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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	1,530.767	988.928	992.407	-	992.407	960.870	950.097	1,030.201	958.680	Continuing	Continuing
MD09: <i>Aegis BMD</i>	1,474.296	935.029	775.978	-	775.978	743.982	723.618	797.184	651.653	Continuing	Continuing
MT09: <i>Aegis BMD Test</i>	-	-	150.291	-	150.291	138.573	134.996	106.871	134.241	Continuing	Continuing
MX09: <i>Aegis BMD Development Support</i>	-	12.600	15.588	-	15.588	24.262	39.716	70.331	118.990	Continuing	Continuing
MD40: <i>Program-Wide Support</i>	56.471	41.299	50.550	-	50.550	54.053	51.767	55.815	53.796	Continuing	Continuing

Note

N/A

A. Mission Description and Budget Item Justification

The Aegis Ballistic Missile Defense (Aegis BMD) mission is to deliver an enduring, operationally effective and supportable Ballistic Missile Defense capability to defend the nation, deployed forces, friends and allies, and to increase this capability by delivering evolutionary improvements as part of Ballistic Missile Defense System (BMDS) upgrades. The Aegis BMD element of the BMDS capitalizes upon and evolves from the existing U.S. Navy Aegis Weapons System (AWS) and Standard Missile (SM) infrastructures. Aegis BMD provides a forward-deployable, mobile capability to detect and track Ballistic Missiles of all ranges, and the ability to destroy Short-Range Ballistic Missiles (SRBM), Medium-Range Ballistic Missiles (MRBM), and Intermediate-Range Ballistic Missiles (IRBM) in the midcourse phase of flight, ICBMs in early phase of flight and shorter range missile in terminal phase. Aegis BMD also provides a Long Range Surveillance and Track (LRS&T) capability to the BMDS. Upgrades to both the Aegis BMD Weapon System and the STANDARD MISSILE-3 (SM-3) configuration enable Aegis BMD to provide effective, supportable defensive capability against longer range, more sophisticated threats and an enduring Aegis Ashore defensive capability.

Aegis BMD provides/ will provide several capabilities in support of the objective to defend allies and deployed forces from intermediate threats in one region or theater:

Deployed Now

-Aegis BMD 3.6.1: Delivers an engagement capability with an SM-3 Block IA against SRBM, MRBM and IRBM class threats. Delivers a Near Term Sea Based Terminal (NTSBT) capability against SRBM with a modified SM-2 Block IV. Delivers an LRS&T capability against ballistic missile threats of all ranges. Aegis BMD 3.6.1 has demonstrated launch on remote operations in FY 2011 and has the ability to receive live fire information from the Space Tracking and Surveillance System (STSS) to support fire control operations. Assessed operationally suitable and effective in 2008.

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	PE 0603892C: <i>AEGIS BMD</i>

Aegis BMD 4.0.1

-Aegis BMD 4.0.1 and the SM-3 Block IB missile improve Aegis BMD's ability to engage longer range, more sophisticated ballistic missiles that may deploy countermeasures and are launched in larger raid sizes. Aegis BMD's sensor improvements include the (AN/SPY)-1 radar's signal processor and the SM-3 Block IB kinetic warhead's (KW) two-color infra-red (IR) seeker. The Aegis BMD Signal Processor provides a real-time identification capability. The two-color seeker with an Advanced Signal Processor improves sensitivity for longer range targets, high speed processing for multiple targets and improved performance against more sophisticated threats. Besides the two-color IR seeker, the SM-3 Block IB Kinetic warhead (KW) divert engine system has been upgraded over the SM-3 Block IA. The new divert engine, the Throttleable Divert and Attitude Control System (TDACS), provides more flexible divert to maneuver the kill Vehicle (KV) to intercept.

Deploying FY 2014

-Aegis BMD 5.0 - Integrates Aegis BMD 4.0.1 capability into the Navy-developed Open Architecture (OA) computing environment. This change is necessary for Aegis BMD to remain compatible with Navy as ship modernization plans are executed. Improves human-systems interface through display enhancements; eliminates the need for a separate computing system specific to the BMD mission; enables more ships to serve as candidates for the BMD mission; supports the BMDS Integrated Build D; and provides the basis for Aegis Ashore.

Deploying in the Future

- Conducting SM-3 Block IIB product development source selection and subsequent program management of product development.
- Aegis BMD 5.0. Capability upgrade (CU) - Enhances Aegis BMD 5.0 by restoring the terminal defense layer, increasing raid size and expanding the threat set.
- Aegis BMD computer program baseline and missile system modifications necessary to place Aegis BMD capability on land (Aegis Ashore).
- SM-3 Block IIA - Aegis BMD and the Japan Ministry of Defense (JMOD) have undertaken an SM-3 Cooperative Development (SCD) program, which consists of a spiral upgrade to a 21-inch diameter SM-3 missile (SM-3 Blk IIA). Missile development will be covered under the SCD project prior to the SM-3 Blk IIA incorporation into the Aegis BMD 5.1 upgrade to the Aegis BMD system.
- Aegis BMD 5.1/5.1.X - Integrates the SM-3 Blk IIA missile and future missiles with an improved terminal defense capability and Open Architecture (OA) environment. The addition of the SM-3 Blk IIA missile will expand available battlespace to include Intermediate Range Ballistic Missile (IRBM) and selected longer-range threats, and when combined with additional weapon system modifications, will enable an Engage-on-Remote (EoR) capability. That capability will further extend Aegis BMD by capitalizing on globally-deployed BMDS sensor assets.

BMD Systems Engineering

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0400: *Research, Development, Test & Evaluation, Defense-Wide*
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

R-1 ITEM NOMENCLATURE
PE 0603892C: *AEGIS BMD*

MDA Engineering integrates element development, test (IMTP) work to optimize the capability of the BMDS. Modeling and simulation (M&S) activities support all phases of Aegis BMD's development, including development of Aegis Weapon System (AWS) and SM-3 variants, flight test missions, ground tests, war games, exercises, and performance assessment. Models and simulations are tailored to the specific need of a component in its current phase of development, ranging from low-to-medium fidelity analysis supporting concept definition studies, to high-fidelity models used to support engineering development, or testing and are integrated into the BMD Digital Simulations Architecture.

Proving Missile Defense:

Working with the Services' Operational Test Agencies (OTA), with the support of the Director of Operational Test and Evaluation (DOT&E), MDA has developed a test program to improve confidence in missile defense capabilities under development and ensure the capabilities transferred to the war fighter are operationally effective, suitable, and survivable.

As part of the Agency's rigorous test program, System Pre-Flight predictions provide confidence in test execution by predicting element performance and exercising element interfaces. System Post Flight Reconstruction replicates the Ballistic Missile Defense System configuration and actual environmental conditions and target dynamics observed in flight to anchor modeling and simulation results. Testing includes SM-3 intercept using Space Tracking and Surveillance System (STSS) as a remote sensor.

The Integrated Master Test Plan (IMTP) is event-oriented and extends until the collection of all identified data is completed to ensure adequate test investments. The bottom line is that MDA is focused on conducting meaningful ballistic missile testing that demonstrates the capabilities of the BMDS.

MD40 consists of Program-Wide Support (PWS) non-headquarters management costs in support of MDA functions and activities across the entire Ballistic Missile Defense System (BMDS).

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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	1,467.278	960.267	957.992	-	957.992
Current President's Budget	1,530.767	988.928	992.407	-	992.407
Total Adjustments	63.489	28.661	34.415	-	34.415
• Congressional General Reductions	-10.684	-1.339			
• Congressional Directed Reductions	-12.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	114.000	30.000			
• Reprogrammings	0.490	-			
• SBIR/STTR Transfer	-28.317	-			
• Other Adjustment	-	-	34.415	-	34.415

Change Summary Explanation

The FY 2011 increase of \$114.000M reflects a congressional directed transfers from the Navy \$72.500M Other Procurement Navy (OPN) and \$1.500M Operations & Maintenance Navy (OMN), and transfer SM-3 Block IIB development from BMD Technology PE (0603175C) \$40.000M (Department of Defense and Full Year Continuing Appropriation Act, FY 2011 (Public Law 112-10)). The FY 2011 decrease of \$12.000M reflects a congressional undistributed reduction (Department of Defense and Full Year Continuing Appropriation Act, FY 2011 (Public Law 112-10)). The FY 2011 increase of \$0.490M reflects a realignment of Department of Defense priorities.

The FY 2012 increase of \$30.000M reflects a congressional directed transfer from SM-3 Block IIB PE (0603902C) for SM-3 Block IB production improvements adjustments (Consolidated Appropriation Act of FY 2012 (Public Law 112-74)). The FY 2012 decrease of \$1.339M reflects a realignment of Department of Defense priorities.

The FY 2013 increase of \$34.415M reflects a realignment of Department of Defense priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MD09: <i>Aegis BMD</i>	1,474.296	935.029	775.978	-	775.978	743.982	723.618	797.184	651.653	Continuing	Continuing
Quantity of RDT&E Articles	5	9	4		4	0	0	0	0		

Note

The fiscal year 2012 budget request includes \$565M for the procurement of SM-3 Block IB missiles in support of Aegis Ballistic Missile Defense. Following a recent flight test failure, Missile Defense Agency (MDA) is identifying requirements for a failure review of the SM-3 Block IB, sustainment of the industrial base, and the procurement of SM-3 Block IA missiles before SM-3 Block IB missiles will be procured. Contained in the FY 2012 Defense Appropriation the conferees understood that the details of the specific funding requirements are currently being analyzed by MDA and direct MDA to submit a prior approval reprogramming request prior to utilizing funds from this line.

A. Mission Description and Budget Item Justification

Aegis BMD continues development of a sea-based BMD capability in project MD09, in support of the Missile Defense Agency's mission to protect the homeland, deployed forces, friends and allies from ballistic missile threats of all ranges and in all stages of flight. Aegis BMD efforts will primarily fall into two categories of BMD initiatives:

Enhance Missile Defense to Defend Deployed Forces, Allies and Friends Against Theater Threats:

- Aegis BMD 3.6.1 deployed now, element of the Phase Adaptive Approach (PAA) phase I, midcourse and terminal layer defense.
- Aegis BMD 4.0.1 improved radar tracking accuracy and RF discrimination and increased raid capacity using Aegis BMD Signal Processor (BSP).
- SM-3 Blk IB improved kinetic warhead.
- Aegis BMD 5.0 integrates BMD capability into the Navy's Aegis Modernization Program.
- Aegis BMD 5.0 Capability Upgrade (CU) expands threat set and further increased the raid size, adds improved terminal defense capability.
- Aegis BMD 5.1 implementation of SM-3 Blk IIA tactical capability.
- Initial manufacturing of SM-3 Blk IB missiles.
- BMD shipset installations aboard US Navy Cruisers and Destroyers.
- Adaptation of Aegis BMD for use on land (Aegis Ashore).

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
<p>Prove Missile Defense Works:</p> <ul style="list-style-type: none">-Aegis BMD element-level testing.-Participation in BMD System ground tests.-Element Modeling & Simulation. <p>Aegis BMD 3.6.1 provides midcourse defense against Short Range Ballistic missile (SRBM), Medium Range Ballistic Missile (MRBM) and Intermediate Range Ballistic Missile (IRBMs) using the SM-3 Blk IA and terminal defense against SRBM with SM-2 Blk IV Missile. This configuration is deployed today supporting Combatant Commanders (COCOM) needs. It is a key element of U.S. regional missile defenses for the defense of deployed forces, allies, and partners in Europe, the Asia-Pacific, and the Middle East. Planned efforts include increasing the number of ships to 24 and continued integration with other elements of the BMDS.</p> <p>Aegis BMD 4.0.1 and SM-3 Blk IB will address more sophisticated and evolving threats. The ship receives a new signal processor that increases radar resolution to provide more accurate and discriminated track information and triples the possible number of simultaneous ballistic missile engagements over Aegis BMD 3.6.1 The SM-3 receives a new kinetic warhead that includes a 2 color seeker, throttleable engine and upgraded signal processor.</p> <p>Other capability enhancements include functionality to support BMDS integrated Builds C and D:</p> <ul style="list-style-type: none">-Improvements in BMDS Command and Control, Battle Management and Communications (C2BMC) to ensure future BMDS remote sensor enhancements and the resulting discrimination capabilities are able to be communicated, correlated, and acted upon. Improved engagement coordination capability with Terminal high Altitude Area Defense (THAAD) and Patriot to conserve upper tier missiles, including Patriot upper tier debris mitigation.-Analysis for planned upgrades to the SM-3 missile to expand battlespace and improve discrimination, divert, and probability of mission success.-Supports BMDS Integrated Build C functionality: In Aegis BMD, this functionality includes deliberate and crisis Ballistic Missile Defense planning, Warfighter situational awareness, and the initial capability to control Regional BMD engagement between local assets and near-term improvements to threat discrimination.-Supports Integrated BMDS Build D functionality: In Aegis BMD, this functionality includes the Aegis BMD System (4.0.1 and Standard Missile (SM-3 Blk IB)) that provides significant improvements to both Radio Frequency (RF) and Infrared (IR) discrimination allowing for engagement of complex threats. Additional improvements to Aegis increase its ability to launch SM-3 interceptors on BMD System remote sensor data and improve Aegis coordination with the THAAD and Patriot weapon systems in the region. -Approved additions to integrated Build D support initial Aegis BMD Ashore with control of engagement debris and refinements to BMD engagement coordination.		

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Aegis BMD 5.0 will integrate Aegis BMD 4.0.1 capability into the Navy-developed Open Architecture (OA) computing environment. This change is necessary for Aegis BMD to remain compatible with Navy as Navy ship modernization plans are executed. This change will improve human-systems interface through display enhancements and eliminate the need for a separate computing system specific to the BMD mission. This will also enable more ships to serve as candidates for the BMD mission. Aegis BMD 5.0 will support the BMDS Integrated Build D and provide the basis for Aegis Ashore.

Aegis BMD 5.0 Capability Upgrade (CU) will enhance Aegis BMD 5.0 by restoring the terminal defense layer with the SM-6, increasing the maximum number of SM-3's inflight simultaneously and expanding the threat set to include those for PAA Phase II for defense of Europe and support of deployed forces, friends and allies and to increase this capability by delivering evolutionary improvements as part of Ballistic Missile Defense System (BMDS) upgrades.

Aegis BMD 5.1 will integrate the SM-3 Blk IIA missile and improved terminal defense capability. It will also incorporate the following Weapon System improvements:

- An Aegis BMD module in Navy's Open Architecture computer program.
- Defeat a wide variety of ballistic missiles: Short Range Ballistic Missile (SRBMs), Medium Range Ballistic Missile (MRBMs), and Intermediate Range Ballistic Missile (IRBMs).
- Increased battlespace with the SM-3 Blk IIA.
- Engage on Remote (EoR) engagements allows use active and passive off board sensor information to launch and guide the SM-3 to final intercept. EoR engagements will use more of the SM-3's kinematic envelope expanding battlespace, will increase the theoretical number of threats engaged over previous baselines both matching communications upgrades and make the overall architecture more resilient to adversary attempts to penetrate the BMDS.
- Enhanced conventional discrimination.
- Increased BMDS interoperability.
- Enhanced Sea-Based Terminal capability.

Aegis BMD 5.1/5.1.X with the addition of the SM-3 Blk IIB expands the threat set to include Inter-continental Ballistic Missiles (ICBMs) and Early Intercept Engagement Capability.

Aegis BMD supports an autonomous engagement against SRBMs and MRBMs without requiring external cueing. It supports an engagement against SRBMs and MRBMs using data from other BMDS elements and external sensors. Aegis BMD will also provide target track data to support Ground-based Interceptor Launch and Engagement against Long Range Ballistic Missile (LRBMs).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: Aegis BMD 4.0.1 Development	162.473	65.746	115.367

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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<p style="text-align: right;">Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Test of BMD 4.0.1. -Prepared for the Computer Program Acceptance Panel (CPAP). -Prepared for and executed FTM-16 (Aegis intercept Flight Test), the first BMD 4.0.1/SM-3 Blk IB flight test (Developmental Test (DT) Assist and an SM-2 Anti-Air Warfare (AAW) engagement. -Delivered BMD 4.0.1 Computer Program for Deployment Certification testing. -Prepared for the Deployment Certification. -Prepared for the Platform Certification. -Delivered Command and Control Processor (C2P)/ Common Data Link Monitoring System (CDLMS) V3.7 in support of ISO) BMD 4.0.1 Interoperability enhancements. -Delivered Global Command and Control System- Maritime (GCCS-M) 4.0.3.5 ISO BMD 4.0.1 Mission Planning enhancements. -Delivered Joint Tactical Terminal (JTT)-M Blk 5 Rel 7 ISO BMD 4.0.1 Overhead Persistent Infrared (OPIR) Cueing enhancements. -Continued interoperability studies with BMDS elements, automated mission planner data exchange with Command and Control, Battle Management and Communications C2BMC) and Maritime Integrated Air and Missile (MIPS) utilization of improved space cue track data and real world operations. -Completed BMD 4.0.1 Final Operating and Support Hazard Analysis (O&SHA). -Completed BMD 4.0.1 Final Safety Requirements Verification Matrix (SaRVM). -Completed BMD 4.0.1 Certification Safety Assessment Report (SAR). -Completed Mission Assurance audits with Lockheed Martin Mission Systems and Sensors (LMMS2) and SPAWAR covering Safety, Parts & Materials, T&E. -Completed Physical Configuration Audits at LMMS2 in Moorestown, NJ and Clearwater, FL. -Completed Navy Interoperability Certification. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Conduct Threat Adaptation Update -Update 4.0.1 Computer Program Based upon flight test results -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule. 	0	0	0
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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
-Continue Command and Control Processor (C2P)/Common Data Link Monitoring System (CDLMS) V3.7 installations -Continue deployment of Global Command and Control System Maritime (GCCS-M) 4.0.3.5 on BMD platforms				
Title: Aegis BMD 5.0 Development		226.916	145.978	239.912
Articles:		0	0	0
Description: See Description Below				
FY 2011 Accomplishments: -Continued the development and testing of BMD 5.0. -Continued the design and development of computer program functionality changes. -Successfully completed In-Process Review (IPR) #5, permission was granted to code through completion. IPR #5 also served as the Critical Design Review for BMD Guarded Unit. -Successfully supported the Anti-Air Warfare (AAW) Radar Demonstration. -Prepared for the Multi-Mission Signal Processor Radar Exercise (MMSP Radar Ex) which will demonstrate/evaluate MMSP performance with Aegis Modernization (ACB-12) computer programs in both the AAW and BMD 5.0 modes. -Supported systems engineering efforts to incorporate interoperability enhancements including: Navy Multi Band Terminal and Advance EHF. -Conducted Navy and Joint Service-Level communications testing to evaluate interoperability with the overall BMDS and Navy elements. -Initiated design effort to increase raid size capacity, expand threat set and restore terminal defense.				
FY 2012 Plans: -Conduct Multi-Mission Signal Processor Radar Exercise. -Prepare for and support the Test Readiness Review (TRR) #1, as part of the roadmap to demo in anticipation of Aegis Modernization (ACB-12). -Prepare for and conduct Mission Readiness Assessment #1. -Prepare for Aegis Modernization (ACB-12) demonstration, which is an Anti-Air Warfare (AAW) and BMD functionality test. -Complete BMD integration into ACB-12 to include full BMD functionality. -Conduct testing to prove full functionality of BMD components. -Conduct Prime Item Development Specs (PIDS)/Critical Item Development Specs (CIDS) testing. Starting system level specification verification.				
FY 2013 Plans: -Conduct testing to verify full functionality of BMD Components -Continue Prime Item Description Specs (PIDS)/Critical Items Description Specs (CIDS) testing				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2011
				FY 2012
				FY 2013
-Continue System Level Specification Verification -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule.				
Title: Aegis BMD 5.1 Development				
				Articles:
				119.160
				93.637
				183.553
				0
				0
				0
Description: See Description Below				
FY 2011 Accomplishments:				
-Completed System Requirements Review (SRR) #1 which finalized, per plan, 92% of the Element Capability Specification (ECS) Requirements.				
-Closed out action items from the 5.1 System Requirements Review (SRR) #1 and completed analysis necessary to finalize the Element Capability Specification (ECS) level requirements.				
-Made final preparations for the BMD 5.1 SRR #2 scheduled for Q1 FY 2012 to finalize the remaining, per plan, 8% of the ECS Requirements.				
-Initiated flow of ECS level requirements down to the Aegis BMD 5.1 System Level Specification Document (A-Spec) and initiated systems engineering necessary to develop the BMD 5.1 A-Spec.				
-Conducted analysis, modeling and simulation, and concept development to support early systems engineering development to reduce technical risk for BMD 5.1 Engage on Remote (EoR) capabilities.				
-Initiated preparation for the BMD 5.1 System Design Review #1 (SDR #1) by developing the BMD 5.1 SDR #1 technical data review package.				
-Conducted system level performance analysis in preparation for the SM-3 Cooperative Development (SCD) Preliminary Design Review (PDR), using early engineering surrogate BMD 5.1 Aegis Weapon System (AWS) data.				
-Initiated Vertical Launch System (VLS) system engineering, analysis, and design activities in support of VLS SRR scheduled for Q1 FY 2012.				
-Developed a strategy for accelerating the BMD 5.1 Development effort to support the SM-3 Block IIA Cooperative Development (SCD) Flight Test Missions (SFTMs).				
FY 2012 Plans:				
-Conduct SRR #2 to finalize the remaining 8% of the ECS requirements				
-Continue systems engineering and analysis to refine Aegis BMD 5.1 A-Spec.				
-Continue analysis and design of AWS/Vertical Launch System (VLS)/Missile interfaces and specifications.				
-Prepare for and conduct VLS SRR				
-Conduct VLS systems engineering, analysis, and design activities in support of VLS SDR.				
-Continue analysis and systems engineering for development of Aegis BMD 5.1 EoR, and BMDS integration.				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> -Continue preparation for and execute BMD 5.1 SDR #1; complete SDR #1 data package and conduct Navy Review Team (NRT) review. -Prepare for SDR #2 -Conduct system-level performance analysis in preparation for the SCD Critical design Review (CDR), using updated surrogate BMD 5.1 AWS data. -Prepare for and conduct VLS SDR. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Continue systems engineering and analysis to complete the Aegis BMD 5.1 A-Spec. -Complete preparation for and execute BMD 5.1 SDR #2; complete SDR #2 data package and conduct Navy Review Team (NRT) review. -Initiate and systems engineering and analysis to develop the Aegis BMD 5.1 B1, B2, and B5-Specs -Initiate preparation for the BMD 5.1 PDR. -Continue analysis and systems engineering for development of Aegis BMD 5.1 EoR, and BMDS integration. -Complete system-level performance analysis in preparation for the SCD CDR, using updated surrogate BMD 5.1 AWS data. -Complete analysis and design of AWS/VLS/Missile interfaces and specifications. -Complete Vertical launch system (VLS) systems engineering, analysis, and design activities in support of VLS Preliminary Design Review (PDR). -Prepare for and conduct VLS PDR. -Initiate VLS systems engineering, analysis, and design activities in support of VLS CDR. 				
<p>Title: SM-3 Blk IB Development</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Completed kinetic warhead (KW) System Integration Test (SIT), an end to end closed loop KW test. -Completed SM-3 Blk IB Throttling Divert and Attitude Control Systems (TDACS) Qualification test 1. -Completed SM-3 Blk IB Hazard Assessment Tests (HAT) for flight test. -Delivered one (1) SM-3 Blk IB Pathfinder round for use in FTM-16 E2 (Aegis Intercept Flight Test). -Conducted FTM-16 E2 (Aegis Intercept Flight Test) initial flight test of SM-3 Blk IB Pathfinder missile. -Participated in JFTM-4 Events 1-3 (Aegis Simulated Intercept Flight Test). -Completed SM-3 Blk IB system, subsystem and component First Article Inspections (FAI's). -Began SM-3 Blk IB subsystem and component Manufacturing Readiness Reviews (MRR's). -Supported MDA/QS Independent Audits and Facility Assessments and adjudicated findings. 		260.115 Articles: 0	104.013 0	79.790 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>-Completed SM-3 IB Safety Assessment Report (SAR). -Conducted SM-3 IB reviews with Navy's Software System Safety Technical Review Panel (SSSTRP) and Weapons Safety and Explosive Safety Review Board (WSESRB) with completed Technical Data Package.</p> <p>FY 2012 Plans: -Increase production and tooling for production line rate increase from 2 to 4 per month. -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule. -Complete additional SM-3 Blk IB ground test (HAT, Quals, and DVT).</p> <p>FY 2013 Plans: -Continue production line rate increase from 2 to 4 per month. -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule. -Complete IB Update for Wildcat. -Support Production decisions for Lot #2 and beyond (4Q FY 2013). -Conduct Aegis BMD Flight Test Mission including SM-3 intercept using Space Tracking and Surveillance System (STSS) as a remote sensor.</p>				
<p>Title: Aegis BMD Testing</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments: -Conducted JFTM-4 (Aegis Simulated Intercept Flight Test) a BMD 4.0.1 simulated SM-3 Blk IB engagement against an Aegis Readiness Assessment Vehicle Group B (ARAV-B), a Short Range Ballistic Missile (SRBM) target and a Medium Range Target (MRT) emulating a separating target (Japanese Foreign Military Sales (FMS) Test) -Conducted Aegis BMD-specific analyses during pre- and post-mission analysis phases. -Supported Aegis BMD-specific modeling and simulation of predicted system performance for testing. -Began test planning for FY 2012 Aegis flight test missions: prepared target, developed models and simulations, and readied the range for test. -Participated in Target of Opportunity (TOO) testing. -Participated in BMD system ground test program. -Participated in BMD special technology experiments.</p> <p>FY 2012 Plans: -Support Aegis BMD-specific modeling and simulation of predicted system performance for testing.</p>		<p>Articles: 42.672 0</p>	<p>87.487 0</p>	<p>- 0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>-Begin test planning for FY 2013 Aegis flight test missions: prepare target, develop models and simulations, and ready the range for test.</p> <p>-Participate in TOO testing.</p> <p>-Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule.</p> <p>-Participate in BMD special technology experiments.</p> <p>FY 2013 Plans: Funding moved to MT09.</p>				
<p>Title: Fielding - AWS</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments: -Installed three (3) BMD 3.6.1 shipsets. -Procured three (3) BMD 4.0.1 shipsets (including BMD Signal Processor (BSP)). -Procured two (2) shipsets of BMD 5.0 equipment to support U.S. Navy Aegis Modernization (AMOD) schedule. -Supported USS LAKE ERIE Engineering Development Model (EDM) upgrades to achieve BMD 4.0.1 tactical configuration.</p> <p>FY 2012 Plans: -Install two (2) BMD 3.6.1 shipsets. -Procure four (4) BMD 4.0.1 equipped shipsets. -Install two (2) BMD 4.0.1 equipped shipsets. -Procure five (5) BMD 5.0 equipped shipsets. -Install one (1) BMD 5.0 equipped shipset.</p> <p>FY 2013 Plans: -Install one (1) BMD 3.6.1 shipset. -Procure two (2) BMD 4.0.1 shipsets. -Install two (2) BMD 4.0.1 shipsets. -Procure two (2) BMD 5.0 shipsets. -Install two (2) BMD 5.0 shipsets.</p>		98.678 Articles: 5	133.050 9	86.648 4
<p>Title: SM-3 Manufacturing</p> <p>Description: See Description Below</p>		164.312 Articles: 0	68.441 0	- 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> -Conducted focused Mission Assurance reviews of thirty-two (32) SM-3 Blk IB Critical Suppliers -Procured and began manufacturing twenty-four (24) SM-3 Blk IB Missiles.</p> <p><i>FY 2012 Plans:</i> -Deliver Fifteen (15) of twenty four (24) SM-3 Blk IB missiles. -Continue manufacturing the remainder of twenty four (24) SM-3 Blk IB missiles that began in FY 2011 for delivery in FY 2013.</p> <p><i>FY 2013 Plans:</i> -Deliver remaining nine (9) of twenty-four (24) SM-3 Blk IB missiles that began in FY 2011.</p>				
<p><i>Title:</i> SM-3 Production Support</p> <p><i>Description:</i> See Description Below</p>		44.742	46.107	-
		<i>Articles:</i> 0	0	0
<p><i>FY 2011 Accomplishments:</i> -Continued to monitor performance of SM-3 Block IA. -Monitored obsolete material replacement effort. -Conducted ground tests for lot qualification of components. -Continued manufacturing of SM-3 Vertical Launch System (VLS) canisters. -Participated in FTM-15 (Aegis Intercept Flight Test). -Completed FTM-15 (Aegis Intercept Flight Test) Anomaly Investigation -Provided engineering resources to address investigations for any findings in the manufacturing line.</p> <p><i>FY 2012 Plans:</i> -Continue to monitor performance of SM-3 Blk IA & IB. -Monitor obsolete material replacement effort. -Design alternatives for obsolete material replacement efforts. -Conduct ground tests for lot qualification of components. -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule. -Provide in-service engineering support for SM-3 Blk IA missiles.</p> <p><i>FY 2013 Plans:</i> -Funds for SM-3 Production Support are reported in project element 0208866C.</p>				
<p><i>Title:</i> Fleet Integration</p>		27.803	13.483	4.967
		<i>Articles:</i> 0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Provided In-service Engineering support to Aegis BMD: Weapon System and Vertical Launch Systems (VLS). -Provided initial ABMD installation operation and maintenance training for Aegis BMD ship crews. -Provided logistics support (including technical manuals, spares, and Reliability, Maintainability, and Availability analysis and products) for Aegis BMD: Weapon System and VLS. -Provided training simulation infrastructure and scenarios supporting introduction of additional Phased Adaptive Approach threats and introduction of Aegis BMD 4.0.1 Baseline. -Provided leadership and engineering/technical support to conduct Aegis Combat Systems Assessments. -Responded to Fleet issues related to Aegis BMD installations, BMD operations and BMD events. -Provided reach back analytical support to Combatant Commander (COCOMs) for real world operations -Provided maintenance and update of Force on Force Modeling and Simulation <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> -Provide In-service Engineering support to Aegis BMD: Weapon System and VLS. -Provide initial ABMD installation operational and maintenance training for Aegis BMD ship crews. -Provide logistics support (including technical manuals, spares, and Reliability, Maintainability, and Availability analysis and products) for Aegis BMD: Weapon System and VLS. -Provide training simulation infrastructure and scenarios supporting introduction of additional Phased Adaptive Approach threats and introduction of Aegis BMD 4.0.1 Baseline. -Provide leadership and engineering/technical support to conduct Aegis Combat Systems Assessments. -Provide reach back analytical support to COCOMs for real world operations. -Provide maintenance and update of Force on Force Modeling and Simulation. -Respond to Fleet issues related to Aegis BMD installations, BMD operations and BMD events. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Provide In-service Engineering support to Aegis BMD: Weapon System and (VLS). -Provide leadership and engineering/technical support to conduct Aegis Combat Systems Assessments. -Respond to Fleet issues related to Aegis BMD installations, BMD operations and BMD events. -Provide reach back analytical support to COCOMs for real world operations -Provide maintenance and update of Force on Force Modeling and Simulation 				
Title: SM-3 Operations & Support		36.270	-	-
Articles:		0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>		PROJECT MD09: <i>Aegis BMD</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
Description: See Description Below				
FY 2011 Accomplishments: -Provided In-service Engineering support to Aegis BMD: SM-3 missile. -Provided operational and maintenance training for Aegis BMD ship crews. -Provided logistics support (including technical manuals, spares, and Reliability, Maintainability, and Availability analysis and products) for Aegis BMD: SM-3 missile. -Provided leadership and engineering/technical support to conduct Aegis Combat Systems Assessments. -Responded to Fleet issues related to Aegis BMD installations, BMD operations and BMD events.				
FY 2012 Plans: Funds for FY 2012 Accomplishments are reported in budget project MX09.				
FY 2013 Plans: Funds for FY 2013 Accomplishments are reported in budget project MX09.				
Title: Modeling & Simulation HWIL Framework, Simulations, Models				
Articles:				
Description: See Description Below				
FY 2011 Accomplishments: -Deployed/integrated common BMDS Hardware in the Loop (HWIL) simulation framework--Single Stimulation Framework (SSF) with the Elements for BMDS ground and flight tests and training -Developed/integrated the HWIL Single Stimulation Framework (SSF) at COCOM, training, and exercise Host Nation locations -Maintained the Missile Defense System Exerciser (MDSE) framework for support of MDA exercises until SSF has absorbed the MDSE mission area (FY 2012) -Integrated the SSF with additional Allied/Coalition elements to expand distributed BMDS ground test and exercise venues -Provided HWIL Post Flight Reconstruction capability (through SSF) -Incorporated real time PLET-C environment model upgrades into the Hardware in the Loop (HWIL) Single Stimulation Framework (SSF) -Conducted BMDS HWIL SSF V&V and data analysis for BMDS ground tests and demos -Continued development of the SSF to support execution of increasingly more complex BMDS ground test campaigns; identify interdependencies required for execution -Planned integration of the SSF with the DSA into the Objective Simulation Framework (OSF) -Planned and provided for SSF sustainment, maintenance and product support				
		69.937	53.631	38.947
		0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>		PROJECT MD09: <i>Aegis BMD</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2011
<ul style="list-style-type: none"> -Implemented support of wide band debris for BMDS sensors in SSF -Integrated the BMDS SSF with additional MDA sensors, as they came on-line -Supported Event Execution Control System (EECS) capability development for the BMDS Concurrent Test, Training and Operations (CTTO) implementation -Conducted initial SSF Objective Hardware performance assessment -In support of the MDA Integrated Master Test Plan (IMTP) developed an SSF software capability for a 2nd parallel test string -Initiated Open Architecture redesign of SSF -Initiated improved Instantaneous Object Processing capability <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> -Complete deployment and integration of BMDS HWIL stimulation framework--Single Stimulation Framework (SSF) with Elements for BMDS ground, flight tests and training -Implement upgrades to the BMDS HWIL SSF that support execution of increasingly more complex BMDS ground test campaigns that collect data to assess reliability and identify necessary reliability improvements -Demonstrate the SSF has incorporated Missile Defense System Exerciser (MDSE) framework capabilities to support MDA exercises -Provide Single Stimulation Framework (SSF) support to Post Flight Reconstruction activities -Conduct BMDS HWIL SSF V&V and data analysis for BMDS ground tests and demos -Begin integration of the SSF with the DSA into the OSF -Begin Optimistic Sensor Model (OSM) integration into SSF -Provide for SSF sustainment, maintenance and product support -Integrate the BMDS HWIL SSF with additional MDA and non-MDA Elements, as they are integrated into the BMDS architecture -Continue Event Execution Control System (EECS) capability development for the BMDS Concurrent Test, Training and Operations (CTTO) implementation -Begin deployment and integration of BMDS HWIL SSF Objective Hardware for MDA Elements and a Releasable configuration for Allied and Coalition partners -Begin installation of BMDS HWIL SSF software capability (funded by MDA/DESH) and necessary hardware/ maintenance (funded by MDA/DTR) to support a 2nd parallel test string (Ground Test assets only). -Demonstrate initial Open Architecture (OA) redesign capabilities -Demonstrate improved Instantaneous Object Processing capabilities -Begin development of Real Time, scaled Real Time, non Real Time operational modes <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Demonstrate the SSF has incorporated MDSE framework capabilities to support MDA exercises. -Provide Single Stimulation Framework (SSF) support to Post Flight Reconstruction activities. 				
				FY 2012
				FY 2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>		R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>		PROJECT MD09: <i>Aegis BMD</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2011
				FY 2012
				FY 2013
<ul style="list-style-type: none"> -Continue integration of the SSF with the DSA into the OSF. -Continue Optimistic Sensor Model (OSM) integration into SSF. -Provide for SSF sustainment, maintenance and product support. -Integrate the BMDS HWIL SSF with additional MDA and non-MDA Elements, as they are integrated into the BMDS architecture. -Continue Event Execution Control System (EECS) capability development for the BMDS Concurrent Test, Training and Operations (CTTO) implementation. -Begin deployment and integration of BMDS HWIL SSF Objective Hardware for MDA Elements and a Releasable configuration for Allied and Coalition partners. -Begin installation of BMDS HWIL SSF software capability (funded by MDA/DESH) and necessary hardware/ maintenance (funded by MDA/DTR) to support a 2nd parallel test string (Ground Test assets only). -Demonstrate initial OA redesign capabilities. -Demonstrate improved Instantaneous Object Processing capabilities. -Begin development of Real Time, scaled Real Time, non Real Time operational modes. 				
<p>Title: BMDS Level Testing</p> <p align="right">Articles:</p>				109.769 0
<p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Successfully conducted FTM-15 (Aegis Intercept Flight Test) flight test mission: -Exercised the capability of the first phase of the Phased Adaptive Approach (PAA). -Conducted a BMD 3.6.1 engagement and intercept with an SM-3 Blk IA missile against an IRBM target. -Demonstrated BMDS connectivity with the Army Navy/Transportable Radar surveillance (AN/TPY)-2 Radar via Command and Control, Battle Management and Communications (C2BMC). <p>-Conduct FTM-16 (Aegis Intercept Flight Test) flight test mission:</p> <ul style="list-style-type: none"> -Exercise of Phase II capability of the Phased Adaptive Approach. -Conduct a BMD 4.0.1 engagement and intercept of an Aegis Readiness Assessment vehicle Group B (ARAV-B) with an SM-3 Blk IB missile. 				88.436 0
				- 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> -Conducted a BMD 4.0.1 simulated SM-3 Blk IB engagement against an Aegis Readiness Assessment Vehicle Group C (ARAV-C), a Short Range Ballistic Missile (SRBM) target. -Conducted a BMD 4.0.1 Anti-Air Warfare (AAW) exercise using SM-2 Blk IIIA missile against an anti-ship cruise missile target. -Completed pre-flight analysis to verify mission scenarios and to predict future performance. -Prepared and completed missile delivery package for the Mission Control Panel reviews. -Performed post-flight analysis to validate high-fidelity models and simulations. Completed post-flight analysis to support Mission Data Reviews (MDRs). -Participated in Ground Based midcourse Defense (GMD) Intercept Flight Test (FTG)-06a (Aegis Simulated Intercept Flight Test). <p>FY 2012 Plans: -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule.</p> <p>FY 2013 Plans: Funding moved to MT09.</p>				
<p>Title: Systems Engineering & Integration</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Produced all the threat data required to enable Ballistic Missile Defense System Ground Tests for PAA Phase 1, Flight Tests, Ballistic Missile Defense System Performance Assessment, war games and exercises as documented in the BMDS Integrated Master Test Plan -Produced parametric threat space and scenario data for Element and Component design and assessment for Ballistic Missile Defense System in accordance to the Phased Adaptive Approach -Validated that Ballistic Missile Defense System test targets (such as FTM-15 (Aegis Intercept Flight Test) are threat representative -Continued planning and coordination for real-time track demonstrations using an unmanned aerial vehicle (UAV) (associated with scheduled BMDS test events) using an existing airborne platform -Started threat systems engineering work to support future systems design. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> -Produce all the threat data required to enable Ballistic Missile Defense System Ground Tests, Flight Tests, Ballistic Missile Defense System Performance Assessment, war games and exercises as documented in the BMDS Integrated Master Test Plan -Produce parametric threat space and scenario data for Element and Component design and assessment for Ballistic Missile Defense System in accordance to the Phased Adaptive Approach 		Articles: 26.588 0	19.794 0	10.307 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>-Validate that Ballistic Missile Defense System test targets are threat representative -Continue threat systems engineering work to support future systems design</p> <p>FY 2013 Plans: -Continue support to the Combat Systems Engineering Development Site (CSEDS) for Aegis BMD system development -Continue to produce all the threat data required to enable Ballistic Missile Defense System Ground Tests, Flight Tests, Ballistic Missile Defense System Performance Assessment, war games and exercises as documented in the BMDS Integrated Master Test Plan -Continue to produce parametric threat space and scenario data for Element and Component design and assessment for Ballistic Missile Defense System in accordance to the Phased Adaptive Approach -Continue to validate that Ballistic Missile Defense System test targets are threat representative -Continue threat systems engineering work to support future systems design</p>				
<p>Title: Aegis BMD 3.6.1 Development</p> <p>Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments: -Completed pre-flight analysis to verify mission scenarios and to predict flight performance. -Successfully completed FTM-15 (Aegis Intercept Flight Test) (DT/OT). -Successfully completed evaluation and support for BMD data path enhancements aboard ship and at land-based communication sites. -Successfully evaluated ESL BMDS OPIR BOA space cue impacts on Aegis BMD performance. -Provided ongoing support for contingency operations. -Provided subject matter expert support for the fielded Aegis BMD 3.6.1 baseline.</p> <p>FY 2012 Plans: N/A</p> <p>FY 2013 Plans: N/A</p>		2.377 0	- 0	- 0
<p>Title: M&S Digital Framework, Simulation, Models</p> <p>Articles:</p> <p>Description: See Description Below</p>		4.365 0	4.540 0	4.916 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> Developed/delivered major releases of Model and simulation (M&S) digital products:</p> <ul style="list-style-type: none"> -Digital Simulation Architecture (DSA) framework for use in Technical Assessments -Ballistic Missile Defense (BMD) International Simulation for use in International virtual BMD demonstrations, BMD education, and warfighter wargames -Integrated, tested, functionally qualified, and delivered BMDS constructive Performance Assessment Simulation (utilizing DSA and Missile Defense Space warning Tool (MDST)) to support full-envelope BMDS performance assessment for Technical Assessments -Continued software operations/maintenance of the Extended Air Defense Simulation (EADSIM) code base for use in warfighter exercises -Procured, installed and maintained Performance Assessment Simulation ``ensembles`` for Element M&S development laboratory use in the Digital M&S Integration Center (DMIC) in Huntsville, AL <p><i>FY 2012 Plans:</i></p> <ul style="list-style-type: none"> -Integrate, test, functionally qualify, and deliver end-to-end BMDS simulations supporting various uses: -Performance Assessment Simulation (utilizing DSA, Missile Defense space Warning Tool (MDST), and Element-provided high-resolution models) to support full-envelope BMDS Performance Assessment events. -Real-time Digital Simulation (utilizing DSA, MDST, and Element-provided medium-resolution models) to support Warfighter Exercises, Warfighter Training, Element spiral development, and Ground Test campaign. <p><i>FY 2013 Plans:</i></p> <ul style="list-style-type: none"> -Integrate, test, functionally qualify, and deliver end-to-end BMDS simulations supporting various uses: -Performance Assessment Simulation (utilizing DSA, MDST, and Element-provided high-resolution models) to support full-envelope BMDS - Performance Assessment events. -Real-time Digital Simulation (utilizing DSA, MDST, and Element-provided medium-resolution models) to support Warfighter Exercises, Warfighter Training, Element spiral development, and Ground Test campaign. 				
<i>Title:</i> M&S VV&A and Test Operations		38.119	10.686	11.571
		<i>Articles:</i> 0	0	0
<i>Description:</i> See Description Below				
<i>FY 2011 Accomplishments:</i>				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> -Provided integrated Verification, Validation, and Accreditation (VV&A) of MDA Modeling and Simulations (M&S) at the system level for specific events, including Technical Assessment, Performance Assessment, Ground Tests that support BMDS fielding decisions, and tier one Combatant Commander (COCOM) exercises. -Developed integrated VV&A event Plans and Reports for Focused Ground Tests, Integrated Ground Tests, Performance Assessments and Assured Response -Planned/specified system post-flight reconstructions events so as to optimize the body of evidence and analysis supporting system-level BMDS accreditation; perform all system-level VV&A associated with Post Ground Test Reconstructions and System Post Flight Digital Reconstructions -Worked closely with Elements, Test Community, System Engineering, and Operational Test Agencies (OTA) to ensure M&S for each event meets intended uses and objectives, and has proper VV&A documentation and evidence, to include benchmarking/anchoring pedigree -Conducted system-level verification and validation of threat trajectory and signature; end-to-end environmental implementation is consistent and correct; communications and architecture behave properly; and interoperability is adequately addressed -Developed and implemented M&S standards consistent with industry best practices Conducted annual review of BMDS Element VV&A programs -Developed, implemented and configured control of web-based problem reporting system to capture M&S anomalies and incorporate corrections into requirements process in order to guarantee and measure M&S improvement -Led BMDS VV&A working group to improve VV&A operations and ultimately improve BMDS performance -Developed and implemented metrics for system-level M&S to increase efficiencies and effectiveness -Ensured individual BMDS elements and components properly VV&A their own models <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> -Provide integrated VV&A of MDA M&S at the system level for specific events, to include Technical Assessment, Performance Assessment, Ground Tests that support BMDS fielding decisions, and tier one COCOM exercises -Develop integrated VV&A event Plans and Reports for events as reflected in the IMTP and the Exhibit R-4 schedule. -Plan and specify system post-flight reconstructions and pre-mission testing events so as to optimize the body of evidence and analysis supporting system-level BMDS accreditation; perform all system-level VV&A associated with these events as reflected in the IMTP and the Exhibit R-4 schedule. -Work closely with Elements, Test Community, System Engineering, and OTA to ensure M&S for each event meets intended uses and objectives, and has proper VV&A documentation and evidence, to include benchmarking/anchoring pedigree -Conduct system-level verification and validation of threat trajectory and signature; end-to-end environmental implementation is consistent and correct; communications and architecture behave properly; and interoperability is adequately addressed -Develop and implement M&S standards consistent with industry best practices -Conduct annual review of BMDS Element VV&A programs 				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>-Develop, implement and configure control of web-based problem reporting system to capture M&S anomalies and incorporate corrections into requirements process in order to guarantee and measure Model and Simulation (M&S) improvement</p> <p>-Lead BMDS VV&A working group to improve Verification, Validation and Accreditation (VV&A) operations and ultimately improve BMDS performance</p> <p>-Develop and implement metrics for system-level M&S to increase efficiencies and effectiveness</p> <p>-Ensure that individual BMDS elements and components properly VV&A their own models</p> <p>FY 2013 Plans:</p> <p>-Continue to demonstrate initial OA redesign capabilities and improved Instantaneous Object Processing capabilities.</p> <p>-Continue support to the Combat Systems Engineering Development Site (CSEDS) for Aegis BMD system development.</p> <p>Title: High Performance Interceptor/SM-3 Block IIB</p> <p style="text-align: right;">Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <p>-Funding originally planned for High Performance Interceptor work in the Ballistic Missile Command (BMD) Technology, 0603175C, Program Element was appropriated to the BMD Aegis, 0603892C, Program Element for FY 2011. Accomplishments for this effort are captured in the Standard Missile-3 Block IIB, 0603902C, Program Element.</p> <p>FY 2012 Plans:</p> <p>-Beginning in FY 2012, the SM-3 Block IIB source selection activities moves to the SM-3 Block IIB, 0603902C, Program Element with comprehensive SM-3 Block IIB program management in FY 2013.</p> <p>FY 2013 Plans:</p> <p>NA</p>	40.000 0	- 0	- 0
Accomplishments/Planned Programs Subtotals	1,474.296	935.029	775.978

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	389.259	222.075	347.012		347.012	327.342	362.520	341.780	326.095	Continuing	Continuing
• 0603888C: <i>Ballistic Missile Defense Test & Targets</i>	999.068	85.569	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,084.637

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603890C: <i>BMD Enabling Programs</i>	401.113	415.048	362.711		362.711	339.197	373.346	395.350	394.085	Continuing	Continuing
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	454.440	363.640	366.552		366.552	376.116	383.055	358.431	364.725	Continuing	Continuing
• 0603902C: <i>Next Generation Aegis Missile (Standard Missile-3 Block IIB (SM-3 IIB))</i>	0.000	13.443	224.077		224.077	295.248	455.373	508.356	430.239	Continuing	Continuing
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	286.142	306.185	276.338		276.338	127.235	113.677	47.718	56.193	Continuing	Continuing
• 0604881C: <i>AEGIS SM-3 Block IIA Co-Development</i>	299.767	473.843	420.630		420.630	273.926	200.699	185.007	46.103	Continuing	Continuing

D. Acquisition Strategy

The Aegis Ballistic Missile Defense (BMD) element acquisition approach supports evolutionary development, continuously building upon demonstrated capabilities to advance overall Ballistic Missile Defense System (BMDS) capability. After considering all the technical and management aspects of the program and to meet the requirements presented by an evolving ballistic missile threat, the Aegis BMD program awarded sole source contracts to Raytheon and Lockheed Martin to continue development of the SM-3 missile and the Aegis BMD Weapon System, respectively.

Competition will be maximized for procurement of any products or services in FY 2012, as appropriate.

The Modeling & Simulation (M&S) acquisition strategy utilizes full and open competition to develop, acquire and deliver the integrated architectures/frameworks, as well as develop and deliver models of AEGIS systems. The Digital and Hardware in the loop (HWIL) product centers integrate the suite of M&S into a composite simulation capability, all based on an open architecture. M&S achieves this end-state via close collaboration between its integrating contractor teams (Digital and HWIL) and those of the AEGIS BMD prime contractors, with additional technical standards and engineering oversight provided by Federally Funded Research and Development Centers and University Affiliated Research Centers. In addition, in FY 2012 the Objective Simulation Framework (OSF) contract will be awarded. This full-and-open competition will unify M&S framework development efforts to allow seamless end-to-end representation of the BMDS, across HWIL and Digital domains, to support all Use Cases at substantial savings to the Agency.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09	MIPR	NSWC/DD:DAHLGREN, VA	59.679	3.501	Oct 2011	3.979	Oct 2012	-		3.979	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142293189	MIPR	NSWC/PHD:PT. HUENEME, CA	9.812	0.600	Oct 2011	2.484	Oct 2012	-		2.484	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142293191	MIPR	JHU/APL/MD:COLUMBIA, MD	17.906	4.000	Oct 2011	10.151	Oct 2012	-		10.151	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142293194	MIPR	MDA:VA	10.818	10.208	Oct 2011	5.010	Oct 2012	-		5.010	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142293195	SS/CPIF	LOCKHEED MARTIN:MOORESTOWN, NJ	633.432	18.054	Oct 2011	60.887	Oct 2012	-		60.887	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142293198	SS/CPAF	RAYTHEON/AZ:TUCSON, AZ	1.900	-		10.989	Oct 2012	-		10.989	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 201171422932	MIPR	AEGIS BMD:DAHLGREN, VA	53.887	13.369	Oct 2011	2.000		-		2.000	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT	MIPR	NAVSEA:VA	-	-		2.662	Oct 2012	-		2.662	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - 201112203132279	MIPR	CORONA:CA	-	-		2.000	Oct 2012	-		2.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09	SS/CPHF	LOCKHEED MARTIN:MOORESTOWN, NJ	402.901	40.801	Oct 2011	111.410	Oct 2012	-		111.410	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142316263	MIPR	NSWC/DD:DAHLGREN, VA	23.062	7.303	Oct 2011	10.208	Oct 2012	-		10.208	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142316266	MIPR	NSWC/PHD:PT. HUENEME, CA	1.084	0.370	Oct 2011	0.366	Oct 2012	-		0.366	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142316267	MIPR	JHU/APL/MD:COLUMBIA, MD	22.020	2.260	Oct 2011	10.199	Oct 2012	-		10.199	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 2011714231627	MIPR	MDA:VA	44.594	41.150	Oct 2011	52.674	Oct 2012	-		52.674	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142316272	C/CPAF	RAYTHEON/AZ:TUCSON, AZ	0.030	-		-		-		-	0.000	0.030	0.000
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142316275	SS/CPAF	RAYTHEON/AZ:TUCSON, AZ	4.000	5.237	Oct 2011	5.617	Oct 2012	-		5.617	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142316278	MIPR	AEGIS BMD:AZ, VA, CA	-	10.175	Oct 2011	12.542	Oct 2012	-		12.542	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09	MIPR	NSWC/DD:DAHLGREN, VA	24.949	1.649	Oct 2011	16.366	Oct 2012	-		16.366	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142323684	MIPR	NSWC/PHD:PT HUENEME, CA	1.049	-	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142323686	MIPR	JHU/APL/MD:COLUMBIA, MD	20.703	1.524	Oct 2011	19.054	Oct 2012	-		19.054	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142323689	SS/CPAF	LOCKHEED MARTIN:MOORESTOWN, NJ	110.373	64.668	Oct 2011	118.008	Oct 2012	-		118.008	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142323691	SS/CPAF	RAYTHEON/AZ:TUCSON, AZ	0.210	-	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development VARIOUS	MIPR	MDA:VA	4.541	9.164	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09	MIPR	AEGIS BMD:AZ, VA, CA	49.605	4.802	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09	SS/CPAF	Raytheon:Tucson, AZ	671.572	70.705	Oct 2011	55.319	Oct 2012	-		55.319	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142332255	MIPR	NSWC/DD:Dahlgren, VA	25.232	0.649	Oct 2011	2.500	Oct 2012	-		2.500	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142332256	MIPR	JHU/APL/MD:Columbia, MD	33.847	1.791	Oct 2011	2.700	Oct 2012	-		2.700	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142332259	MIPR	NSWC/PHD:Port Huneme, CA	8.357	0.931	Oct 2011	1.120	Oct 2012	-		1.120	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142332261	MIPR	NSWC Carderock:MD	15.020	3.143	Oct 2011	1.993	Oct 2012	-		1.993	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142332264	MIPR	AEGIS BMD:VA, AZ, CA	66.372	6.352	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD Testing Aegis BMD Testing - MD09	MIPR	NSWC/DD:DAHLGREN, VA	3.621	0.425		-		-		-	Continuing	Continuing	Continuing
Aegis BMD Testing Aegis BMD Testing - MD09 - 20117142341695	MIPR	NSWC/PHD:PT. HUENEME, CA	2.853	-		-		-		-	0.000	2.853	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis BMD Testing Aegis BMD Testing - MD09 - 20117142341698	MIPR	JHU/APL/ MD:COLUMBIA, MD	7.971	3.250		-		-		-	Continuing	Continuing	Continuing
Aegis BMD Testing Aegis BMD Testing - MD09 - 20117142341702	MIPR	NAVSEA:VA	4.181	57.187		-		-		-	Continuing	Continuing	Continuing
Aegis BMD Testing Aegis BMD Testing - MD09 - 20117142341705	MIPR	SPAWAR:SAN DIEGO, CA	1.016	-		-		-		-	0.000	1.016	0.000
Aegis BMD Testing Aegis BMD Testing - MD09 - 20117142341708	MIPR	Corona:Corona, CA	1.383	-		-		-		-	0.000	1.383	0.000
Aegis BMD Testing Aegis BMD Testing - MD09 - 20117142341709	C/CPAF	Lockheed Martin:Moorestown, NJ	-	0.825	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD Testing Aegis BMD Testing - MD09 - 20117142341713	MIPR	Aegis BMD:VA, AZ, CA	-	25.800	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Fielding - AWS AWS FIELDING - MD09	SS/CPIF	Lockheed Martin:Moorestown, NJ	145.849	52.534	Oct 2011	58.584	Oct 2012	-		58.584	Continuing	Continuing	Continuing
Fielding - AWS AWS FIELDING - MD09 - 20117142347884	MIPR	NSWC/PHD:Port Hueneme, CA	30.171	11.106	Oct 2011	9.034	Oct 2012	-		9.034	Continuing	Continuing	Continuing
Fielding - AWS AWS FIELDING - MD09 - 20117142347888	MIPR	NSWC/DD:Dahlgren, VA	24.995	6.353	Oct 2011	1.500	Oct 2012	-		1.500	Continuing	Continuing	Continuing
Fielding - AWS AWS FIELDING - MD09 - 20117142347891	C/CPAF	Raytheon:Washington, DC	3.800	11.106	Oct 2011	2.130	Oct 2012	-		2.130	Continuing	Continuing	Continuing
Fielding - AWS AWS FIELDING - MD09 - 20117142347892	MIPR	PEO IWS:Minneapolis, MN	2.300	3.184	Oct 2011	4.600	Oct 2012	-		4.600	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fielding - AWS AWS FIELDING - MD09 - 20117142347895	MIPR	AEGIS TECHREP:Moorestown, NJ	1.700	1.600	Oct 2011	1.700	Oct 2012	-		1.700	Continuing	Continuing	Continuing
Fielding - AWS AWS FIELDING - MD09 - 20117142347898	MIPR	NAVSEA:VA	72.377	47.167	Oct 2011	9.100	Oct 2012	-		9.100	Continuing	Continuing	Continuing
SM-3 Manufacturing SM-3 BLK IB MANUFACTURING - MD09	SS/CPAF	Raytheon:Tucson, AZ	255.652	57.671	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Manufacturing SM-3 BLK IB MANUFACTURING - MD09 - 20117142352564	MIPR	NSWC/DD:Port Hueneme, CA	4.001	0.409	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Manufacturing SM-3 BLK IB MANUFACTURING - MD09 - 20117142352566	MIPR	NSWC Caderock:MD	11.760	10.361	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Production Support PRODUCTION SUPPORT - CANISTERS - MD09	MIPR	PEO IWS:Minneapolis, MN	15.800	-	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Production Support PRODUCTION SUPPORT - PRODUCTION ENGINEERING - MD09	SS/CPAF	Raytheon:Tucson, AZ	29.102	46.107	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Fleet Integration AWS O&S - MD09	SS/CPAF	Lockheed Martin:Moorestown, NJ	44.765	4.632	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Fleet Integration AWS O&S - MD09 - 20117142371309	MIPR	NSWC/DD:Dahlgren, VA	4.944	0.794	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Fleet Integration FLEET INTEGRATION - MD09	MIPR	JHU/APL/MD:Columbia, MD	3.299	1.010	Oct 2011	0.816	Oct 2012	-		0.816	Continuing	Continuing	Continuing
Fleet Integration FLEET INTEGRATION - MD09 - 20117142371317	MIPR	CSCS:Dahlgren, VA	8.670	1.322	Oct 2011	1.217	Oct 2012	-		1.217	Continuing	Continuing	Continuing
Fleet Integration FLEET INTEGRATION - MD09 - 2011714237132	MIPR	NSWC/DD:Dahlgren, VA	10.819	1.634	Oct 2011	1.360	Oct 2012	-		1.360	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fleet Integration FLEET INTEGRATION - 20098185191945	MIPR	NSWC/PHD:Port Hueneme, CA	15.027	1.588	Oct 2011	1.456	Oct 2012	-		1.456	Continuing	Continuing	Continuing
Fleet Integration FLEET INTEGRATION - MD09	MIPR	SMDC/ARSTRST:Huntsville, AL	8.395	1.467	Oct 2011	0.118	Oct 2012	-		0.118	Continuing	Continuing	Continuing
Fleet Integration AWS O&S - MD09	MIPR	MDA:VA	-	1.036	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Operations & Support SM-3 O&S - MAINTENANCE - MD09	SS/CPAF	Raytheon:Tucson, AZ	13.637	-	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Operations & Support SM-3 O&S - SPARES - MD09	SS/CPAF	Raytheon:Tucson, AZ	62.971	-	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations, Models Single Stimulation Framework & Objective Simulation Framework, Procure, Install, Test - MD09	C/CPAF	Boeing:AL	100.671	53.631		38.947	Oct 2012	-		38.947	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations, Models DSA/SSF Integration - MD09	C/CPAF	Boeing:AL	21.506	-	Feb 2012	-		-		-	Continuing	Continuing	Continuing
Systems Engineering & Integration Industry - MD09	C/CPAF	Boeing:VA	12.117	-		5.154	Oct 2012	-		5.154	Continuing	Continuing	Continuing
Systems Engineering & Integration CSS - MD09	C/CPFF	CSC:VA	7.811	-		1.546	Oct 2012	-		1.546	Continuing	Continuing	Continuing
Systems Engineering & Integration CSS - MD09 - 20117142392773	C/CPFF	Cobham:CA	6.660	-		1.031	Oct 2012	-		1.031	Continuing	Continuing	Continuing
Systems Engineering & Integration SEI&T - MD09	MIPR	MDA:ARLINGTON, VA	-	19.794	Oct 2011	2.576	Oct 2012	-		2.576	Continuing	Continuing	Continuing
Systems Engineering & Integration Systems	MIPR	Lockheed Martin:Moorestown, NJ	-	-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Integration - MD09													
Aegis BMD 3.6.1 Development BMD 3.6.1 DEVELOPMENT - MD09	MIPR	NSWC/DD:DAHLGREN, VA	36.947	-		-		-		-	0.000	36.947	0.000
Aegis BMD 3.6.1 Development BMD 3.6.1 DEVELOPMENT - MD09 - 20117142395266	MIPR	NSWC/PHD:PT. HUENME, CA	23.300	-		-		-		-	0.000	23.300	0.000
Aegis BMD 3.6.1 Development BMD 3.6.1 DEVELOPMENT - MD09 - 20117142395272	MIPR	JHU/APL/MD:COLUMBIA, MD	41.620	-		-		-		-	0.000	41.620	0.000
Aegis BMD 3.6.1 Development BMD 3.6.1 DEVELOPMENT - MD09 - 20117142395275	MIPR	NAVSEA:VA	92.150	-		-		-		-	0.000	92.150	0.000
M&S Digital Framework, Simulation, Models Digital Simulation Architecture - MD09	C/CPAF	Northrop Grumman:CO	8.421	4.540		4.916	Oct 2012	-		4.916	Continuing	Continuing	Continuing
Subtotal			3,459.217	748.939		666.023		-		666.023			

Remarks
N/A

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09	MIPR	MDA:Arlington, VA	36.244	2.132	Oct 2011	4.222	Oct 2012	-		4.222	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142431989	MIPR	NAVSEA:Washington, DC	17.962	1.468	Oct 2011	2.789	Oct 2012	-		2.789	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142431992	C/CPFF	GDIT:Dahlgren, VA	72.818	3.165	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142431995	C/CPFF	Paradigm:Dahlgren, VA	17.821	1.252	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - 20098184410811	C/CPFF	Gryphon:Dahlgren, VA	3.801	0.215	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09	MIPR	NA:Dahlgren, VA	4.817	-		-		-		-	0.000	4.817	0.000
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142432002	C/CPIF	Lockheed Martin:Arlington, VA	2.006	-		0.622	Oct 2012	-		0.622	0.000	2.628	0.000
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142432014	C/CPAF	Raytheon:Arlington, VA	1.960	-		0.536	Oct 2012	-		0.536	0.000	2.496	0.000
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142432019	MIPR	Aegis BMD:Dahlgren, VA	2.628	0.520	Oct 2011	0.487	Oct 2012	-		0.487	Continuing	Continuing	Continuing
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09 - 20117142432022	MIPR	MDA :Arlington, VA	17.000	7.262	Oct 2011	0.812	Oct 2012	-		0.812	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Aegis BMD 4.0.1 Development BMD 4.0.1 DEVELOPMENT - MD09	MIPR	MDA MIDAESS:Arlington, VA	-	-		5.737	Oct 2012	-		5.737	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09	MIPR	MDA:Arlington, VA	12.050	6.232	Oct 2011	8.978	Oct 2012	-		8.978	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454161	MIPR	NAVSEA:Washington, DC	7.535	3.349	Oct 2011	6.508	Oct 2012	-		6.508	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454164	C/CPFF	GDIT:Dahlgren, VA	8.921	8.488	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454167	C/CPFF	Paradigm:Dahlgren, VA	6.829	2.857	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 2011714245417	C/CPFF	Gryphon:Dahlgren, VA	1.394	0.491	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454173	MIPR	NA:Dahlgren, VA	9.022	-		-		-		-	0.000	9.022	0.000
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454175	C/CPFF	Lockheed Martin:Arlington, VA	0.849	-		0.590	Oct 2012	-		0.590	0.000	1.439	0.000
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454178	C/CPAF	Raytheon:Arlington, VA	0.287	-		0.551	Oct 2012	-		0.551	0.000	0.838	0.000
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454181	MIPR	Aegis BMD:Dahlgren, VA	20.595	0.711	Oct 2011	1.087	Oct 2012	-		1.087	Continuing	Continuing	Continuing
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454184	MIPR	MDA :Arlington, VA	17.000	16.554	Oct 2011	0.090	Oct 2012	-		0.090	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Aegis BMD 5.0 Development BMD 5.0 DEVELOPMENT - MD09 - 20117142454188	MIPR	MDA MIDAESS:Arlington, VA	-	-		19.092	Oct 2012	-		19.092	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09	MIPR	MDA:Arlington, VA	1.547	1.836	Oct 2011	9.007	Oct 2012	-		9.007	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 2011714247033	MIPR	NAVSEA:Washington, DC	1.949	0.688	Oct 2011	8.934	Oct 2012	-		8.934	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470333	C/CPFF	GDIT:Dahlgren, VA	5.661	2.349	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470336	C/CPFF	Paradigm:Dahlgren, VA	1.587	0.734	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470338	C/CPFF	Gryphon:Dahlgren, VA	0.255	0.216	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470341	MIPR	NA:Dahlgren, VA	4.545	1.524	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470344	C/CPFF	Lockheed Martin:Arlington, VA	0.225	-		0.539	Oct 2012	-		0.539	0.000	0.764	0.000
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470352	C/CPAF	Raytheon:Arlington, VA	0.182	-		0.503	Oct 2012	-		0.503	0.000	0.685	0.000
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470355	MIPR	Aegis BMD:Dahlgren, VA	2.478	0.051	Oct 2011	0.997	Oct 2012	-		0.997	Continuing	Continuing	Continuing
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470358	MIPR	MDA:Arlington, VA	17.000	4.432	Oct 2011	0.930	Oct 2012	-		0.930	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Aegis BMD 5.1 Development BMD 5.1 DEVELOPMENT - MD09 - 20117142470359	MIPR	MDA MIDAESS:Arlington, VA	-	-		9.215	Oct 2012	-		9.215	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09	MIPR	MDA:Arlington, VA	17.260	3.648	Oct 2011	3.659	Oct 2012	-		3.659	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487038	MIPR	NAVSEA:Washington, DC	64.364	1.614	Oct 2011	2.417	Oct 2012	-		2.417	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487064	C/CPFF	GDIT:Dahlgren, VA	24.912	4.842	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487067	C/CPFF	Paradigm:Dahlgren, VA	6.007	1.156	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 2011714248707	C/CPFF	Gryphon:Dahlgren, VA	0.445	0.458	Oct 2011	-		-		-	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487073	MIPR	NA:Dahlgren, VA	9.053	-		-		-		-	0.000	9.053	0.000
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487113	C/CPFF	Lockheed Martin:Arlington, VA	2.009	-		0.219	Oct 2012	-		0.219	0.000	2.228	0.000
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487117	C/CPAF	Raytheon:Arlington, VA	0.318	-		0.205	Oct 2012	-		0.205	0.000	0.523	0.000
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487119	MIPR	Aegis BMD:Dahlgren, VA	37.055	0.604	Oct 2011	0.427	Oct 2012	-		0.427	Continuing	Continuing	Continuing
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487125	MIPR	MDA:Arlington, VA	18.869	8.120	Oct 2011	0.390	Oct 2012	-		0.390	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SM-3 Blk IB Development SM-3 BLK IB DEVELOPMENT - MD09 - 20117142487128	MIPR	MDA MIDAESS:Arlington, VA	-	-		8.841	Oct 2012	-		8.841	Continuing	Continuing	Continuing
Aegis BMD Testing TESTING - MD09	MIPR	MDA:Arlington, VA	1.984	-		-		-		-	0.000	1.984	0.000
Aegis BMD Testing TESTING - MD09 - 20117142501342	MIPR	NAVSEA:Washington, DC	4.032	-		-		-		-	0.000	4.032	0.000
Aegis BMD Testing TESTING - MD09 - 20117142501345	C/CPFF	GDIT:Dahlgren, VA	13.868	-		-		-		-	0.000	13.868	0.000
Aegis BMD Testing TESTING - MD09 - 20117142501348	C/CPFF	Paradigm:Dahlgren, VA	3.621	-		-		-		-	0.000	3.621	0.000
Aegis BMD Testing TESTING - MD09 - 20117142501353	C/CPFF	Gryphon:Dahlgren, VA	0.667	-		-		-		-	0.000	0.667	0.000
Aegis BMD Testing TESTING - MD09 - 20117142501356	C/CPIF	Lockheed Martin:Arlington, VA	0.459	-		-		-		-	0.000	0.459	0.459
Aegis BMD Testing TESTING - MD09 - 20117142501359	C/CPAF	Raytheon:Arlington, VA	0.404	-		-		-		-	0.000	0.404	0.404
Aegis BMD Testing TESTING - MD09 - 20117142501363	MIPR	MDA:Arlington, VA	9.581	-		-		-		-	0.000	9.581	9.581
Aegis BMD Testing TESTING - MD09 - 20117142501366	MIPR	MDA MIDAESS:Arlington, VA	-	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			511.876	86.968		98.384		-		98.384			

Remarks

N/A

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BMDS Level Testing BMDS Level Testing - MD09	MIPR	NSWC/ DD:DAHLGREN, VA	26.518	8.186	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514355	MIPR	NSWC/PHD:PT. HUENEME, CA	16.141	8.738	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514359	MIPR	JHU/APL/ MD:COLUMBIA, MD	30.505	15.063	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514364	MIPR	MDA:VA	50.987	38.254	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514369	SS/CPIF	Lockheed Martin:Moorestown, NJ	38.485	10.570	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514372	MIPR	SPAWAR:San Diego, CA	5.405	6.575	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514377	SS/CPAF	Raytheon:Tucson, AZ	4.500	-		-	Oct 2012	-		-	0.000	4.500	0.000
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514378	MIPR	PMRF:Barking Sands, Kauai, HI	7.000	-		-		-		-	0.000	7.000	0.000
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514383	MIPR	NAWC/PM:PT. MUGU, CA	2.700	1.050	Oct 2011	-		-		-	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - MD09 - 20117142514388	MIPR	MDA/ DTR:HUNTSVILLE, AL	3.490	-		-		-		-	0.000	3.490	0.000
M&S VV&A and Test Operations M&S VV&A and Test Operations - MD09	C/CPAF	Northrop Grumman:VA	46.418	10.686	Oct 2011	11.571	Oct 2012	-		11.571	73.741	142.416	67.478
Subtotal			232.149	99.122		11.571		-		11.571			

Remarks

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4,203.242	935.029		775.978		-		775.978			

Remarks
NA

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
BMD 3.6.1 Ship Installations	1	2011	1	2014
BMD 4.0.1 Ship Installations	3	2011	1	2015
BMD 5.0 Ship Installations	3	2012	4	2017
BMD 4.0.1 Development	1	2011	1	2012
BMD 4.0.1 Certification	1	2012	2	2012
BMD 5.0 Development	1	2011	2	2015
BMD 5.0 Demo	1	2013	1	2013
BMD 5.0 Certification	4	2014	4	2014
BMD 5.1 System Requirements Review (SRR) #1	3	2011	3	2011
BMD 5.1 System Requirements Review (SRR) #2	1	2012	1	2012
BMD 5.1 Development	1	2011	4	2017
BMD 5.1 Demo	2	2017	2	2017
BMD 5.1 System Design Review (SDR) #1	2	2012	2	2012
BMD 5.1 System Design Review (SDR) #2	1	2013	1	2013
BMD 5.1 Preliminary Design Review (PDR)	1	2014	1	2014
BMD 5.1 Critical Design Review (CDR)	1	2015	1	2015
SM-3 Blk IB Missile Deliveries	2	2012	2	2013
SM-3 Blk IB Hazard Assessment Testing	1	2011	2	2013
SM-3 Blk IB Manufacturing Readiness Review (MRR)	3	2012	3	2012
SM-3 Blk IB System Integration Test (SIT)	2	2011	2	2011
SM-3 Blk IB Software Final Qualification Test (FQT)	3	2011	3	2011
FTI-01(Aegis/THADD/Patriot Multiple Engagement Flight Test Risk Reduction)	4	2012	4	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD09: <i>Aegis BMD</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
FTM-16 E2A (Aegis Intercept Flight Test)	3	2012	3	2012
FTM-18 (Aegis Intercept Flight Test)	3	2012	3	2012
FTM-19 (Aegis Intercept Flight Test)	4	2012	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MT09: <i>Aegis BMD Test</i>	-	-	150.291	-	150.291	138.573	134.996	106.871	134.241	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

N/A

A. Mission Description and Budget Item Justification

The Aegis Ballistic Missile Defense (Aegis BMD) mission is to deliver an enduring, operationally effective and supportable Ballistic Missile Defense capability to defend the nation, deployed forces, friends and allies, and to increase this capability by delivering evolutionary improvements as part of Ballistic Missile Defense System (BMDS) upgrades. The Aegis BMD element of the BMDS capitalizes upon and evolves from the existing U.S. Navy Aegis Weapons System (AWS) and Standard Missile (SM) infrastructures. Aegis BMD provides a forward-deployable, mobile capability to detect and track Ballistic Missiles of all ranges, and the ability to destroy Short-Range Ballistic Missiles (SRBM), Medium-Range Ballistic Missiles (MRBM), and Intermediate-Range Ballistic Missiles (IRBM) in the midcourse phase of flight and shorter range missile in terminal phase. Aegis BMD also provides a Long Range Surveillance and Track (LRS&T) capability to the BMDS. Upgrades to both the Aegis BMD Weapon System and the SM-3 configuration enable Aegis BMD to provide effective, supportable defensive capability against longer range, more sophisticated threats and an enduring Aegis Ashore defensive capability.

Proving Missile Defense:

Working with the Services' Operational Test Agencies (OTA), with the support of the Director of Operational Test and Evaluation (DOT&E), MDA has developed a test program to improve confidence in missile defense capabilities under development and ensure the capabilities transferred to the war fighter are operationally effective, suitable, and survivable.

As part of the Agency's rigorous test program, System Pre-Flight predictions provide confidence in test execution by predicting element performance and exercising element interfaces. System Post Flight Reconstruction replicates the Ballistic Missile Defense System configuration and actual environmental conditions and target dynamics observed in flight to anchor modeling and simulation results.

The Integrated Master Test Plan (IMTP) is event-oriented and extends until the collection of all identified data is completed to ensure adequate test investments. The bottom line is that MDA is focused on conducting meaningful ballistic missile testing that demonstrates the capabilities of the BMDS.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
Title: Aegis BMD Testing	-	-	87.199
Articles:	0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>		PROJECT MT09: <i>Aegis BMD Test</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2011	FY 2012	FY 2013
Description: See Description Below						
FY 2011 Accomplishments: Funded under MD09 accomplishments.						
FY 2012 Plans: Funded under MD09 accomplishments.						
FY 2013 Plans: -Conduct Aegis BMD-specific analysis during pre- and post-mission analysis phases -Begin test planning for FY 2014 Aegis flight test missions: prepare target, develop models and simulations, and ready the range for test -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule. -Participate in BMD special technology experiments						
Title: BMDS Level Testing				Articles:	-	-
				0	0	41.986
Description: See Description Below						
FY 2011 Accomplishments: Funded under MD09 accomplishments.						
FY 2012 Plans: Funded under MD09 accomplishments.						
FY 2013 Plans: -Prepare for and conduct BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule. -Exercise of Phase II capability of the Phased Adaptive Approach						
Title: Modeling & Simulation HWIL Framework, Simulations, Models				Articles:	-	-
				0	0	21.106
Description: See Description Below						
FY 2011 Accomplishments: Funded under MD09 Accomplishments						
FY 2012 Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Funded under MD09 Accomplishments			
<i>FY 2013 Plans:</i> -Continue to deploy and integrate BMDS Hardware in the Loop (HWIL) stimulation framework-Single Stimulation Framework (SSF) with Elements for BMDS ground, Flight tests and training -Implement upgrades to the BMDS HWIL SSF that support execution of increasingly more complex BMDS ground test campaigns -Support BMDS HWIL SSF V&V and data analysis for BMDS ground tests and demos			
Accomplishments/Planned Programs Subtotals	-	-	150.291

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	389.259	222.075	347.012		347.012	327.342	362.520	341.780	326.095	Continuing	Continuing
• 0603888C: <i>Ballistic Missile Defense Test & Targets</i>	999.068	85.569	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1,084.637
• 0603890C: <i>BMD Enabling Programs</i>	401.113	415.048	362.711		362.711	339.197	373.346	395.350	394.085	Continuing	Continuing
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	454.440	363.640	366.552		366.552	376.116	383.055	358.431	364.725	Continuing	Continuing
• 0603902C: <i>Next Generation Aegis Missile (Standard Missile-3 Block IIB (SM-3 IIB))</i>	0.000	13.443	224.077		224.077	295.248	455.373	508.356	430.239	Continuing	Continuing
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	286.142	306.185	276.338		276.338	127.235	113.677	47.718	56.193	Continuing	Continuing
• 0604881C: <i>AEGIS SM-3 Block IIA Co-Development</i>	299.767	473.843	420.630		420.630	273.926	200.699	185.007	46.103	Continuing	Continuing

D. Acquisition Strategy

The Aegis Ballistic Missile Defense (BMD) element acquisition approach supports evolutionary development, continuously building upon demonstrated capabilities to advance overall Ballistic Missile Defense System (BMDS) capability. Competition will be maximized for procurement of any products or services in FY 2013, as appropriate.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis BMD Testing AEGIS BMD TESTING	MIPR	NSWC:DAHLGREN, VA	-	-		10.755	Oct 2012	-		10.755	Continuing	Continuing	Continuing
Aegis BMD Testing AEGIS BMD TESTING - 20111220266947	MIPR	NSWC/PHD PT.:HUENEME, CA	-	-		11.879	Oct 2012	-		11.879	Continuing	Continuing	Continuing
Aegis BMD Testing AEGIS BMD TESTING - 201112202630564	MIPR	JHU/APL/ MD:COLUMBIA, MD	-	-		23.042	Oct 2012	-		23.042	Continuing	Continuing	Continuing
Aegis BMD Testing AEGIS BMD TESTING - 201112202630567	MIPR	MDA:VA	-	-		7.278	Oct 2012	-		7.278	Continuing	Continuing	Continuing
Aegis BMD Testing AEGIS BMD TESTING - 201112202630569	SS/CPIF	Lockheed Martin:Moorestown, NJ	-	-		10.752	Oct 2012	-		10.752	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis BMD Testing AEGIS BMD TESTING - 20111220263057	MIPR	SPAWARD:San Diego, CA	-	-		8.146	Oct 2012	-		8.146	Continuing	Continuing	Continuing
Aegis BMD Testing AEGIS BMD TESTING - 201112202597076	MIPR	PMRF Barking Sands:Kauai, HI	-	-		5.674	Oct 2012	-		5.674	0.000	5.674	0.000
Aegis BMD Testing AEGIS BMD TESTING - 201112202597078	MIPR	NAWC/ PM PT:MUGU, CA	-	-		5.790	Oct 2012	-		5.790	Continuing	Continuing	Continuing
Aegis BMD Testing AEGIS BMD TESTING - 201112202597082	MIPR	NSWC DD:/DAHLGREN, VA	-	-		3.883	Oct 2012	-		3.883	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing	MIPR	NSWC PHD PT.:HUENEME, CA	-	-		3.406	Oct 2012	-		3.406	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - 201112202535339	MIPR	JHU/APL/ MD:COLUMBIA, MD	-	-		8.645	Oct 2012	-		8.645	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - 20111220253534	MIPR	NAVSEA:VA	-	-		11.014	Oct 2012	-		11.014	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - 201112202535342	MIPR	SPAWAR SAN DIEGO:CA	-	-		1.586	Oct 2012	-		1.586	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - 201112202535344	MIPR	CORONA:CA	-	-		1.751	Oct 2012	-		1.751	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - 201112202535347	MIPR	LOCKHEED MARTIN:MOORESTOWN NJ	-	-		4.338	Oct 2012	-		4.338	Continuing	Continuing	Continuing
BMDS Level Testing BMDS Level Testing - 201112202535348	MIPR	AEGIS BMD:VA	-	-		11.246	Oct 2012	-		11.246	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations,	C/CPAF	BOEING:AL	-	-		21.106	Oct 2012	-		21.106	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Models Objective Simulation Framework, Procure, Install, Test													
Subtotal			-	-			150.291			150.291			

Remarks
N/A

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-			-			-	0.000	0.000	0.000

Remarks
N/A

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	150.291	-	150.291			

Remarks
NA

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MT09: <i>Aegis BMD Test</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FTO-01 (Aegis/ THADD/ Patriot Multiple Engagement Flight Test)	3	2013	3	2013
FTM-21 E2 (Aegis Simulated intercept Flight Test)	3	2013	3	2013
FTM-21 E3 (Aegis Intercept Flight) (Salvo)	3	2013	3	2013
FTM-22 E2 (Aegis Intercept Flight Test)	3	2013	3	2013
FTM-21 E1 (Aegis Simulated Intercept Flight Test)	3	2013	3	2013
FTX-14 (Aegis simulated Intercept Flight Test)	1	2014	1	2014
AA CTV-01 (Aegis Ashore Flight Test)	2	2014	2	2014
FTM-20 E1 (Aegis Intercept Flight Test)	3	2014	3	2014
FTM-24 (Aegis Intercept Flight Test)	4	2014	4	2014
AA FTM-02 (Aegis Ashore Intercept Flight Test)	4	2014	4	2014
AA FTM-01 (Aegis Ashore Intercept Flight Test)	4	2014	4	2014
FTM-20 E2 (Aegis Intercept Flight Test)	1	2015	1	2015
FTM-25 E1 (Aegis Intercept Flight Test) (Raid)	1	2015	1	2015
FTM-26 E1 (Aegis Flight Test)	3	2016	3	2016
FTO-02 (Aegis/ THADD/ Patriot Multiple Engagement Flight Test)	4	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>				PROJECT MX09: <i>Aegis BMD Development Support</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MX09: <i>Aegis BMD Development Support</i>	-	12.600	15.588	-	15.588	24.262	39.716	70.331	118.990	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

N/A

A. Mission Description and Budget Item Justification

Aegis Ballistic Missile Defense, in accordance with negotiated agreements between the U. S. Navy and the Missile Defense Agency has identified and segregated funding for Operations and Sustainment of Aegis BMD specific elements resident aboard Aegis capable Navy ships and Land Based, Aegis Ashore Facilities. This support is identified under several categories. First, initial sustainment to Land Based SM-3 Pacific Missile Range Facility (PMRF). Second, Computer Program Sustainment, consisting of, but not limited to, review of Trouble Observation Reports (TORs) that are generated by ship crews during exercises or deployments, determination of root causes and preparation of Computer Program Change Request (CPCR) to correct TORs, updates to the in-service computer program to apply, test and certify multiple CPCRs, and tests installation of Aegis Weapon System (SPY / FCS) alignment updates (as required). Third, provide Support to Annual Integration Events (AIEs) to ensure any updated Aegis Combat System (ACS) computer programs do not degrade BMD equipped ships and provide distance and technical support for BMD equipped ships. Fourth, provide Shipboard Sustainment, consisting of, but not limited to BMDS unique parts and material support for parts as listed in the Cost Analysis and Requirements Document (CARD) and parts as identified by the Commercial off the Shelf (COTS) Obsolescence / Diminished Manufacturing Support Engineering (DMS). Last, provide technical support documentation updates and provide an In-Service Engineering Agent (NSWC PHD) for annual technical evaluations of training, logistics, and material readiness, to include any corrective actions required prior to a BMDS mission.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
Title: Aegis BMD Operations and Support	-	12.600	15.588
Articles:	0	0	0
Description: See Description Below			
FY 2011 Accomplishments: Funds for FY 2011 Accomplishments were reported in prior year budget project MD09.			
FY 2012 Plans: -Threat updates to support real world events and flight missions			
FY 2013 Plans: -Provide In-service Engineering support to Aegis BMD. -Provide operational and maintenance training for Aegis BMD ship crews.			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MX09: <i>Aegis BMD Development Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
-Provide logistics support (including technical manuals, spares, and Reliability, Maintainability, and Availability analysis and products) for Aegis BMD. -Provide initial sustainment to Land Based SM-3 Pacific Missile Range Facility (PMRF). -Provide Sustainment of BMD 3.6.1 Computer Program. -Provide Sustainment of Shipboard BMD Specific Equipment. -Provide Sustainment of SM-3 -Provide support to Phase III/IV system engineering studies			
Accomplishments/Planned Programs Subtotals	-	12.600	15.588

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0603902C: <i>Next Generation Aegis Missile (Standard Missile-3 Block IIB (SM-3 IIB))</i>	0.000	13.443	224.077		224.077	295.248	455.373	508.356	430.239	Continuing	Continuing
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	286.142	306.185	276.338		276.338	127.235	113.677	47.718	56.193	Continuing	Continuing
• 0604881C: <i>AEGIS SM-3 Block IIA Co-Development</i>	299.767	473.843	420.630		420.630	273.926	200.699	185.007	46.103	Continuing	Continuing

D. Acquisition Strategy

The Aegis BMD element acquisition approach supports evolutionary development, continuously building upon demonstrated capabilities to advance overall BMDS capability. After considering all the technical and management aspects of the program and to meet the requirements presented by an evolving ballistic missile threat, the Aegis BMD program awarded sole source contracts to Raytheon and Lockheed Martin to continue development of the SM-3 missile and the Aegis BMD Weapon System, respectively.

Competition will be maximized for procurement of any products or services in FY 2012, as appropriate.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MX09: <i>Aegis BMD Development Support</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis BMD Operations and Support ABMD O&S - MX09	MIPR	VARIOUS:/NJ, VA, CA	-	12.600	Oct 2011	15.588	Oct 2012	-		15.588	Continuing	Continuing	Continuing
Subtotal			-	12.600		15.588		-		15.588			

Remarks
N/A

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MX09: <i>Aegis BMD Development Support</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks
N/A

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	12.600		15.588		-		15.588			

Remarks
NA

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD40: <i>Program-Wide Support</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MD40: <i>Program-Wide Support</i>	56.471	41.299	50.550	-	50.550	54.053	51.767	55.815	53.796	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

In FY2012, Program Wide Support reflects a proportional decrease as a result of decreases to BMD AEGIS.

In FY 2013, Program Wide Support reflects a proportional increase as a result of increases to BMD AEGIS.

A. Mission Description and Budget Item Justification

Program-Wide Support (PWS) contains non-headquarters management costs in support of MDA functions and activities across the entire Ballistic Missile Defense System (BMDS). Includes Government Civilians, Advisory and Assistance Services, and Federally Funded Research and Development contracts (FFRDC) providing integrity and oversight of the BMDS as well as, supporting MDA in enabling the development and evaluation of technologies that will respond to the changing threat. In addition, includes Global Deployment personnel and support performing deployment site preparation and activation. Other costs included provide facility capabilities for MDA Executing Agent locations (with the exception of Federal Office Building 2 after FY 2011), such as physical and technical security, legal services, travel and agency training, office and equipment leases, rents and utilities, data and unified communications support, supplies and maintenance, logistics and central property management of equipment, and similar operating expenses. Also includes legal settlements, and foreign currency fluctuations on a limited number of foreign contracts. In keeping with congressional intent, PWS is allocated on a pro-rata basis and therefore, fluctuates by year based on the total MDA budget.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
Title: Civilian Salaries and Support	56.471	41.299	50.550
Articles:	0	0	0
Description: See Description Below			
FY 2011 Accomplishments: See paragraph A, Mission Description and Budget Item Justification			
FY 2012 Plans: See paragraph A, Mission Description and Budget Item Justification			
FY 2013 Plans: See paragraph A, Mission Description and budget item justification.			
Accomplishments/Planned Programs Subtotals	56.471	41.299	50.550

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603892C: <i>AEGIS BMD</i>	PROJECT MD40: <i>Program-Wide Support</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

NA