CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2006**	
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA4**					R-1 ITEM NOMENCLATURE PE 0603553N Surface ASW/1704 ASW Advanced Development			
COST ($ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost		**19.552**	**23.433**	**38.696**	**42.284**	**45.622**	**55.026**	**55.380**
ASW Advanced Development/1704		**17.225**	**17.083**	**38.696**	**42.284**	**45.622**	**55.026**	**55.380**
Surface Vessel Torpedo Tide - Airbag Tech/9185		**1.357**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Surface Ship Combat System Warfighting Enhancement/9525		**0.970**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
9999N/Congressional Adds		**0.000**	**6.350**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Defense Emergency Response Funds (DERF) Funds: N/A

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. Efforts focus on resolution of technical issues associated with providing capability against the Year 2005 and beyond threat with emphasis on shallow water/littoral area and deep water Undersea Warfare (USW) and on demonstration and validation of USW concepts and technology. Key technology areas include active sonar transmissions, advanced signal and data processing, active sonar classification, towed and hull arrays and transducer technology. Starting from FY07, the Task Force ASW initiative will include new and innovative technologies. These include design, development, integration, and testing of future Undersea Superiority Systems. These systems include distributed sensor systems, Vertical Line Array, static active buoy field, submarine countermeasures, compact rapid effect weapon, longer range radio system, multi-static sonar, and multi-sensor data fusion including multi-platform data fusion and netcentric undersea warfare concepts. This Program Element, 0603553N, has been designated to support Multi-Static Active ASW (MAASW) efforts associated with the Distant Thunder program and other emerging multi-static technologies, and the CNO's Task Force ASW initiative.

The MAASW project conducts advanced development and testing of active multistatic acoustic concepts. The concept development is directed at providing surface ships combat groups with the capability of detection, classification, and localization of quiet threat submarines in difficult acoustic environments associated with Littoral waters. The project concentrates on the development of acoustic processor algorithms, alternative cost-effective active sources and information sharing technologies to develop a coordinated multi-static acoustic picture employing distributed sensors and active sources.

The Task Force ASW (TF ASW) initiative is a focused effort to identify the most promising ASW technologies through a process of discovery, assessment, experimentation and analysis. TF ASW 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 U.S. and coalition forces" necessitates a change in the calculus of how the US Navy conducts ASW. Central to TF ASW's 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 timeline; supporting rapid maneuver; developing off-board and distributed ASW detection systems; and finding innovative weapons solutions. To achieve these keys, it is essential to develop new ASW technologies and conduct at-sea experiments to prove/disprove technology concepts and collect corroborating data. The most promising technology concepts from government laboratories, university research centers, and industry are developed to the point where these technologies can be tested in at-sea experiments, with the objective of transitioning those which demonstrate exceptional capability to programs-of-record. In addition to developing and testing promising new technologies, an effective system of measuring the performance of existing and new surface ship ASW systems is essential to enable data based assessment of the capabilities and shortfalls in the performance of these systems in realistic scenarios through a Surface Ship Enhanced Measurement Program (SSEMP). By rigorously closing the feedback loop, SSEMP enables data based programmatic decision making for Surface Ship combat systems.

Project Unit 9185 is authorized by Congress to develop Surface Vessel Torpedo Tube - Airbag Tech.
Project Unit 9525 is authorized by Congress to develop Surface Ship Combat System Warfighting Enhancement.
Project Unit 9999 is comprised of FY 06 Congressional Adds for Improved Surface Vessel Torpedo Launcher, Automated Readiness Measurement System, Continuous Active Sonar and Medium Offboard Distributed Acoustic Sensors.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RD RDT&E N/BA4	PE 0603553N Surface ASW	1704 ASW Advanced Development

B. Accomplishments/Planned Program

		FY 2005	FY 2006	FY 2007
Accomplishments/Effort/Subtotal Cost		**17.225**	**17.083**	**38.696**
RDT&E Articles Quantity				

MAASW/Distant Thunder - Migrated 2 of 3 key elements of processor to open systems architecture to support transition to SQQ-89 A(V)15 combat system. Transitioned the development environment for these software engines to an open systems architecture. Conducted at-sea testing and analyzed data collected to support processor improvement. Developed and began implementation of hardware technology refresh strategy. Obtained flight certification for P-3 AIP aircraft. FY05-FY07 plans include completing transition of remaining processor elements to opens systems architecture, completing hardware technology refresh, continuing spiral development of processor algorithms, developing improved shipboard mission planning tools (TACAID Play Book), and introducing new aircraft independent source technology.

Task Force ASW - Conducted first TF ASW experiment of promising and innovative ASW technologies, collected and analyzed data, and reported results. Planned and conducted second TF ASW experiment and planned third experiment to test other promising technologies, including both industry and university affiliated research center proposed technologies. Issued an industry solicitation to obtain new technology ideas, and began strategic investment in the most promising transformational technologies derived from this solicitation. Initiated a Surface Ship Enhanced Measurement Program to begin collecting, analyzing, assessing and reporting on the performance of Surface Ship ASW systems to support results based decision making. FY05-FY07 plans include continued development and procurement of specific innovative technologies, procurement of reusable test assets for specific technology concepts, continued investment in developing and testing the highest potential industry originated technology concepts, and continuing to perform data collection, analysis, assessment and reporting of Surface Ship ASW combat system and off-board/ distributed ASW systems performance under realistic conditions.

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA4	PE 0603553N Surface ASW	1704 ASW Advanced Development

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2005	FY 2006	FY 2007
FY2006 President's Budget Controls	17.464	17.343	18.012
FY2007 President's Budget Controls	17.225	17.083	38.696
Totals Adjustments	-0.239	-0.260	20.684
Summary of Adjustments			
Programmatic changes			22.000
Other General Provisions	-0.239	-0.260	
Other misc. changes			-1.316
Subtotal	-0.239	-0.260	20.684

Schedule:

N/A

Technical:

N/A

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA4	PE 0603553N Surface ASW	1704 ASW Advanced Development

D. OTHER PROGRAM FUNDING SUMMARY: N/A

E. ACQUISITION STRATEGY: *

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

F. MAJOR PERFORMERS: **

Naval Air Warfare Center /PAX River, MD – Maintain and install the two Air Multistatic Active ASW (MAASW(DT)) Rapid Deployment Kit (RDK) systems, lab test these systems and processor updates for these systems, and maintain NAVAIR authorization to install and fly this ADM system in P-3C and P-3C AIP TYCOM Aircraft.
Naval Undersea Warfare Center, Newport, RI – Provide management support in working with various administrative and operational organizations to develop and implement teams for MAASW Distant Thunder development and evaluation. Support laboratory and at-sea testing of Distant Thunder processor algoriothms for ship installations. Perform planning, execution and analysis of experiments.
Johns Hopkins University Applied Physics Laboratory, Laurel, MD - Participate in experiment planning, execution and analysis, and lead the Surface Ship Enhanced Measurement Program (SSEMP) effort.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)						DATE: **February 2006**						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME							
RDT&E, N / BA4			PE 0603553N Surface ASW		1704 ASW Advanced Development							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Multistatic Sonar Development	WR	NUWC Newport	5.039	0.629	12/04	0.186	12/05	0.466	12/06	Continuous	Continuous	
Multistatic Sonar Development	WR	BATH MIN	0.021								0.021	
Multistatic Sonar Development	WR	PASCAGOULA MS	0.017								0.017	
Multistatic Sonar Development	WR	NAWC/Key West	0.010								0.010	
Multistatic Sonar Development	WR	NAWC/Pax River	1.513	0.161	12/04	0.230	12/05	0.100	12/06	Continuous	Continuous	
Multistatic Sonar Development	CPFF	BBN	3.597	0.088	12/04	0.218	11/05	0.150	11/06	Continuous	Continuous	
Multistatic Sonar Development	CPFF	APL/JHU	0.350								0.350	
Multistatic Sonar Development	RCP	FLT. Industry SUP Center	0.010								0.010	
Multistatic Sonar Development	RCP	ONR	0.472								0.472	
Various	Various	Various	0.701	0.000	02/04	0.255	01/06	0.255	01/07	Continuous	Continuous	
Subtotal Product Development			11.730	0.878		0.889		0.971		Continuous	Continuous	
Remarks:												
Developmental Test & Evaluation	WR	NUWC/Npt	2.505	0.400	11/04	0.206	11/05	0.655	11/06	Continuous	Continuous	
Developmental Test & Evaluation	WR	NAWC/Pax River	1.291	0.170	11/04	0.173	11/05	0.170	11/06	Continuous	Continuous	
Developmental Test & Evaluation	CPFF	BBN	1.023	0.300	11/04	0.250	11/05	0.300	11/06	Continuous	Continuous	
Developmental Test & Evaluation	CPFF	AAC		0.212							0.212	
Developmental Test & Evaluation	WR	SUPSHIP BATH MIN.	0.033								0.033	
Developmental Test & Evaluation	WR	NUWC/Keyport	0.933								0.933	
Developmental Test & Evaluation	WR	NSWC/Carderock, MD	0.695								0.695	
Developmental Test & Evaluation	WR	NSWC/Dahlgren, VA	0.040								0.040	
Developmental Test & Evaluation	WR	NSWC/Indian Head		0.035							0.035	
Developmental Test & Evaluation	CPFF	APL/JHU, MD	1.536								1.536	
Developmental Test & Evaluation	CPFF	ARL/UT	0.124	0.050	11/04	0.000	11/05	0.150	11/06	Continuous	Continuous	
Developmental Test & Evaluation	CPFF	Various	0.625	0.000	11/04	0.165	11/05	0.366	11/06	Continuous	Continuous	
Developmental Test & Evaluation	CPFF	Progeny, Inc.	1.217								1.217	
Developmental Test & Evaluation	CPFF	IPD	0.055								0.055	
Developmental Test & Evaluation	MIPR	U.S. ARMY/MITRE	0.000								0.000	
Developmental Test & Evaluation	WR	SPAWAR Systems Center	0.558								0.558	
Subtotal T&E			10.635	1.167		0.794		1.641		Continuous	Continuous	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)						DATE: **February 2006**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA4**			PROGRAM ELEMENT PE 0603553N Surface ASW			PROJECT NUMBER AND NAME 1704 ASW Advanced Development						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
At-Sea Test/Experiment (TFASN)	C/CPFF	JHU/APL, MD	1.100	4.000	11/04	4.000	10/05	4.000	10/06	Continuous	Continuous	
At-Sea Test/Experiment	WX	NAVSEA/NEWPORT, RI	2.300	8.000	11/04	8.000	10/05	6.684	10/06	Continuous	Continuous	
At-Sea Test/Experiment	RCP	ONR/ANTEON	0.930								0.930	
At-Sea Test/Experiment	RCP	ONR/BAE	1.800								1.800	
Enhanced Data Collection (SSEMP)	C/CPFF	JHU/APL, MD	0.000	2.000	11/04	2.000	10/05	2.000	10/06	Continuous	Continuous	
Enhanced Data Collection												
and Analysis (SSEMP)	Various	Various	2.981	0.780	11/04	1.000	10/05	1.000	10/06	Continuous	Continuous	
Technology Development	C/CPFF	Various						17.000				
Analysis & Assessment	Various	Various						5.000				
Subtotal T&E			9.111	14.780		15.000		35.684		0.000	2.730	
Remarks:												
Contractor Engineering Support												
SBIR												
Government Engineering Support												
Program Management Support	CPFF	Stanley Assoc.	0.671	0.350	01/05	0.350	01/06	0.350	01/07	Continuous	Continuous	
Program Management Support	CPFF	Anteon Corp.	0.125	0.000		0.000		0.000		Continuous	Continuous	
Travel			0.110	0.050	11/04	0.050	11/05	0.050	11/06	Continuous	Continuous	
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.906	0.400		0.400		0.400		Continuous	Continuous	
Remarks:												
Total Cost			32.382	17.225		17.083		38.696		Continuous	Continuous	
Remarks:												

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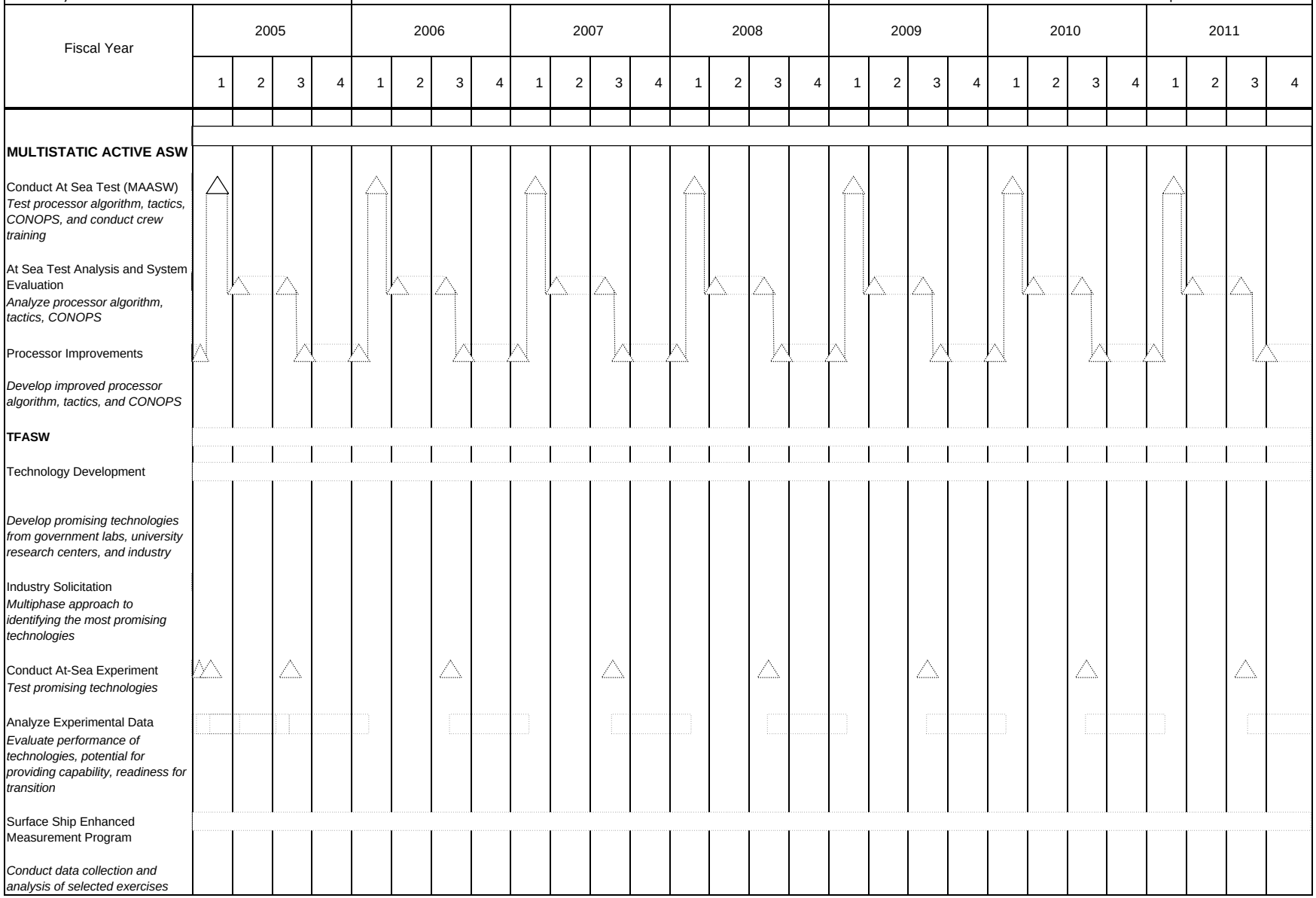
EXHIBIT R4, Schedule Profile | DATE: **February 2006**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N / BA4**

PROGRAM ELEMENT NUMBER AND NAME: PE 0603553N Surface ASW

PROJECT NUMBER AND NAME: 1704 ASW Advanced Development



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* Not required for Budget Activities 1, 2, 3, and 6

CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: **February 2006**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E BA4**	PROGRAM ELEMENT PE 0603553N Surface ASW				PROJECT NUMBER AND NAME 1704 ASW Advanced Development			
Schedule Profile		FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
Conduct At Sea Test		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Sea Test Analysis and System Evaluation		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Development Test & Evaluation		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
At Sea Test Experiment		1Q-2Q-4Q	3Q	2Q	1Q-4Q	3Q	2Q	1Q-4Q

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2006**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RD RDT&E, N / BA4	PE 0603553N Surface ASW	9999 Congressional Plus-Ups : VARIOUS

CONGRESSIONAL PLUS-UPS:

	FY 06			
9185C	2.250			
Improved surface Vessel Torpedo Launcher				

Funds will be used to support technology insertion initiatives associated with the Surface Vessel Torpedo Tube (SVTT) MK 32 Program. These efforts will help support the Navy's surface ship platform needs and will focus specifically on the development of Advanced Surface Launcher (ASL) prototypes to production levels and completion of launcher testing. This investment will be used to upgrade the current single-mission launcher to a multi-mission launcher (ASL) resulting in the following: increase in warfighting capability, increase in operational readiness, improved personnel safety and reduced life cycle costs on both existing and future ships.

	FY 06			
9809N	0.500			
Automated Readiness Measurement System				

Funding will be used to transition Automated Readiness Measurement System (ARMS) to an automated assessment capability within the Surface Combatant Open Architecture Computing Environment. ARMS will provide a tool to support continuous certification with periodic verification of key surface force training and maintenance readiness indicators. It will be mission focused, task based, and provide specific feedback to all levels of command. Assessments will support resource allocation, training, tactical decision aids, experimentation, and other readiness improvement measures.

	FY 06			
9810N	2.600			
Continuous Active Sonar				

This Congressional Add will help accelerate concept evaluation and transition possibly via both backfit to existing ASW platforms and forward fit to emergent manned and unmanned ASW assets.

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RD RDT&E, N / BA4	PE 0603553N Surface ASW	9999 Congressional Plus-Ups : VARIOUS

CONGRESSIONAL PLUS-UPS:

	FY 06			
9811N	1.000			
Medium Offboard Distributed Acoustic Sensors				

Funds provided by Congress to address the utilization of offboard distributed netted systems as one part of the solution to littoral combat against quiet diesel submarines. It provides significant enhancements in capability by utilizing in buoy processing and netted sensors to allow larger sensor numbers, longer duration and over the horizon operations in contrast to existing sonobuoys.

