Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603553N: *Surface ASW*							
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	21.420	21.673	29.797	-	29.797	0.867	1.121	1.103	1.151	Continuing	Continuing
1704: *Undersea Warfare*	19.827	21.673	29.797	-	29.797	0.867	1.121	1.103	1.151	Continuing	Continuing
9999: *Congressional Adds*	1.593	-	-	-	-	-	-	-	-	0.000	1.593

A. Mission Description and Budget Item Justification

The Anti-Submarine Warfare (ASW) Advanced Development project provides advanced development demonstration and validation of technology for potential surface sonar and combat system applications. Program Element (PE) 0603553N has been designated to support emerging multi-static technologies, and the Chief of Naval Operations' (CNO) ASW Initiative. For FY09 and prior, efforts focused on resolution of technical issues associated with providing capability against the FY09 and beyond threat, with emphasis on shallow water/littoral areas, deep water Undersea Warfare (USW), and demonstration and validation of USW concepts and technology. Key technology areas included active sonar transmissions; advanced signal and data processing; active sonar classification; towed and hull arrays; transducer technology; and periscope detection techniques. Starting in FY07, the CNO's ASW Initiative (formerly known as Task Force ASW) included the development of new and innovative technologies. Efforts associated with these technologies include design, development, integration, and testing of future undersea superiority systems. These systems include distributed sensor systems; Vertical Line Array (VLA); static active buoy fields; submarine countermeasures; compact rapid-effect weapons; longer-range radio systems; multi-static sonar; Continuous Active Sonar (CAS) and Variable Depth Sonar (VDS); and multi-sensor data fusion, including multi-platform data fusion and net-centric USW concepts. An Office of the Chief of Naval Operations (OPNAV) letter of direction limits the scope of this project, beginning in FY10, to the development of CAS/VDS and the continuation of studies in support of the ASW Initiative.

Project Unit 9999 is comprised of a Congressional Add for "Low Frequency Active Towed Sonar Organic ASW Capability" (FY10 Project 10C108).

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	23.497	21.673	34.542	-	34.542
Current President's Budget	21.420	21.673	29.797	-	29.797
Total Adjustments	-2.077	-	-4.745	-	-4.745
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-1.000	-			
• SBIR/STTR Transfer	-0.584	-			
• Program Adjustments	-	-	-4.192	-	-4.192
• Section 219 Reprogramming	-0.493	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.553	-	-0.553

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603553N: *Surface ASW*

Congressional Add Details ($ in Millions, and Includes General Reductions)	**FY 2010**	**FY 2011**
Project: 9999: *Congressional Adds*		
Congressional Add: *Low Frequency Active Towed Sonar Organic ASW Capability*	1.593	-
Congressional Add Subtotals for Project: 9999	1.593	-
Congressional Add Totals for all Projects	1.593	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603553N: *Surface ASW*	PROJECT 1704: *Undersea Warfare*	

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
1704: *Undersea Warfare*	19.827	21.673	29.797	-	29.797	0.867	1.121	1.103	1.151	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The CNO's ASW initiative is a focused effort to identify the most promising ASW technologies through a process of discovery, assessment, experimentation, and analysis. The CNO's ASW initiative will coordinate the development of technologies which move beyond incremental or marginal improvements in ASW effectiveness. The CNO's vision of "fundamentally changing the way ASW is currently conducted to render the enemy submarine irrelevant against US and coalition forces" necessitates a change in the calculus of how the US Navy conducts ASW. Central to the CNO's ASW initiatives achieving the CNO's vision are several innovative approaches which include using the art-of-the-technologically-possible; minimizing force-on-force; reducing the ASW end-to-end time line; supporting rapid maneuver; developing off-board and distributed ASW detection systems; and finding innovative weapons solutions. To achieve these key approaches, it is essential to develop new ASW technologies and conduct at-sea experiments to prove/disprove technology concepts and collect corroborating data. An OPNAV letter of direction limits the scope of this project, beginning in FY10, to the development of CAS/VDS and the continuation of studies in support of the ASW Initiative.

The CAS/VDS sonar is intended, at a minimum, to support ASW escort missions for the Littoral Combat Ship (LCS). The system shall be developed as an effective and affordable LCS deep water, wide area, and active sonar search capability in the form of a VDS for inclusion as part of the ASW Mission Module. The program shall target LCS-2 as the test platform. Efforts shall include development of a Launch and Retrieval system designed to survive high tow speeds, provide a high sweep rate capability and large stand-off detection ranges and should outperform current systems under all conditions. Components should leverage existing systems such as the Multi-Function Towed Array (MFTA) to limit costs and reduce risk of early efforts. Efforts will also include the conduct of studies to validate performance goals and design options and should leverage the UK 2087 VDS test program to the maximum practical extent. The technology development timeline should be aligned to provide an introduction of the technology through the Advanced Capability Build (ACB) process.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: CNO ASW Initiatives	19.827	21.673	29.797
Articles:	0	0	0
FY 2010 Accomplishments: Continued development of continuous active sonar (CAS) and variable depth sonar (VDS) for surface combat systems, continued studies of new acoustic, non-acoustic, and off-board sensors and conducted independent critical review and analysis of alternatives of selected and potential CNO ASW initiative technologies. Awarded VDS development contract.			
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 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603553N: *Surface ASW*	PROJECT 1704: *Undersea Warfare*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Continue development of CAS and VDS for surface combat systems, continue studies of new acoustic, non-acoustic, and off-board sensors and continue independent critical review and analysis of alternatives of selected and potential CNO ASW initiative technologies. ***FY 2012 Plans:*** Complete CAS/VDS Advanced Development Model (ADM) development, fabrication and land based testing of towed source, receive array, handling system and in-board electronics, controls and displays. Install CAS/VDS ADM on Littoral Combat Ship (LCS) platform. Conduct at-sea testing of ADM. Initiate efforts to mature ADM to Engineering Development Model (EDM) level.			
Accomplishments/Planned Programs Subtotals	19.827	21.673	29.797

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Competitively awarded contracts from Broad Agency Announcement (BAA) solicitations.

E. Performance Metrics

Conduct CAS/VDS ADM Sea Test 3Q12.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603553N: *Surface ASW*	PROJECT 1704: *Undersea Warfare*

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
Technology Development	C/CPFF	AAC:NY	1.134	-		-		-		-	0.000	1.134	
Technology Development	C/CPFF	Adaptive Methods:VA	3.788	-		-		-		-	0.000	3.788	
Technology Development	C/CPFF	Alion Sciences:VA	5.500	1.500	Jan 2011	-		-		-	0.000	7.000	
Technology Development	C/CPAF	EG&G:VA	1.050	0.500	Dec 2010	0.500	Dec 2011	-		0.500	Continuing	Continuing	Continuing
Technology Development	C/CPFF	In-Depth Engineering:VA	-	2.375	Feb 2011	-		-		-	0.000	2.375	
Technology Development	C/CPFF	JHU/APL:MD	23.304	1.925	Dec 2010	-		-		-	0.000	25.229	
Technology Development	C/CPFF	L-3 Communications:VA	3.000	-		-		-		-	0.000	3.000	
Technology Development	C/CPFF	Lockheed Martin - ISS:NY	2.610	2.000	Dec 2010	-		-		-	0.000	4.610	
Technology Development	WR	NSWC/Carderock:MD	1.106	1.595	Jan 2011	-		-		-	0.000	2.701	
Technology Development	WR	NUWC/Keyport:WA	0.520	0.270	Nov 2010	-		-		-	0.000	0.790	
Technology Development	WR	NUWC/Newport:RI	22.976	4.076	Nov 2010	0.500	Oct 2011	-		0.500	Continuing	Continuing	Continuing
Technology Development	C/CPFF	Northrop Grumman:VA	4.684	-		-		-		-	0.000	4.684	
Technology Development	C/CPFF	UT/ARL:TX	4.908	-		-		-		-	0.000	4.908	
Technology Development	C/CPFF	VAR:VAR*	3.887	1.107	Jan 2011	-		-		-	0.000	4.994	
		Subtotal	78.467	15.348		1.000		-		1.000			

Remarks

*Consists of multiple performing activities with funding for each not greater than $1M per year.

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
At-Sea Test/Experiment	WR	ONR:VA	5.500	-		-		-		-	0.000	5.500	
Developmental Test & Evaluation	C/CPFF	AAC:NY	1.067	-		-		-		-	0.000	1.067	
	C/CPFF	Alion:VA	-	-		2.500	Dec 2011	-		2.500	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 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603553N: *Surface ASW*	PROJECT 1704: *Undersea Warfare*

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													
Developmental Test & Evaluation	C/CPFF	Lockheed Martin:NY	-	-		6.674	Dec 2011	-		6.674	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NSWC/Carderock:MD	0.672	-		-		-		-	0.000	0.672	
Developmental Test & Evaluation	WR	NUWC/Newport:RI	3.472	5.500	Nov 2010	15.278	Oct 2011	-		15.278	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NRL:DC	0.537	-		-		-		-	0.000	0.537	
Developmental Test & Evaluation	WR	NSMA:VA	0.907	-		-		-		-	0.000	0.907	
Developmental Test & Evaluation	C/CPFF	UT/ARL:TX	1.844	-		-		-		-	0.000	1.844	
Enhanced Data Collection (SSEMP)	C/CPFF	JHU/APL:MD	4.462	-		2.776	Dec 2011	-		2.776	0.000	7.238	
Enhanced Data Collection (SSEMP)	C/CPFF	UT/ARL:TX	2.000	-		-		-		-	0.000	2.000	
Test & Evaluation	C/CPFF	VAR:VAR*	1.177	-		0.826	Dec 2011	-		0.826	Continuing	Continuing	Continuing
		Subtotal	21.638	5.500		28.054		-		28.054			

Remarks

*Consists of multiple performing activities with funding for each not greater than $1M per year.

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	BAE Systems:MD	2.961	0.775	Jan 2011	0.693	Dec 2011	-		0.693	Continuing	Continuing	Continuing
Travel	Allot	NAVSEA PEO IWS 5:DC	0.200	0.050	Jan 2011	0.050	Oct 2011	-		0.050	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 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603553N: *Surface ASW*	PROJECT 1704: *Undersea Warfare*

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	3.161	0.825		0.743		-		0.743			

	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	103.266	21.673		29.797		-		29.797			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603553N: *Surface ASW*	**PROJECT** 1704: *Undersea Warfare*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603553N: *Surface ASW*	**PROJECT** 1704: *Undersea Warfare*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1704				
Technology Development	1	2010	4	2010
Conduct At-Sea Experiment (test promising technologies)	3	2010	3	2011
Analyze Experimental Data	1	2010	4	2011
CAS/VDS Data Collection	1	2010	1	2010
Build/Test VDS ADM	4	2010	2	2012
CAS/VDS ADM Sea Test	3	2012	3	2012

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603553N: *Surface ASW*	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*	1.593	-	-	-	-	-	-	-	-	0.000	1.593
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Adds.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011
Congressional Add: Low Frequency Active Towed Sonar Organic ASW Capability	1.593	-
FY 2010 Accomplishments: FY10 Congressional Add - Project 10C108: Low Frequency Active Sonar Organic Anti-Submarine Warfare (ASW) capability improvement development. Effort includes the design, fabrication, integration and testing of an Engineering Development Model (EDM) transmit array (variable depth sonar transducer). This supports the Navy's Continuous Active Sonar/Variable Depth Sonar (CAS/VDS) advanced development project that will develop an effective and affordable, deep water, wide area active Anti-Submarine Warfare search capability for transition to the Littoral Combat Ship (LCS).		
Congressional Adds Subtotals	1.593	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Adds.