AoA and CDD). Supports preparation for Milestone B decision.			
Accomplishments/Planned Programs Subtotals	-	-	1.657

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/8128: *NCW Forces Active*	0.000	0.000	0.000	0.000	0.000	2.824	2.824	4.236	5.648	Continuing	Continuing

D. Acquisition Strategy

The acquisition strategy includes the integration of swimmer/diver detection sensors and using software to fuse the sensor track data thereby creating an end to end combat system capability for swimmer/diver defense. A Navy technical team will complete the concept refinement and technology development phase through the release of User Operational Evaluation Systems (UOES) and they will partner with industry for each UOES. In order to further refine the ISD requirements for a validated ISD Capability Production Document, two ISD User Operational Evaluation Systems (UOES) will be developed and evaluated. A mature near production

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3306: *Integrated Swimmer Defense (ISD)*

ready UOES 2 was delivered in September 2009. The ISD program of record system configuration will be produced through an Acquisition Category (ACAT) program commencing in FY10 to procure component systems needed to bring the performance of the UOES prototypes up to the full production requirements.

E. Performance Metrics

User Operational Evaluation Systems (UOES) will culminate defined set of system capabilities and limitations. Define level specifications and technical data packages.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3306: *Integrated Swimmer Defense (ISD)*	

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/Software Development	WR	NUWC Newport:Newport RI	-	-		0.200	Feb 2012	-		0.200	Continuing	Continuing	Continuing
Hardware/Software Development - FNC	WR	NUWC Newport:Newport RI	-	-		0.100	Feb 2012	-		0.100	Continuing	Continuing	Continuing
Hardware/Software Development - FNC Detection and Targeting	WR	NUWC Newport:Newport RI	-	-		0.125	Feb 2012	-		0.125	Continuing	Continuing	Continuing
		Subtotal	-	-		0.425		-		0.425			

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
Engineering Services (NUWC)	WR	NUWC Newport:Newport RI	-	-		0.679	Feb 2012	-		0.679	Continuing	Continuing	Continuing
		Subtotal	-	-		0.679		-		0.679			

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
Test and Evaluation (NUWC)	WR	NUWC Newport:Newport RI	-	-		0.290	Feb 2012	-		0.290	Continuing	Continuing	Continuing
		Subtotal	-	-		0.290		-		0.290			

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 (NUWC)	WR	NUWC Newport:Newport RI	-	-		0.263	Feb 2012	-		0.263	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 3306: *Integrated Swimmer Defense (ISD)*

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
		Subtotal	-	-		0.263		-		0.263			

	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	-	-		1.657		-		1.657			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 3306: *Integrated Swimmer Defense (ISD)*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604755N: *Ship Self Def (Detect & Cntrl)*	**PROJECT** 3306: *Integrated Swimmer Defense (ISD)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3306				
Acquisition Milestones: Increment I CPD	4	2011	4	2011
Acquisition Milestones: Increment I IOC	3	2013	3	2013
Acquisition Milestones: Increment I MS C/FRPDR	4	2012	4	2012
Acquisition Milestones: Increment I FOC	4	2015	4	2015
Acquisition Milestones: Increment I IOT&E	2	2013	2	2013
Test and Evaluation: Increment I EDM Testing	1	2010	3	2011
Program Phases: Increment 1 Production	3	2013	4	2015
Program Phases: Increment 1 Operations and Support	3	2013	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 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	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*	9.063	-	-	-	-	-	-	-	-	0.000	9.063
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

9C22A: Autonomous Unmanned Surface Vessel (AUSV) supports the U.S. Navy's Anti-Terrorism Force Protection (ATFP) as well as Homeland Defense missions. The AUSV can protect commercial harbors, coastal facilities such as commercial and military airports and nuclear power plants, inland waterways and large lakes. The vessel will utilize a variety of advanced sensing and perimeter monitoring equipment for surveillance and detection of Targets of Interest (TI).

9C23A/0166: Expeditionary Swimmer Defense Systems consists of an instrumented physical barrier that deters swimmers and divers from attempting to prohibited areas, and detects and localizes attempted intrusions.

9D90A/0166: Persistent Surveillance Wave Power-Buoy System is to create a buoy platform that generates sustainable power sufficient to energize a variety of sensors and communications elements to enhance the littoral security mission (Littoral Power Buoy - LPB).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011
Congressional Add: Autonomous Unmanned Surface Vessel (AUSV)(xfer fro ***FY 2010 Accomplishments:*** N/A	2.689	-
Congressional Add: Expeditionary Swimmer Defense System ***FY 2010 Accomplishments:*** N/A	3.187	-
Congressional Add: Persistent Surveillance Wave Power-Buoy System ***FY 2010 Accomplishments:*** N/A	3.187	-
Congressional Adds Subtotals	9.063	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604755N: *Ship Self Def (Detect & Cntrl)*	PROJECT 9999: *Congressional Adds*

E. Performance Metrics

Congressional Adds