

# UNCLASSIFIED

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 0603596N I (U)LCS Mission Modules							
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	0.000	-	161.771	196.948	-	196.948	139.227	83.975	56.143	45.714	Continuing	Continuing
3129: LCS Mission Package Development	0.000	-	161.771	196.948	-	196.948	139.227	83.975	56.143	45.714	Continuing	Continuing

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

**A. Mission Description and Budget Item Justification**

This Program Element (PE) provides funds for detailed design, development, issue resolution, certification, integration and testing of the Littoral Combat Ship (LCS) Mission Modules (MM). LCS is a fast, agile, and networked surface combatant with capabilities optimized to defeat asymmetric threats, and assure naval and joint force access into contested littoral regions. It uses open-systems architecture design, modular weapons, sensor systems, and a variety of manned and unmanned vehicles to expand the battle space and project offensive power into the littoral.

The LCS MMs provide tailored warfighting capability for one at a time of the three focused mission areas:

MCM - provides capability to conduct minehunting (detection, localization, classification, identification, and neutralization) and mine sweeping operations for mine threats.

SUW - provides capability to conduct enhanced-range coordinated detection, tracking, classification, identification and neutralization of groups of attacking, multiple, small boat threats, and to conduct maritime security missions.

ASW - provides capability to detect, classify, localize, and prosecute enemy submarines; counter diesel submarine threats in the littoral shallow waters and their associated deep water approaches; and to provide an escort capability for forces transiting through submarine threat areas.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	161.771	196.948	-	196.948
Total Adjustments	-	161.771	196.948	-	196.948
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	203.771			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-42.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	196.948	-	196.948

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<div>Change Summary Explanation</div> <div>N/A.</div>		

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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
3129: LCS Mission Package Development	-	-	161.771	196.948	-	196.948	139.227	83.975	56.143	45.714	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**

Program provides focused war fighting capabilities in littoral mine countermeasures, countering small boat threats and littoral anti-submarine warfare to provide assured access to enable the US Joint Force operations in the littorals. A mission package is a combination of warfare mission modules with specialized crew, support equipment, and vehicles including manned helicopters and unmanned maritime systems. They are packaged in a modular fashion so that they can be quickly swapped out pier side. Mission module development includes architectures, interfaces, and integration of mission systems. Mission systems integration also includes the procurement of the first mission packages to be used on the Flight 0 Littoral Combat Ships (LCS). The program has an inventory objective of 24 MCM mission packages, 24 SUW mission packages, and 16 ASW mission packages. Mission package procurement and delivery are aligned with the ship delivery schedule, mission area demand signal from the combatant commanders, and the retirement of legacy platforms. This means that 64 interchangeable mission packages will be available for use among the seaframe variants of the LCS class to support global warfighting and peacetime presence requirements.

An incremental development approach to delivering capability allows the continued insertion of mature capabilities throughout the life of the program without the need for modifications to the sea frames. Future mission package increments will be considered when joint warfighting objectives or changing threats create new operational capability requirements that cannot be met by current mission package designs, or when new technological opportunities allow significant progress toward delivering cost effective, enhanced capabilities. Future mission module increments can be tested, constructed, and incorporated into existing mission packages, one of the most important benefits of LCS modular design.

The LCS MCM mission package will counter deep, shallow, and tethered mines in the littoral without putting Sailors in the minefield. When the MCM mission package is embarked, LCS is capable of conducting detect-to-engage operations (hunting, sweeping, and neutralization) against very shallow and deep-water sea mine threats. The MCM mission package provides these capabilities through the use of sensors and weapons deployed from an MH-60S multi-mission helicopter and unmanned off-board vehicles. The MCM package consists of the following systems: Coastal Battlefield Reconnaissance & Analysis (COBRA), Airborne Laser Mine Detection System (ALMDS), System, Remote Multi-Mission Vehicle (RMMV), AQS-20A Mine hunting Sonar, Airborne Mine Neutralization System (AMNS), Unmanned Integrated Sweep System (UISS)(which is comprised of the Unmanned Surface Vehicle (USV) and the Unmanned Surface Sweep System (US3)), Surface Mine Countermeasures (SMCM) Unmanned Undersea Vehicle (UUV) with Low Frequency Broad Band (LFBB), support equipment and support containers. The individual systems are combined into five modules: Organic Airborne Mine Countermeasures (OAMCM) Module, Remote Mine Hunting Module, Unmanned Influence Sweep Module, Coastal Mine Reconnaissance Module and the Buried Mine Module. The Organic Airborne Mine Countermeasures Module provides rapid mine hunting and clearing using the embarked MH-60 helicopter and Mine Countermeasure systems. The Remote Mine Hunting Module uses a Remote Multi-Mission Vehicle (RMMV) and AQS-20A to provide sustained mine hunting and clearing from the surface. The Influence Sweep Module provides endurance bottom sweep capability, the Coastal

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<p>Mine Reconnaissance Module (CMRM) will allow detection of minefield patterns and obstacles from an embarked Fire Scout VTUAV, and the Buried Mine Module will allow detection of buried mines. When complete, the MCM mission package will provide full capability against floating, tethered, bottom, and buried mines.</p> <p>The ASW mission package enables LCS to conduct detect-to-engage operations against modern submarines that pose a threat. Specific ASW capabilities include protecting forces in transit, protecting joint operating areas, and establishing ASW barriers.</p> <p>ASW modules developed to provide the warfighter capabilities that can be employed for ASW area search as well as high value unit escort missions. Module components include a torpedo countermeasures system, a Variable Depth Sonar, and a Multi-Function Towed Array. The Aviation Module offers airborne threat localization and engagement capability through a Fire Scout VTUAV and an MH-60R with MK54 torpedoes. The individual systems are combined into three modules: Torpedo Defense Countermeasure; ASW Escort/Large area Clearance; and Aviation Module.</p> <p>The SUW mission package increases firepower and offensive/defensive capabilities against large numbers of highly maneuverable, fast, small craft threats, giving LCS the ability to protect the sea lanes and move a force quickly through a choke point or other strategic waterway. With the SUW mission package embarked, LCS has enhanced detection and engagement capability against enemy small craft and similar littoral surface threats.</p> <p>The SUW mission package is comprised of several modules including the Gun Mission Module (GMM). The GMM is comprised of two high velocity 30mm cannons and is augmented with the ship's 57mm gun to counter close in to mid-range threats. The Aviation Module uses the embarked MH-60R helicopter with Hellfire missile and the MQ-8B Fire Scout Vertical Take-off and Landing Tactical Unmanned Aerial Vehicle (VTUAV) for the detection, identification, and classification of surface contacts and to engage long range threats. The Maritime Security Module supports the embarkation of a Visit, Board, Search, and Seizure (VBSS) team. The Surface to Surface Missile Module (SSMM) will provide missile coverage for mid-range threats and small boats.</p> <p>The LCS Mission Modules Common Equipment consists of enabling products required by all mission packages to provide common hardware interfaces, computer operating environment, communications systems, aviation interface systems, and portable development &amp; integration test-sets. Common hardware interfaces include definition, installation, and control of mechanical, electrical, and cooling requirements common to all mission packages. The Mission Package Computing Environment (MPCE) provides common services and Operating Environment to support all Mission Package Application Software and Open Architecture Products. The Multi-Vehicle Communications System (MVCS) enables the control and data exchange of simultaneous unmanned mission vehicles and the Seaframes. Aviation interface systems include integration and management of data communications, data processing, and physical hardware interfaces such as common equipment and containers used by all mission packages. Development and integration test-sets provide a mobile operating environment installed in the Mission Package Portable Control Stations (MP-PCS) to serve as a surrogate Seaframe during mission package development and integration test events at test ranges.</p> <p>Per the FY14 Appropriations Act, the LCS Mission Modules Program has been assigned its own PE of 0603596N. Prior year funding is located in PE 0603581N. FY14 funding was transferred to the greatest extent practicable.</p>					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Title: System Engineering			-	7.979	17.447
Articles:			-	-	-

**UNCLASSIFIED**

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A				
FY 2014 Plans: Support Capability Production Document (CPD) for SUW Increment III, MCM Increment II/III development. Provide SE guidance to the TSRs, CCBs, RMB, PPP and RAM-C Working group and others as identified in the LCS MM SEP. Coordinate and provide guidance for all LCS MP SETR events including but not limited to the following: PDR, CDR, SRR, TRR. Provide management oversight for the Configuration Control Board including reviewing and approving ECPs. Negotiate connection agreements with Littoral Combat Ship (LCS) Squadron One (LCSRON) Class IA Manager (IAM) allowing mission packages to operate on LCS. Support all Certification Test and Evaluation (CT&E) events conducted which include MPAS, results will be used to develop revised PRA package/risk deficiency database. Update the LCS Mission Modules Program Protection Plan and the Information Assurance Strategy to support MPCE 2.0 development. Support the SSSTRP and WSESRB Review of mission packages and prepare the closure of findings. Develop MAR package for risk acceptance. Update the PMS 420 System Safety Management Plan (SSMP) Plan. Complete mission package Integration System Hazard Analysis (SHA). Update the PMS 420 Hazardous Material Management Program (HMMP) Plan. Identify and manage ESOH mishap risk maintained within the Program Hazard Tracking Database. Coordinate HSI activities across MPs and integrate MPs with seaframe HSI activities. Monitor the implementation of the PMS 420 MM HSI Plan. Update the following SE documents including: LCS MM SEP; Corrosion Prevention Control Plan (CPCP), PESHE, Life Cycle Signature Support Plan. Continue supporting opportunities for technology transition identified in the S&T Notebook to include at-sea refueling, data mission payload, and lightweight container. Support and track weight against the Weight Management Plan. Leverage modeling and simulation to support CPD development for mission packages. Continue tracking SE Metrics including requirements and engineering change volatility and LCS MM Systems Readiness Level (SRL) assessment. Continue implementation of M&S Plan to certify the following: NMWS M&S in support of MCM IOT&E; ATRT to support SUW MPAS regression testing; SUW MM Increment I/II modeling; ASW modeling for developmental testing.				
FY 2015 Plans: Conduct six (6) System Engineering Technical Reviews (SETR) as follows: MCM Increment III System Requirements Review (SRR), Preliminary Design Review (PDR) and Critical Design Review (CDR), MCM Increment IV SRR, Surface-to-Surface Missile Module (SSMM) CDR, and Antisubmarine Warfare (ASW) Mission Package CDR to ensure that each system under review can proceed into development, module integration, and test. Assess each Configuration Item within each system under review to ensure each product has been captured in an appropriate detailed design documents. Establish the initial Production Baseline for each system/module under review.				

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Develop and accredit all modeling and simulation tools required to support ASW Escort, and Torpedo Defense mission modules and Surface-to-Surface Missile Module. The modeling and simulation tools for ASW and SSMM will support integration, certification, and training of the Mission Package Application Software (MPAS) for both ASW MP and SUW MP Increment IV.					
Develop and/or update SE documentation in support of Milestone C: Systems Engineering Plan; Information Assurance Strategy; Program Protection Plan; Programmatic Environmental, Safety, and Health Evaluation (PESHE); Clinger Cohen Act.					
Continue to align LCS MM requirements and development plans toward the Incremental KPP approach and in support of Net-Centric operations: Support CPD Development for the MPs; MP Department of Defense Architecture Framework (DoDAF)Architectures.					
Continue the implementation of LCS MM M&S strategic plan to support performance prediction; validation of T&E plans; and/or training and stim/sim efforts.					
Continue Safety/ESOH risk/hazard analysis and mitigation tracking: Align hazards and MARs to product baseline; ESOH risk/hazard analysis and mitigation; Implement DoD/DoN ESOH related directives and initiatives affecting the program to SE Team.					
Continue to provide HSI subject matter expert into development and implementation of MP common systems, i.e. CSA, MPCC, feedback process; assess and address HSI issues associated with Mission Packages; evaluate manpower and workload policies affected by new technology implementation; align MP HSI tasks and activities to MP SETR events; track and mitigate MP HSI risks and issues; update and implement the PMS 420HSIP.					
Continue Implementation of the Corrosion Prevention and Control Plan (CPCP).					
Continue to provide Configuration Management for the PMS 420 LCS MM Program: identify and control Mission Package configurations via the PMS420 CCB; manage Test Observation Report (TOR); capture and track problems found during integration testing, Navy Core Testing (NCT), and ship visits.					
Continue to update the MP Reliability, Availability, Maintainability-Cost (RAM-C) Report (which comprises the RAM-C Analysis Report and the RAM-C Rationale Report) to assess LCS MP RAM metrics, influence design of MP hardware and support-system design, and help determine the optimal mix of hardware design, support-system design, and lifecycle cost.					
Coordinate with and assist the PMS 420 APMs and LSEs with the scheduling, planning, and execution of SETRs.					

# UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Verify that the LCS MPCE, the MMs, and MVCS are compliant with DoD and DON IA policies, and that such compliance is stated in their respective program Information Assurance Strategies, PRA artifacts, and other program documentation.				
Conduct analysis to determine the methodology and engineering design efforts required to create a federated architecture of Mission Package Application Software (MPAS) with the focus on integration into future LCS seaframes.				
Title: Program Management		-	0.740	4.545
Articles:		-	-	-
FY 2013 Accomplishments: N/A				
FY 2014 Plans: Support all efforts associated with Milestone C. Continue PM efforts: business and administrative planning, organizing, directing, coordinating, controlling, and approval actions designated to accomplish overall program objectives that are not associated with specific hardware elements or included in systems engineering.				
FY 2015 Plans: Support all efforts associated with Milestone C. Continue PM efforts: business and administrative planning, organizing, directing, coordinating, controlling, and approval actions designated to accomplish overall program objectives that are not associated with specific hardware elements or included in systems engineering.				
Title: System Test and Evaluation		-	28.710	34.144
Articles:		-	-	-
FY 2013 Accomplishments: N/A				
FY 2014 Plans: Conduct SUW MP TECHEVAL/IOT&E aboard LCS 1 variant. Complete Planning, and conduct Execution, Data Analysis and Reporting for SUW MP TECHEVAL with increasing stress scenarios to characterize performance of SUW MP against requirements and in preparation and readiness for IOT&E. Complete test planning and OTRR preparation and execute both events for SUW MP IOT&E on LCS 1 variant. Conduct data analysis and reporting for SUW MP TECHEVAL and IOT&E. Conduct SUW MP DT on LCS 2 variant. Begin SUW MP SSMM planning. Commence conduct of SSMM live fire test program and complete GMM live fire test program to include data analysis and report. Conduct MCM MP OAMCM Phase B Operational Assessment. Conduct MCM MP Unmanned Systems Operational Assessment. Complete test planning and OTRR preparation and execute both events for MCM MP TECHEVAL and IOT&E. Conduct data analysis and reporting for MCM MP TECHEVAL and IOT&E. Continue test planning, conduct initial integration test, transition from engineering to DT testing of the ASW MP on the LCS platform; Perform data analysis of initial ASW MP testing. Conduct National Environmental Policy Act (NEPA) and				

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
environmental planning and coordination to support DT/TECHEVAL/OT/FOTE. Conduct and Support Certification Test and Evaluation to include software certification/assessment testing, reporting, and events such as MPRAs, MRAs, Test Readiness Reviews, WSESRB, etc and in order to support fleet deployment upon completion of the IOT&E and FOTE events.					
<b>FY 2015 Plans:</b> Conduct SUW MP IOT&E aboard LCS 2 variant. Begin planning for integration testing of VTUAV with the SUW MP. Continue SUW MP SSMM planning. Conduct SSMM live fire test program to include data analysis and reporting. Complete test planning and OTRR for MCM MP TECHEVAL and IOT&E. Complete MCM MP DT and conduct TECHEVAL and IOT&E on LCS 2 variant. Continue test planning for DT testing of the ASW MP on the LCS platform. Conduct National Environmental Policy Act (NEPA) and environmental planning and coordination to support DT/TECHEVAL/OT/FOTE. Conduct and Support Certification Test and Evaluation to include software certification/assessment testing, reporting, and events such as MPRAs, MRAs, Test Readiness Reviews, WSESRB, etc in order to support fleet deployment upon completion of the IOT&E and FOTE events.					
<b>Title:</b> Integration, Assemble, Test and Checkout			-	1.578	14.638
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> N/A					
<b>FY 2014 Plans:</b> Perform Mission Package - Seaframe Integration and Aviation Integration. Seaframe Integration provides services that support the successful integration of the MCM, SUW, and ASW Mission Packages into both variants of LCS seaframes. Mission Package (MP) - Seaframe integration engineering includes: Hardware integration engineering, Software integration engineering, Launch handling & recovery integration engineering, Waterfront integration, Mission Systems and Ship Integration Team (MSSIT), Communications integration, Seaframe studies, and ship modification technical data package development. Aviation Integration: Integrating new capabilities of VTUAV onto LCS, such as weapons and radar. Integrate the larger and higher endurance MQ-8C with LCS. Integrate new Mission Package driven payloads onto the VTUAV. Provide HSF or CV-TSC/PLA functionality as MP solution. Integrate MH-60S SUW enhancements into SUW MP (20mm gun, rockets, radar, data link). Conduct systems engineering for VTUAV and MH-60S ASW enhancements into ASW MP. Conduct systems engineering analysis of alternatives for integrating new Unmanned Aerial Systems into MPs. Continue program level Integration, Assembly, Test & Checkout efforts of ECPs required to correct findings from Developmental and Operational test events.					
<b>FY 2015 Plans:</b> Perform Mission Package - Seaframe Integration and Aviation Integration. Seaframe Integration provides services that support the successful integration of the MCM, SUW, and ASW Mission Packages into both variants of LCS seaframes. Mission Package (MP) - Seaframe interface validation and validation assessments for LCS					



**UNCLASSIFIED**

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
7 through 12 prior to delivery. Integration assessment reports to support MCM MP TECHEVAL and IOT&E on LCS 2. Integration assessment reports to support deployment of LCS 3 with SUW MP. Engineering studies and seaframe modifications to support SUW MP TECHEVAL and IOT&E on LCS 4. Engineerng studies and seaframe modifications to support ASW MP TECHEVAL and IOT&E on LCS 5 and 6.  Aviation Integration provides services that support the successful integration of aviation assets of the MCM, SUW, and ASW Mission Packages into both variants of LCS seaframes. Hardware engineering for Aviation Support Containers, including roll-on/roll-off (RO/RO) Cabinets and Mezzanine. Hardware Engineering for VTUAV Global Command and Control System (GCCS) back-fits. Improve communications for TCDL within Combat to the Mission Packages. Software Engineering for the continued development of the Helo Support Function (HSF) and Mission Package Application Software (MPAS) with Aviation assets. Support and integration of VTUAV modifications including Advanced Precision Kill Weapon System and Radar RDC.  Continue program level Integration, Assembly, Test & Checkout efforts of ECPs required to correct findings from Developmental and Operational test events.				
Title: Training Systems Development  FY 2013 Accomplishments: N/A  FY 2014 Plans: Achieve partial Ready for Training (RFT) at NETC facility for MCM MM training using Common Mission Package Trainer (CMPT) team trainer and Networked Tactical Trainer System (NTTS) part task trainers. Achieve RFT for GMM Difference course. Full Train to Certify (T2C) capability will be achieved in FY17 after all systems have been delivered, trainers in place, and formal training has been developed and accepted. Continue Mine Warfare Evaluator (MIWE), Remote Vehicle Operator (RVO), and Remote Sensor Operator (RSO) training precursors to LCS MCM MM Fundamentals and Capstone courses. Update formal curriculum to incorporate findings from program test events, operations, and classroom experience. Update CMPT MCM and SUW integrated team trainer software for delivery of incremental capability to support MM Fundamentals, MM Operations, and MM Planning curriculum. Update NTTS watchstation trainer software for delivery of incremental capability and as a result of formal test events lessons learned. Update Information Assurance posture as required to support integrated and Fleet Synthetic Training using Navy Cooperative Training Environment (NCTE). Complete SUW formal training curriculum instruction development for MM Fundamentals, Capstone, and Planning Courses necessary to achieve partial RFT in FY15. Fund 16 contract instructors (7 MCM and 9 SUW) for LTF prior to transition to N1 funding coincident with RFT in FY14.		Articles: - -	6.966 -	16.839 -

**UNCLASSIFIED**

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Perform vendor and interim training for formal MCM, and SUW test events. Fund training related detachment travel and provide Vendor and interim formal training to MCM, ASW, and SUW MM replacement Sailors and new MCM and SUW detachments in accordance with CSPPs.  <b>FY 2015 Plans:</b> Continue development of training and training systems for MCM, SUW and ASW Mission Module Detachments. Update formal curriculum to incorporate findings from program test events, operations and classroom experience. Train to Certify (T2C) capability will be achieved in FY17 after all systems have been delivered, trainers in place, and formal training has been developed and accepted. Update formal curriculum to incorporate findings from program test events, operations and classroom experience. Achieve RFT of LCS SUW MM Fundamentals and CAPSTONE courses at LTF. Commence training sailors at LTF Mission Bay Trainer which is expected to RFT late FY15. Develop changes to provide update of training and training systems to support incremental capability fielding plan. Update Information Assurance posture as required to support integrated and Fleet Synthetic Training using Navy Cooperative Training Environment (NCTE). Commence update of Common Mission Package Trainer (CMPT) for ASW and development of LCS ASW MM Fundamentals and CAPSTONE courses with a plan to achieve RFT in FY16. Fund contract instructors for LTF prior to transition to N1 funding coincident with SUW RFT in FY15. Perform vendor and interim training for formal MCM, SUW, and ASW test events. Complete transition from training on MCM MP #1 and SUW MP #1 hardware to NETC training facilities. Fund training related detachment travel and provide Vendor and interim formal training to MCM, ASW, and SUW MM replacement Sailors and new MCM and SUW detachments in accordance with CSPPs.				
Title: Program Technical Data  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> Update Program Technical Data packages to incorporate findings from SUW MP and MCM MP OT events. Finalize initial Integrated Logistics Support products in support of SUW MP FY14 IOC. Prepare for the MCM MP IOC late FY 14 / early FY 15. Continue Technical Manual Management Activity to review, produce and distribute technical documentation for the program. Continue development of MPSF automated inventory management system (IMS) based on pRFID solution. Start integrated logistics overarching support for the ASW MP and the new increments. Provide overarching provision for Program.  <b>FY 2015 Plans:</b> Update Program Technical Data packages to incorporate findings from SUW TECHEVAL and IOT&E test events. Finalize initial Integrated Logistics Support products in support of MCM MP TECHEVAL and IOT&E. Continue Technical Manual Management Activity to review, produce, and distribute technical documentation for the program. Complete development and		Articles: -  -  -	-  0.373  -	1.845  -

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begin implementation of MPSF automated inventory management system (IMS) based on pRFID solution. Prepare for inclusion of ASW into IMS. Start integrated logistics overarching support for the follow-on mission package increments. Provide overarching provisioning for Program. Develop the ASW MP and Surface-to-Surface Missile Module (SSMM) provisioning documentation to include: Allowance Parts Lists (APL) maintenance and development of Preliminary Allowance List (PALs) or Allowance Equipage Lists (AELs) as required for the ASW and SUW MPs. Updates existing provisioning packages as a result of Engineering Change Proposals (ECP) assessment or approvals.				
Title: Common Equipment  <div>FY 2013 Accomplishments: N/A</div> <div>FY 2014 Plans: Mission Package Computing: Continue MPCE v1.9 hardware production and tech refresh activities. INCO of CMPT #3 on LCS 6. Conduct tech refresh for the shore sites (MPPCS #1 and #2) and for LCS 1and LCS 2. Provide maintenance deliveries for MPS/ MPOE. PMS 420 CM delivery of MUS v1.1 will occur. Conduct quarterly IPRs. Continue development activities to evolve MPCE software architecture to a Service Oriented Architecture (SOA), MPCE v2.0, in support of the CSA Baseline. Mission Package Communications: Support MCM MPT TechEval with MVCS v1.0.0. Deliver MVCS HW and SW builds v2.6. Support testing of MVCS v1.0.0 on SMCM UUV and UISS. Conduct DMP demonstration on Fire Scout air vehicle.</div> <div>FY 2015 Plans: Conduct technology insertion for MPCE on LCS 1-4, Common Mission Packaget Trainer (CMPT) and Mission Package Portable Control Station (MPPCS). Continue development activities to evolve MPCE software architecture to a Service Oriented Architecture (SOA), MPCE v2.0, in support of the Common Software Architecture (CSA) Baseline. Update MUS Design Documentation to align with MPCE 2.0 System Subsystem Specification (SSS).  Mission Package Communications: Perform post-RTT modifications to HFGW hardware and software. Develop required logistics documentation for the HFGW radio. Complete MVCS v2.0.0. Integrate MVCS into MPCE, and support CSA requirements. Support MVCS installation on UISS. Conduct and support testing of MVCS on SMCM UUV. Implement anti-jamming Requirements for MVCS.</div>		Articles: - -	7.464 -	7.447 -
Title: Mine Countermeasures (MCM) Mission Package  <div>FY 2013 Accomplishments: N/A</div> <div>FY 2014 Plans:</div>		Articles: - -	25.669 -	29.443 -

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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 0603596N / (U)LCS Mission Modules	Project (Number/Name) 3129 / LCS Mission Package Development		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p>Procure USV EDMs. Finalize design for Surface Mine Countermeasures (SMCM) UUV container and procure EDM support container. Design and integration of SMCM UUV into MCM MPs. Conduct MCM mission package TECHEVAL and OPEVAL. Conduct KPP modeling analysis. Resolve hardware PTRs identified during testing through development of ACSNs. Complete the integration of RMMV v4.2.1 with MCM MP Increment I. Prepare for and conduct Systems Engineering Technical Reviews (SETR) (SRR/PDR) for MCM MP Increment III.</p> <p>In support of MCM mission package, incorporate the following items into MPAS: RMMV RGP V4.3 improvements, correction of software PTRs identified during MCM MP testing, and MEDAL EA integration. Perform systems engineering (risk management, information assurance, human systems integration, safety), configuration management, and Integrated Logistics Support.</p> <p><b>FY 2015 Plans:</b> Design, develop, and deliver UISS EDMs. Initiate integration of UISS into MCM MPs. Conduct grooming and preparations for MCM mission package TECHEVAL and OPEVAL for increment I. Resolve hardware PTRs identified during testing through development of ACSNs. Prepare for and conduct Systems Engineering Technical Reviews (SETR) (SRR/PDR/CDR) for MCM MP Increment III. Initiate LCS Freedom Class MCM MP increment II integration and test. In support of MCM mission package, incorporate the following items into MPAS: Correction of software PTRs identified during MCM MP testing, and initiate UISS software integration. Perform systems engineering (risk management, information assurance, human systems integration, safety), configuration management, and Integrated Logistics Support.</p>				
<p><b>Title:</b> Anti-Submarine Warfare (ASW) Mission Package</p> <p><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> Conduct a Critical Design Review (CDR) that focuses on the transition of the final system design, development, and integration of ASW MP Increment II ASW Escort and Torpedo Defense mission modules. Conduct required systems engineering technical reviews to ensure system design meets the total CDD requirement. Conduct component and system level testing and related predictive performance modeling and simulation to establish system and module performance and reliability baselines. Provide developmental engineering support for logistical engineering data and technical documentation. Continue Mission Module development and LCS integration to include Mission Module level at-sea testing. ASW Increment 2 final development, integration, and test. Award competitive contract(s) for EDM/Production Representative Article (PRA) set of ASW Escort/Torpedo Defense systems to support IOT&amp;E in FY16. Maintain configuration control of ASW MP data, hardware, and software. Collect data and perform analysis associated with the ASW MP Reliability, Maintainability, and Availability (RMA) program. Provide Find/Fix/Repair for technical issues associated with</p>		- -	36.715 1.000	25.835 -

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603596N I (U)LCS Mission Modules	Project (Number/Name) 3129 I LCS Mission Package Development		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p>Mission Package Application Software (MPAS) identified during integration and developmental testing and conduct necessary regression testing on proposed fixes. Initiate environmental testing on Mission Package (MP) Increment 2 and incorporate required Engineering Change Proposals (ECP) into the Technical Data Package (TDP). Provide developmental engineering support, equipment, and documentation for logistical engineering data and technical publications to include training (ship's crew and Mission Package Support Facility (MPSF) personnel), maintenance and provisioning. Conduct mission package certification, obtain Information Assurance (IA) approvals, and conduct land based test events with each seaframe manufacturer prior to conducting formal shipboard test events. Support the planning and preparations for FY15 Developmental Test (DT) of ASW MP Increment 2. Conduct studies and analyses on emerging technologies for incorporation into future ASW MP Increments.</p> <p><b>FY 2015 Plans:</b> Build ASW Mission Package (MP) Mission Modules (MM) in accordance with approved Preliminary Design. Execute Mission Package weight reduction efforts using the PEO LCS Rapid Technology Insertion (RTI) process. Prepare detailed Technical Data Package (TDP) for the closeout of the ASW MP Critical Design Review (CDR) and execute the CDR event in Q1 FY15.</p> <p>Complete RDT&amp;E funded Mission Module (MM) procurement, integration, and test of Engineering Development Model (EDM) systems for the ASW Escort MM, Aviation MM, Torpedo Defense MM, and Mission Management / C2 MM.</p> <p>Conduct system end-to-end (E2E) integration testing, including events at PAX River SAIL for Aviation integration, LM and GD CMS integration, and hardware acceptance testing for the Escort MM EDM and LWT EDM. Perform Find, Fix, Repair (FFR) of identified hardware and software issues prior to DT test event.</p> <p>Conduct Test Planning in accordance with the T-14 process and ASW MP Detachment training in preparation for initiation of Developmental Test (DT) phase in 4QFY15. Plan/prepare/perform Safety and Hazard analysis, Environmental Analysis, HSI Evaluations, and Reliability Assessment in support of DT Testing.</p> <p>Complete Mission Package ship installation SHIPALTs and any additional Mission Module installation ECPs as necessary to support Mission Package installation and deployment.</p>				
<p><b>Title:</b> Surface Warfare (SUW) Mission Package</p> <p><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> SSMM Inc 1 formal technical data package will be finalized.</p>		- -	42.747 -	41.772 -

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603596N / (U)LCS Mission Modules	Project (Number/Name) 3129 / LCS Mission Package Development		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p>Continue SSMM Increment II development. Initiate developmental testing to categorize modifications to the current MPAS baseline. Initiate modifications to MPAS to support continued SSMM Increment II development. Conduct appropriate systems engineering technical reviews to ensure missile system design meets the total CDD requirement. Continue planning the SSMM Increment II environmental confidence level testing. Continue development of the detailed launcher design that supports the SSMM Increment II concept.</p> <p>Complete DT/OT/IOT&amp;E for the Gun Mission Module onboard LCS 1 &amp; 2 variants.</p> <p>Find/Fix/Repair technical issues associated with GMM and MPAS identified during STF and DT/OT events.</p> <p>Maintain configuration control of SUW MP data, hardware, and software. Collect data and perform analysis associated with the SUW MP Reliability, Maintainability, and Availability (RMA) program. Conduct combat system certification, MP certification, obtain WSESRB/SSSTRP approval, IA approvals, and conduct shipboard test events with each seaframe manufacturer. Support formal testing of the SUW MP for LCS 1 variant OT events, STF from LCS 2 variant, DT from LCS 2 variant, and OT from LCS 2 variant.</p> <p><b>FY 2015 Plans:</b></p> <p>Conduct SSMM Inc 1 Critical Design Review (CDR). Continue developmental testing to categorize modifications to the current MPAS baseline. Continue modifications to MPAS to support continued SSMM Increment II development. Continue planning the SSMM Increment II environmental confidence level testing. Continue development of the detailed launcher design that supports the SSMM Increment II concept.</p> <p>Find/Fix/Repair technical issues associated with GMM and MPAS identified during STF and DT/OT events.</p> <p>Maintain configuration control of SUW MP data, hardware, and software. Collect data and perform analysis associated with the SUW MP Reliability, Maintainability, and Availability (RMA) program. Conduct combat system certification, MP certification, obtain WSESRB/SSSTRP approval, IA approvals, and conduct shipboard test events with each seaframe manufacturer. Support DT from LCS 2 variant, and OT from LCS 2 variant.</p>				
<p><b>Title:</b> Reliability, Availability and Maintainability</p> <p><b>Articles:</b></p>		-	2.830	2.993
<p><b>FY 2013 Accomplishments:</b></p> <p>N/A</p> <p><b>FY 2014 Plans:</b></p> <p>Continue to monitor Reliability Growth and update plans as necessary. Continue to refine RAM model assumptions based on actual data and conduct multiple sensitivity analysis to quantify the effect of alternate sparing philosophies (i.e. more onboard spares, complete spare system, etc.) based on mission module availability. Determine the maintenance throughput capability for the mission systems at the Mission Package Support Facility/Mission Module Readiness Center (MPSF/MMRC) depot. Refine modeling of ASW MP. Continue utilizing FRACAS to feed back product and process improvements to the Systems Engineering and ILS organizations.</p> <p><b>FY 2015 Plans:</b></p>		-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Continue to monitor Reliability Growth and update plans as necessary. Continue to refine RAM model assumptions based on actual data and conduct multiple sensitivity analysis to quantify the effect of alternate sparing philosophies (i.e., more onboard spares, complete spare system, etc.) based on mission module availability. Refine modeling of MCM, SUW and ASW MPs. Continue utilizing FRACAS to feed back product and process improvements to the Systems Engineering and ILS organizations. Draft RAM-C Analysis Report as necessary. Update RAM-C Rationale Report as necessary.												
Accomplishments/Planned Programs Subtotals										-	161.771	196.948
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	
• 2127: Littoral Combat Ship	1,821.001	1,793.014	1,427.049	-	1,427.049	1,423.337	1,470.017	1,504.143	1,067.189	10,691.300	26,634.250	
• 1600: LCS Common Mission Modules Equipment	25.087	35.966	37.413	-	37.413	24.518	20.139	25.015	19.281	Continuing	Continuing	
• 5110: Outfitting/Post Delivery	50.065	68.165	118.282	-	118.282	164.545	204.046	205.954	209.777	1,647.600	2,701.853	
• 1320: LCS Training Equipment	22.220	26.726	9.630	-	9.630	20.002	21.278	19.004	19.394	Continuing	Continuing	
• 0944: LCS Class Support Equipment	8.566	47.078	36.206	-	36.206	67.109	73.526	78.854	88.111	Continuing	Continuing	
• 1601: LCS MCM Mission Modules	31.829	34.885	15.270	-	15.270	211.821	158.536	146.157	151.464	Continuing	Continuing	
• 1602: LCS ASW Mission Modules.	-	-	2.729	-	2.729	30.108	47.852	48.562	48.831	Continuing	Continuing	
• 1603: LCS SUW Mission Modules	30.301	19.481	44.208	-	44.208	39.231	45.907	66.591	70.779	Continuing	Continuing	
• 4221: LCS Module Weapons	-	-	-	-	-	-	-	25.584	19.159	Continuing	Continuing	
• 1605: Remote Minehunting System (RMS)	-	-	42.276	-	42.276	70.976	67.471	67.708	68.343	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
The LCS Mission Module Acquisition Strategy is employing an incremental procurement approach to allow for the rapid introduction of additional capabilities as system technology matures. This phased plan provides incremental fielding of capability through the introduction of mature programs of record into the respective Mission Packages until the full baseline capability defined in the Capability Development Document (CDD) is reached.												
E. Performance Metrics												
Milestone Reviews												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603596N / (U)LCS Mission Modules				Project (Number/Name) 3129 / LCS Mission Package Development					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
1.1 System Engineering	WR	NSWC PC : Panama City, FL	0.000	-		1.654	Oct 2013	3.517	Oct 2014	-		3.517	Continuing	Continuing	Continuing
1.1 System Engineering	WR	NSWC DD : Dahlgren, VA	0.000	-		0.620	Oct 2013	2.574	Oct 2014	-		2.574	Continuing	Continuing	Continuing
1.1 System Engineering	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		3.210	Oct 2013	4.461	Dec 2014	-		4.461	Continuing	Continuing	Continuing
1.1 System Engineering	WR	SPAWAR PAC : San Diego, CA	0.000	-		1.301	Oct 2013	3.581	Oct 2014	-		3.581	Continuing	Continuing	Continuing
1.1 System Engineering	WR	NUWC NPT : Newport, RI	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.1 System Engineering	C/CPFF	CACI : Fairfax, VA	0.000	-		0.488	Oct 2013	0.828	Dec 2014	-		0.828	Continuing	Continuing	Continuing
1.1 System Engineering	C/CPFF	AAC : Uniontown, PA	0.000	-		-		0.637	Dec 2014	-		0.637	-	0.637	-
1.1 System Engineering	WR	NSWC PHD : Port Hueneme, CA	0.000	-		-		0.765	Nov 2014	-		0.765	-	0.765	-
1.1 System Engineering	WR	NSWC Carderock : Bethesda, MD	0.000	-		0.267	Oct 2013	0.956	Oct 2014	-		0.956	-	1.223	-
1.1 System Engineering	C/CPFF	JHU/APL : Laurel, MD	0.000	-		0.439	Oct 2013	0.127	Dec 2014	-		0.127	-	0.566	-
1.4 Integration, Assembly, Test and Check	WR	NAWC AD : Patuxent River, MD	0.000	-		0.165	Oct 2013	1.175	Oct 2014	-		1.175	Continuing	Continuing	Continuing
1.4 Integration, Assembly, Test and Checkout	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		0.131	Oct 2013	0.587	Dec 2014	-		0.587	-	0.718	-
1.4 Integration, Assembly, Test and Check	WR	SPAWAR PAC : San Diego, CA	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.4 Integration, Assembly, Test and Check	WR	NUWC NPT : Newport, RI	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.4 Integration, Assembly, Test and Check	WR	NSWC PC : Panama City, FL	0.000	-		0.162	Oct 2013	0.294	Oct 2014	-		0.294	Continuing	Continuing	Continuing
1.4 Integration, Assembly, Test and Check	WR	SUPSHIP Gulfcoast : Pascagoula, MS	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.4 Integration, Assembly, Test and Check	WR	SUPSHIP Bath : Bath, ME	0.000	-		-		-		-		-	Continuing	Continuing	Continuing



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Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603596N I (U)LCS Mission Modules				Project (Number/Name) 3129 I LCS Mission Package Development					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
1.4 Integration, Assembly, Test and Check	WR	NSWC DD : Dahlgren, VA	0.000	-		0.171	Oct 2013	2.937	Oct 2014	-		2.937	Continuing	Continuing	Continuing
1.4 Integration, Assembly, Test and Checkout	WR	NSWC PHD : Port Hueneme, CA	0.000	-		-		0.658	Oct 2014	-		0.658	-	0.658	-
1.4 Integration, Assembly, Test and Checkout	WR	NSWC Crane : Crane, Indiana	0.000	-		0.221	Oct 2013	1.469	Oct 2014	-		1.469	-	1.690	-
1.4 Integration, Assembly, Test and Checkout	WR	NSWC Carderock : Bethesda, MD	0.000	-		0.436	Oct 2013	6.392	Oct 2014	-		6.392	-	6.828	-
1.4 Integration, Assembly, Test and Checkout	C/CPFF	CACI : Fairfax, VA	0.000	-		0.181	Oct 2013	0.832	Dec 2014	-		0.832	-	1.013	-
1.4 Integration, Assembly, Test and Checkout	Sub Allot	CECOM Bldg 1207 : Various	0.000	-		0.112	Oct 2013	0.294	Oct 2014	-		0.294	-	0.406	-
1.12 Common Equipment Development	WR	NSWC PC : Panama City, FL	0.000	-		3.394	Oct 2013	2.105	Oct 2014	-		2.105	Continuing	Continuing	Continuing
1.12 Common Equipment Development	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		1.127	Oct 2013	0.392	Dec 2014	-		0.392	Continuing	Continuing	Continuing
1.12 Common Equipment Development	WR	NUWC NPT : Newport, RI	0.000	-		0.427	Oct 2013	0.343	Oct 2014	-		0.343	Continuing	Continuing	Continuing
1.12 Common Equipment Development	WR	NSWC DD : Dahlgren, VA	0.000	-		0.859	Oct 2013	0.343	Oct 2014	-		0.343	Continuing	Continuing	Continuing
1.12 Common Equipment Development	WR	NAVAIR PMA266 : Patuxent River, MD	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.12 Common Equipment Development	C/CPFF	AAC : Uniontown, PA	0.000	-		0.468	Oct 2013	2.747	Dec 2014	-		2.747	-	3.215	-
1.12 Common Equipment Development	WR	PMW 760 : Various	0.000	-		0.356	Oct 2013	0.245	Nov 2014	-		0.245	-	0.601	-
1.12 Common Equipment Development	WR	SPAWAR PACIFIC : San Diego, CA	0.000	-		0.570	Oct 2013	0.783	Nov 2014	-		0.783	-	1.353	-
1.12 Common Equipment Development	C/CPFF	ARL/UT : Austin, TX	0.000	-		0.262	Oct 2013	0.490	Dec 2014	-		0.490	-	0.752	-
1.13 MCM MP	WR	NSWC PC : Panama City, FL	0.000	-		12.794	Oct 2013	11.211	Oct 2014	-		11.211	Continuing	Continuing	Continuing

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Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
1.13 MCM MP	WR	NSWC CD : Little Creek, VA	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.13 MCM MP	Sub Allot	PMS 406 : Various	0.000	-		5.555	Oct 2013	18.232	Dec 2014	-		18.232	-	23.787	-
1.13 MCM MP	C/CPFF	Lockheed Martin : Riviera Beach, FL	0.000	-		7.320	Oct 2013	-		-		-	-	7.320	-
1.14 ASW MP	Sub Allot	PEO IWS5 : Various	0.000	-		26.638	Oct 2013	7.918	Oct 2014	-		7.918	-	34.556	-
1.14 ASW MP	WR	NUWC NPT : Newport, RI	0.000	-		8.277	Oct 2013	3.672	Oct 2014	-		3.672	-	11.949	-
1.14 ASW MP	TBD	Various : Various	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.14 ASW MP	WR	NSWC Dam Neck : Virginia Beach, VA	0.000	-		1.228	Oct 2013	0.587	Oct 2014	-		0.587	-	1.815	-
1.14 ASW MP	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		0.572	Oct 2013	1.273	Dec 2014	-		1.273	-	1.845	-
1.14 ASW MP	C/CPFF	SPA : Washington, DC	0.000	-		-		0.587	Jun 2015	-		0.587	-	0.587	-
1.14 ASW MP	Sub Allot	TBD Activity Placeholder : TBD	0.000	-		-		7.568	Oct 2014	-		7.568	-	7.568	-
1.14 ASW MP	WR	NSWC PCD : Panama City, FL	0.000	-		-		0.117	Oct 2014	-		0.117	-	0.117	-
1.14 ASW MP	WR	NSWC DD : Dahlgren, VA	0.000	-		-		0.196	Oct 2014	-		0.196	-	0.196	-
1.14 ASW MP	C/CPFF	CACI : Arlington, VA	0.000	-		-		0.343	Dec 2014	-		0.343	-	0.343	-
1.14 ASW MP	WR	NUWC KPT : Keyport, WA	0.000	-		-		0.441	Oct 2014	-		0.441	-	0.441	-
1.14 ASW MP	WR	SSC PAC : San Diego, CA	0.000	-		-		3.133	Oct 2014	-		3.133	-	3.133	-
1.15 SUW MP	WR	NSWC DD : Dahlgren, VA	0.000	-		17.374	Oct 2013	9.361	Oct 2014	-		9.361	Continuing	Continuing	Continuing
1.15 SUW MP	WR	NSWC PHD : Port Hueneme, CA	0.000	-		6.136	Oct 2013	10.128	Oct 2014	-		10.128	Continuing	Continuing	Continuing
1.15 SUW MP	WR	SPAWAR PACIFIC : San Diego, CA	0.000	-		-		-		-		-	Continuing	Continuing	Continuing

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Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603596N / (U)LCS Mission Modules				Project (Number/Name) 3129 / LCS Mission Package Development					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
1.15 SUW MP	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		13.317	Oct 2013	19.884	Dec 2014	-		19.884	-	33.201	-
1.15 SUW MP	WR	NAWC WD : Ridgecrest, CA	0.000	-		5.921	Oct 2013	1.958	Oct 2014	-		1.958	-	7.879	-
1.15 SUW MP	WR	NSWC CD : Crane, IN	0.000	-		-		0.196	Oct 2014	-		0.196	-	0.196	-
1.15 SUW MP	WR	NSWC Corona : Corona, CA	0.000	-		-		0.245	Oct 2014	-		0.245	-	0.245	-
1.16 MP-PCS Equipment	WR	Various : Various	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
1.19 Pre-Production Engineering	WR	Various : Various	0.000	-		-		-		-		-	-	-	-
1.20 Irregular Warfare Module	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		-		-		-		-	-	-	-
1.20 Irregular Warfare Module	WR	SPARWAR PAC : San Diego, CA	0.000	-		-		-		-		-	-	-	-
1.1.7 System Engineering RAM-C Project	WR	Various : Various	0.000	-		-		-		-		-	-	-	-
Subtotal			0.000	-		122.153		136.582		-		136.582	-	-	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
1.5 Training Systems Development	WR	NAWC TSD : Orlando, FL	0.000	-		1.229	Oct 2013	2.007	Oct 2014	-		2.007	Continuing	Continuing	Continuing
1.5 Training Systems Development	WR	NSWC PC : Panama City, FL	0.000	-		0.744	Oct 2013	1.615	Oct 2014	-		1.615	Continuing	Continuing	Continuing
1.5 Training Systems Development	WR	NSWC PHD : Port Hueneme, CA	0.000	-		1.115	Oct 2013	1.266	Oct 2014	-		1.266	Continuing	Continuing	Continuing
1.5 Training Systems Development	C/CPFF	AAC : Uniontown, PA	0.000	-		1.129	Oct 2013	3.500	Dec 2014	-		3.500	Continuing	Continuing	Continuing
1.5 Training Systems Development	C/CPFF	CACI : Fairfax, VA	0.000	-		0.566	Oct 2013	0.734	Dec 2014	-		0.734	-	1.300	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603596N / (U)LCS Mission Modules				Project (Number/Name) 3129 / LCS Mission Package Development					
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
1.5 Training Systems Development	WR	CSCS : Dahlgren, VA	0.000	-		1.305	Oct 2013	1.713	Oct 2014	-		1.713	Continuing	Continuing	Continuing
1.5 Training Systems Development	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		0.312	Oct 2013	1.084	Dec 2014	-		1.084	-	1.396	-
1.5 Training Systems Development	WR	CNSF : San Diego, CA	0.000	-		0.566	Oct 2013	0.734	Oct 2014	-		0.734	Continuing	Continuing	Continuing
1.5 Training Systems Development	WR	NSWC, Dahlgren : Dahlgren, VA	0.000	-		-		0.269	Oct 2014	-		0.269	-	0.269	-
1.5 Training Systems Development	WR	NUWC, Newport : Newport, RI	0.000	-		-		1.224	Oct 2014	-		1.224	-	1.224	-
1.5 Training Systems Development	WR	JHU/APL : Laurel, MD	0.000	-		-		0.979	Nov 2014	-		0.979	-	0.979	-
1.5 Training Systems Development	C/BA	CDSA, Dam Neck : Dam Neck, VA	0.000	-		-		1.713	Oct 2014	-		1.713	-	1.713	-
1.6 Program Technical Data	WR	NSWC PC : Panama City, FL	0.000	-		-		0.629	Oct 2014	-		0.629	Continuing	Continuing	Continuing
1.6 Program Technical Data	C/CPFF	Northrop Grumman : Bethpage, NY	0.000	-		0.204	Oct 2013	0.942	Dec 2014	-		0.942	-	1.146	-
1.6 Program Technical Data	WR	CACI : Fairfax, VA	0.000	-		0.168	Oct 2013	0.274	Dec 2014	-		0.274	-	0.442	-
1.1.10 Reliability, Maintainability, and Availability	C/CPFF	CACI : Fairfax, VA	0.000	-		0.272	Oct 2013	0.734	Dec 2014	-		0.734	Continuing	Continuing	Continuing
1.1.10 Reliability, Maintainability, and Availability	WR	NSWC PC : Panama City, FL	0.000	-		1.084	Oct 2013	0.881	Oct 2014	-		0.881	Continuing	Continuing	Continuing
1.1.10 Reliability, Maintainability, and Availability	WR	NUWC, NPT : Newport, RI	0.000	-		0.113	Oct 2013	1.129	Oct 2014	-		1.129	Continuing	Continuing	Continuing
1.1.10 Reliability, Maintainability, and Availability	C/BA	NSWC, Dahlgren : Dahlgren, VA	0.000	-		1.362	Oct 2013	0.250	Oct 2014	-		0.250	-	1.612	-
Subtotal			0.000	-		10.169		21.677		-		21.677	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0603596N / (U)LCS Mission Modules				Project (Number/Name) 3129 / LCS Mission Package Development					
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
1.3 System Test and Evaluation	WR	NSWC PCD : Panama City, FL	0.000	-		9.408	Nov 2013	12.308	Oct 2014	-		12.308	-	21.716	-
1.3 System Test and Evaluation	WR	NSWC DD : Dahlgren, VA	0.000	-		4.975	Nov 2013	7.348	Oct 2014	-		7.348	-	12.323	-
1.3 System Test and Evaluation	WR	NUWC NPT : Newport, RI	0.000	-		0.743	Nov 2013	0.743	Oct 2014	-		0.743	-	1.486	-
1.3 System Test and Evaluation	WR	NSWC PHD : Port Hueneme, CA	0.000	-		7.899	Nov 2013	7.768	Oct 2014	-		7.768	-	15.667	-
1.3 System Test and Evaluation	WR	SPAWAR PAC : San Diego, CA	0.000	-		1.237	Nov 2013	1.150	Nov 2014	-		1.150	-	2.387	-
1.3 System Test and Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.000	-		0.836	Nov 2013	1.148	Nov 2014	-		1.148	-	1.984	-
1.3 System Test and Evaluation	WR	PMA 266 : Patuzent River, MD	0.000	-		0.346	Nov 2013	0.352	Dec 2014	-		0.352	-	0.698	-
1.3 System Test and Evaluation	C/BA	Silver Ships : Theodore, AL	0.000	-		0.544	Nov 2013	0.548	Dec 2014	-		0.548	-	1.092	-
1.3 System Test and Evaluation	C/BA	CNSF : Norfolk, VA	0.000	-		0.247	Nov 2013	0.250	Nov 2014	-		0.250	-	0.497	-
1.3 System Test and Evaluation	C/BA	NAWC WD : Point Mugu, CA	0.000	-		2.475	Nov 2013	2.333	Nov 2014	-		2.333	-	4.808	-
1.3 System Test and Evaluation	C/BA	NSWC Corona : Corona, CA	0.000	-		-		0.196	Nov 2014	-		0.196	-	0.196	-
Subtotal			0.000	-		28.710		34.144		-		34.144	-	62.854	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition Workforce	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
1.2 Program Management	C/CPFF	CACI : Fairfax, VA	0.000	-		0.739	Nov 2013	4.545	Dec 2014	-		4.545	-	5.284	-
1.2 Program Management	WR	NSWC PCD : Panama City, FL	0.000	-		-		-		-		-	-	-	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy												<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0603596N / (U)LCS Mission Modules				<b>Project (Number/Name)</b> 3129 / LCS Mission Package Development					
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
1.2 Program Management	WR	NSWC DD : Dahlgren, VA	0.000	-		-		-		-		-	-	-	-
<b>Subtotal</b>			0.000	-		0.739		4.545		-		4.545	-	5.284	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			0.000	-		161.771		196.948		-		196.948	-	-	-
<b>Remarks</b>															

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<b>Appropriation/Budget Activity</b> 1319 / 4
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R-1 Program Element (Number/Name)
PE 0603596N / (U)LCS Mission Modules

<b>Project (Number/Name)</b>	3129 / LCS Mission Package Development
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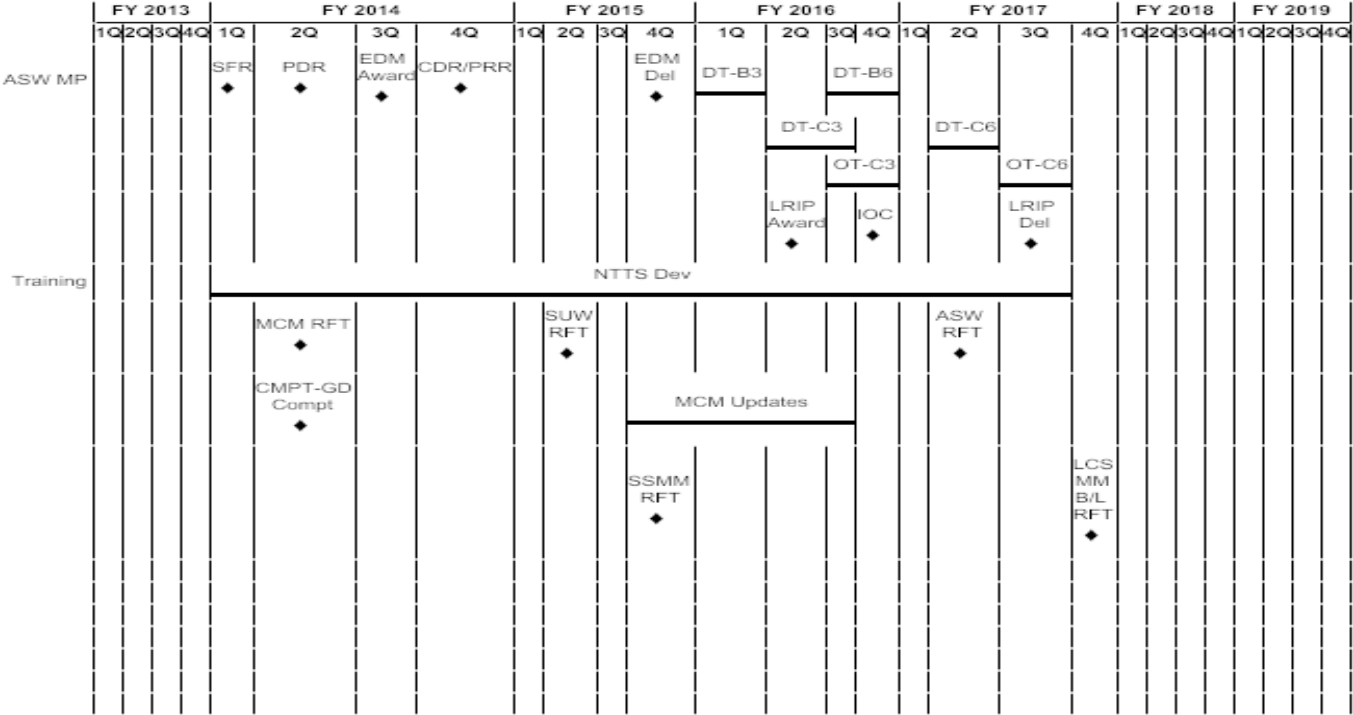


**PB15 R-4 is a consolidation between PE 0603581N (Project 3129) and PE 0603596N (Project 3129)**

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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 0603596N / (U)LCS Mission Modules	Project (Number/Name) 3129 / LCS Mission Package Development	

Page 2



2015PB - 0603596N - 3129

**PB15 R-4 is a consolidation between PE 0603581N (Project 3129) and PE 0603596N**



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603596N / (U)LCS Mission Modules	<b>Project (Number/Name)</b> 3129 / LCS Mission Package Development	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3129</b>				
MCM MP: MCM MP Increment I DT-B3 (Freedom Variant)	1	2015	2	2015
MCM MP: MCM MP Increment I DT-B2 Phase 4 (Independence Variant)	1	2014	1	2014
MCM MP: MCM MP Increment I TECHEVAL DT-C2 (Independence Variant)	3	2015	3	2015
MCM MP: MCM MP Increment I IOT&E OT-C2 (Independence Variant)	3	2015	4	2015
MCM MP: MCM MP Increment I IOC	4	2015	4	2015
MCM MP: MCM - UISS CDR	4	2014	4	2014
MCM MP: MCM MP FOT&E	4	2014	4	2017
MCM MP: MCM MP OAMCM Operational Assessment (Independence Variant)	4	2014	4	2014
MCM MP: MCM MP Increment III Delta SRR	1	2015	1	2015
MCM MP: MCM MP Increment III Delta PDR	2	2015	2	2015
MCM MP: MCM MP Increment III Delta CDR	4	2015	4	2015
SUW MP: SUW MP Increment II PRR (MSM)	1	2014	1	2014
SUW MP: SUW MP Increment I & II DT-B1 Phase 2 (Freedom Variant)	1	2014	2	2014
SUW MP: SUW MP Increment I & II DT-B4 (Independence Variant)	4	2014	4	2014
SUW MP: SUW MP Increment I & II TECHEVAL DT-C1 (Freedom Variant)	2	2014	2	2014
SUW MP: SUW MP Increment I & II TECHEVAL DT-C4 (Independence Variant)	3	2015	3	2015
SUW MP: SUW MP Increment I & II IOT&E OT-C1 (Freedom Variant)	2	2014	2	2014
SUW MP: SUW MP Increment I & II IOT&E OT-C4 (Independence Variant)	2	2015	2	2015
SUW MP: SUW MP Increment I & II IOC	4	2014	4	2014
SUW MP: SUW MM (SSMM End-to-End Testing)	4	2014	4	2014
SUW MP: SUW MP FOT&E	4	2014	4	2018
SUW MP: SUW MM SSMM PDR	4	2014	4	2014

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603596N / (U)LCS Mission Modules	<b>Project (Number/Name)</b> 3129 / LCS Mission Package Development
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SUW MP: SUW MM SSMM Development	1	2014	3	2015
<b>Page 2</b>				
ASW MP: ASW MP Increment II SFR	1	2014	1	2014
ASW MP: ASW MP Increment II PDR	2	2014	2	2014
ASW MP: ASW MP Increment II CDR/PRR	4	2014	4	2014
ASW MP: ASW MP Increment II EDM/PRA Award	3	2014	3	2014
ASW MP: ASW MP Increment II EDM 1 Delivery	4	2015	4	2015
ASW MP: ASW MP Increment II DT-B3 (Freedom Variant)	1	2016	1	2016
ASW MP: ASW MP Increment II DT-B6 (Independence Variant)	3	2016	4	2016
ASW MP: ASW MP Increment II TECHEVAL DT-C3 (Freedom Variant)	2	2016	3	2016
ASW MP: ASW MP Increment II TECHEVAL DT-C6 (Independence Variant)	2	2017	2	2017
ASW MP: ASW MP Increment II IOT&E OT-C3 (Freedom Variant)	3	2016	4	2016
ASW MP: ASW MP Increment II IOT&E OT-C6 (Independence Variant)	3	2017	3	2017
ASW MP: ASW MP Increment II IOC	4	2016	4	2016
ASW MP: ASW MP Increment II LRIP 1 Award	2	2016	2	2016
ASW MP: ASW MP Increment LRIP 1 Delivery	3	2017	3	2017
Training: NTTS (MPTS) HW/SW Development	1	2014	3	2017
Training: MCM LTF Initial Ready For Training	2	2014	2	2014
Training: SUW LTF Initial Ready For Training	2	2015	2	2015
Training: ASW LTF Initial Ready For Training	2	2017	2	2017
Training: CMPT - GD Tactical Team Trainer Integration Complete	2	2014	2	2014
Training: MCM Courseware Update (MCM UUV, RMMV & UISS IOC)	4	2015	3	2016
Training: SUW Courseware Update (SSMM IOC)	4	2015	4	2015
Training: Initial LCS MM Baseline Final Ready for Training	4	2017	4	2017