Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603502N *I Surface & Shallow Water MCM*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	1,156.475	160.711	160.040	100.349	-	100.349	75.597	95.719	107.065	117.218	Continuing	Continuing
0260: *Remote Minehunting Systems*	453.315	37.069	31.837	-	-	-	-	-	-	-	-	522.221
1233: *Surface MCM Mid-life Upgrade*	148.704	28.483	35.306	14.109	-	14.109	14.971	11.372	8.691	8.813	Continuing	Continuing
1234: *Unmanned Surface Vehicle (USV)*	0.000	-	-	36.465	-	36.465	15.624	17.692	13.426	14.536	Continuing	Continuing
2094.: *Unmanned Underwater Vehicle*	0.000	32.562	20.164	13.674	-	13.674	15.042	27.700	49.916	57.980	Continuing	Continuing
2131: *Assault Breaching System*	484.713	43.645	58.789	17.908	-	17.908	24.516	33.623	29.535	30.197	Continuing	Continuing
3123: *SMCM UUV*	69.743	18.952	13.944	18.193	-	18.193	5.444	5.332	5.497	5.692	Continuing	Continuing
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 286												

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This program element provides resources for development of mine countermeasure systems to provide minehunting, minesweeping, and neutralization to counter known and projected mine threats. The mine countermeasures systems provide mobile, quick reaction forces capable of land or sea-based minehunting and minesweeping operations worldwide. Resources are for developing and deploying advanced mine-hunting and minesweeping systems and the intelligence and oceanographic capabilities that will enable mine warfare superiority. Tactics and techniques used vary across a diversity of environments and a diversity of threats, including both asymmetric and emerging. Resources provide for systems and support of mine warfare systems, maritime systems, and expeditionary systems to allow for continuous operations of the Navy's warships and support vessels, other military vessels, and commercial vessels. Core capabilities include forward presence, deterrence, sea control, power projection, maritime security, humanitarian assistance and disaster response to maintain freedom of the seas. Increased capability includes conducting minefield reconnaissance (mine density and location) at high area search rates, improving detection capability, decreasing sensor false alarm rates, reducing or eliminating post-mission analysis detect, classify, identify, decide time, improving neutralization time, improving network communications, automatic target recognition, and achieving in-stride detect-to-engage capability. Concept of operations includes development of cooperative, unmanned, modular systems; the establishment of a capable networked command and control systems; and standing up an accurate and interactive environmental system with the ability to form and disseminate a Common Environmental Picture. Efforts benefit the MCM force by transforming the Navy from the platform-centered legacy set of systems to a capability-centered force that is distributed, networked, and able to provide unique maritime influence and access across the entire maritime domain.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy	Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603502N *I Surface & Shallow Water MCM*

The Surface Mine Countermeasures (SMCM) programs are platform independent and will provide detection, classification, localization, identification, neutralization, and influence clearance capabilities. Programs develop: (1) remote minehunting capability for surface platforms; (2) the integration and improvement of new and existing systems (3) support for systems which detect, localize, classify, identify, and neutralize all mine types across Mine Countermeasure (MCM) Avenger Class and other platforms; (4) systems for neutralizing mines and light obstacles through the entire water column to include shallow water, very shallow water, surf zones, and beach landing craft zones in support of operations; (5) the integration of Unmanned Undersea Vehicles (UUVs) to meet Undersea Surveillance capabilities as well as other prioritized and enduring capabilities, requirements and gaps and (6) integrate hardware for experimental testing related to surface ship, aircraft, and other cross platform applications.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	190.622	168.040	160.298	-	160.298
Current President's Budget	160.711	160.040	100.349	-	100.349
Total Adjustments	-29.911	-8.000	-59.949	-	-59.949
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-8.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-7.000	-			
• SBIR/STTR Transfer	-5.116	-			
• Program Adjustments	-	-	-39.765	-	-39.765
• Rate/Misc Adjustments	0.001	-	-20.184	-	-20.184
• Congressional General Reductions Adjustments	-15.796	-	-	-	-
• Congressional Directed Reductions Adjustments	-2.000	-	-	-	-

Change Summary Explanation

Program Adjustments:
FY13 -$29,911K Total adjustments; Sequestration -$15.547; SBIR -$5,116K; Reprogramming -$7,000, congressional reduction -$2,000K and Miscellaneous Adjustments -$.248K.

FY14 -$8,000K Total adjustments; -$4,000 Unmanned Surface Vehicle, -$4,000 LDUUV

FY15 -$59.949K Total Program Adjustments; USV UON $4,800K, USV Increment I (UISS) $11,600K, Knifefish $6,300K, LDUUV -$2,300K, PLUS -8,000, CMS -$31,055; RMS moved from this line -$21,110, Other Rate/Miscellaneous Adjustments -$20,184.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603502N / *Surface & Shallow Water MCM*				Project (Number/Name) 0260 / *Remote Minehunting Systems*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
0260: *Remote Minehunting Systems*	453.315	37.069	31.837	-	-	-	-	-	-	-	-	522.221
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 286

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The AN/WLD-1(V)2 Remote Minehunting System (RMS) is a mine reconnaissance system designed for the detection, classification, identification, and localization of bottom and moored mines in shallow and deep water. The RMS will provide the Navy the capability to keep ships and sailors out of the minefield. The RMS is deployed from the Littoral Combat Ship (LCS) as part of the ships' Mine Countermeasure (MCM) Mission Package (MP). The RMS is a fully integrated system consisting of a semi-submersible Remote Multi-Misson Vehicle (RMMV) towing a variable depth sensor, the AN/AQS-20A. The RMMV is a high-endurance, semi-autonomous, low-observable, unmanned, diesel-powered vehicle, operated and maintained from the LCS. Line-of-sight (LOS) and over-the-horizon (OTH) data links provide real time vehicle command and control and mine reconnaissance sensor data transmission to/from LCS.

The first Low Rate Initial Production (LRIP) units (LRIP 1) were used during the RMMV Reliability Growth Program (RGP) v4.2 configuration and will be upgraded to the version 6.0 (v6.0) configuration to support LCS integration.

The Program demonstrated substantially improved RMMV system performance during RMMV v4.2 validation testing in FY13. In the first quarter of FY14, the improved performance was validated during RGP Developmental Testing (DT). The Milestone C (MS C) Gate Review Defense Acquisition Board (DAB) is scheduled for the third quarter of FY14.

Not a new start. ACAT 1D Transparency requirement realigned program funding to Project Element 0604122N beginning in FY15.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development:	15.735	18.010	-
Articles:	-	-	-
FY 2013 Accomplishments: - Completed integration of the Remote Multi-Mission Vehicle (RMMV) v4.2 Engineering Change Proposals (ECPs) on (4) RMMVs. The v4.2 ECPs implemented 20 failure modes, 8 design for reliability improvements, and 10 process changes. - Completed RMMV v4.1 Technical Data Package (TDP).			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 0260 / *Remote Minehunting Systems*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Completed grooming of RMMVs to support v4.2 RGP DT. - Corrected technical issues discovered during v4.2 RGP DT. - Complete RMMV v4.2 TDP. - Implemented Operational Availability (Ao) hardware/software improvements. - Support LCS MCM MP RMMV integration efforts (RMMV v6.0 Preliminary Engineering Change Proposals (PECPs)) on (4) RMMVs. The PECP improvements include structural upgrades to support safe launch and recovery on the LCS, integration of the Multi Vehicle Communication System (MVCS), AN/AQS-20A Sonar Pre-Planned Product Improvement (P3I) (Block 2), and fleet suitability upgrades. ***FY 2015 Plans:*** - Realigned to PE 0604122N			
Title: Support: ***Articles:*** ***FY 2013 Accomplishments:*** - Provided engineering, logistics, and programmatic support for Remote Minehunting System(RMS)Reliability Growth Program (RGP). - Supported system design reviews. - Provided support for Remote Multi-Mission Vehicle (RMMV) v4.2 Physical Configuration Audit (PCA) and TDP development. - Started the RMMV v4.2 Interactive Electronic Technical Manual (IETM). - Provided on-site engineering support for RMMVs at contractor facility. - Conducted RMMV Ready For Issue (RFI) Inspections. - Prepared for RMMV v4.2 RGP DT. ***FY 2014 Plans:*** - Provided engineering, logistics, and programmatic support of RMS RGP DT. - Complete RMMV v4.2 PCA, TDP, and IETM. - Prepare for MS C Gate Review DAB and complete acquisition documentation. - Provide engineering, logistics, and programmatic support for LCS MCM MP Test events. - Provide on-site engineering support for RMMVs at contractor facility. - Conduct RMMV RFI Inspections. ***FY 2015 Plans:*** - Realigned to PE 0604122N	5.024 -	6.269 -	- -
Title: T&E:	14.929	6.528	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 0260 / *Remote Minehunting Systems*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: - Completed Remote Minehunting System (RMS) Reliability Growth Program (RGP)Remote Multi-Mission Vehicle(RMMV) v4.2 verification testing. - The RMMVs accumulated 855 Total System Operating Hours over 47 missions during the RGP V4.2 Contractor Validation testing. The system achieved a Mean Time Between Operational Mission Failure (MTBOMF) of 213.7 during the test. - Conducted training, proficiency, and sustainment missions in preparation for RMS RGP DT. All missions were executed by LCS MCM MP Detachment sailors. ***FY 2014 Plans:*** Completed RMMV v4.2 Developmental Test (DT-IIG). Achieved more than 150 hours of mine-hunting during 18 off-shore operationally-representative mine-hunting missions. LCS MCM MP Detachment sailors executed all phases of the RMS mine-hunting mission, including mission planning, mission operations, and post-mission data analysis for the entire test period. - Support integration and validation testing of RMMV v6.0. - Support AN/AQS-20A Sonar P3I (Block 2) testing. ***FY 2015 Plans:*** Realigned to PE 0604122N			
Title: Management:	1.381	1.030	-
Articles:	-	-	-
FY 2013 Accomplishments: - Provided program management oversight for Remote Multi-Mission Vehicle(RMMV)v4.2 integration, verification and validation testing. - Provided program management and oversight of RMMV v4.2 Engineering Change Proposals (ECPs). - Prepared for RMMV v4.2 RGP DT. - Provided program management and oversight of the development of the RMMV v4.2 TDP. - Prepared for and conducted the Resources, Requirements Review Board (R3B) in support of the Capabilities Production Document. - Started acquisition documentation in support of the MS C. - Awarded LCS Integration contract to support RMMV v6.0. ***FY 2014 Plans:*** - Provided program management oversight in support of RMMV v4.2 RGP DT. - Provide program management and oversight of RMMV v6.0.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 0260 / *Remote Minehunting Systems*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Complete acquisition documentation in support of the MS C DAB. - Prepare for development and release of the new start RMMV Competitive LRIP 2/FRP contract. - Prepare for the award of the LRIP 1 RMMV Integration/Maintenance contract. ***FY 2015 Plans:*** - Realigned to PE 0604122N			
Accomplishments/Planned Programs Subtotals	37.069	31.837	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• 0604122N: *Remote Minehunting System*	-	-	21.110	-	21.110	15.923	15.964	8.360	8.571	-	69.928

Remarks

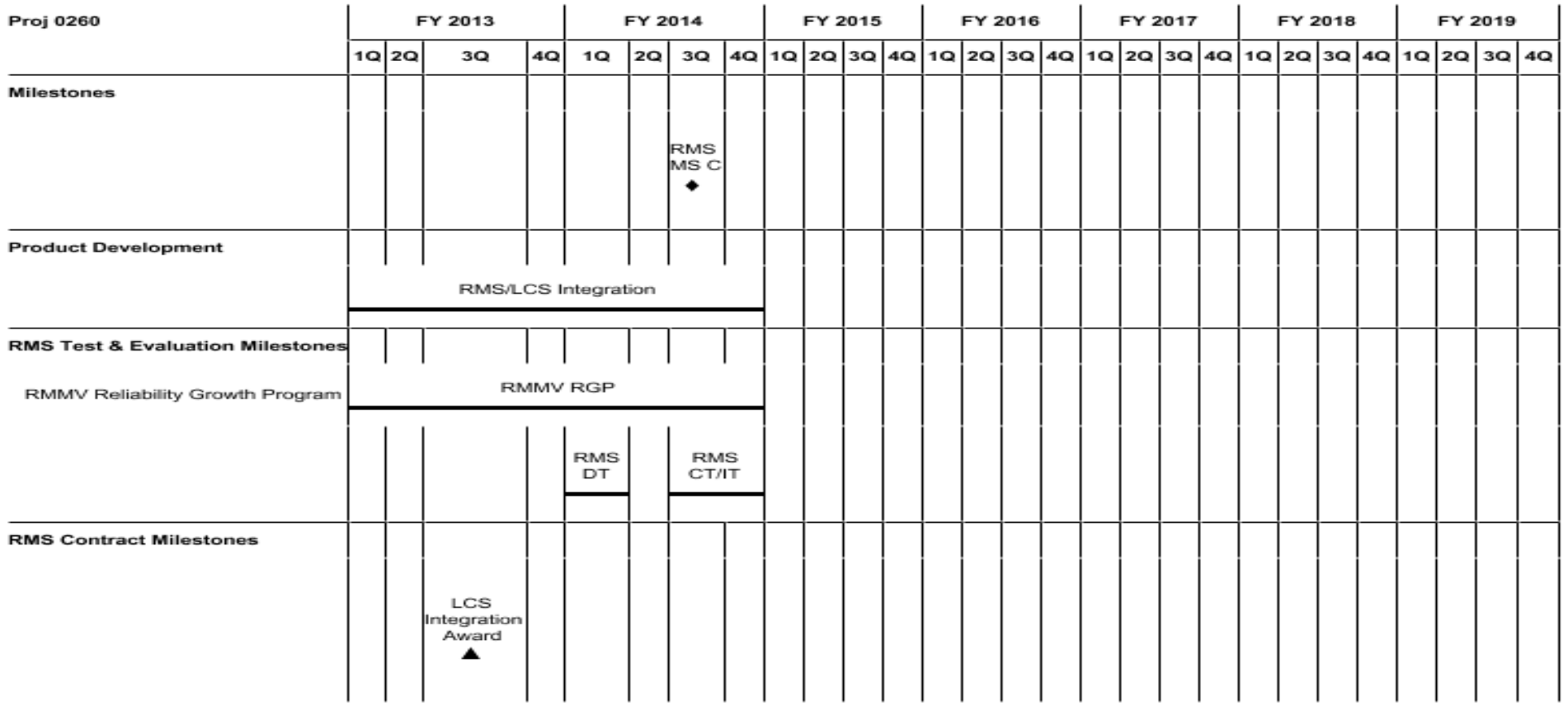
D. Acquisition Strategy

Conduct MS C DAB in 3rd QTR FY14 to support the LRIP 2 decision. The LCS Integration Contract will upgrade existing LRIP 1 tactical units from the RMMV v4.2 to RMMV v6.0 configuration.

E. Performance Metrics

- Completed RGP (FY13)
- Complete RMS RGP DT (FY14)
- Conduct MS C DAB (FY14)

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 0260 / *Remote Minehunting Systems*



2015PB - 0603502N - 0260

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603502N / *Surface & Shallow Water MCM*				Project (Number/Name) 1233 / *Surface MCM Mid-life Upgrade*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
1233: *Surface MCM Mid-life Upgrade*	148.704	28.483	35.306	14.109	-	14.109	14.971	11.372	8.691	8.813	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

USV Flight 1 and Flight 2 funding moved to PE 0603502N Proj:1234 Unmanned Surface Vehicle (USV)

A. Mission Description and Budget Item Justification

This project provides resources for development, improvement and integration of MCM systems. A description of the major planned programs include the following:

1) AN/SQQ-32(V)4 High-Frequency, Wide Band (HFWB) is a technology upgrade to the AN/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 AN/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 Vehicle (USV) Flight 1 includes the Unmanned Surface Sweep System (US3,)a magnetic/acoustic sweep system developed to sweep acoustic/magnetic influence mines, that when integrated with an unmanned surface vehicle (USV) becomes the Unmanned Influence Sweep System (UISS) deployed from the Littoral Combat Ship (LCS); 5) Multi-Function USV Flight 2 integrates a minehunting sensor with the UISS vehicle. The added capability allows a common USV to conduct minehunting and minesweeping missions. 6) AN?SLQ-60 Mine Neutralization System (MNS) Seafox on the MCM Class ships. MNS is the replacement to the existing AN/SLQ-48 Mine Neutralization System. 7) SSQ-94 MCM Trainer upgrade will incorporate the AN/SQQ-32 (V)8 sonar, SSN2(V)5 PINS and Mine Neutralization System Team Trainer.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: MCM CES/PRODUCT DEVELOPMENT:	0.125	0.125	-
Articles:	-	-	-
FY 2013 Accomplishments: Conducted Government verification of Contractor Testing of MEDAL EA Iteration 5 with MCM CES software. Developed CES test plans.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Complete integration and testing of CES with MEDAL EA. Conduct series of Development Tests (DT). Conduct OA planning for FY14. Complete CES training job aids; develop CES rollout training package for Fleet Introduction. ***FY 2015 Plans:*** N/A			
Title: MCM CES/SUPPORT: ***Articles:*** ***FY 2013 Accomplishments:*** Continued introduction of capability and Planning on Risk (PoR) functionality via a limited fielding to Fleet Users including Mine Counter Measures Squadrons (MCMRONs) and Naval Mine and Anti Submarine Warfare Command (NMAWC). ***FY 2014 Plans:*** Continue introduction of CES capability and Planning on Risk (PoR) functionality via a limited fielding to Fleet Users including Mine Countermeasures Squadrons (MCMRONs) and Naval Mine and Anti Submarine Warfare Command (NMAWC). ***FY 2015 Plans:*** N/A	0.095 -	0.095 -	- -
Title: MCM CES/TEST AND EVALUATION: ***Articles:*** ***FY 2013 Accomplishments:*** Incorporated lessons learned from initial user evaluation during Trident Warrior 12. Tested CES performance during MINENet Tactical Contractor Testing. ***FY 2014 Plans:*** Incorporate CES lessons learned from MINENet Tactical testing; conduct Government verification of software. ***FY 2015 Plans:*** N/A	0.151 -	0.151 -	- -
Title: HFWB/PRODUCT DEVELOPMENT: ***Articles:*** ***FY 2013 Accomplishments:*** Continued systems engineering, requirements analysis, design and development for AN/SQQ-32(V)4 HFWB P3I effort. ***FY 2014 Plans:***	0.900 -	1.233 -	0.856 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue systems engineering, requirements analysis, design and development for AN/SQQ-32(V)4 HFWB P3I thru the sensor effort. ***FY 2015 Plans:*** Continue systems engineering, requirements analysis, design and development for AN/SQQ-32(V)4 HFWB P3I thru the sensor effort.			
Title: HFWB/SUPPORT: ***Articles:*** ***FY 2013 Accomplishments:*** Continued software requirements, configuration, and software integration for AN/SQQ-32(V)4 HFWB P3I effort. ***FY 2014 Plans:*** Continue software requirements, configuration, and software integration for AN/SQQ-32(V)4 HFWB P3I through the sensor. ***FY 2015 Plans:*** Continue software requirements, configuration, and software integration for AN/SQQ-32(V)4 HFWB P3I through the sensor.	0.370 -	0.394 -	0.394 -
Title: HFWB/TEST AND EVALUATION: ***Articles:*** ***FY 2013 Accomplishments:*** Continued to perform Lab and At Sea testing for AN/SQQ-32(V)4 HFWB P3I effort. ***FY 2014 Plans:*** Continue to perform Lab and At Sea testing for AN/SQQ-32(V)4 HFWB P3I effort. ***FY 2015 Plans:*** Continue to perform Lab and At Sea testing for AN/SQQ-32(V)4 HFWB P3I effort.	0.350 -	0.310 -	0.303 -
Title: HFWB/MANAGEMENT: ***Articles:*** ***FY 2013 Accomplishments:*** FY13 provided program management support and travel for AN/SQQ-32(V)4 HFWB P3I program ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***	0.010 -	- -	- -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: MEDAL/PRODUCT DEVELOPMENT:	3.325	4.333	3.512
Articles:	-	-	-
FY 2013 Accomplishments: Conducted Government verification of MEDAL EA Iteration 5 testing, Contractor Testing of MEDAL EA Iteration 7 and MCM CES software. Developed MEDAL EA training job aids and reference cards.			
FY 2014 Plans: Complete development of MEDAL EA Iteration 7. Begin integration activities with CANES/ISNs and LCS Mission Package. Initiate Information Assurance documentation for Authority to operate on navy networks. Conduct series of Devlopment tests (DTs). Conduct OA planning for FY14. Complete development MEDAL EA Logistics products and training aids; expand existing MEDAL training curriculum to include introduction to MINENet Tactical (MEDAL EA).			
FY 2015 Plans: Conduct Test & Evaluation of MINEnet Tactical (MEDAL EA). Continue integration activities with LCS Mission Package. Continue to develop Information Assurance documentation for Authority to Operate on Navy networks. Conduct series of Devlopment tests (DTs). Continue planning for the development of MEDAL EA Increment 2. Begin development of MEDAL EA course curriculum. Conduct series of regression tests Tests. Deliver CES to MEDAL EA IOC participants.			
Title: MEDAL/SUPPORT:	0.550	0.550	0.536
Articles:	-	-	-
FY 2013 Accomplishments: Oversaw technical integration of developed algorithms and models that have demonstrated their effectiveness with respect to their objectives. Supported efforts to include communication with activities such as applied labs, government activities, and designated contractors. Assisted in providing the speed, agility, adaptability, and flexibility required for modern MCM operations.			
FY 2014 Plans: Oversee technical integration of developed algorithms and models that have demonstrated their effectiveness with respect to their objectives. Support efforts 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. Complete Fielding Plan for MEDAL EA; submit logistics and dod Information Assurance (IA) Certification and Accreditation Process (DIACAP) packages.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
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. Achieve IOC and begin fielding to achieve FOC. Continue introduction of CES capability and Planning on Risk (PoR) functionality via a limited fielding to Fleet Users including Mine Countermeasures Squadrons (MCMRONs) and Naval Mine and Anti Submarine Warfare Command (NMAWC). Provide in-service support to MEDAL EA IOC units.			
Title: MEDAL/TEST AND EVALUATION: ***Articles:*** ***FY 2013 Accomplishments:*** Completed Government verification of MEDAL EA Iteration 5 Contractor testing. Completed Contractor testing of Iteration 7 functional capabilities. Developed test plans for FY14. ***FY 2014 Plans:*** Incorporate lessons learned from MINENet Tactical CT. Complete DT for Surface MCM. Conduct System Integration testing activities wih LCS, CANES and ISNS. Continue planning for subsequent FY14 regression testing. ***FY 2015 Plans:*** Continue System Integration testing activities wih multiple platforms. Continue planning for subsequent OA events. Deliver to Fleet in accordance with the MEDAL EA Fielding Plan.	2.000 -	1.960 -	1.735 -
Title: MEDAL/MANAGEMENT: ***Articles:*** ***FY 2013 Accomplishments:*** Provided 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 MIEW, 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 2014 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	0.768 -	0.759 -	0.768 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
element of PM, communicate and coordinate with MIW C4ISR, ICWS, Organic MCM, Mainstreaming MIEW, 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 2015 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 MIEW, 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.			
Title: MNS Replacement	3.138	1.892	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued proof of concept SMCM ship system, engineering and testing for the MCM Ship Mine Neutralization System (Seafox) Replacement program. ***FY 2014 Plans:*** Continue proof of concept SMCM ship system, engineering and testing for the MCM Ship Mine Neutralization System (Seafox)Replacement program. ***FY 2015 Plans:*** N/A			
Title: SSQ-94 MCM Trainer Development	-	4.100	6.005
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** SSQ-94 Mine Warfare Countermeasures Simulator; development of hardware and software upgrades to the combat system team/ individual training capabilities on the MCM Class Ship ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
SSQ-94 Mine Warfare Countermeasures Simulator; development of hardware and software upgrades to the combat system team/ individual training capabilities on the MCM Class Ship			
Title: USV Flight 1 (US3)/PRODUCT DEVELOPMENT: ***Articles:*** ***FY 2013 Accomplishments:*** Continued Milestone B documentation. Continued Risk Reduction efforts. ***FY 2014 Plans:*** Conduct MS B. Begin Engineering and Manufacturing Design (E&MD) phase. Design and build Engineering Development Model (EDM). Develop software and hardware interfaces. ***FY 2015 Plans:*** Moved to Project Unit 1234	8.930 -	10.059 -	- -
Title: USV Flight 1 (US3)/SUPPORT: ***Articles:*** ***FY 2013 Accomplishments:*** Continued Milestone B documentation. ***FY 2014 Plans:*** Complete Milestone B documentation. Commence Engineering and ILS support for E&MD phase efforts. ***FY 2015 Plans:*** Moved to Project Unit 1234.	4.259 -	3.000 -	- -
Title: USV Flight 1 (US3)/TEST AND EVALUATION: ***Articles:*** ***FY 2013 Accomplishments:*** Continued development of the TEMP. Continue technology development testing and UISS component Demonstration Testing. ***FY 2014 Plans:*** Complete TEMP. ***FY 2015 Plans:*** Moved to Project Unit 1234	1.972 -	0.245 -	- -
Title: USV Flight 1 (US3)/MANAGEMENT: ***Articles:***	1.540 -	1.900 -	- -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Supported the award of the engineering and manufacturing development contract in the 3rd Qtr FY14. ***FY 2014 Plans:*** Commence E&MD contract management. Commence progam support for Milestone C documentation. ***FY 2015 Plans:*** Moved to Project Unit 1234.			
Title: USV Flight 2/PRODUCT DEVELOPMENT	-	3.800	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Develop hardware and software changes to tow minehunting sensor. Test sonar performance when towed by RHIB in various sea states. ***FY 2015 Plans:*** Moved to Project Unit 1234.			
Title: USV Flight 2/SUPPORT	-	0.400	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Engineering and Logistic support for hardware development. ***FY 2015 Plans:*** Moved to Project Unit 1234.			
Accomplishments/Planned Programs Subtotals	28.483	35.306	14.109

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2622: *LV075/LV078/LV080*	21.706	29.934	16.844	-	16.844	18.907	12.300	7.959	8.217	-	197.588

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

HFWB - Naval Surface Warfare Center, Panama City (NSWC, PC) and ARL UT designed and developed the HFWB upgrade to the AN/SQQ-32.

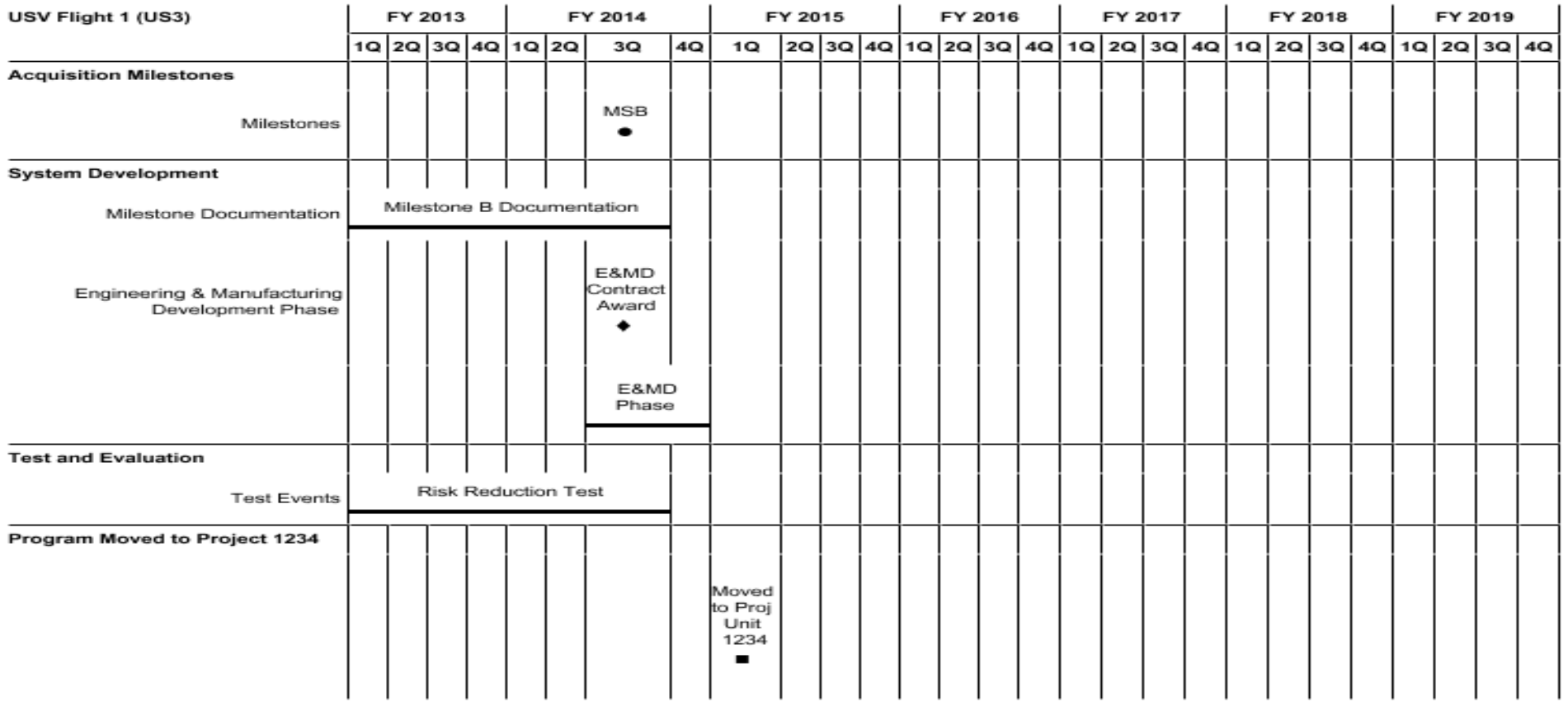
Mine Warfare and Environmental Decision Aids Library (MEDAL) - requirements for MEDAL Builds are generated through a formal requirements process. Requirements conferences gather a list of candidate functions based on a logical sequence to fully implement the overall software architecture. The fleet is 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 Naval Mine Warfare and Anti-Submarine Command (NMAWC).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. SSQ-94 MCM Trainer upgrade will incorporate the AN/SQQ-32 (V)8 sonar, SSN2(V)5 PINS and Mine Neutralization System Team Trainer.

USV Flight 1 (US3)- Requirements for USV Flight 1 (US3) will be documented in the Unmanned Influence Sweep System (UISS) Capability Development Document (CDD). Two Engineering and Manufacturing Development (EMD) contracts will be awarded in FY14 with an option for Low Rate Initial Production (LRIP). The UISS program moved to Project Unit 1234 starting in FY15.

E. Performance Metrics

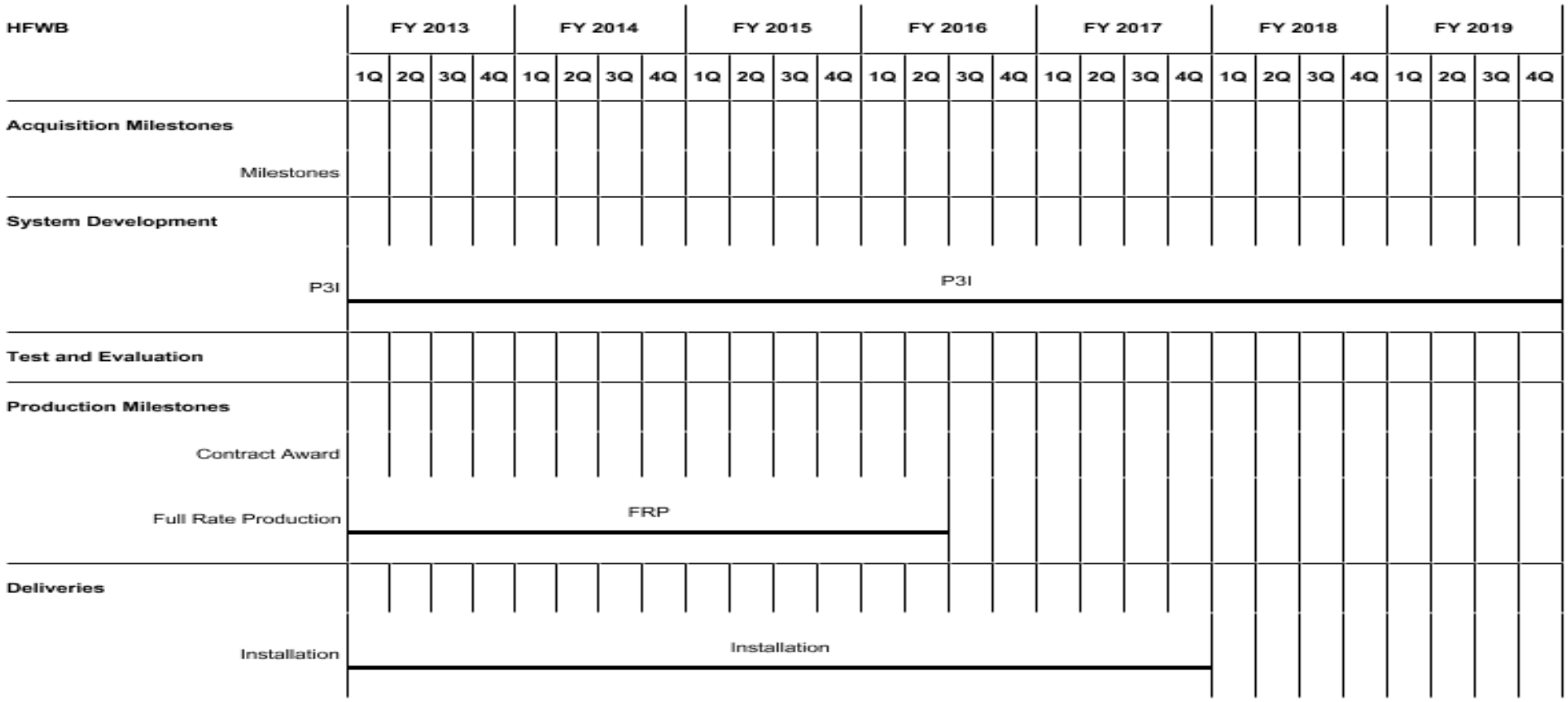
USV Flight 1 (US3) - Successfully reach Milestone B in FY14; Award EDM contract.
USV Flight 2 - Developmental Test in FY17

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*



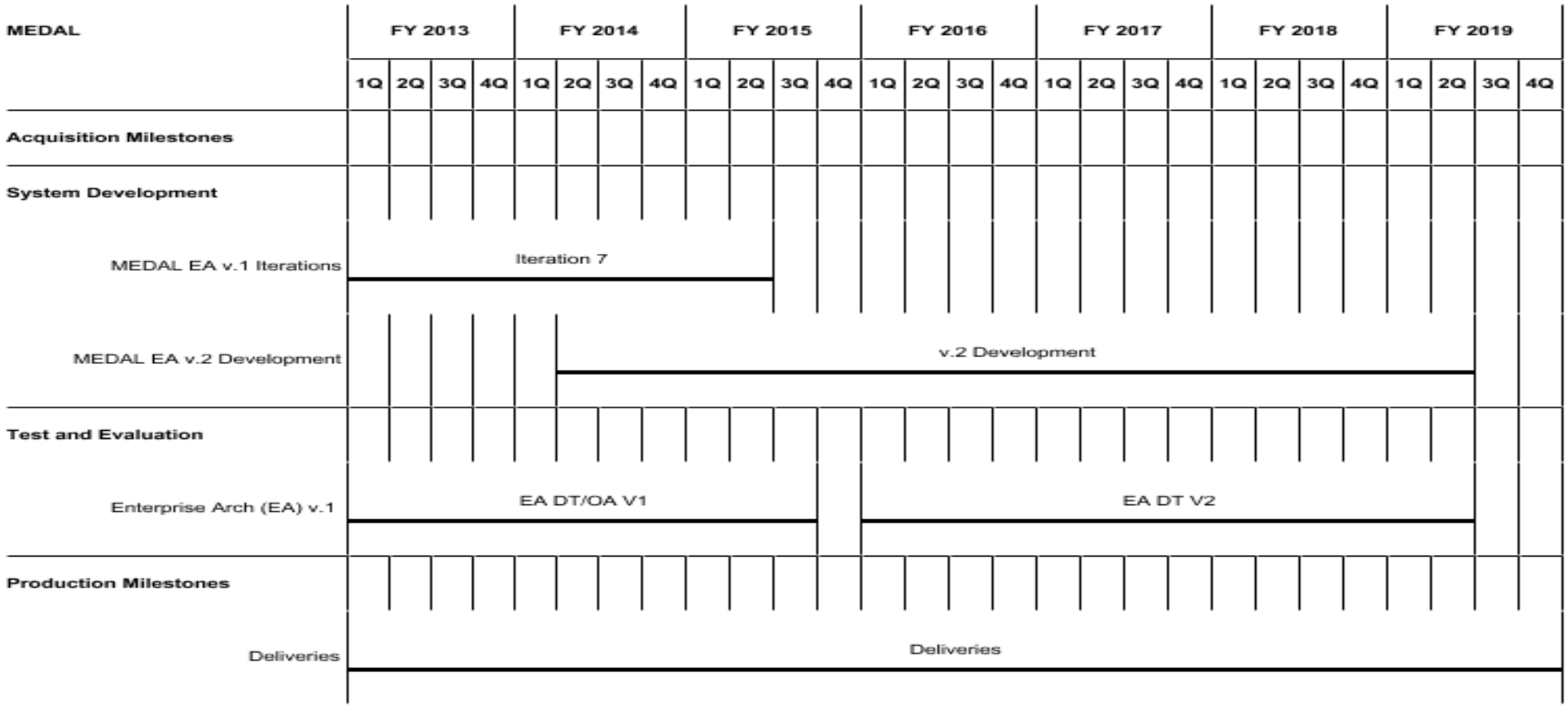
2015PB - 0603502N - 1233

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*



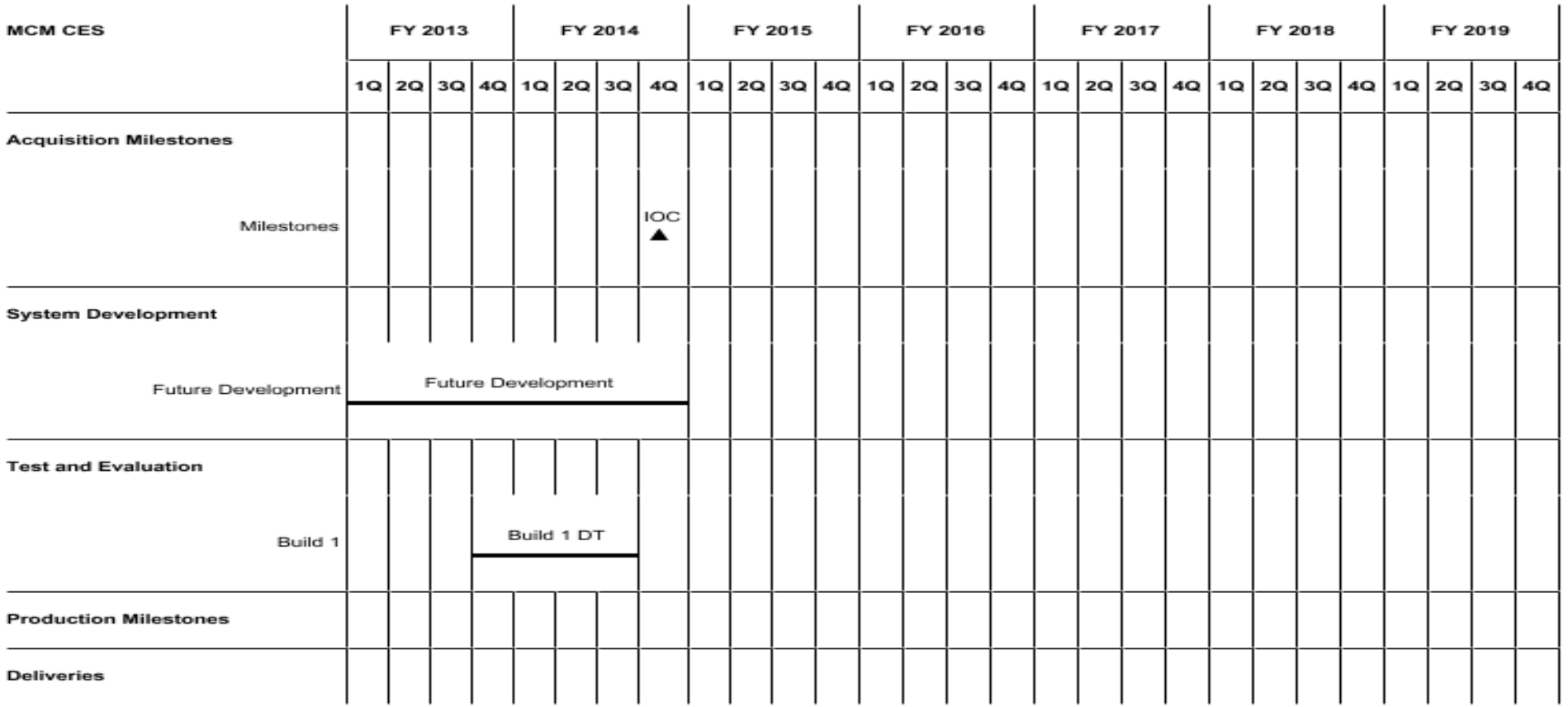
2015PB - 0603502N - 1233

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*



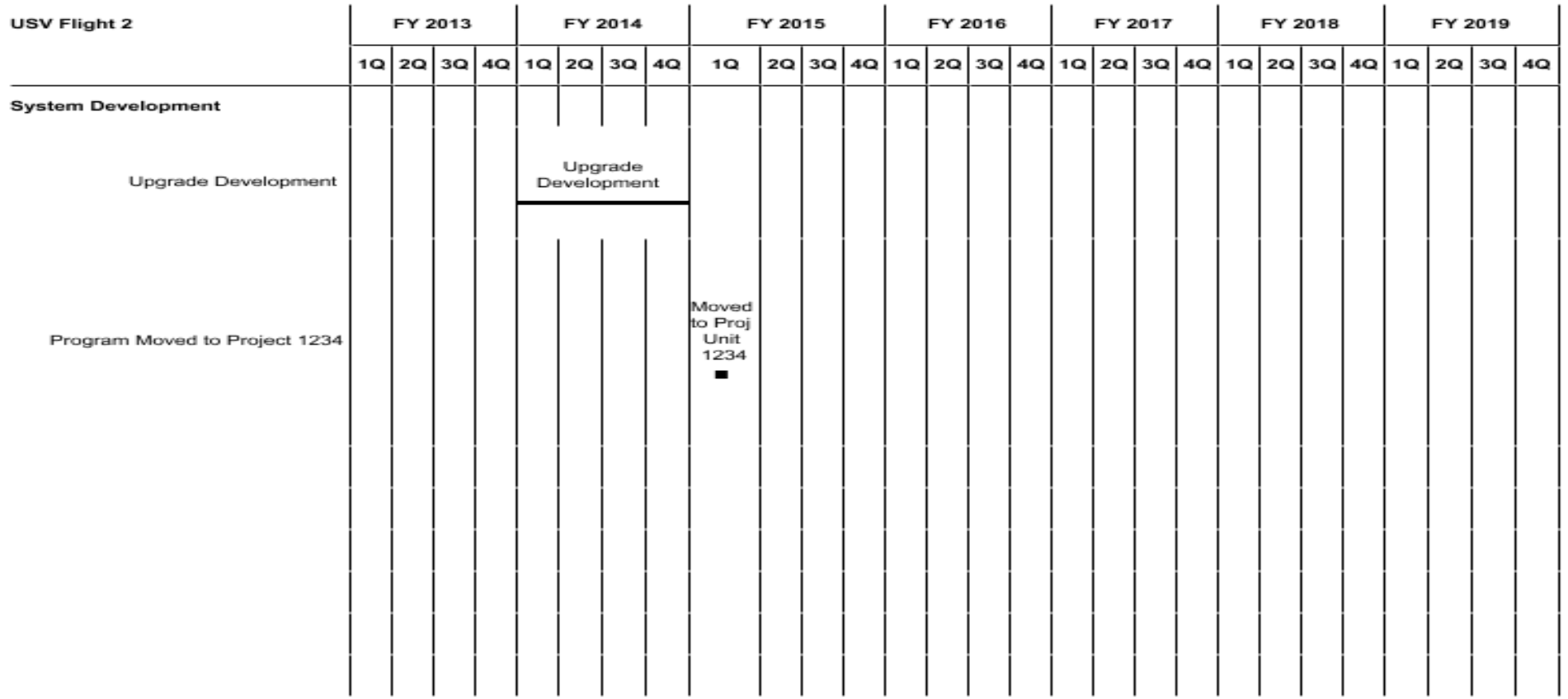
2015PB - 0603502N - 1233

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*



2015PB - 0603502N - 1233

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1233 / *Surface MCM Mid-life Upgrade*



2015PB - 0603502N - 1233

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603502N / *Surface & Shallow Water MCM*	Project (Number/Name) 1234 / *Unmanned Surface Vehicle (USV)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1234: *Unmanned Surface Vehicle (USV)*	-	-	-	36.465	-	36.465	15.624	17.692	13.426	14.536	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Funding prior to FY15 in PE 0603502N Project Unit 1233.

A. Mission Description and Budget Item Justification

This project provides resources for development, improvement and integration of Unmanned Surface Vehicle (USV) Mine Countermeasure systems. A description of the major planned programs include the following:

1)Unmanned Surface Vehicle (USV) Flight 1 includes the Unmanned Surface Sweep System (US3) , a magnetic/acoustic sweep system developed to sweep acoustic/ magnetic influence mines, that when integrated with an Unmanned Surface Vehicle (USV) becomes the Unmanned Influence Sweep System (UISS) deployed from the Littoral Combat Ship (LCS) 2)Multi-Function USV Flight 2 integrates minehunting sensor(s) with the UISS vehicle. The added capability allows a common USV to conduct mine hunting and mine sweeping missions. 3) USV Mine Hunting Units (MHUs) include USVs towing AN/AQS-24A mine hunting sonars and associated support equipment, including a command and control center that will be deployed from vessels of opportunity. MHUs are in response to an Urgent Operational Need (UON) from Naval Forces Central Command.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: USV Flight 1 Product Development	-	-	17.690
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans: Continue building Engineering Development Model (EDM). Conduct Preliminary Design Review (PDR).Conduct Critical Design Review (CDR).			
Title: USV Flight 1 Support	-	-	5.073
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1234 / *Unmanned Surface Vehicle (USV)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue engineering and integrated logistic suppot (ILS) for Engineering and Manufactureing Development (E&MD) phase.			
Title: USV Flight 1 Test and Evaluaiton	-	-	0.400
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Complete Test and Evaluation Master Plan (TEMP).			
Title: USV Flight 1 Management	-	-	1.050
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue E&MD contract management. Continue program support for Milestone C documentation.			
Title: USV Flight 2 Product Development	-	-	7.441
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1234 / *Unmanned Surface Vehicle (USV)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** Develop proof of concept via Modeling and Simulation (M&S).			
Title: USV Flight 2 Support	-	-	0.450
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Engineering and logisitic suport for proof of concept Modeling and Simulation (M&S).			
Title: USV MHUs Product Development	-	-	3.780
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Integrate upgraded minehunting sonar (AN/AQS-24B) onboard MHUs, to include upgrading Comand and Control (C2) center, MHU electronics and associated equipment. Conduct performance testing of AN/AQS-24B sonar towed from MHUs.			
Title: USV MHUs Support	-	-	0.581
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1234 / *Unmanned Surface Vehicle (USV)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Provide engineering and logistic support for upgrade training and forward-deployed operations.			
Accomplishments/Planned Programs Subtotals	-	-	36.465

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• 2622: *LV080/*	-	-	-	-	-	7.687	5.000	8.927	9.425	Continuing	Continuing

Remarks

D. Acquisition Strategy

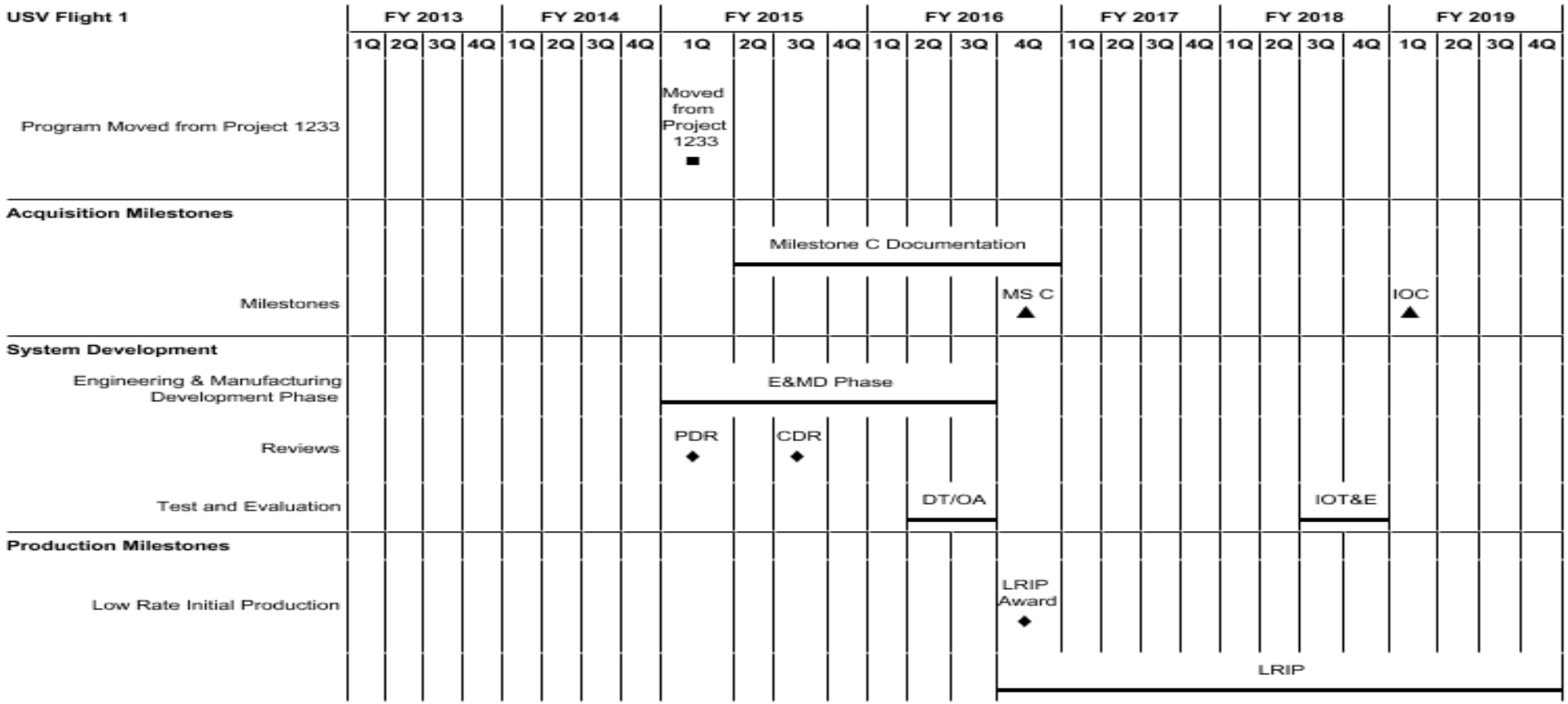
USV Flight 1 (US3)- Requirements for USV Flight 1 (US3) will be documented in the Unmanned Influence Sweep System (UISS) Capability Development Document (CDD). Two Engineering and Manufacturing Development (E&MD) contracts will be awarded in FY14 with an option for Low Rate Initial Production (LRIP).

USV Flight 2 - USV Flight 2 upgrade will be a contract modification to the USV Flight 1 (UISS) EMD contract in FY16.

E. Performance Metrics

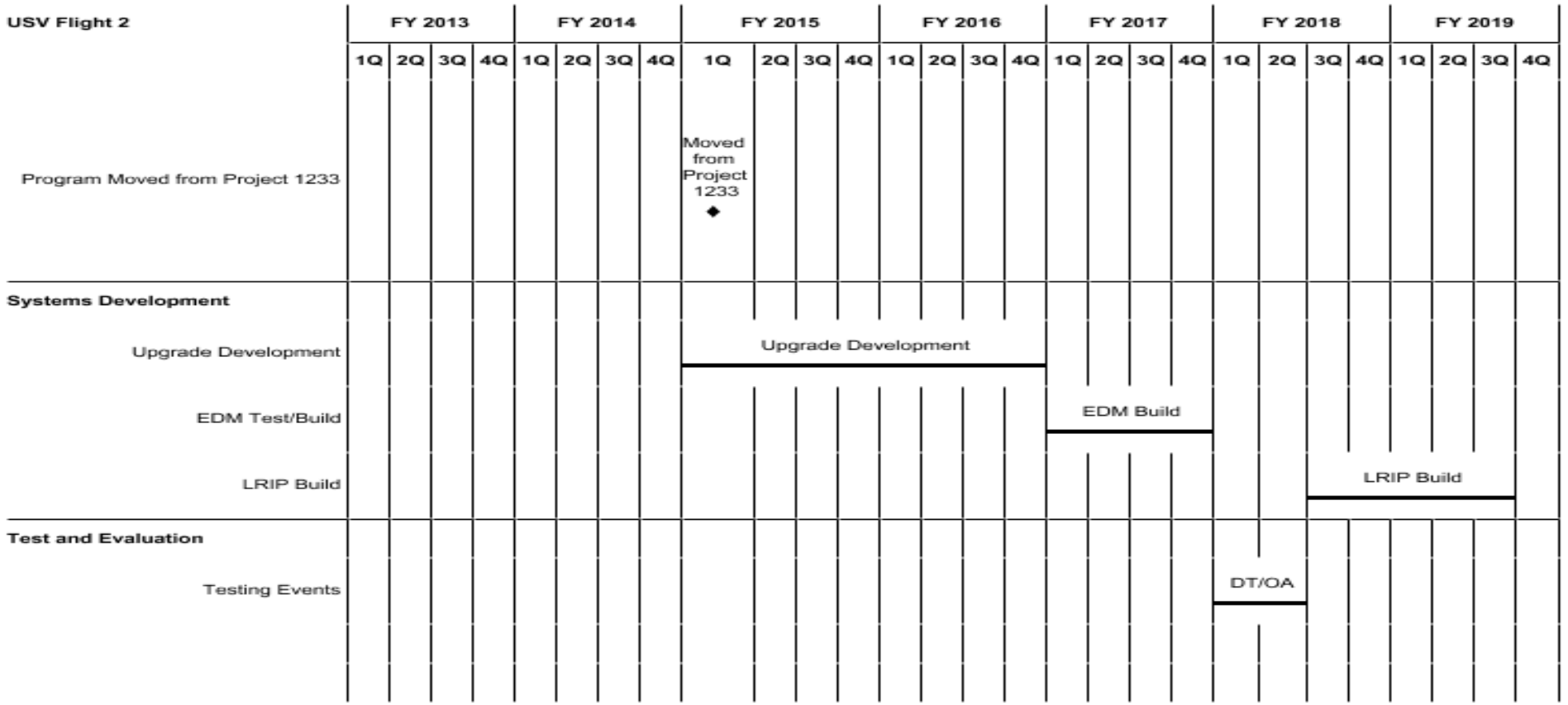
USV Flight 1 (US3) - Successfully reach Milestone B in FY14; Award E&MD contract.
USV Flight 2 - Developmental Test in FY18

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1234 / *Unmanned Surface Vehicle (USV)*



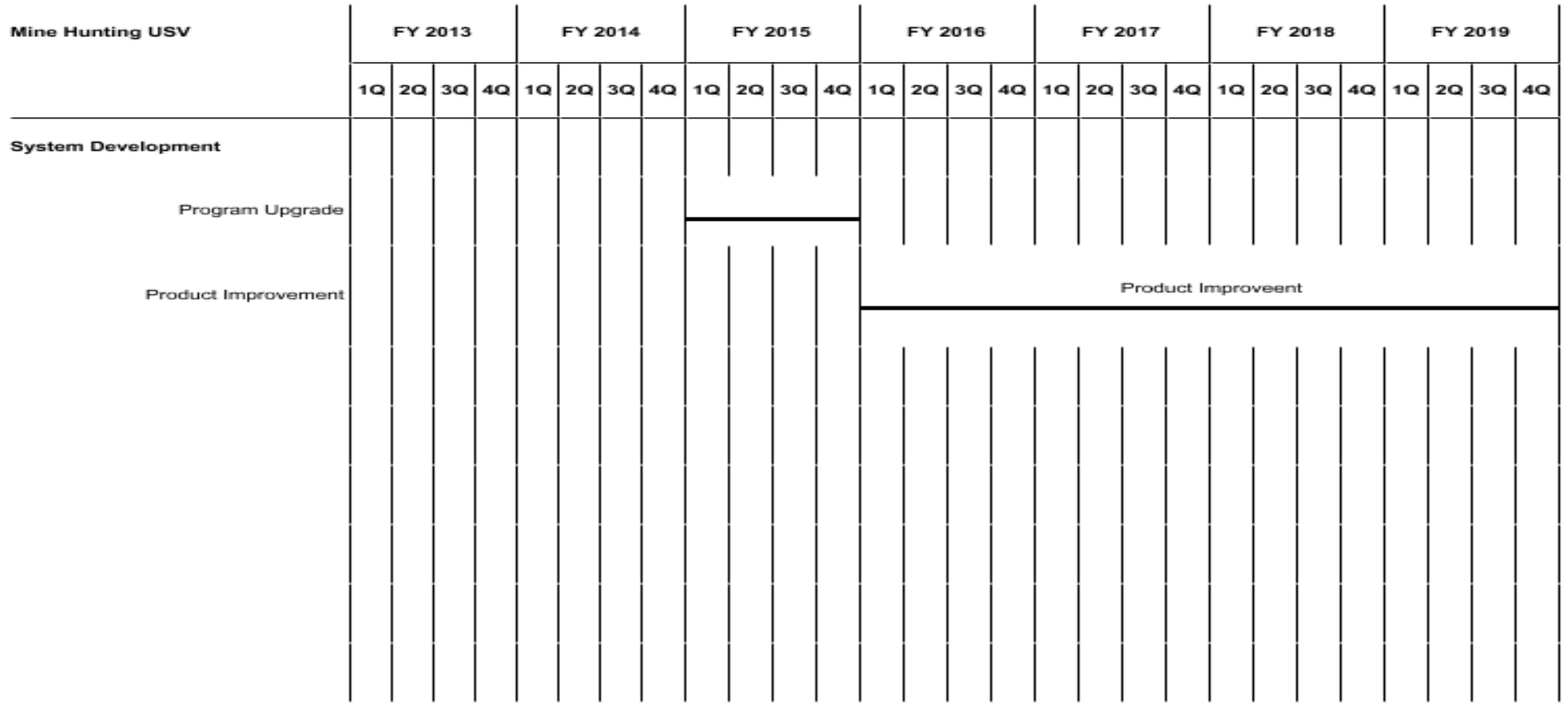
2015PB - 0603502N - 1234

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1234 / *Unmanned Surface Vehicle (USV)*



2015PB - 0603502N - 1234

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 1234 / *Unmanned Surface Vehicle (USV)*



2015PB - 0603502N - 1234

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603502N / *Surface & Shallow Water MCM*	Project (Number/Name) 2094. / *Unmanned Underwater Vehicle*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2094.: *Unmanned Underwater Vehicle*	-	32.562	20.164	13.674	-	13.674	15.042	27.700	49.916	57.980	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Persistent Littoral Undersea Surveillance (PLUS) Innovative Naval Prototype (INP) Program provides Undersea Surveillance capability by employing mobile Unmanned Undersea Vehicle (UUV) technology. PLUS is being developed in response to an Urgent Operational Need (UON) identified by the Fleet. PLUS uses both conventionally powered UUVs with propellers and UUVs propelled by buoyancy engines (commonly called seagliders). PLUS INP S&T development program is planned to transition into a prototype User Operational Evaluation System (UOES). The Large Displacement Unmanned Undersea Vehicle (LDUUV) provides long endurance UUVs operating autonomously in denied littorals with multiple mission payloads to increase the Navy's capacity and capability.
Persistent Littoral Undersea Surveillance (PLUS): The Persistent Littoral Undersea Surveillance (PLUS) program provides effective, adaptive and persistent undersea surveillance targets over large littoral areas.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: LDUUV Product Development	0.225	2.622	2.268
Articles:	-	-	-
FY 2013 Accomplishments: LDUUV - Completed AoA. Developed Performance Specifications to support Preliminary Design phase of LDUUV POR.			
FY 2014 Plans: Develop Interface Control Documents (ICD), Capability Development Document(CDD), system specifications, and Test and Evaluation Strategy (TES) for LDUUV Engineering Development Model (EDM).			
FY 2015 Plans: Develop draft Request for Proposal (RFP) for EDM contracts. Complete Interface Control Documents (ICD), CDD, system specifications, and Test and Evaluation Strategy (TES).			
Title: LDUUV Support	4.961	4.610	7.896
Articles:	-	-	-
FY 2013 Accomplishments: Conducted Cost Analysis. Developed statutory documents for Gates 2 Review and Milestone A.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2094. / *Unmanned Underwater Vehicle*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Develop statutory documents for Gate 3 Review and Milestone A. Conduct Milestone A. Develop Technical Data Package for Draft RFP. ***FY 2015 Plans:*** Develop statutory documents for Gate 4 and 5 Reviews. Draft RFP release. Formulate proposal evaluation team to review bids. Conduct technology risk reduction efforts.			
Title: LDUUV Management	0.960	0.990	0.705
Articles:	-	-	-
FY 2013 Accomplishments: Provided program management support and travel for the LDUUV program. Program management (PM) included overall technical guidance and leadership for the program. Oversight of financial and logistics efforts and coordination with Navy and other DoD organizations and contractors required to ensure successful execution of the program. Travel and other PM tasking to included briefings, demonstrations, and project planning. ***FY 2014 Plans:*** Provide program management support and travel for the LDUUV 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. Travel and other PM tasking to include briefings, demonstrations, and project planning as required. ***FY 2015 Plans:*** Provide program management support and travel for the LDUUV 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. Travel and other PM tasking to include briefings, demonstrations, and project planning as required.			
Title: PLUS Product Development	10.499	2.800	-
Articles:	-	-	-
FY 2013 Accomplishments: Identified/established contract vehicle(s) and system specifications. Based on determinations from transition and Concept of Employment (CONEMP) Plans, developed prototype using REMUS 600 UUVs, hydrophone towed arrays, SEAGLIDER communication and navigation vehicles, and other material as determined for integration, Launch and Recovery (L&R) Hardware, and Command and Control (C2) Hardware. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2094. / *Unmanned Underwater Vehicle*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Complete procurement of the PLUS system consisting of REMUS 600 UUVs, hydrophone towed arrays, SEAGLIDER communication and navigation vehicles. Complete system integration and all relevant certifications, incorporating any updates identified through system testing. ***FY 2015 Plans:*** N/A			
Title: PLUS Support	7.000	1.539	-
Articles:	-	-	-
FY 2013 Accomplishments: Commenced development of tailored UOES technical documentation to support transition from S&T to a UOES project. Developed system & operational classification guidance. Generated system training and support plans. Documented appropriate C2 strategy for system operations. Completed requisite Approval to Operate (ATO), Information Assurance/Anti-Tampering (IA/AT) certifications to support Fleet Exercise. Developed Logistics Plan. Obtained requisite Fleet approvals and developed Concept of Employment (CONEMP). ***FY 2014 Plans:*** Complete the documentation of tailored UOES technical documentation to support transition of PLUS to the fleet. Complete Fleet training for operating and maintaining the system for exercises and demonstrations. Complete support plans, CONOPS, tactics techniques and procedure documents, and complete the logistics packages for fleet introduction. ***FY 2015 Plans:*** N/A			
Title: PLUS Test and Evaluation	1.000	4.077	-
Articles:	-	-	-
FY 2013 Accomplishments: Participated in test, demonstrations and Fleet Exercises. ***FY 2014 Plans:*** Participate in tests, demonstrations and Fleet Exercises. ***FY 2015 Plans:*** N/A			
Title: PLUS Management	0.850	0.550	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2094. / *Unmanned Underwater Vehicle*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Provided program management support and travel for PLUS program. Program management (PM) included overall technical guidance and leadership for the program. Oversight of financial and logistics efforts and coordination with Navy and other DoD organizations and contractors to ensure successful execution of the program. Travel and other PM tasking to include briefings, demonstrations, and project planning. ***FY 2014 Plans:*** Provide program management support and travel for PLUS 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. Travel and other PM tasking to include briefings, demonstrations, and project planning as required. ***FY 2015 Plans:*** N/A			
Title: Persistent Littoral Undersea Surveillance (PLUS) ***Articles:*** ***Description:*** Persistent Littoral Undersea Surveillance (PLUS): The Persistent Littoral Undersea Surveillance (PLUS) program provides effective, adaptive and persistent undersea surveillance targets over large littoral areas. ***FY 2013 Accomplishments:*** -Initiate the User Interface for the Operator consoles for the command and control functions. -Initiate the evaluation and implementation of IA and Anti-Tamper on a test vehicle. -Initiate the construction of the optimized array (s) for the system, test integration with autonomy and signal processing. -Initiate construction of the Revised and Optimized PLUS Sensor Vehicle. -Initiate the testing and evaluation of USBL Navigation and the construction of the CARINA vehicle. -Initiate and complete a Field Test and Evaluation with the Fleet. ***FY 2014 Plans:*** -Continue all efforts of FY13, unless noted as complete. -Continue construction the Revised and Optimized PLUS Sensor Vehicle. -Complete the User Interface for the Operator Consoles for the command and control functions. -Complete the evaluation and implementation of the IA and Anti-Tamper on the PLUS system. -Complete the construction of the optimized array (s) for the system; test integration with autonomy and signal processing.	7.067 -	2.976 -	2.805 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2094. / *Unmanned Underwater Vehicle*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
-Complete testing of the USBL Navigation and Carina vehicle. -Complete a Field Test and Evaluation with the Fleet. ***FY 2015 Plans:*** -Continue all efforts from FY14 unless noted as completed. -Complete the testing of the updated communications throughout the system -Complete the evaluation and implementation of the IA and Anti-Tamper on the PLUS system -Complete the testing and evaluation of the Revised and Optimized PLUS Sensor Vehicle -Complete a Field Test and Evaluation with the Fleet			
Accomplishments/Planned Programs Subtotals	32.562	20.164	13.674

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

PLUS will develop a prototype User Operational Evaluation System (UOES) in response to an Urgent Operational Need (UON) request from the Fleet. The PLUS UOES will be utilized in a fleet experimentation event to develop Concept of Employment (CONEMP) for a potential follow-on program of record.

LDUUV will award Engineering Development Model (EDM) contract(s) to design, build and test LDUUV EDM(s). ONR's LDUUV Innovative Naval Prototype (INP) program will transition 4 prototype vehicles to PMS 406 LDUUV Program of Record (POR) as User Operational Evaluation Systems (UOES). The LDUUV UOES will be utilized in exercises to support requirement and CONOP development that feeds into LDUUV POR. First ONR LDUUV INP vehicles are expected to transition at the end of FY 15.
This effort will transition to PEO-LCS / PMS406 as a User Operational Evaluation System (UOES) in FY 2013.

E. Performance Metrics

PLUS - Prototype Delivery
LDUUV - Achieve MS A
Performance metrics for this effort are classified.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2094. / *Unmanned Underwater Vehicle*

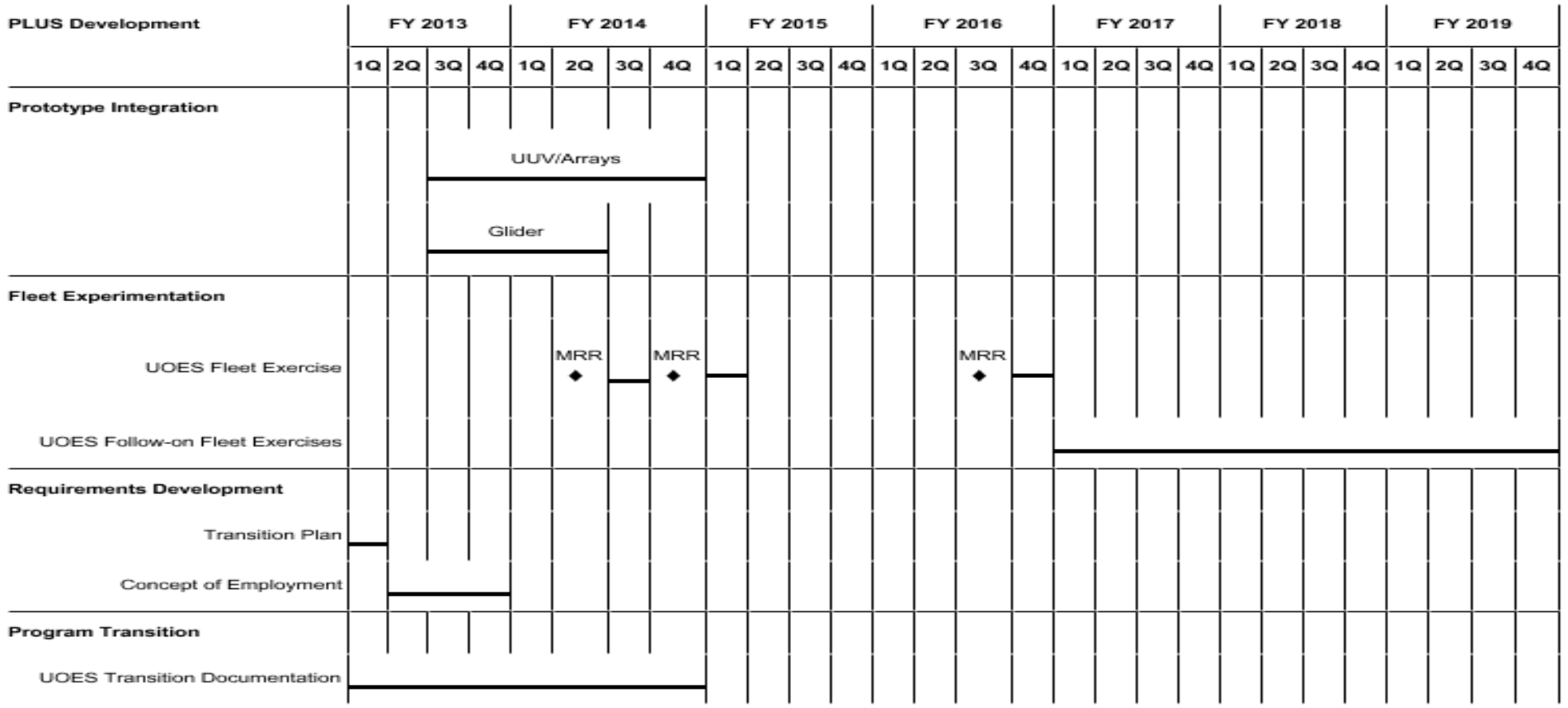


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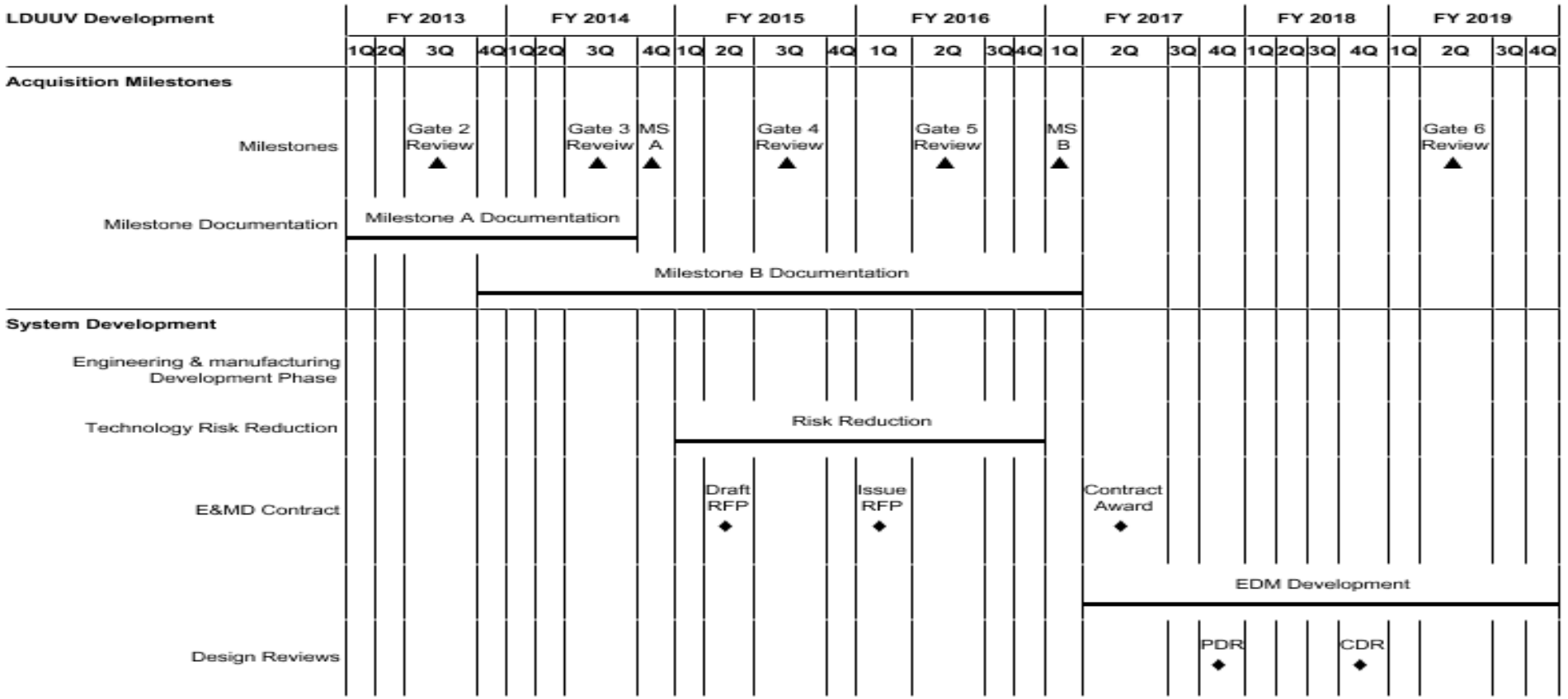
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2094. / *Unmanned Underwater Vehicle*



2015PB - 0603502N - 2094.L24

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603502N / *Surface & Shallow Water MCM*				Project (Number/Name) 2131 / *Assault Breaching System*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
2131: *Assault Breaching System*	484.713	43.645	58.789	17.908	-	17.908	24.516	33.623	29.535	30.197	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This program provides a combination of U.S. Navy systems to counter the threat to amphibious forces from obstacles and anti-landing/sea mines in the Beach Zone and Surf Zone (0-10 ft water). The Assault Breaching Systems (ABS) consist of a system of systems approach that includes the following programs: JABS - Joint Direct Attack Munition (JDAM) Assault Breaching System; CMS - Countermine System; COBRA - Coastal Battlefield Reconnaissance and Analysis; PNMS - Precision Navigation and Marking System; and C4I - Command, Control, Computers, Communications, and Intelligence. The Assault Breaching Systems enable the Navy-Marine Corps team to conduct Joint Forcible Entry Operations (JFEO), Ship-To-Objective Maneuver (STOM), and other combat operations to project power ashore.

The JDAM Assault Breaching System (JABS) is a currently fielded system that neutralizes surface mines and obstacles in the Beach Zone and Surf Zone. The ABS Tactical Decision Aid optimizes the Desired Points of Impact (DPI) for JDAM munitions to effectively neutralize mines and obstacles while minimizing the required number of munitions and friendly aircraft sorties. Continued testing is required to optimize the ABS Tactical Decision Aid database for the most common enemy mines and obstacles.

The Countermine System (CMS) is the far-term solution for neutralizing buried mines in the Beach Zone and Surf Zone. CMS transitioned from a 6.3 S&T Concept Demonstration effort to a 6.4 development program after a concept decision/AoA in FY06. CMS is the only USN system capable of neutralizing buried mines.

Coastal Battlefield Reconnaissance and Analysis (COBRA) is the ABS program to conduct ISR/T. This system provides Airborne Mine Countermeasures (AMCM) capability, and 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 is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the Beach Zone. Block II adds a 3D LIDAR (Light Detection and Ranging) sensor that enables nighttime detection of mines and obstacles in the Beach Zone and the Surf Zone (0-10 ft of water). Block II also adds on-board near real-time processing of multispectral imagery data. Block III adds an interferometric sensor that is capable of detecting buried mines. Blocks II and III will incorporate technology being developed by 6.3 S&T. COBRA consists of a modular payload architecture that can be integrated onto the MQ-8B Fire Scout Vertical Takeoff and Landing Unmanned Aerial Vehicle (VTUAV) or USN manned helicopters like the SH-60. COBRA will serve as the "detect" mission module in the Surf Zone and Beach Zone for the Littoral Combat Ship (LCS) Mine Warfare mission package.

Precision Navigation & Marking System (PNMS) provides navigational upgrades for the Landing Craft, Air Cushion (LCAC); Landing Craft, Utility (LCU); and Amphibious Assault Vehicle (AAV). A system of virtual lane marking improves the navigation ability of these three assault craft which enables them to navigate safely through the neutralized assault lanes provided by JABS and CMS. OPN funds 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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2131 / *Assault Breaching System*

(SLEP) navigation system for craft control that allows precise navigation and hovering within the breached lane. These software upgrades and backfits occur during scheduled LCAC SLEPs. AAV Navigation Upgrade : Modernize the navigation system to enable precise transit through the breached lane.

Command, Control, Computers, Communications and Intelligence (C4I) system will tie all of the above systems together under an integrated ABS architecture that is compatible with the existing Mine Warfare architecture.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development:	39.139	46.753	11.555
Articles:	-	-	-
FY 2013 Accomplishments: CMS - Continued HE alternative neutralization design, development and testing. COBRA - Continued Blk 1 integration Flight Tests with VTUAV. Began COBRA Blk II design and development capability. Precision Navigation/Marking (PN/M) - continued evaluation/assessment of EDMs supporting PN/M efforts.			
FY 2014 Plans: CMS - Continue HE neutralization design, development and testing with emphasis on aero-dynamics and structures. Continued CMS neutralizer lethality design and testing (100 darts) COBRA - Complete Blk 1 integration Flight Tests with VTUAV.Continue design and development of COBRA Block II capability. Precision Navigation/Marking (PN/M) - continued evaluation/assessment of EDMs supporting PN/M efforts.			
FY 2015 Plans: COBRA - Continue design and development of COBRA Block II capability. Precision Navigation/Marking (PN/M) - continued evaluation/assessment of EDMs supporting PN/M efforts.			
Title: Technical Support:	0.926	1.395	0.807
Articles:	-	-	-
FY 2013 Accomplishments: CMS/COBRA - Provided mine warfare inventory and shipping, contract management test studies C4I Data fusion. Provided technncal acquisition support.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2131 / *Assault Breaching System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
CMS/COBRA - Provide mine magazine inventory management and shipping, contract and test/studies, C4I Data Fusion. Provide technical /acquisition support and documenttation (ILS, training, data, drawings). ***FY 2015 Plans:*** COBRA - Provide mine magazine inventory management and shipping, contract and test/studies, C4I Data Fusion. Provide technical /acquisition support and documenttation (ILS, training, data, drawings).			
Title: Test and Evaluation: ***Articles:*** ***FY 2013 Accomplishments:*** CMS - Started 100 shot for neutralizers testing, payload modular. COBRA - Initiated development testing of Block II. PN/M - Continue testing of the Precision Navigation and Marking design capability. ***FY 2014 Plans:*** CMS - Continue 100 shot for the HE Neutralizer. COBRA - Advanced component Block II development testing. Conduct Block I Operational Assessment (OA). PN/M - Continue to test the Precision Navigation and Marking design capability. ***FY 2015 Plans:*** COBRA - Continue Block II development testing. PN/M - Continue to test the Precision Navigation and Marking design capability.	2.347 -	9.250 -	4.427 -
Title: Management: ***Articles:*** ***FY 2013 Accomplishments:*** Mine magazine inventory management and shipping, contract management and tests/studies, C4I/Data fusion. ***FY 2014 Plans:*** Mine magazine inventory management and shipping, contract management and tests/studies, C4I/Data fusion. ***FY 2015 Plans:***	1.233 -	1.391 -	1.119 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2131 / *Assault Breaching System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Mine magazine inventory management and shipping, contract management and tests/studies, C4I/Data fusion.			
Accomplishments/Planned Programs Subtotals	43.645	58.789	17.908

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2624: *SHALLOW WATER MCM SHIP*	5.994	8.358	-	-	-	18.277	10.006	9.492	6.088	-	68.325
• OPN/1601: *LCS MODULES*	-	-	-	-	-	8.400	-	8.625	-	-	24.800

Remarks

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 FY07 followed by 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 transferred from ONR and will achieve MS B in 2nd QTR FY16. COBRA Block III technology will transition in FY18.

Precision Navigation & Marking System (PNMS) - 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 2nd QTR FY14.

All of the above systems continue to meet or exceed their Key Performance Parameters and benefit from effective program management that efficiently allocates the funding it receives. Any delays in program timelines and increases in costs are due directly to previous year's budget cuts.

E. Performance Metrics

Successful COBRA integration, flight tests and Operational Assessment (OA) into the Vertical Take-off Unmanned Arial Vehicle (VTUAV).

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2131 / *Assault Breaching System*

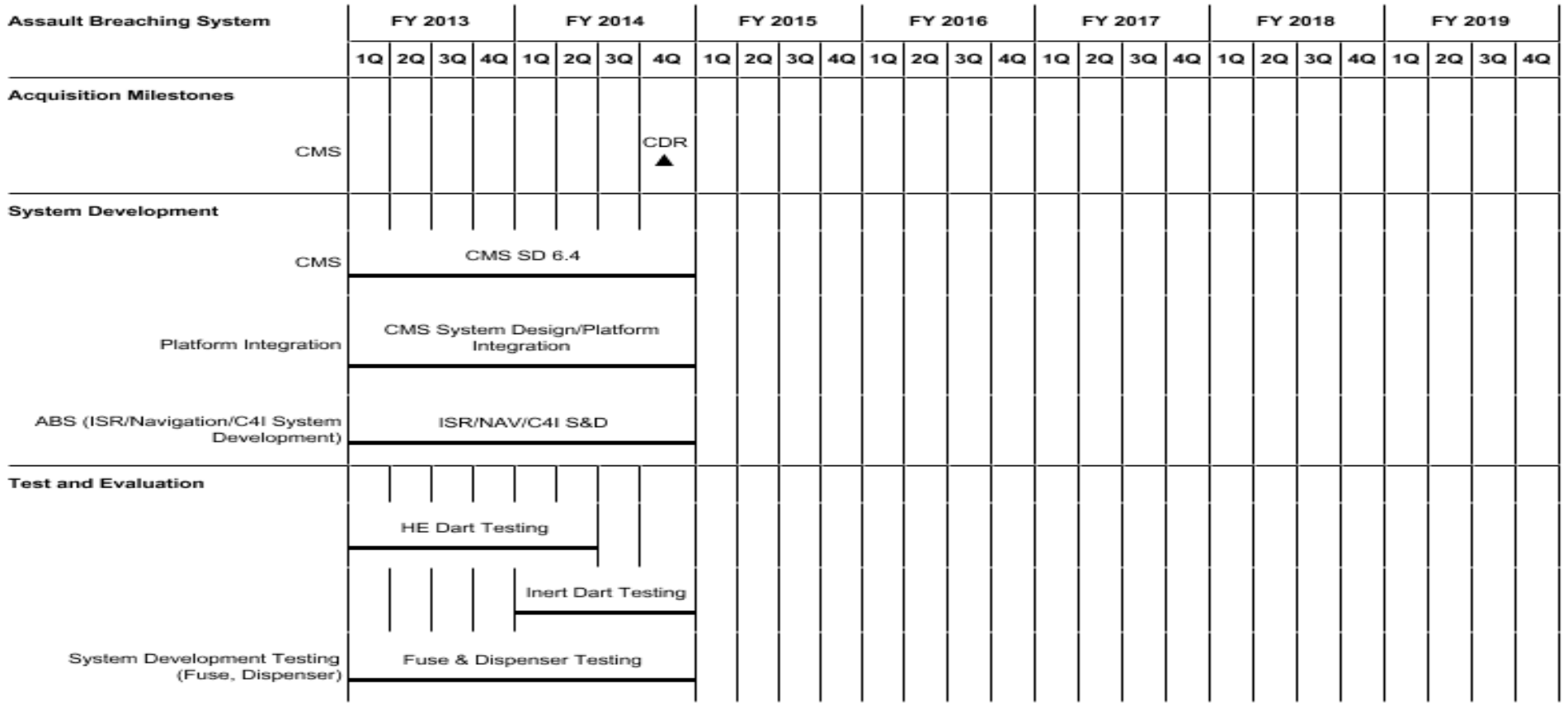


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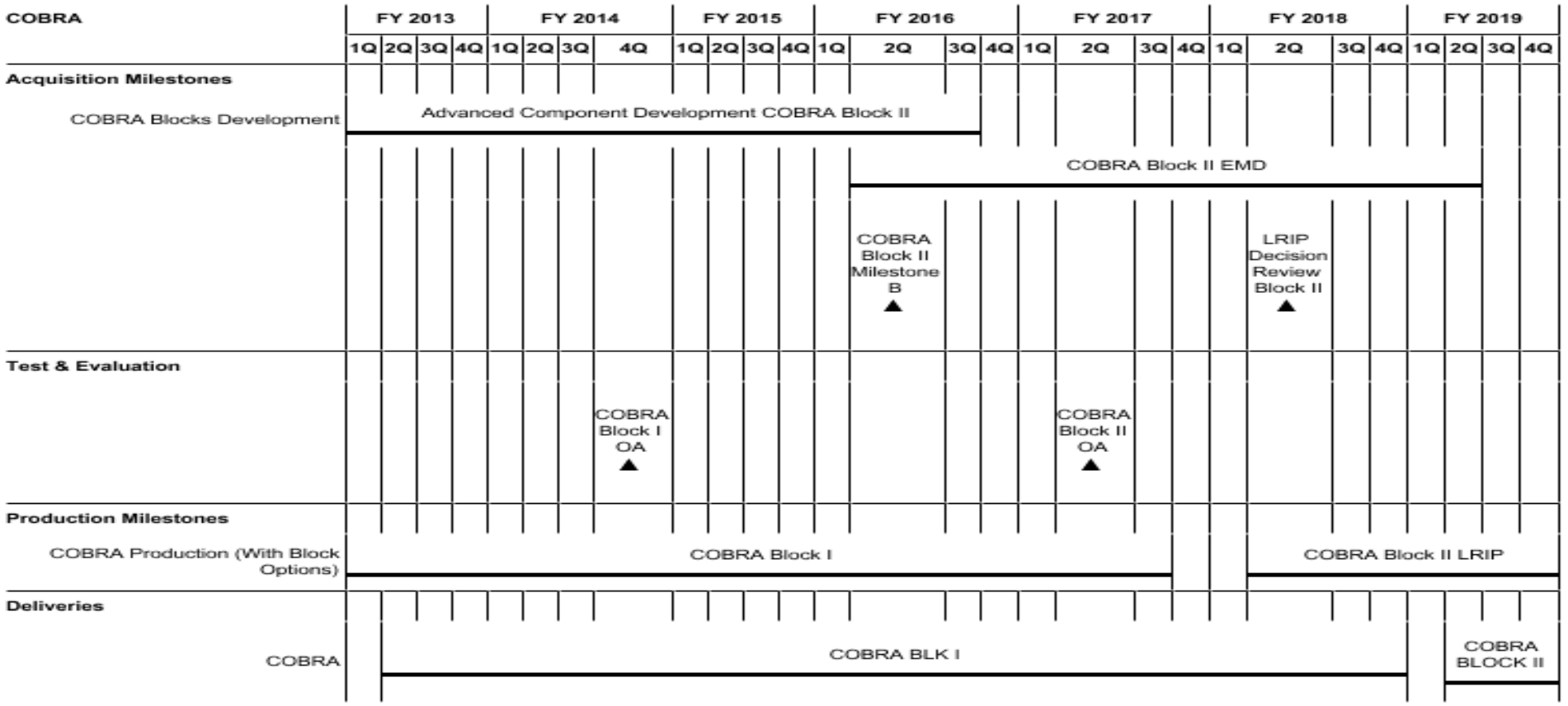
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 2131 / *Assault Breaching System*



2015OSD - 0603502N - 2131

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603502N / *Surface & Shallow Water MCM*	Project (Number/Name) 3123 / *SMCM UUV*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3123: *SMCM UUV*	69.743	18.952	13.944	18.193	-	18.193	5.444	5.332	5.497	5.692	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Knifefish Surface Mine Countermeasure Unmanned Undersea Vehicle (SMCM UUV) program develops Unmanned Underwater Vehicles to support clandestine mine detection capability against volume and bottom mines 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 Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Knifefish SMCM UUV LFBB	18.952	13.944	18.193
Articles:	-	-	-
FY 2013 Accomplishments: Conducted Critical Design Review (CDR). Commenced vehicle fabrication.			
FY 2014 Plans: Continue vehicle fabrication. Commence Development Testing preparations.			
FY 2015 Plans: Complete vehicle fabrication. Begin Development Testing/Operational Assessment (DT/OA). Continue Engineering and Manufacturing Development (E&MD)phase.			
Accomplishments/Planned Programs Subtotals	18.952	13.944	18.193

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• 2622/LV079: *Minesweeping System Replacement*	-	-	-	-	-	20.137	20.487	20.900	21.250	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 3123 / *SMCM UUV*

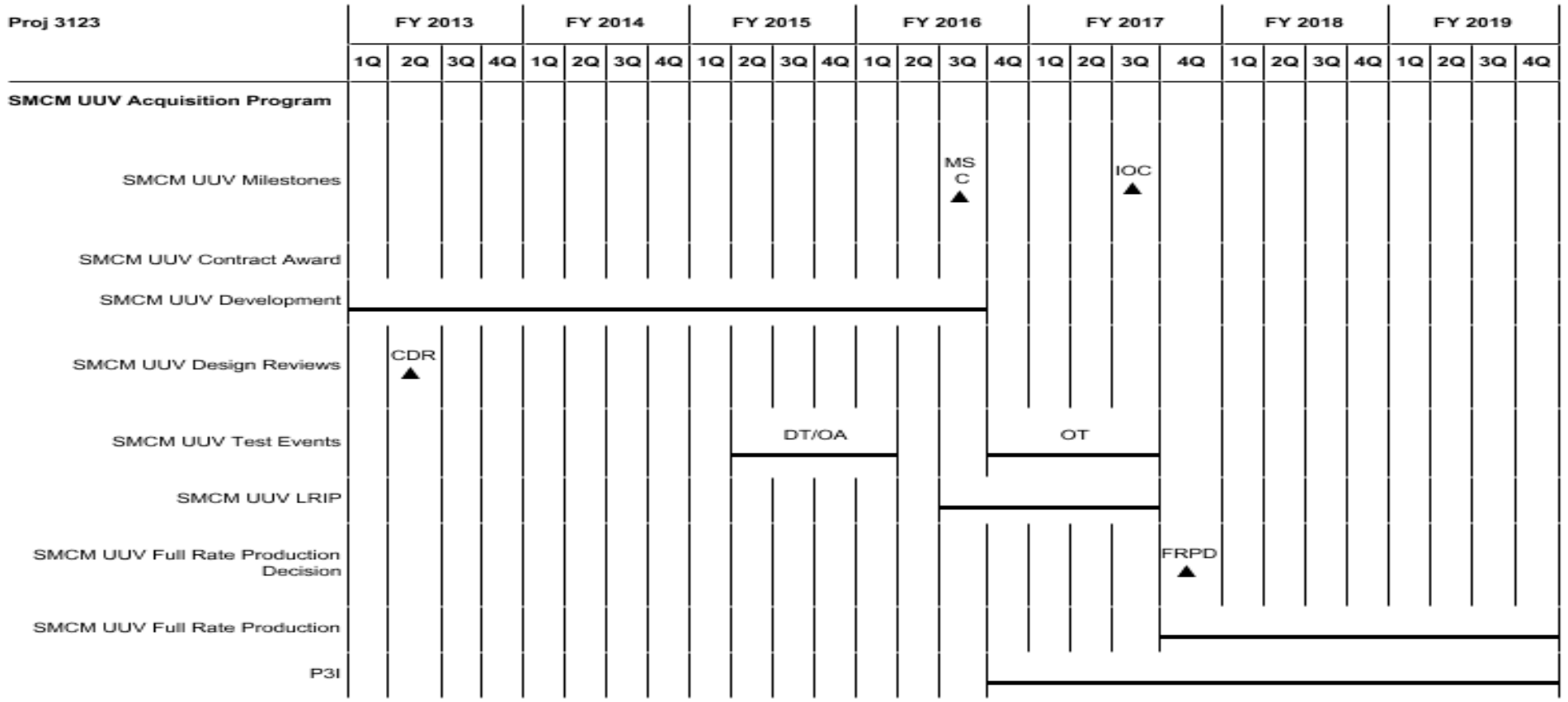
D. Acquisition Strategy

The Knifefish program was initiated in FY11 to develop Surface Mine Countermeasure Unmanned Undersea Vehicles (SMCM UUV) equipped with Low Frequency Broadband (LFBB) sonar that provides volume and bottom mine detection including buried mine detection capability. Initial procurement of the SMCM UUV with LFBB begins in FY16.

E. Performance Metrics

Successful Milestone C in Q3 FY16.
Reach Full Rate Production Decision in Q4 FY17.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0603502N / *Surface & Shallow Water MCM*	**Project (Number/Name)** 3123 / *SMCM UUV*



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