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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	94.393	92.334	81.347	0.000	81.347	88.515	86.941	58.184	48.461	Continuing	Continuing
0260: Remote Minehunting Systems	6.000	5.906	19.691	0.000	19.691	18.820	20.717	8.295	7.563	Continuing	Continuing
1233: Surface MCM Mid-life Upgrade	24.736	21.380	13.479	0.000	13.479	20.622	24.484	24.723	24.918	Continuing	Continuing
2094: Unmanned Underwater Vehicle	3.744	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	442.442
2131: Assault Breaching System	42.437	30.743	31.245	0.000	31.245	30.942	26.125	12.957	13.259	Continuing	Continuing
3123: SMCM UUV	3.389	15.525	12.732	0.000	12.732	18.131	10.810	7.431	2.721	Continuing	Continuing
4025: Expendable Mine Neutralization System	6.908	2.846	4.200	0.000	4.200	0.000	4.805	4.778	0.000	0.000	53.103
9999: Congressional Adds	7.179	15.934	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.517
A. Mission Description and Budget Item Justification											
The program provides for developments to combat the threat of known and projected foreign mines against U.S. Naval and merchant shipping in harbors, channels, choke points, sea lines of communications and amphibious and other fleet operating areas. It develops: (1) organic remote minehunting capability for surface platforms; (2) the integration and improvement of systems and support for systems which will detect, localize, classify, and neutralize moored, bottom, and close-tethered mines for use in Mine Countermeasure (MCM) MCM-1 Class and other surface ships; (3) systems for neutralizing mines and light obstacles from shallow water, very shallow water, surf zones, and beach landing craft zones in support of amphibious operations; (4) Unmanned Undersea Vehicle (UUV) systems for clandestine mine reconnaissance.											
Congressional plus-up for the AN/SQQ-32 Mine Hunting Sonar development for High Frequency Wide Band.											
Congressional plus-up for the Unmannned Undersea Vehicles Near Term Interim Capability to develop interim UUV capability, with common and modular architecture.											

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
1319: Research, Development, Test & Evaluation, Navy		PE 0603502N: Surface & Shallow Water MCM			
BA 4: Advanced Component Development & Prototypes (ACD&P)					
(U) B. JUSTIFICATION FOR BUDGET ACTIVITY:					
This program is funded under DEMONSTRATION AND VALIDATION because it develops and integrates hardware for experimental testing related to specific ship or aircraft applications.					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	123.022	76.739	0.000	0.000	0.000
Current President's Budget	94.393	92.334	81.347	0.000	81.347
Total Adjustments	-28.629	15.595	81.347	0.000	81.347
• Congressional General Reductions		-0.385			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.020			
• Congressional Adds		16.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-5.800	0.000			
• SBIR/STTR Transfer	-2.830	0.000			
• Program Adjustments	0.000	0.000	81.347	0.000	81.347
• Rate/Misc Adjustments	0.001	0.000	0.000	0.000	0.000
• Congressional Recision Adjustments	-20.000	0.000	0.000	0.000	0.000
Congressional Add Details (\$ in Millions, and Includes General Reductions)					
Project: 9999: Congressional Adds					
Congressional Add: RMS Prog - Cong					
Congressional Add: Persistent Autonomous Maritime Surveillance					
Congressional Add: Mine Hunting Sonar Prog - Cong					
Congressional Add: Unmanned Undersea Vehicles Near Term Interim Capa					
Congressional Add: AN/SQQ-32 Mine Hunting Sonar Upgrade					
Congressional Add Subtotals for Project: 9999					

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	
<u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u>		FY 2009	FY 2010
Congressional Add Totals for all Projects		7.179	15.934
<u>Change Summary Explanation</u> Program Adjustments: FY09 -\$3,900K Below Threshold Reprogramming to Maritime Domain Awareness Program as a result to the cancellation of the Mission Reconfigurable Unmanned Undersea Vehicle System (MRUUVS). FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.			

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 0260: <i>Remote Minehunting Systems</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
0260: <i>Remote Minehunting Systems</i>	6.000	5.906	19.691	0.000	19.691	18.820	20.717	8.295	7.563	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification The AN/WLD-1(V)(1), Remote Minehunting System (RMS), consists of a diesel powered semi-submersible Remote Multi-Mission Vehicle (RMMV) that tows a Variable Depth Sensor (VDS, AN/AQS-20A). It also includes shipboard equipment consisting of a command control combat system, launch and recovery system, radio antennas and support equipment. RMS can operate from the DDG-51 Class Flight IIA ships (DDG-91-96) and Littoral Combat Ships (LCS). The system determines the presence or absence of mines to an acceptable level of confidence to enable ships to operate in or avoid specific areas. Future funding will be used to begin development of emerging technologies for incorporation into the AN/WLD-1(V)(1) Remote Minehunting System and Littoral Combat Ship (LCS) Reconfigurable Mission Capabilities (Multi-Mission - MM).											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Product Development: <i>FY 2009 Accomplishments:</i> Conducted accelerated life testing and root cause analysis, as part of the RMMV Reliability Growth Program. <i>FY 2010 Plans:</i> Conduct accelerated life testing, as part of the RMMV Reliability Growth Program. <i>FY 2011 Base Plans:</i> Conduct accelerated life testing, as part of the RMMV Reliability Growth Program.							3.600	3.893	8.941	0.000	8.941
Support:							1.900	1.513	3.000	0.000	3.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 0260: Remote Minehunting Systems		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Provided engineering, logistic and programmtic support for RMMV accelerated life and confidence testing.						
FY 2010 Plans: Provide engineering, logistic and programmatic support for RMMV accelerated life and confidence testing.						
FY 2011 Base Plans: Provide engineering, logistic and programmatic support for RMMV accelerated life and confidence testing.						
T&E: FY 2011 Base Plans: Conduct shock/vibration testing, acoustic/magnetic testing and conduct reliability assessment in advance of LCS DT and OT in FY12.		0.000	0.000	7.250	0.000	7.250
Management: FY 2009 Accomplishments: Provided program managment and travel for RMMV Spiral testing. FY 2010 Plans: Provided program managment and travel for RMMV Spiral testing. FY 2011 Base Plans: Provided program managment and travel for RMMV Spiral testing.		0.500	0.500	0.500	0.000	0.500
Accomplishments/Planned Programs Subtotals		6.000	5.906	19.691	0.000	19.691

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C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost	
• OPN/2622: Minesweeping System Replacement	2.703	0.000	5.027	0.000	5.027	11.390	10.500	10.600	10.840	Continuing	Continuing	
• OPN/1600: LCS Modules	0.000	0.000	0.000	0.000	0.000	0.000	24.000	24.400	49.600	Continuing	Continuing	
D. Acquisition Strategy												
The RMS(V)3 focused on a prototype development, and was competitively awarded to Lockheed Martin in August 1996. The RMS(V)4, officially designated the AN/WLD-1(V)(1), was awarded as a sole source contract to Lockheed Martin in 2002. MS C on 1 July 2005 authorized procurement of three (3) LRIPs in FY05. Conducted Operational Assessment in August 2006 to support FY06 (2nd) LRIP Decision. ASN(RDA) approved FY06 (2nd) LRIP up to 4 units. This decision was documented in Acquisition Decision Memorandum (ADM) dated 21 Sep 2006. The Program Decision Memorandum (PDM) authorizing production of LRIP #8, FY08 LRIP Option was issued by ASN(RDA) on 2 Apr 08. An Operational Assessment (OA) was conducted in 4th Qtr FY08. Conduct reliability improvement program to return to OT in FY12, as well as transition from DDG to LCS platform.												
E. Performance Metrics												
Complete RGP. Complete DT and OT. Begin FRP in FY14.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM				PROJECT 0260: Remote Minehunting Systems				
Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development & Integration 1	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	97.283	0.000		0.000		0.000		0.000	0.000	97.283	Continuing
Hardware Development & Integration 2	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	95.993	0.000		0.000		0.000		0.000	0.000	95.993	Continuing
Hardware Development & Integration	WR	NSWC. PC PANAMA CITY, FL	7.140	0.000		0.000		0.000		0.000	0.000	7.140	Continuing
Systems Engineering 1	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	5.465	0.000		0.000		0.000		0.000	0.000	5.465	Continuing
Systems Engineering 2	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	6.486	3.725	Dec 2009	6.000	Dec 2010	0.000		6.000	0.000	16.211	Continuing
Systems Engineering 3	WR	NSWC, PC PANAMA CITY, FL	2.185	0.168	Nov 2009	2.941	Nov 2010	0.000		2.941	0.000	5.294	Continuing
Award Fees	SS/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	5.485	0.000		0.000		0.000		0.000	0.000	5.485	Continuing
Subtotal			220.037	3.893		8.941		0.000		8.941	0.000	232.871	

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Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks													
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development 1	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	7.092	0.000		0.000		0.000		0.000	0.000	7.092	Continuing
Software Development 2	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	6.961	0.000		0.000		0.000		0.000	0.000	6.961	Continuing
Software Development 3	WR	NSWC, PC RIVIERA BEACH, FL	2.142	0.000		0.000		0.000		0.000	0.000	2.142	Continuing
ILS 1	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	5.682	0.000		0.000		0.000		0.000	0.000	5.682	Continuing
ILS 2	C/CPIF	LOCKHEED MARTIN	11.404	0.750	Dec 2009	2.000	Dec 2010	0.000		2.000	0.000	14.154	Continuing

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Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		RIVIERA BEACH, FL											
ILS 3	WR	NSWC, PC PANAMA CITY, FL	3.557	0.500	Nov 2009	1.000	Nov 2010	0.000		1.000	0.000	5.057	Continuing
ILS 4	Various/ Various	VARIOUS VARIOUS	1.125	0.000		0.000		0.000		0.000	0.000	1.125	Continuing
Ship Integration 1	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	1.258	0.000		0.000		0.000		0.000	0.000	1.258	Continuing
Ship Integration 2	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	11.938	0.000		0.000		0.000		0.000	0.000	11.938	Continuing
Ship Integration 3	Various/ Various	VARIOUS VARIOUS	13.451	0.263	Jan 2010	0.000		0.000		0.000	0.000	13.714	Continuing
Subtotal			64.610	1.513		3.000		0.000		3.000	0.000	69.123	
Remarks													

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 0260: <i>Remote Minehunting Systems</i>					
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation 1	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	18.470	0.000		0.000		0.000		0.000	0.000	18.470	Continuing
Developmental Test & Evaluation 2	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	25.171	0.000		2.500	Dec 2010	0.000		2.500	0.000	27.671	Continuing
Developmental Test & Evaluation 3	WR	NSWC, PC PANAMA CITY, FL	9.244	0.000		4.750	Nov 2010	0.000		4.750	0.000	13.994	Continuing
Developmental Test & Evaluation 4	WR	COTF NORFOLK, VA	0.300	0.000		0.000		0.000		0.000	0.000	0.300	Continuing
Developmental Test & Evaluation 5	Various/ Various	VARIOUS VARIOUS	5.298	0.000		0.000		0.000		0.000	0.000	5.298	Continuing
Subtotal			58.483	0.000		7.250		0.000		7.250	0.000	65.733	
Remarks													

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM					PROJECT 0260: Remote Minehunting Systems				
Management Services (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Engineering Support	C/CPIF	LOCKHEED MARTIN RIVIERA BEACH, FL	6.569	0.000		0.000		0.000		0.000	0.000	6.569	Continuing	
Government Engineering Support1	WR	NSWC, PC PANAMA CITY, FL	22.996	0.000		0.000		0.000		0.000	0.000	22.996	Continuing	
Government Engineering Support2	WR	NSWC, PC PANAMA CITY, FL	0.137	0.050	Nov 2009	0.050	Nov 2010	0.000		0.050	0.000	0.237	Continuing	
Program Management Support	C/CPFF	CACI WASHINGTON, DC	4.358	0.000		0.000		0.000		0.000	0.000	4.358	Continuing	
Travel	WR	NAVSEA WNY, DC	0.566	0.050	Nov 2009	0.050	Nov 2010	0.000		0.050	0.000	0.666	Continuing	
SBIR Assessment	Various/ Various	VARIOUS VARIOUS	6.361	0.400	Jan 2010	0.400	Jan 2011	0.000		0.400	0.000	7.161	Continuing	
Subtotal			40.987	0.500		0.500		0.000		0.500	0.000	41.987		
Remarks														
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			384.117	5.906		19.691		0.000		19.691	0.000	409.714		

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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy			DATE: February 2010		
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AN/WLD-1(V)(1) PROGRAM SCHEDULE

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
RMS																												
Milestones																												
Events																												
Contract Awards																												
Reliability Growth Program																												
Test and Evaluation																												
Deliveries																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	PROJECT 0260: <i>Remote Minehunting Systems</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Full Rate Production Decision Review	3	2014	3	2014
BOA Award	2	2010	2	2010
FRP Award	4	2014	4	2014
Reliability Growth Program	2	2009	4	2012
DT	3	2013	3	2013
OT	2	2014	2	2014

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
1233: <i>Surface MCM Mid-life Upgrade</i>	24.736	21.380	13.479	0.000	13.479	20.622	24.484	24.723	24.918	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification (1) AN/SQQ-32(V)4 High-Frequency, Wide Band (HFWB) is a technology upgrade to the SQQ-32 Towed Body which will incorporate HFWB technology into the detection sonar to address performance deficiencies against new mine threats in the littorals. This upgrade will be installed on MCM-1 Class ships with the SQQ-32(V)3 and will develop new transducer modules, fiber optic cable and modify topside processing and display software. 2) Mine Warfare and Environmental Decision Aids Library (MEDAL) is a software segment on the Global Command and Control System - Maritime (GCCS-M). MEDAL provides mine and mine warfare planning and evaluation tools and databases to the MCM Commander. 3) Develop and implement Mine Countermeasures Commander's Estimate of the Situation (MCM CES). 4) Unmanned Surface Sweep System (US3) is a magnetic/acoustic sweep system developed to sweep acoustic/magnetic influence mines from an unmanned surface platform deployed from the Littoral Combat Ship (LCS).											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
ACQUISITION WORKFORCE FUND <i>FY 2009 Accomplishments:</i> Funded DoD Acquisition Workforce Fund.						0.122	0.000	0.000	0.000	0.000	
MCM CES/PRODUCT DEVELOPMENT: <i>FY 2009 Accomplishments:</i> Development of CES functionality in a MEDAL EA environment. <i>FY 2010 Plans:</i> Development of CES functionality in a MEDAL EA environment.						0.060	0.152	0.100	0.000	0.100	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 1233: Surface MCM Mid-life Upgrade		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: Development of CES functionality in a MEDAL EA environment.						
MCM CES/SUPPORT: FY 2009 Accomplishments: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness in reducing the complexity of the MCM planning problem into a manageable set of options depending on the operational objective. Support effort to include communication with activities such as ONR and NSWC-PC to coordinate the incorporation of validated algorithms and models into MEDAL with the CES framework in order to effectively simplify the MCM planning problem for CSG and ESG staffs and therefore provide the speed, agility, adaptability, and flexibility required for modern MCM operations. Validate Fleet usability of Planning on Risk (PoR) module.		0.100	0.076	0.069	0.000	0.069
FY 2010 Plans: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness in reducing the complexity of the MCM planning problem into a manageable set of options depending on the operational objective. Support effort to include communication with activities such as ONR and NSWC-PC to coordinate the incorporation of validated algorithms and models into MEDAL with the CES framework in order to effectively simplify the MCM planning problem for CSG and ESG staffs and therefore provide the speed, agility, adaptability, and flexibility required for modern MCM operations. Validate Fleet usability of Planning on Risk (PoR) module.						
FY 2011 Base Plans: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness in reducing the complexity of the MCM planning problem into a manageable set of options depending on the operational objective. Support effort to include communication with activities such as ONR and NSWC-PC to coordinate the incorporation of validated algorithms and models into MEDAL with the CES framework in order to effectively simplify the MCM planning problem for CSG						

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 1233: Surface MCM Mid-life Upgrade		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
and ESG staffs and therefore provide the speed, agility, adaptability, and flexibility required for modern MCM operations. Validate Fleet usability of Planning on Risk (PoR) module.						
MCM CES/TEST AND EVALUATION: FY 2009 Accomplishments: Complete testing of Build 1 with MEDAL EA. FY 2010 Plans: Conduct integration testing with MEDAL EA v1. FY 2011 Base Plans: Conduct integration testing with MEDAL EA v1.		0.120	0.127	0.126	0.000	0.126
MCM CES/MANAGEMENT: FY 2009 Accomplishments: Program management shall include overall technical guidance and leadership for the program. Other ongoing PM support includes oversight of financial and logistics efforts and adequate coordination with MEDAL. Other PM tasking to include briefings, demonstrations, and project planning as required. FY 2010 Plans: Program management shall include overall technical guidance and leadership for the program. Other ongoing PM support includes oversight of financial and logistics efforts and adequate coordination with MEDAL. Other PM tasking to include briefings, demonstrations, and project planning as required. FY 2011 Base Plans: Program management shall include overall technical guidance and leadership for the program. Other ongoing PM support includes oversight of financial and logistics efforts and adequate coordination with MEDAL. Other PM tasking to include briefings, demonstrations, and project planning as required.		0.020	0.026	0.026	0.000	0.026

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM	PROJECT 1233: Surface MCM Mid-life Upgrade			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
HFVB/PRODUCT DEVELOPMENT: FY=09-FY11 Program management shall include overall technical guidance and leadership for the program. Other ongoing PM support includes oversight of financial and logistics efforts and adequate coordination with MEDAL. Other PM tasking to include briefings, demonstrations, and project planning as required. FY 2009 Accomplishments: Towed body; common navigation console and auxiliary equipment integration FY 2010 Plans: Began system engineering, requirements analysis and design for HFVB P3I effort. FY 2011 Base Plans: Continue system engineering, requirements analysis, design and development for HFVB P3I effort.	1.557	2.500	1.612	0.000	1.612
HFVB/SUPPORT: FY 2009 Accomplishments: Complete documentation development and ILS documents. FY 2010 Plans: Began software requirements, configuration, and software integration for P3I effort. FY 2011 Base Plans: Continue system engineering and requirements analysis for HFVB P3I effort.	0.500	0.370	0.353	0.000	0.353
HFVB/TEST AND EVALUATION:	2.416	0.100	0.100	0.000	0.100

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 1233: Surface MCM Mid-life Upgrade		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Complete in water testing; At sea testing; operation assessment and Environmental Qualification testing (EQT).						
FY 2010 Plans: Perform lab testing for HFWB P3I effort.						
FY 2011 Base Plans: Continue to perform lab testing for HFWB P3I effort.						
HFWB/MANAGEMENT:		0.260	0.158	0.136	0.000	0.136
FY 2009 Accomplishments: Provide program management support and travel for AN/SQQ-32 HFWB Upgrade program.						
FY 2010 Plans: Provide program management support and travel for AN/SQQ-32 HFWB Upgrade program.						
FY 2011 Base Plans: Provide program management support and travel for AN/SQQ-32 HFWB Upgrade program.						
MEDAL/PRODUCT DEVELOPMENT:		6.000	5.168	3.708	0.000	3.708
FY 2009 Accomplishments: Complete Iteration 2 and 3. Initiate Iteration 4.						
FY 2010 Plans: Complete Iteration 4 and 5. Complete development and test of EA v1 and initiate development of EA v2. Complete IOC EA v1.						

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 1233: Surface MCM Mid-life Upgrade		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: Complete Iteration 4 and 5. Complete development and test of EA v1 and initiate development of EA v2. Complete IOC EA v1.						
MEDAL/SUPPORT: FY 2009 Accomplishments: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness with respect to their objectives. Support effort to include communication with activities such as applied labs, government activities, and designated contractors. Assist in providing the speed, agility, adaptability, and flexibility required for modern MCM operations. FY 2010 Plans: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness with respect to their objectives. Support effort to include communication with activities such as applied labs, government activities, and designated contractors. Assist in providing the speed, agility, adaptability, and flexibility required for modern MCM operations. FY 2011 Base Plans: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness with respect to their objectives. Support effort to include communication with activities such as applied labs, government activities, and designated contractors. Assist in providing the speed, agility, adaptability, and flexibility required for modern MCM operations.		0.400	0.463	0.435	0.000	0.435
MEDAL/TEST AND EVALUATION: FY 2009 Accomplishments: Conduct DT on Iteration 2 and 3.		0.130	1.322	1.965	0.000	1.965

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 1233: Surface MCM Mid-life Upgrade		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: Conduct DT on Iteration 4 and 5.						
FY 2011 Base Plans: Conduct DT on Iteration 4 and 5.						
MEDAL/MANAGEMENT:		0.395	0.572	0.519	0.000	0.519
FY 2009 Accomplishments: Provide program management support and travel for MEDAL program. Program management shall include overall technical guidance and leadership for the program. Oversight of financial and logistics efforts and coordination with Navy and other DoD organizations and contractors as required to ensure successful execution of the program. As part of the systems engineering element of PM, communicate and coordinate with MIW C4ISR, ICWS, Organic MCM, Mainstreaming MIW, Expeditionary Warfare C4ISR, tactics development, long term planning, Naval Special Clearance Team (NSCT)-1, Assault Breaching Systems of Systems (ABSoS), LCS, and other programs as they relate to MEDAL and MIW Mission Planning, Evaluation, and C4ISR. Other PM tasking to include briefings, demonstrations, and project planning as required.						
FY 2010 Plans: Provide program management support and travel for MEDAL program. Program management shall include overall technical guidance and leadership for the program. Oversight of financial and logistics efforts and coordination with Navy and other DoD organizations and contractors as required to ensure successful execution of the program. As part of the systems engineering element of PM, communicate and coordinate with MIW C4ISR, ICWS, Organic MCM, Mainstreaming MIW, Expeditionary Warfare C4ISR, tactics development, long term planning, Naval Special Clearance Team (NSCT)-1, Assault Breaching Systems of Systems (ABSoS), LCS, and other programs as they relate to MEDAL and MIW Mission Planning, Evaluation, and C4ISR. Other PM tasking to include briefings, demonstrations, and project planning as required.						

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 1233: Surface MCM Mid-life Upgrade		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: Provide program management support and travel for MEDAL program. Program management shall include overall technical guidance and leadership for the program. Oversight of financial and logistics efforts and coordination with Navy and other DoD organizations and contractors as required to ensure successful execution of the program. As part of the systems engineering element of PM, communicate and coordinate with MIW C4ISR, ICWS, Organic MCM, Mainstreaming MIW, Expeditionary Warfare C4ISR, tactics development, long term planning, Naval Special Clearance Team (NSCT)-1, Assault Breaching Systems of Systems (ABSoS), LCS, and other programs as they relate to MEDAL and MIW Mission Planning, Evaluation, and C4ISR. Other PM tasking to include briefings, demonstrations, and project planning as required.						
US3/PRODUCT DEVELOPMENT: FY 2009 Accomplishments: Product improvement efforts. Hardware and Software Development for the Unmanned Surface Sweep System (US3). FY 2010 Plans: Final design changes. Preparation of Milestone B documentation. FY 2011 Base Plans: Conduct Milestone B.		4.382	2.184	0.780	0.000	0.780
US3/SUPPORT: FY 2009 Accomplishments: Engineering and ILS support for required documentation to accomplish Milestone B. FY 2010 Plans: Engineering and ILS support for documentation to support Milestone B.		5.633	3.179	1.847	0.000	1.847

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 1233: Surface MCM Mid-life Upgrade		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: Completion of Milestone B, engineering support for engineering and manufacturing development.						
US3/TEST AND EVALUATION: FY 2009 Accomplishments: Mission module compatibility testing. FY 2010 Plans: Correct deficiencies from mission module compatibility and conduct certification testing. FY 2011 Base Plans: Testing to support EMD development.		1.398	3.898	0.809	0.000	0.809
US3/MANAGEMENT: FY 2009 Accomplishments: Program support and management necessary to monitor contractor progress; review system capabilities; monitor cost and schedule; monitor contractor deliverables. FY 2010 Plans: Program support for Milestone B documentation. FY 2011 Base Plans: Complete Milestone B in 1st Qtr; award EMD contract.		1.243	1.085	0.894	0.000	0.894
Accomplishments/Planned Programs Subtotals		24.736	21.380	13.479	0.000	13.479

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM				PROJECT 1233: Surface MCM Mid-life Upgrade			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/2622: LV075/LV078/LV080	22.092	42.960	55.450	0.000	55.450	47.483	0.961	0.960	1.150	0.000	171.056
D. Acquisition Strategy											
<p>HFWB - Naval Surface Warfare Center, Panama City (NSWC, PC) will team with a ARL UT to design and develop the HFWB upgrade to the AN/SQQ-32. Mine Warfare and Environmental Decision Aids Library (MEDAL) - requirements for MEDAL Builds are generated through a formal requirements process. Requirements conferences gather a list of candidate functions based on a logical sequence to fully implement the overall software architecture. The fleet is presented with a recommended list of candidate capabilities based on this program plan, doctrine, fleet comments, and technology. These capability items are then prioritized by the fleet representatives (coordinated by Commander Mine Warfare Command (COMINEWARCOM)). The fleet inputs are then consolidated by COMINEWARCOM into an overall list which is then presented to Navy leadership for pricing and final selection. The selection is based on price, risk, available funding, and possibly by other program factors (e.g., ensure that MEDAL supports other program delivery schedules). Selection balances immediate needs, long term objectives, technical maturity and other programmatic factors. A verification and validation process is applied to any algorithms, tactics, or models to be incorporated in the software. MEDAL development to include integration of data fusion techniques and incorporation of Data Access Layer (DAL) architecture to meet FORCEnet requirements. Acquisition strategy for Mine Countermeasures Commander's Estimate of the situation (MCM CES) is to deliver the software module within MEDAL builds by implementing the CES framework into the MEDAL software.</p> <p>US3- The Unmanned Surface Sweep System (US3) effort was transferred from ONR to PMS495 in FY07. Program transferred to PMS403 in FY09. PMS403 will award an EMD contract to continue development of the system. US3 will be capable of sweeping mines in the littoral waters. The EMD phase will include a Milestone C LRIP decision in FY14 and then LRIP and a Full Rate Production Decision (FRPD) in FY15.</p>											
E. Performance Metrics											
<p>Successfully reach Milestone B in FY11</p> <p>Complete PDR and CDR technical reviews in FY11</p> <p>Successfully reach Milestone C in FY14</p>											

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM					PROJECT 1233: Surface MCM Mid-life Upgrade				
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
BSP: Develop Bottom Sediment Classifier	WR	NRL WASHINGTON, DC	0.258	0.000		0.000		0.000		0.000	0.000	0.258	Continuing	
Systems Engineering and Integration	WR	NSWC, PC PANAMA CITY, FL	0.306	0.000		0.000		0.000		0.000	0.000	0.306	Continuing	
System Development 1	WR	NSWC, PC SAN DIEGO, CA	0.373	0.000		0.000		0.000		0.000	0.000	0.373	Continuing	
Systems Engineering 2	WR	NSWC, PC PANAMA CITY, FL	2.915	0.000		0.000		0.000		0.000	0.000	2.915	Continuing	
Systems Engineering 3	WR	NSWC, PC PANAMA CITY, FL	1.136	0.152	Nov 2009	0.100	Nov 2010	0.000		0.100	0.000	1.388	Continuing	
Primary Hardware Development 1	C/Various	NSWC, PC/ARL UT FLORIDA/TEXAS	15.511	0.000		0.000		0.000		0.000	0.000	15.511	Continuing	
Primary Hardware Development 2	WR	ARL-UT AUSTIN, TX	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing	
Tow Cable Development	C/Various	NSWC, PC/ARL UT FLORIDA/TEXAS	1.399	0.000		0.000		0.000		0.000	0.000	1.399	Continuing	
Ship Integration	WR	NSWC, PC PANAMA CITY, FL	1.697	0.000		0.000		0.000		0.000	0.000	1.697	Continuing	
SYSTEM ENGINEER	C/Various	NSWC/ARL UT	0.000	2.500	Nov 2009	1.612	Nov 2010	0.000		1.612	0.000	4.112	Continuing	

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Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
		FLORIDA/TEXAS												
Software Development	C/CPFF	SAIC SAN DIEGO, CA	16.967	5.168	Nov 2009	3.708	Nov 2010	0.000		3.708	0.000	25.843	Continuing	
US3: Product Development 1	C/TBD	ITT PANAMA CITY, FL	3.198	2.000	Nov 2009	0.000		0.000		0.000	0.000	5.198	Continuing	
US3: Product Development 2	WR	NSWC, PC PANAMA CITY, FL	1.276	0.184	Nov 2009	0.350	Nov 2010	0.000		0.350	0.000	1.810	Continuing	
US3: Product Development 3	C/TBD	TBD TBD	0.000	0.000		0.430	Dec 2010	0.000		0.430	0.000	0.430	Continuing	
Subtotal			45.036	10.004		6.200		0.000		6.200	0.000	61.240		
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Develop Logistics Products	WR	NSWC, PC PANAMA CITY, FL	0.160	0.000		0.000		0.000		0.000	0.000	0.160	Continuing	
Software Development 1	C/CPFF	SAIC	0.350	0.000		0.000		0.000		0.000	0.000	0.350	Continuing	

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Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		SAN DIEGO, CA											
Software Development 2	C/CPFF	SAIC SAN DIEGO, CA	0.769	0.076	Nov 2009	0.069	Nov 2010	0.000		0.069	0.000	0.914	Continuing
HFWB Software Development	WR	NSWC, PC/ARL-UT FLORIDA/TEXAS	7.462	0.300	Nov 2009	0.300	Nov 2010	0.000		0.300	0.000	8.062	Continuing
HFWB Integrated Logistics Support	WR	NSWC, PC PANAMA CITY, FL	2.600	0.070	Nov 2009	0.053	Nov 2010	0.000		0.053	0.000	2.723	Continuing
Software Engineering 1	WR	SPAWAR SAN DIEGO, CA	0.364	0.208	Nov 2009	0.206	Nov 2010	0.000		0.206	0.000	0.778	Continuing
Software Engineering 2	WR	NSWC, PC PANAMA CITY, FL	0.438	0.255	Nov 2009	0.229	Nov 2010	0.000		0.229	0.000	0.922	Continuing
US3: Engineering 1	C/TBD	ITT PANAMA CITY, FL	1.477	0.800	Dec 2009	0.000		0.000		0.000	0.000	2.277	Continuing
US3: Integrated Logistics1	C/TBD	ITT PANAMA CITY, FL	0.979	0.429	Dec 2009	0.000		0.000		0.000	0.000	1.408	Continuing
US3: Engineering 2	WR	NSWC, PC PANAMA CITY, FL	2.680	1.144	Nov 2009	0.788	Nov 2010	0.000		0.788	0.000	4.612	Continuing
US3: Integrated Logistics 2	WR	NSWC, PC PANAMA CITY, FL	1.421	0.806	Nov 2009	0.318	Nov 2010	0.000		0.318	0.000	2.545	Continuing

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Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
US3: Engineering3	C/TBD	TBD TBD	0.000	0.000		0.741	Dec 2010	0.000		0.741	0.000	0.741	Continuing	
Subtotal			18.700	4.088		2.704		0.000		2.704	0.000	25.492		
Remarks														
Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Test and Evaluation 1	C/Various	VARIOUS VARIOUS	0.220	0.127	Nov 2009	0.126	Nov 2010	0.000		0.126	0.000	0.473	Continuing	
Developmental Test and Evaluation	WR	NSWC, PC/ARL-UT FLORIDA/TEXAS	3.899	0.100	Nov 2009	0.100	Nov 2010	0.000		0.100	0.000	4.099	Continuing	
Test and Evaluation 2	C/Various	VARIOUS VARIOUS	0.630	1.322	Dec 2009	1.965	Dec 2010	0.000		1.965	0.000	3.917	Continuing	
US3: Test and Evaluation 3	C/TBD	ITT PANAMA CITY, FL	0.559	1.559	Dec 2009	0.000		0.000		0.000	0.000	2.118	Continuing	
US3: Test and Evaluation 4	WR	NSWC, PC PANAMA CITY, FL	1.007	2.339	Nov 2009	0.809	Nov 2010	0.000		0.809	0.000	4.155	Continuing	

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Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			6.315	5.447		3.000		0.000		3.000	0.000	14.762	
Remarks													
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support 1	C/CPFF	CACI WASHINGTON, DC	0.263	0.000		0.000		0.000		0.000	0.000	0.263	Continuing
Travel 1	WR	NAVSEA WNY, DC	0.084	0.000		0.000		0.000		0.000	0.000	0.084	Continuing
Government Engineering Support1	WR	NSWC, PC PANAMA CITY, FL	0.271	0.000		0.000		0.000		0.000	0.000	0.271	Continuing
Program Management Support 2	Various/ Various	VARIOUS VARIOUS	0.157	0.000		0.000		0.000		0.000	0.000	0.157	Continuing
SBIR Assessment 2	Various/ Various	VARIOUS VARIOUS	0.019	0.000		0.000		0.000		0.000	0.000	0.019	Continuing
Program Management Support 3	C/CPFF	CACI WASHINGTON, DC	0.855	0.265	Feb 2010	0.221	Feb 2011	0.000		0.221	0.000	1.341	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM				PROJECT 1233: Surface MCM Mid-life Upgrade					
Management Services (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
US3: Contractor Management 3	WR	ITT PANAMA CITY, FL	0.466	0.310	Dec 2009	0.000		0.000		0.000	0.000	0.776	Continuing	
US3: Government Management Support2	Various/ Various	VARIOUS VARIOUS	1.308	0.750	Nov 2009	0.620	Nov 2010	0.000		0.620	0.000	2.678	Continuing	
US3: Travel 2	WR	NAVSEA WNY, DC	0.050	0.025	Nov 2009	0.025	Nov 2010	0.000		0.025	0.000	0.100	Continuing	
Program Management Support 4	C/CPFF	CACI WASHINGTON, DC	0.080	0.000		0.000		0.000		0.000	0.000	0.080	Continuing	
Government Engineering Support3	WR	NSWC, PC PANAMA CITY, FL	0.090	0.000		0.000		0.000		0.000	0.000	0.090	Continuing	
Travel 3	C/TBD	NAVSEA WNY, DC	0.256	0.000		0.000		0.000		0.000	0.000	0.256	Continuing	
Program Management Support 5	C/CPFF	CACI WASHINGTON, DC	0.115	0.026	Nov 2009	0.026	Nov 2010	0.000		0.026	0.000	0.167	Continuing	
Government Engineering Support4	WR	NSWC, PC PANAMA CITY, FL	0.010	0.000		0.000		0.000		0.000	0.000	0.010	Continuing	
Travel4	C/TBD	NSWC, PC PANAMA CITY, FL	0.069	0.000		0.000		0.000		0.000	0.000	0.069	Continuing	
Program Management Support 6	C/Various	VARIOUS VARIOUS	1.094	0.148	Jan 2010	0.126	Jan 2011	0.000		0.126	0.000	1.368	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 1233: <i>Surface MCM Mid-life Upgrade</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support5	WR	NSWC, PC PANAMA CITY, FL	0.750	0.000		0.000		0.000		0.000	0.000	0.750	Continuing
Travel 5	C/TBD	NAVSEA WNY, DC	0.040	0.010	Nov 2009	0.010	Nov 2010	0.000		0.010	0.000	0.060	Continuing
Government Engineering Support6	WR	NSWC, PC PANAMA CITY, FL	0.796	0.282	Nov 2009	0.274	Nov 2010	0.000		0.274	0.000	1.352	Continuing
Travel 6	C/TBD	NAVSEA WNY, DC	0.189	0.025	Nov 2009	0.024	Nov 2010	0.000		0.024	0.000	0.238	Continuing
SBIR Assessment 6	Various/ Various	VARIOUS VARIOUS	0.054	0.000		0.000		0.000		0.000	0.000	0.054	Continuing
Program Management Support 7	C/Various	VARIOUS VARIOUS	0.350	0.000		0.000		0.000		0.000	0.000	0.350	Continuing
US3: Contractor Management 7	C/TBD	TBD TBD	0.000	0.000		0.249	Dec 2010	0.000		0.249	0.000	0.249	Continuing
Acquisition Workforce Fund	Various/ Various	VARIOUS VARIOUS	0.122	0.000		0.000		0.000		0.000	0.000	0.122	Continuing
Subtotal			7.488	1.841		1.575		0.000		1.575	0.000	10.904	
Remarks													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>			PROJECT 1233: <i>Surface MCM Mid-life Upgrade</i>				
	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	77.539	21.380		13.479		0.000		13.479	0.000	112.398	
Remarks											

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																				DATE: February 2010								
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)												R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM								PROJECT 1233: Surface MCM Mid-life Upgrade								
MEDAL	FY 2009				FY 2010				FY 2011				2012				2013				2014				2015			
Events	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Build 11 IOC																												
Build 11 (Unseg)	Develop/Int & Test																											
Enterprise Architecture Version 1					Development										Int/Test				OA									
Iteration 2	Develop/Int & Test																											
Iteration 3					Develop/Int & Test				Global Server																			
Iteration 4									Develop/Int & Test				Tactical Server															
Iteration 5													Develop/Int & Test															
Iteration 6																	Develop/Int & Test											
Iteration 7																					Develop/Int & Test							

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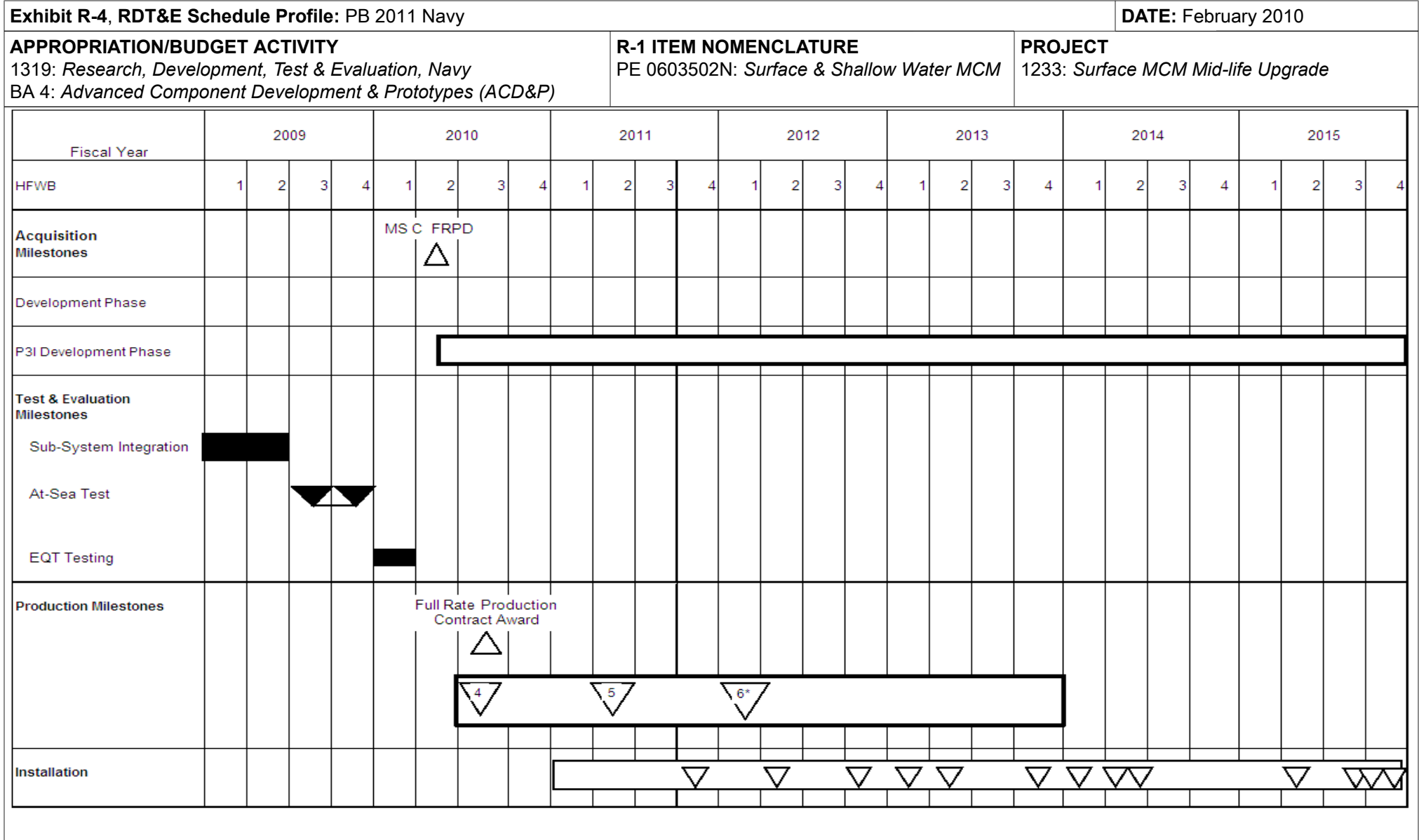
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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy					DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)			R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM			PROJECT 1233: Surface MCM Mid-life Upgrade	
Unmanned Surface Sweep System (US3)							
	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Phases and Milestones	Tech Transition 		 MS B			 MS C	 IOC
Testing					  DT OA		  DT OA
Technical Reviews			 PDR  CDR		LRIP	 Decision	 FRP Decision
Acquisition Program Procurement		MS B Documentation		MS C Documentation		 LRIP	
			 E&MD				

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																				DATE: February 2010								
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)										R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM								PROJECT 1233: Surface MCM Mid-life Upgrade										
MCMCES	FY 2009				FY 2010				FY 2011				2012				2013				2014				2015			
Events	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Build 0																												
Development Test																												
Fleet Trial																												
IOC																												
Build 1																												
Development Test																												
Integration and Test																												
IOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	PROJECT 1233: <i>Surface MCM Mid-life Upgrade</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
MCM CES: Build 1 Development and Test	1	2009	1	2010
MCM CES: Build 1 Integration and Test	3	2010	4	2010
MCM CES: IOC	1	2011	1	2011
HFWB: Milestone C/FRPD	2	2010	2	2010
HFWB: Subsystem Integration	1	2009	2	2009
HFWB: At-SEA Test	3	2009	4	2009
HFWB: EQT Testing	1	2010	1	2010
HFWB: Contract Award	3	2010	3	2010
HFWB: Full Rate Production	3	2010	4	2013
HFWB: P3I Development	2	2010	4	2015
HFWB: Installation	1	2011	4	2015
Build 11 Develop Integration and Test	1	2009	4	2009
MEDAL: Enterprise Arch (EA) v.1 Development and Test	1	2009	3	2013
MEDAL: EA v.1 Iteration 2	1	2009	2	2009
MEDAL: EA v.1 Iteration 3	2	2009	2	2010
MEDAL: EA v.1 Iteration 4	2	2010	4	2010
MEDAL: EA v.1 Iteration 5	1	2011	4	2011
MEDAL: EA v.1 Iteration 6	4	2011	3	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	PROJECT 1233: <i>Surface MCM Mid-life Upgrade</i>	

Event	Start		End	
	Quarter	Year	Quarter	Year
MEDAL: EA v.1 Iteration 7	4	2012	3	2013
US3: Milestone B Documentation	2	2009	1	2011
US3: Milestone B	1	2011	1	2011
US3: E&MD Contract Award	1	2011	1	2011
US3: PDR Decision	2	2011	2	2011
US3: CDR Decision	4	2011	4	2011
US3: Milestone C Documentation	1	2012	2	2013
US3: DT Testing	3	2013	3	2013
US3: DT Testing (cont.)	2	2015	2	2015
US3: Operational Assessment	4	2013	4	2013
US3: Milestone C	1	2014	1	2014
US3: LRIP Decision	1	2014	1	2014
US3: LRIP Contract Award	1	2014	1	2014
US3: Operational Assessment (Cont.)	3	2015	3	2015
US3: IOC	3	2015	3	2015
US3: Full Rate Production Decision	4	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 2094: <i>Unmanned Underwater Vehicle</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2094: <i>Unmanned Underwater Vehicle</i>	3.744	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	442.442
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification The November 2004 UUV Master Plan established Intelligence, Surveillance, and Reconnaissance (ISR), and clandestine Mine Countermeasures (MCM) as top priorities. The Mission Reconfigurable Unmanned Undersea Vehicle System (MRUUVS) will provide these capabilities to the warfighter. The MRUUVS Capability Development Document (CDD) was approved by the Joint Requirements Oversight Council (JROC) in June 2007.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MRUUVS <i>FY 2009 Accomplishments:</i> Completed close-out efforts for MRUUVS program.							3.599	0.000	0.000	0.000	0.000
ACQUISITION WORKFORCE FUND <i>FY 2009 Accomplishments:</i> Funded DoD Acquisition Workforce Fund.							0.145	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals							3.744	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	PROJECT 2094: <i>Unmanned Underwater Vehicle</i>
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A		
<u>D. Acquisition Strategy</u> In FY09, complete the integration of LPUMA into LMRS EDM vehicles and complete integration testing. In early FY10 complete a SSN demonstration at Navy ranges. Prepare for safety certification for installation on-board an attack submarine, and install system on attack submarine for at-sea demonstration of LPUMA mine detection, obstacle avoidance, UUV recovery on board attack submarine, and real-time merging of LPUMA data with submarine High Frequency sensor database for complete battlespace preparation.		
<u>E. Performance Metrics</u> required		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 2131: <i>Assault Breaching System</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2131: <i>Assault Breaching System</i>	42.437	30.743	31.245	0.000	31.245	30.942	26.125	12.957	13.259	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program provides for a combination of U.S. Navy projects planned to counter the threat to amphibious landing forces from known and projected foreign land/sea mines, obstacles in the beach zone and surf zone approaches to amphibious assault areas. The Assault Breaching System (ABS) of Systems (Countermines/Counter Obstacle, Intelligence/Surveillance/Reconnaissance/Targeting (ISR/T), Precision Navigation/Virtual Marking/Integration, C4I/Data Fusion) provides a full assault breaching capability which is an essential element to the Ship To Objective Maneuver (STOM) Concept of Operations.

Countermines/Counter Obstacle (CM/CO) - Far term - Counter Mine System (CMS) - transitioned from a 6.3 S&T Concept Demonstration effort to a 6.4 development program after a concept decision/AoA in FY06.

ISR/T - Coastal Battlefield Reconnaissance and Analysis (COBRA) is the ISR/T part of the ABS of systems. One system consists of two Airborne Payloads and one Post Mission Analysis Station. Under the umbrella of evolutionary acquisition, three increments of development are planned; Block I introduces a daytime, surface laid minefield and obstacle detection capability for the Beach Zone. Blocks II and III will incorporate technology being developed by 6.3.

S&T. Block II adds a surfzone and night (darkness) detection capability. Block III adds a buried mine detection capability and on-board Near-Real-Time processing of Multi Spectral Imagery data.

COBRA will be a modular payload architecture of and integrated with the MQ-8B Fire Scout Vertical Takeoff and Landing Unmanned Aerial Vehicle (VTUAV) and will serve as the "detect" mission module of the Littoral Combat Ship (LCS) Mine Warfare mission package.

Precision Navigation/Virtual Marking- The navigation effort involves requirements development and program planning to choose the navigational upgrades for the Landing Craft, Air Cushion (LCAC) and Landing Craft, Utility (LCU), and Amphibious Assault Vehicle (AAV) to enable the craft to safely navigate the neutralized assault lanes. A system of virtual or physical lane marking is to be developed to guide the assault craft through the neutralized assault lanes. OPN will fund the CRAFTALTS to upgrade the navigation systems.

LCU Navigation Upgrade: Modernized the navigation system to enable safe transit through the breached lane.

LCAC Autopilot Upgrade: An integrated improvement to the LCAC (Service Life Extension Program (SLEP) navigation system for craft control that allows precise navigation and hovering within the breached lane. These software upgrades and backfits will occur during scheduled LCAC SLEPs.

AAV Navigation Upgrade : Modernize the navigation system to enable precise transit through the breached lane.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 2131: Assault Breaching System		
Command, Control, Computers, Communications and Intelligence (C4I) - System will tie all of the above systems together under an integrated ABS architecture and also tie in with the integrated Mine Warfare architecture.						
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
ACQUISITION WORKFORCE FUND FY 2009 Accomplishments: Funded DoD Acquisition Workforce Fund.		0.211	0.000	0.000	0.000	0.000
Product Development: FY 2009 Accomplishments: Exercising contract options for CMS and awarding COBRA Block II contract and conducting system technical reviews on COBRA Block II and CMS. FY 2010 Plans: Conduct CMS Preliminary Design Review (PDR). Down selection of alternate neutralizer and neutralizer material at PDR solid reactive and liquid reactive candidates. Conduct CMS technical reviews. Begin neutralizer testing of 100 darts. FY 2011 Base Plans: FY 11: Conduct CMS Critical Design Review (CDR). Down selection between high explosive (HE) neutralizer and alternative neutralizer selected at PDR. Conduct system technical reviews for CMS and COBRA Block II. Continue neutralizer testing.		35.450	24.309	25.647	0.000	25.647
Support: FY 2009 Accomplishments: ISR/T - Technical analysis, modeling and simulation.		0.999	0.961	0.844	0.000	0.844

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 2131: Assault Breaching System		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: Conduct Weapon System Explosive Safety Requirements Board (WSESRB) Review; evaluate Flight Certification for Non-Navy Aircraft.						
FY 2011 Base Plans: Begin work on CMS LRIP solicitation.						
Test and Evaluation: FY 2009 Accomplishments: Complete Breaching System Effectiveness Simulation and ABS Effectiveness Tool.		0.206	0.167	0.147	0.000	0.147
FY 2010 Plans: Complete Integrated Test Phase I and II associated with Neutralizer and Sled Tests.						
FY 2011 Base Plans: Conduct CMS Inert Flight Test in preparation for Live-Live Tests.						
Management: FY 2009 Accomplishments: Mine magazine inventory management and shipping, contract management and tests/studies, C4I/ Data fusion.		5.571	5.306	4.607	0.000	4.607
FY 2010 Plans: Mine magazine inventory management and shipping, contract management and tests/studies, C4I/ Data fusion.						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM				PROJECT 2131: Assault Breaching System			
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: Mine magazine inventory management and shipping, contract management and tests/studies, C4I/ Data fusion.											
Accomplishments/Planned Programs Subtotals							42.437	30.743	31.245	0.000	31.245
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/2624: SHALLOW WATER MCM SHIP	7.297	7.811	9.236	0.000	9.236	10.877	25.114	25.548	25.994	0.000	111.877
• OPN/1600: LCS MODULES	0.000	3.267	4.095	0.000	4.095	4.100	4.285	4.377	8.916	0.000	29.040
• WPN/4225: AIRBORNE MCM	0.000	0.000	0.000	0.000	0.000	0.000	1.309	49.867	61.790	0.000	112.966
D. Acquisition Strategy											
Countermine/Counter Obstacle (CM/CO) is a two phased approach, near term and far term solutions. The near term approach for CM/CO is JDAM Assault Breaching System (JABS) and ABS Tactical Decision Aid and this effort has been completed. The far term solution is CMS, which transitioned from ONR in 2nd QTR 07 followed by MS B decision in 3rd QTR 07 and SD&D contract in 4th QTR 08.											
Intelligence/Surveillance/Reconnaissance/Targeting (ISR/T) - COBRA Block I achieved MS C in 3rd QTR FY09. COBRA Block II technology will transfer from ONR and achieve MS B in 1st QTR FY10. COBRA Block III technology will transition in FY12 with a MS B decision scheduled for 4th QTR FY15.											
Precision Navigation/Virtual Marking - The navigation upgrades for the Landing Craft, Air Cushion (LCAC) and Landing Craft, Utility (LCU) are in progress. AAV enhancements will be achieved through an ECP (PMA AAV (Marine Corps)) in 4th QTR FY10.											
E. Performance Metrics											
Successful COBRA integration, flight tests and Operational Assessment (OA) into the Verticle Take-off Unmanned Arial Vehicle (VTUAV). CMS successful design analysis with the down selection of the dart.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
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Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Primary Hardware Dev, COBRA	WR	NORTHROP GRUMMAN MELBOURNE, FL	101.700	6.893	Feb 2010	4.669	Feb 2011	0.000		4.669	0.000	113.262	Continuing	
Primary Hardware Dev, CMS	WR	Unknown Not Specified	32.660	5.041	Feb 2010	13.487	Feb 2011	0.000		13.487	0.000	51.188	Continuing	
Ancillary Hardware Dev, JABS	WR	Unknown Not Specified	9.222	0.000		0.000		0.000		0.000	0.000	9.222	Continuing	
Systems Engineering, COBRA	WR	NSWC, PC PANAMA CITY, FL	12.460	4.823	Nov 2009	3.577	Nov 2010	0.000		3.577	0.000	20.860	Continuing	
Software Dev, COBRA	WR	NAVAIR SAN DIEGO, CA	9.646	3.212	Nov 2009	0.100	Nov 2010	0.000		0.100	0.000	12.958	Continuing	
Systems Engineering, CMS	WR	NSWC, IH INDIAN HEAD, MD	22.069	1.824	Nov 2009	1.603	Nov 2010	0.000		1.603	0.000	25.496	Continuing	
Training Dev, COBRA	WR	NSWC, IH NDIAN HEAD, MD	4.368	0.848	Nov 2009	0.745	Nov 2010	0.000		0.745	0.000	5.961	Continuing	
Tooling	WR	NSWC, IH NDIAN HEAD, MD	0.860	0.000		0.000		0.000		0.000	0.000	0.860	Continuing	
ABS IPT/Test Assets/ Proj Eng	WR	NSWC, IH NDIAN HEAD, MD	6.117	0.361	Nov 2009	0.317	Nov 2010	0.000		0.317	0.000	6.795	Continuing	
Precision Navigation & Marking	WR	NSWC, IH	2.485	1.307	Nov 2009	1.149	Nov 2010	0.000		1.149	0.000	4.941	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 2131: <i>Assault Breaching System</i>					
Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		NDIAN HEAD, MD											
Subtotal			201.587	24.309		25.647		0.000		25.647	0.000	251.543	
Remarks													
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support Equipment	WR	NSWC, PC PANAMA CITY, FL	14.199	0.753	Nov 2009	0.662	Nov 2010	0.000		0.662	0.000	15.614	Continuing
Software Development	WR	NSWC, PC PANAMA CITY, FL	8.037	0.000		0.000		0.000		0.000	0.000	8.037	Continuing
Integrated Logistics Support	WR	NSWC, IH NDIAN HEAD, MD	2.712	0.000		0.000		0.000		0.000	0.000	2.712	Continuing
Configuration Management	WR	NSWC, PC PANAMA CITY, FL	3.744	0.000		0.000		0.000		0.000	0.000	3.744	Continuing
Technical Data	WR	NSWC, PC	2.588	0.000		0.000		0.000		0.000	0.000	2.588	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 2131: <i>Assault Breaching System</i>					
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		PANAMA CITY, FL											
Studies & Analysis	WR	NSWC, PC PANAMA CITY, FL	4.580	0.208	Nov 2009	0.182	Nov 2010	0.000		0.182	0.000	4.970	Continuing
GFE	WR	NSWC, PC PANAMA CITY, FL	0.400	0.000		0.000		0.000		0.000	0.000	0.400	Continuing
Subtotal			36.260	0.961		0.844		0.000		0.844	0.000	38.065	
Remarks													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WR	NSWC, IH NDIAN HEAD, MD	30.159	0.167	Nov 2009	0.147	Nov 2010	0.000		0.147	0.000	30.473	Continuing
Operational Test & Evaluation	WR	NSWC/ IH, PC NDIAN HEAD, PANAMA CITY	8.655	0.000		0.000		0.000		0.000	0.000	8.655	Continuing
Tooling	WR	NSWC/ IH, PC	0.700	0.000		0.000		0.000		0.000	0.000	0.700	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM					PROJECT 2131: Assault Breaching System				
Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
		NDIAN HEAD, PANAMA CITY												
GFE	WR	NSWC/ IH, PC NDIAN HEAD, PANAMA CITY	0.400	0.000		0.000		0.000		0.000	0.000	0.400	Continuing	
Subtotal			39.914	0.167		0.147		0.000		0.147	0.000	40.228		
Remarks														
Management Services (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Engineering Support	C/CPFF	CACI, Norhtrup Grumman DC, FL	7.321	1.122	Nov 2009	0.912	Nov 2010	0.000		0.912	0.000	9.355	Continuing	
Government Engineering Support	WR	NSWC, IH NDIAN HEAD, MD	28.201	2.094	Nov 2009	1.840	Nov 2010	0.000		1.840	0.000	32.135	Continuing	
Program Management Support	WR	NSWC/ IH, PC NDIAN HEAD, PANAMA CITY	19.904	2.090	Nov 2009	1.781	Nov 2010	0.000		1.781	0.000	23.775	Continuing	
Travel	WR	NAVSEA	1.213	0.000		0.074	Nov 2010	0.000		0.074	0.000	1.287	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 2131: <i>Assault Breaching System</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		WNY, DC											
Assessment/BTR	C/Various	VARIOUS VARIOUS	1.434	0.000		0.000		0.000		0.000	0.000	1.434	Continuing
Acquisition Workforce	Various/ Various	VARIOUS VARIOUS	0.211	0.000		0.000		0.000		0.000	0.000	0.211	Continuing
Subtotal			58.284	5.306		4.607		0.000		4.607	0.000	68.197	
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			336.045	30.743		31.245		0.000		31.245	0.000	398.033	
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																DATE: February 2010																					
APPROPRIATION/BUDGET ACTIVITY										R-1 ITEM NOMENCLATURE										PROJECT																	
1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)										PE 0603502N: Surface & Shallow Water MCM										2131: Assault Breaching System																	
Fiscal Year										FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
										1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ABS																																					
Milestones																																					
CMS System/Development 6.4														CMS System Development																							
CMS System Design/Platform Integration														System Design/Platform Integration																							
Countermine System Technical Reviews										◆ SRR				◇ PDR				◇ CDR								◇ LRIP Decision Review				◇ FRP Decision Review							
ISR/Navigation/C4I System Development														ISR/Navigation/C4I System Development																							
COBRA																																					
Block I										◆ MS C				Production (With Options)																							
Block II														◇ MS B				SD&D Day/Night Capability, Surf/Beach Zones																			
Block III																										◇ MS B											

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	PROJECT 2131: <i>Assault Breaching System</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
CMS System Development 6.4	1	2009	4	2015
CMS System Design/Platform Integration	1	2009	4	2015
SRR - System Requirements Review	2	2009	2	2009
PDR - Preliminary Design Review	2	2010	2	2010
CDR - Critical Design Review	2	2011	2	2011
LRIP Decision Review	2	2014	2	2014
FRP Decision Review	2	2015	2	2015
ISR/Navigation/C4I System Development	1	2009	4	2015
COBRA Block I Milestone MS C	3	2009	3	2009
COBRA Block I Production (With Options)	1	2010	4	2012
COBRA Block II Milestone B	2	2010	2	2010
COBRA Block II SD&D	2	2010	4	2014
COBRA Block III Milestone B	4	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 3123: <i>SMCM UUV</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
3123: <i>SMCM UUV</i>	3.389	15.525	12.732	0.000	12.732	18.131	10.810	7.431	2.721	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification The Surface Mine Countermeasure Unmanned Undersea Vehicle (SMCM UUV) procures Unmanned Underwater Vehicles to support dedicated mine countermeasure operations, including buried mine detection. Equipment includes vehicles and associated systems support equipment. Potential P3I candidates include communications upgrades, on-board sonar processing and target recognition, command and control improvements, and other smaller tasks.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
ACQUISITION WORKFORCE:						0.047	0.000	0.000	0.000	0.000	
<i>FY 2009 Accomplishments:</i> Funded DoD Acquisition Workforce Fund.											
SMCM UUV						3.342	15.525	12.732	0.000	12.732	
<i>FY 2009 Accomplishments:</i> Prepare for Milestone B and development contract award. LFBB development continues in FY09.											
<i>FY 2010 Plans:</i> Milestone B. Development contract award. Preliminary Design Review (PDR), Critical Design Review (CDR) preparation.											
<i>FY 2011 Base Plans:</i> Critical Design Review and vehicle fabrication.											
Accomplishments/Planned Programs Subtotals						3.389	15.525	12.732	0.000	12.732	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM				PROJECT 3123: SMCM UUV			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/2622: Minesweeping Sys Replacement, LV079	0.000	0.000	0.000	0.000	0.000	0.000	21.165	24.710	29.450	0.000	75.325
• OPN/1600: LCS MODULES, LM001	0.000	0.000	0.000	0.000	0.000	0.000	10.000	10.200	20.810	0.000	41.010
D. Acquisition Strategy											
An acquisition program will be initiated in FY09 to develop Surface Mine Countermeasure Unmanned Undersea Vehicles (SMCM UUV) equipped with Low Frequency Broadband (LFBB) sonar that provides buried mine detection capability. Initial procurement of the SMCM UUV with LFBB begins in FY13.											
E. Performance Metrics											
Successful Milestone C in Q4 FY13. Reach Full Rate Production Decision in Q4 FY14.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM				PROJECT 3123: SMCM UUV					
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SMCM UOES Development	C/CPAF	BLUEFIN CAMBRIDGE, MA	13.644	0.600	Dec 2009	0.605	Dec 2010	0.000		0.605	Continuing	Continuing	Continuing	
SMCM UUV Development	C/CPIF	TBD Not Specified	9.334	10.121	May 2010	8.302	Dec 2010	0.000		8.302	Continuing	Continuing	Continuing	
Software Development	WR	NSWC, PC PANAMA CITY, FL	0.805	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing	
Subtotal			23.783	10.721		8.907		0.000		8.907				
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Engineering Support 1	WR	NSWC, PC PANAMA CITY, FL	3.674	2.612	Dec 2009	1.572	Dec 2010	0.000		1.572	Continuing	Continuing	Continuing	
Engineering Support 2	WR	NUWC, Newport NEWPORT, RI	0.763	0.839	Dec 2009	0.827	Dec 2010	0.000		0.827	Continuing	Continuing	Continuing	
Engineering Support 3	WR	VARIOUS VARIOUS	0.080	0.728	Dec 2009	0.788	Dec 2010	0.000		0.788	Continuing	Continuing	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 3123: <i>SMCM UUV</i>					
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			4.517	4.179		3.187		0.000		3.187			
Remarks													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NOMWC STENNIS, MI	0.247	0.066	Dec 2009	0.068	Dec 2010	0.000		0.068	Continuing	Continuing	Continuing
Government T&E Support	WR	VARIOUS VARIOUS	0.583	0.192	Dec 2009	0.197	Dec 2010	0.000		0.197	Continuing	Continuing	Continuing
Test and Evaluation	WR	COMOPTEVFOR NORFOLK, VA	0.085	0.056	Dec 2009	0.057	Dec 2010	0.000		0.057	Continuing	Continuing	Continuing
Subtotal			0.915	0.314		0.322		0.000		0.322			
Remarks													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 3123: <i>SMCM UUV</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	VARIOUS WASHINGTON, DC	0.532	0.261	Dec 2009	0.266	Dec 2010	0.000		0.266	Continuing	Continuing	Continuing
Travel	WR	NAVSEA WNY, DC	0.050	0.050	Nov 2009	0.050	Nov 2010	0.000		0.050	Continuing	Continuing	Continuing
Acquisition Workforce	Various/ Various	VARIOUS VARIOUS	0.047	0.000		0.000		0.000		0.000	0.000	0.047	Continuing
Subtotal			0.629	0.311		0.316		0.000		0.316			
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			29.844	15.525		12.732		0.000		12.732			
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																DATE: February 2010												
APPROPRIATION/BUDGET ACTIVITY								R-1 ITEM NOMENCLATURE								PROJECT												
1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)								PE 0603502N: Surface & Shallow Water MCM								3123: SMCM UUV												
SMCM UUV	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SMCM UUV																												
Dual Frequency SAS Development																												
Dual Freq SAS Fleet Experimentation																												
SMCM UUV Milestone B																												
SMCM UUV Contract Award																												
SMCM UUV Development																												
SMCM UUV Milestone C																												
SMCM UUV LRIP																												
SMCM UUV Full Rate Production Decision																												
SMCM UUV Full Rate Production																												
P3I																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	PROJECT 3123: <i>SMCM UUV</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Dual Frequency SAS Development	1	2009	3	2010
Dual Frequency SAS Fleet Experimentation	3	2010	4	2012
SMCM UUV Milestone B	3	2010	3	2010
SMCM UUV Contract Award	3	2010	3	2010
SMCM UUV/SMCM Development	3	2010	4	2013
SMCM UUV Milestone C	4	2013	4	2013
SMCM UUV LRIP	4	2013	4	2014
SMCM UUV Full Rate Production Decision	4	2014	4	2014
SMCM UUV Full Rate Production	4	2014	4	2015
P3I	3	2014	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 4025: <i>Expendable Mine Neutralization System</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
4025: <i>Expendable Mine Neutralization System</i>	6.908	2.846	4.200	0.000	4.200	0.000	4.805	4.778	0.000	0.000	53.103
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification Expendable Mine Neutralization System (EMNS) is a replacement to the existing AN/SLQ-48 Mine Neutralization System (MNS). The current program replaces the MNS with EMNS on the 14 MCM Avenger Class Ships. EMNS will leverage off of on-going efforts in the Airborne Mine Countermeasures Program to develop an Airborne Mine Neutralization System (AMNS).											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
ACQUISITION WORKFORCE FUND <i>FY 2009 Accomplishments:</i> Funded DoD Acquisition Workforce Fund.							0.034	0.000	0.000	0.000	0.000
Hardware/Software Development <i>FY 2009 Accomplishments:</i> Award Development Contract for Expendable Mine Neutralization System (EMNS) integrator. Initiate hardware design and development to include launcher, control console, and MCM-1 Class ship integration. Modify software for use on an MCM-1 class ship. Integrate EMNS Engineering Development Model (EDM) aboard MCM-1 Class Ship. Award contract for Common Neutralizer support. Provide test articles and technical support throughout EMNS development.							1.110	0.407	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM		PROJECT 4025: Expendable Mine Neutralization System		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: Award Development Contract for Expendable Mine Neutralization System (EMNS) integrator. Initiate hardware design and development to include launcher, control console, and MCM-1 Class ship integration. Modify software for use on an MCM-1 class ship. Integrate EMNS Engineering Development Model (EDM) aboard MCM-1 Class Ship. Award contract for Common Neutralizer support. Provide test articles and technical support throughout EMNS development.						
Engineering Development FY 2009 Accomplishments: Develop logistics products, including training materials and interactive technical manual. Provide Engineering support, including review for product development and ship integration. FY 2010 Plans: Develop logistics products, including training materials and interactive technical manual. Provide Engineering support, including review for product development and ship integration. FY 2011 Base Plans: Provide Engineering support, including review for product development, ship integration and OT engineering support.		3.103	1.188	1.973	0.000	1.973
Test Events FY 2009 Accomplishments: EMNS developmental testing including environmental and shock testing, safety testing, and contractor testing. Develop Test and Evaluation Master Plan (TEMP) and test reports. Conduct DT/OT. FY 2010 Plans: EMNS developmental testing including environmental and shock testing, safety testing, and contractor testing. Develop Test and Evaluation Master Plan (TEMP) and test reports. Conduct DT.		2.525	0.862	1.832	0.000	1.832

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>			R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>			PROJECT 4025: <i>Expendable Mine Neutralization System</i>					
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
<i>FY 2011 Base Plans:</i> EMNS operational testing including environmental and shock testing, safety testing and test reports. Conduct OT.											
Management <i>FY 2009 Accomplishments:</i> Provide program management support and travel for EMNS. <i>FY 2010 Plans:</i> Provide program management support and travel for EMNS. <i>FY 2011 Base Plans:</i> Provide program management support and travel for EMNS.						0.136	0.389	0.395	0.000	0.395	
Accomplishments/Planned Programs Subtotals						6.908	2.846	4.200	0.000	4.200	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN/2622: <i>MINESWEEPING SYS REPLACEMENT, LV076 (EMNS)</i>	7.218	6.300	12.423	0.000	12.423	12.258	0.000	0.000	0.000	0.000	38.199
• WPN/4225: <i>AIRBORNE MCM, am080 (EMNS)</i>	0.000	7.832	4.071	0.000	4.071	8.521	14.194	0.000	0.000	0.000	34.618
D. Acquisition Strategy											
Based on the approved Common Neutralizer Strategy, the Archerfish neutralizer will be integrated on the MCM-1 Avenger Class Ships. The acquisition strategy will be full and open competition for non-neutralizer hardware development and system integration with a directed contractual relationship with VCT (flight control software).											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>	PROJECT 4025: <i>Expendable Mine Neutralization System</i>
<p>The Navy awarded a sole source contract to BAE Systems for Common Neutralizer support, integration, and hardware manufacturing/delivery. All EMNS neutralizer equipment and support will be provided by BAE Systems to the Navy. The Navy will provide these assets as GFE to the integration contractor.</p> <p><u>E. Performance Metrics</u></p> <p>Successfully complete DT and OT and receive FRPD in FY11.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM					PROJECT 4025: Expendable Mine Neutralization System				
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Develop Technical and Aquisition Documentation	WR	NSWC, PC Panama City, FL	1.649	0.407	Nov 2009	0.000		0.000		0.000	0.000	2.056	Continuing	
Hardware/Software Development	C/CPIF	Lockheed Martin Syracuse, NY	10.185	0.000		0.000		0.000		0.000	0.000	10.185	Continuing	
Common Neutralizer Development	C/CPIF	Raytheon Portsmouth, RI	2.431	0.000		0.000		0.000		0.000	0.000	2.431	Continuing	
Deep Water Neutralizer Development	WR	NSWC, PC Panama City, FL	0.000	0.000	Oct 2009	0.000		0.000		0.000	0.300	0.300	Continuing	
Deep Water Neutralizer Development	C/CPIF	BAE Systems Not Specified	0.000	0.000	Oct 2009	0.000		0.000		0.000	3.000	3.000	Continuing	
Subtotal			14.265	0.407		0.000		0.000		0.000	3.300	17.972		
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Develop Logistics Products	C/CPIF	Lockheed Martin Syracuse, NY	2.641	0.000		0.437	Nov 2010	0.000		0.437	0.000	3.078	Continuing	
Develop Logistics Products	WR	NSWC Not Specified	0.966	0.000		0.236	Nov 2010	0.000		0.236	0.000	1.202	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy										DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 ITEM NOMENCLATURE PE 0603502N: Surface & Shallow Water MCM					PROJECT 4025: Expendable Mine Neutralization System			
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	C/CPIF	Lockheed Martin Syracuse, NY	2.444	0.230		0.548	Nov 2010	0.000		0.548	0.000	3.222	Continuing
Engineering Support	C/CPIF	NSWC Not Specified	6.498	0.958		0.752	Nov 2010	0.000		0.752	0.000	8.208	Continuing
Deep Water Neutralizr ILS	C/CPIF	BAE Systems Not Specified	0.000	0.000		0.000		0.000		0.000	0.252	0.252	Continuing
Deep Water Neutralizr ILS	C/FP	NSWC, PC Panama, City	0.000	0.000		0.000		0.000		0.000	0.186	0.186	Continuing
Deep Water Neutralizer Engineering	C/CPIF	BAE Systems Not Specified	0.000	0.000		0.000		0.000		0.000	2.200	2.200	Continuing
Deep Water Neutralizer Engineering	WR	NSWC, PC Panama, City	0.000	0.000		0.000		0.000		0.000	0.860	0.860	Continuing
Subtotal			12.549	1.188		1.973		0.000		1.973	3.498	19.208	
Remarks													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop TEMP	WR	NSWC, PC Panama City, FL	0.100	0.000		0.000		0.000		0.000	0.000	0.100	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010																																																																																																																																							
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<p>Test and Evaluation (\$ in Millions)</p> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">Cost Category Item</th> <th rowspan="2">Contract Method & Type</th> <th rowspan="2">Performing Activity & Location</th> <th rowspan="2">Total Prior Years Cost</th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th rowspan="2">Cost To Complete</th> <th rowspan="2">Total Cost</th> <th rowspan="2">Target Value of Contract</th> </tr> <tr> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>CT/DT</td> <td>C/CPIF</td> <td>Lockheed Martin Syracuse, NY</td> <td align="right">1.272</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">1.272</td> <td>Continuing</td> </tr> <tr> <td>CT/DT</td> <td>WR</td> <td>NSWC, PC Panama City, FL</td> <td align="right">1.272</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">1.272</td> <td>Continuing</td> </tr> <tr> <td>Operational Test & Evaluation</td> <td>WR</td> <td>COTF Norfolk, VA</td> <td align="right">0.000</td> <td align="right">0.862</td> <td></td> <td align="right">1.832</td> <td>Oct 2010</td> <td align="right">0.000</td> <td></td> <td align="right">1.832</td> <td align="right">0.000</td> <td align="right">2.694</td> <td>Continuing</td> </tr> <tr> <td>Common Neutralizer Testing</td> <td>C/CPIF</td> <td>Raytheon Portsmouth, RI</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">0.000</td> <td>Continuing</td> </tr> <tr> <td>Common Neutralizer Test Sets</td> <td>C/CPIF</td> <td>Raytheon Portsmouth, RI</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">0.000</td> <td>Continuing</td> </tr> <tr> <td>Deep Water Neutralizer T&E</td> <td>C/CPIF</td> <td>BAE System Not Specified</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.995</td> <td align="right">0.995</td> <td>Continuing</td> </tr> <tr> <td>Deep Water Neutralizer T&E</td> <td>WR</td> <td>NSWC, PC Panama City, FL</td> <td align="right">0.000</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">2.295</td> <td align="right">2.295</td> <td>Continuing</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td><td align="right">2.644</td><td align="right">0.862</td><td></td><td align="right">1.832</td><td></td><td align="right">0.000</td><td></td><td align="right">1.832</td><td align="right">3.290</td><td align="right">8.628</td><td></td> </tr> </tbody> </table>														Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	CT/DT	C/CPIF	Lockheed Martin Syracuse, NY	1.272	0.000		0.000		0.000		0.000	0.000	1.272	Continuing	CT/DT	WR	NSWC, PC Panama City, FL	1.272	0.000		0.000		0.000		0.000	0.000	1.272	Continuing	Operational Test & Evaluation	WR	COTF Norfolk, VA	0.000	0.862		1.832	Oct 2010	0.000		1.832	0.000	2.694	Continuing	Common Neutralizer Testing	C/CPIF	Raytheon Portsmouth, RI	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing	Common Neutralizer Test Sets	C/CPIF	Raytheon Portsmouth, RI	0.000	0.000		0.000		0.000		0.000	0.000	0.000	Continuing	Deep Water Neutralizer T&E	C/CPIF	BAE System Not Specified	0.000	0.000		0.000		0.000		0.000	0.995	0.995	Continuing	Deep Water Neutralizer T&E	WR	NSWC, PC Panama City, FL	0.000	0.000		0.000		0.000		0.000	2.295	2.295	Continuing	Subtotal			2.644	0.862		1.832		0.000		1.832	3.290	8.628	
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																																																																																																					
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CT/DT	C/CPIF	Lockheed Martin Syracuse, NY	1.272	0.000		0.000		0.000		0.000	0.000	1.272	Continuing																																																																																																																																					
CT/DT	WR	NSWC, PC Panama City, FL	1.272	0.000		0.000		0.000		0.000	0.000	1.272	Continuing																																																																																																																																					
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Subtotal			2.644	0.862		1.832		0.000		1.832	3.290	8.628																																																																																																																																						
<p>Remarks</p>																																																																																																																																																		

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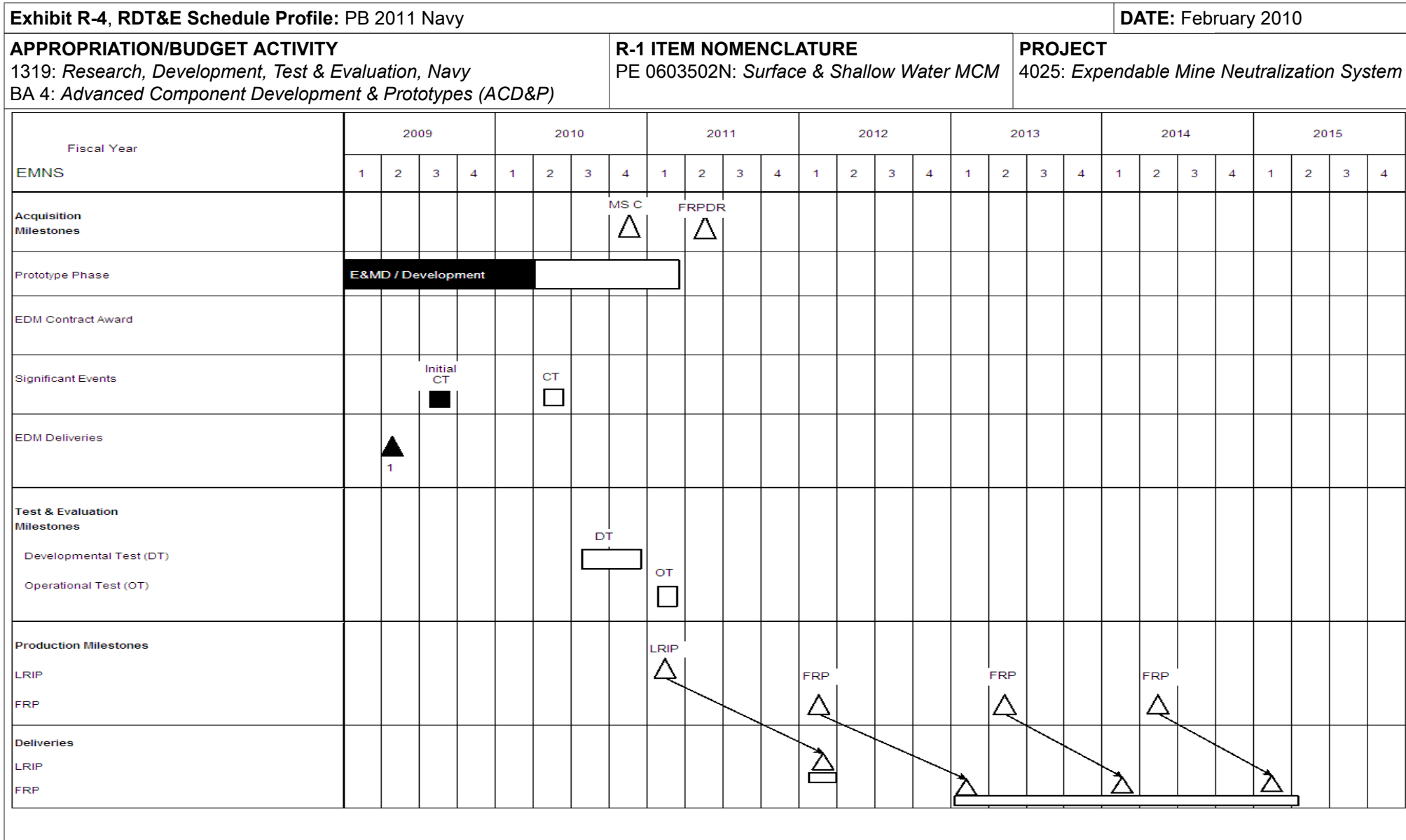
Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 4025: <i>Expendable Mine Neutralization System</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	CACI Arlington, VA	0.967	0.349	Oct 2009	0.355	Nov 2010	0.000		0.355	0.000	1.671	Continuing
Travel	WR	NAVSEA Washington, DC	0.210	0.040	Oct 2009	0.040	Nov 2010	0.000		0.040	0.000	0.290	Continuing
Subtotal			1.177	0.389		0.395		0.000		0.395	0.000	1.961	
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			30.635	2.846		4.200		0.000		4.200	10.088	47.769	
Remarks													

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Integration Development	1	2009	1	2011
EDM Deliveries	2	2009	2	2009
Contractor Testing	3	2009	3	2009
Contractor Testing (Continue)	2	2010	2	2010
Milestone C	4	2010	4	2010
LRIP Start	1	2011	1	2011
Developmental Testing DT	3	2010	4	2010
Operational Testing OT	1	2011	1	2011
FDR/PDR	2	2011	2	2011
FRP Start	1	2012	1	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603502N: <i>Surface & Shallow Water MCM</i>				PROJECT 9999: <i>Congressional Adds</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	7.179	15.934	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.517
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification Congressional interest											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010			
Congressional Add: RMS Prog - Cong <i>FY 2010 Plans:</i> Congressional Add to continue development of the Remote Minehunting System (RMS) during the RMS reliability growth program.							0.000	7.967			
Congressional Add: Persistent Autonomous Maritime Surveillance <i>FY 2010 Plans:</i> Congressional Add to develop prototype for a persistant maritime surveillance system, and demonstrate technology feasibility for fleet applications.							0.000	4.979			
Congressional Add: Mine Hunting Sonar Prog - Cong							0.000	2.988			

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
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B. Accomplishments/Planned Program (\$ in Millions)		
	FY 2009	FY 2010
<i>FY 2010 Plans:</i> Congressional Add to upgrade AN/SQQ-32(V)3 Classification Sonar, and to provide detection transducer development, design and quality sonar operator equipment consoles applicable to High Frequency Wide Band.		
Congressional Add: Unmanned Undersea Vehicles Near Term Interim Capa <i>FY 2009 Accomplishments:</i> Congressional Add to develop interim UUV capability, with common and modular architecture, to the Submarine Force and Surface Fleet that would allow for the development of CONOPS, and Training Tactics.	3.988	0.000
Congressional Add: AN/SQQ-32 Mine Hunting Sonar Upgrade <i>FY 2009 Accomplishments:</i> Congressional Add to upgrade AN/SQQ-32(V)3 Classification Sonar, and to provide detection transducer development, design and quality sonar operator equipment consoles applicable to High Frequency Wide Band.	3.191	0.000
Congressional Adds Subtotals	7.179	15.934
C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy congressional add		
E. Performance Metrics congressional add		

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