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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Missile Defense Agency **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	5,242.938	885.704	764.224	843.355	-	843.355	762.740	748.354	564.827	579.585	Continuing	Continuing
MD09: <i>Aegis BMD</i>	4,971.655	711.040	681.417	732.273	-	732.273	640.153	640.336	457.486	489.092	Continuing	Continuing
MC09: <i>Cyber Operations</i>	-	0.820	0.265	0.870	-	0.870	0.885	0.891	0.891	0.891	Continuing	Continuing
MT09: <i>Aegis BMD Test</i>	166.697	105.000	-	-	-	-	-	-	-	-	-	271.697
MX09: <i>Aegis BMD Development Support</i>	16.521	20.276	28.758	73.118	-	73.118	85.642	68.805	76.361	58.207	Continuing	Continuing
MD40: <i>Program-Wide Support</i>	88.065	48.568	53.784	37.094	-	37.094	36.060	38.322	30.089	31.395	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

Increase from FY 2015 to FY 2016 allows for the award of the follow-on full scope of effort to produce prototype SM-3 Block IIA missiles in support of flight testing and delivery to fleet for initial deployment in order to meet expectations for European Phased Adaptive Approach (EPAA) Phase III. Also included in FY 2016 is the implementation of SM-3 Block IIA cost reduction initiatives to support meeting cost goals in order to reduce the current estimated Average Unit Production Price (AUPP) of the missile for greater long-term government affordability and sustainability.

A. Mission Description and Budget Item Justification

The Aegis Ballistic Missile Defense (BMD) mission is to deliver an enduring, operationally effective and supportable BMD capability to defend the nation, deployed forces, friends and allies, and to increase this capability by delivering evolutionary improvements as part of the Ballistic Missile Defense System (BMDS) upgrades. The Aegis BMD element of the BMDS capitalizes upon and evolves from the existing United States 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 (SRBMs), Medium-Range Ballistic Missiles (MRBMs), and Intermediate-Range Ballistic Missiles (IRBMs) in the midcourse phase of flight, and shorter range missiles in the terminal phase of flight. 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.

MD40 Program-Wide Support (PWS) consists of essential non-headquarters management efforts providing integrated and efficient support to the MDA functions and activities across the entire Ballistic Missile Defense System (BMDS).

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B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	909.928	929.208	955.825	-	955.825
Current President's Budget	885.704	764.224	843.355	-	843.355
Total Adjustments	-24.224	-164.984	-112.470	-	-112.470
• Congressional General Reductions	-	-0.556			
• Congressional Directed Reductions	-	-74.800			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-89.628			
• Reprogrammings	-9.970	-			
• SBIR/STTR Transfer	-14.254	-			
• Other Adjustment	-	-	-112.470	-	-112.470

Change Summary Explanation

FY 2015 changes reflect Public Law 113-235, FY2015 Omnibus; Consolidated and Further Continuing Appropriations Act.

Decrease in FY 2016 is attributed to the following:

- \$55.148M moved entire MT09 account to newly established PE (0604878C).
- \$34.779M moved to the Missile Defense Agency (MDA) Operations and Maintenance Exhibits in FY 2016 for efforts transitioning through the acquisition life cycle from development to operations and maintenance.
- \$22.543M decrease reflects realignment to Department of Defense priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MD09: Aegis BMD	4,971.655	711.040	681.417	732.273	-	732.273	640.153	640.336	457.486	489.092	Continuing	Continuing
Quantity of RDT&E Articles	8	1	-	-	-	-	-	-	-	-		

Note

Increase from FY 2015 to FY 2016 allows for the award of the follow-on full scope of effort to produce prototype SM-3 Block IIA missiles in support of flight testing and delivery to fleet for initial deployment in order to meet expectations for European Phased Adaptive Approach (EPAA) Phase III. Also included in FY 2016 is the implementation of SM-3 Block IIA cost reduction initiatives to support meeting cost goals in order to reduce the current estimated Average Unit Production Price (AUPP) of the missile for greater long-term government affordability and sustainability.

In February 2014, Aegis Ballistic Missile Defense (BMD) underwent a program reorganization in order to gain efficiencies and improve program affordability. As the primary budget exhibit for the program, 0603892C has been restructured in a method that better aligns with agency organization by providing more transparency and allowing for more efficient funding justification. FY 2016 budget exhibits are provided in the more efficient reorganization structure.

A. Mission Description and Budget Item Justification

Aegis BMD continues development of a sea-based BMD capability, in support of the Missile Defense Agency's (MDA) 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 primarily enhance Missile Defense to defend deployed forces, allies and friends against theater threats:

- Aegis BMD 4.1 backfits the Aegis 5.0 Capability Upgrade (CU)(endo-atmospheric (ENDO) and exo-atmospheric (EXO)) into the BMD 4.0 architecture by FY 2016
- Aegis BMD 5.0 CU expands the threat set and further increases the raid size
- Aegis BMD 5.1 capability expands the threat set through the introduction of Engage on Remote (EoR) and the integration of the Standard Missile-3 (SM-3) Block IIA missile
- Aegis BMD further continues Discrimination and Technology improvements to the Standard Missile-3 (SM-3) Block IB Kinetic Warhead (KW)

The MDA conducted a Developmental Baseline Review (DBR) for BMD 4.1, BMD 5.0 CU, and BMD 5.1 baselining the development efforts with the MDA on 14 April 2014.

Aegis BMD 4.1 builds upon Aegis BMD 4.0 and adds Aegis BMD 5.0 CU capability providing European Phased Adaptive Approach (EPAA) Phase II EXO threat capability increase, SM-3 Maximum number Missiles In Flight (MAX MIF) improvements, multi-mission (Anti-Air Warfare (AAW) and BMD) warfare integration, and signal processor, Mark (MK) 41 Vertical Launch System (VLS) and Mission Planner capabilities.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD		
Aegis BMD 5.0 Capability Upgrade (CU) will enhance Aegis BMD 5.0 by improving the EXO capability, increasing the maximum number of SM-3's inflight simultaneously, expanding the threat set to include those for EPAA Phase II, and increasing this capability by delivering evolutionary improvements as part of the Ballistic Missile Defense System (BMDS) upgrades.					
Aegis BMD 5.1 builds upon BMD 5.0 CU and will further expand the threat set which is required for EPAA Phase III. This includes the introduction of an Engage on Remote (EoR) capability and the integration of the SM-3 Blk IIA missile. An EoR engagement allows the use of active and passive off board sensor information to launch and guide the SM-3 Block IIA missile to final intercept. The increased kinematic envelope of the SM-3 Block IIA when combined with EoR will expand the battlespace and increase the number of threats engaged over previous baselines.					
The SM-3 Block IB improves Aegis BMD's ability to engage longer range, more sophisticated ballistic missiles that may deploy countermeasures and are launched in larger raid sizes. The SM-3 Block IB Kinetic Warhead's (KW) two-color infra-red (IR) seeker and advanced signal processor provides a real-time discrimination and characterization capability while improving sensitivity for longer range targets and improved performance against more sophisticated threats. Additionally, the new Throttleable Divert and Attitude Control System (TDACS) KW divert engine has been upgraded over the SM-3 Block IA to provide a more flexible divert in order to maneuver the KW to intercept.					
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 Block IIA). The SM-3 Block IIA missile will expand available battlespace and include Intermediate Range Ballistic Missile (IRBM) and selected longer-range threats, and when combined with Aegis BMD 5.1 weapon system modifications, will improve Engage-on-Remote (EoR) capability.					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
Title: Aegis Ballistic Missile Defense (BMD) 4.x Development			118.415	92.098	40.691
Articles:			-	-	-
Description: Aegis BMD 4.1 aligns Baseline 4.X capability with Aegis Modernization ships containing Aegis Baseline 9.C1. Aegis BMD 4.1 builds upon Aegis BMD 4.0 and captures Aegis BMD 9.C1 Exo/Endo requirements including EPAA Exo threats and other Missile Defense capabilities. Aegis BMD 4.1 also increases MAX/Missiles In Flight & MAX Engagements over Aegis BMD 4.0.					
FY 2014 Accomplishments:					
- Completed weapon system concepts definition Improvement for Flight I/II DDGs					
- Successfully tracked and conducted simulated engagement of a raid of three ballistic missiles during FTX-18					
- Received U.S. Navy Certification of baseline updates, BMD 4.0.2.1 and 4.0.2.2 for Fleet tactical operations					
- Began BMD 4.0.3 Baseline update for Near Term Discrimination Improvements for Homeland Defense (DIHD) initiative					
- Conducted BMD 4.1 In Progress Review (IPR) #2 and IPR#3. The system and element specifications development status were reviewed and approved to continue development					

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
<p>- Conducted BMD 4.1 Test Program Review (TPR)which approved the Combat System Test Program planned for Aegis BMD 4.1. This testing includes sub-system Engineering Test and Evaluation (ET&E), Multi-Element Integration and Test (MEIT), system performance testing, Functional Assessments and final Engineering Assessment supporting Certification</p> <p>- Completed BMD 4.1 software Build 1 and Build 2 for Phase II EXO threat capability. Conducted land based testing and preliminary certification assessment. Initiated development of Build 3.</p> <p>- Conducted introductory of Software System Safety Technical Review Panel (SSSTRP) which provided an independent expert technical review of the software safety program.</p> <p>FY 2015 Plans:</p> <p>Prepare for and conduct Ballistic Missile Defense System (BMDS) Flight and Ground Test events as reflected in the Integrated Master Test Plan (IMTP) and the Exhibit R-4 schedule</p> <p>- Continue development of BMD 4.1 (backfit of BMD 5.0 CU capability into the BMD 4.0 architecture)</p> <p>- Conduct an Engineering Evaluation of BMD 4.1 to demonstrate baseline capabilities as a risk reduction activity during development</p> <p>- Conduct a Test Readiness Review of BMD 4.1 to determine readiness to begin formal testing by evaluating the preparedness of personnel, plans, and test resources</p> <p>Decrease to funding levels from FY 2014 to FY 2015 due to Aegis BMD 4.0 continuing toward the end of the development stage and transitioning to fielding.</p> <p>FY 2016 Plans:</p> <p>Decrease from FY 2015 is inclusive of all the following funding movements and effort reductions:</p> <p>Total capability decrease of \$35.9M</p> <p>- Completion of 4.1 baseline development as the baseline transitions from development to fielding</p> <p>Total decrease attributed to movement of funding to other accomplishments is \$15.51M</p> <p>- Funding for Developmental Support Engineering efforts moved to Project MX09, Aegis Ballistic Weapon System Support</p> <p>- Funding for DoD Civilian and Contractor support moved to Project MD09, Program Operations</p> <p>- Funding for Aegis Systems Engineering efforts moved to Project MD09, Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion</p> <p>- Incorporate Aegis BMD 4.0.2 architecture into the Aegis BMD 5.0 CU Exo-atmospheric (EXO) advanced threat set</p> <p>- Accelerate BMD 4.1 certification by one quarter than previous planned enabling earlier fielding of European Phased Adaptive Approach (EPAA) Phase II EXO threat capability to BMD 4.0 Forward Deployed Naval Forces</p>				
Title: Aegis Ballistic Missile Defense (BMD) 5.0 Development		153.163	107.537	26.944
Articles:		-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
<p>Description: Aegis BMD 5.0 Capability Upgrade (CU) is a combined weapon system developed with the US Navy. It will integrate Aegis BMD 4.0 capability into the Baseline 9 (Open Architecture) common source library. Aegis BMD 5.0 CU will expand the EXO capability, increasing the maximum number of missiles in flight simultaneously and expanding the threat set to include those for EPAA Phase II. Aegis BMD 5.0 CU is an essential capability to meet the requirements of EPAA Phase II and will provide evolutionary improvements in support of deployed forces, friends, and allies.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> - Developed initial Aegis BMD 5.0 functionality for Aegis Ashore - Successfully conducted Link -16 Exercise with Aegis BMD 5.0 for Aegis Ashore - Aegis BMD 5.0 CU IPR 2 conducted to provide a development status post Critical Design Review (CDR) including weapons system performance analysis and overall systems development progress - Successfully complete an Integrated Air & Missile Defense exo-atmospheric tracking exercise with an Aegis Destroyer - Conducted a BMD 5.0 Mission Readiness Assessment (MRA) for Aegis Ashore Controlled Test Vehicle 1 (AA CTV-01) - Conducted BMDS Flight and Ground Test events as reflected in the IMTP and the R-4 Exhibit - Successfully conducted Aegis Ashore Controlled Test Vehicle (AACTV-01) - Successfully completed land based 5.0 Engineering Evaluation of FTM-25, FTM-26, and FTX-20 scenarios <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> -Conduct Aegis Intercept Flight Test as reflected in the IMTP and the Exhibit R-4 schedule -Conduct a Mission Readiness Assessment (MRA) -Conduct an Engineering Assessment (EA) -Conduct Aegis Ashore Intercept Flight Test with Aegis BMD 5.0CU -Continue development of BMD 4.1 (backfit of BMD 5.0CU capability into the BMD 4.0 architecture) <p>Decrease in funding levels from FY 2014 to FY 2015 due to Aegis BMD 5.0 nearing the end of the development stage and transitioning to fielding, and the current phase of program development.</p> <p>FY 2016 Plans:</p> <p>Decrease from FY 2015 is attributed to the following: Total capability decrease of \$66.78M</p> <ul style="list-style-type: none"> - Completion of the 5.0 development efforts and transition of the baseline from development to fielding. The follow-on capability, Baseline 5.1 is included under Project MD09, Aegis Ballistic Missile Defense (BMD) 5.x Development <p>Total decrease attributed to movement of funding to other accomplishments is \$13.81M</p> <ul style="list-style-type: none"> - Funding for Developmental Support Engineering efforts moved to Project MX09, Aegis Ballistic Weapon System Support - Funding for DoD Civilian and Contractor support moved to Project MD09, Program Operations 			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none">- Funding for Aegis Systems Engineering efforts moved to Project MD09, Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion- Continue Aegis BMD 5.0 CU co-development with Navy for Aegis Modernization- Complete certification and post-certification effort of European Phased Adaptive Approach (EPAA) Phase II into the Navy's Open Architecture baselines for fielding in the operational Ballistic Missile Defense System-Complete Aegis Intercept Flight Test as reflected in the IMTP and the Exhibit R-4 schedule for initial operational evaluation of operational effectiveness and suitability- Continue VLS development of the Ordnance Alteration (ORDALT) kit and Quality Assurance (QA) to support fielding of 5.0CU capability on USN ships. Activities support the procurement and fielding of hardware and software associated with the MK 41 VLS to be capable to launch SM-3 BLK IA/IB and other missile variants				
<p>Title: Aegis Ballistic Missile Defense (BMD) 5.x Development</p> <p>Articles:</p> <p>Description: Aegis BMD 5.1 builds upon BMD 5.0 CU and will further expand the threat set to include those threats required for EPAA Phase III through the introduction of an Engage on Remote (EoR) capability and the integration of the SM-3 Block IIA missile. An EoR engagement allows the use of active and passive off board sensor information to launch and guide the SM-3 Block IIA missile to final intercept. The increased kinematic envelope of the SM-3 Block IIA when combined with EoR will expand the battlespace and increase the threat set engaged over previous baselines. BMD 5.1 was baselined with the Developmental Baseline Review (DBR) held with the MDA on April 14, 2014 (per DDM signed 19 June 2014).</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none">- Completed the Preliminary Design Review (PDR) which finalized the Baseline Prime Item Development Specifications (PIDS/B1) and Critical Item Development Specifications (CIDS/B2) requirements for all BMD 5.1 Capability- Completed Critical Design Review (CDR) which finalized the Computer Program Requirements Specifications (CPRS/B5)required for SM-3 Block IIA Organic Launch on Remote (LoR) engagement capability, and the BMD 5.1 Standard Missile-3 Cooperative Development (SCD) configuration for the SCD Flight Tests.- Commenced software development for SM-3 Blk IIA Organic and LoR engagement capability and the BMD 5.1 SCD configuration for the SCD Flight Tests.- Conducted preparations for CDR which will finalize the CPRS/B5 needed to support the BMD 5.1 EoR, Engagement Support Surveillance & Tracking (ESS&T), and BMDS Integration.- Conducted BMD 5.1 Test Program Review (TPR) of Common Source Library test strategy, test processes, associated risks, schedule, and SM-3 Blk IIA missile integration into VLS to grant permission to begin Element Test & Evaluation (ET&E).- Conducted the Vertical Launch System (VLS) Critical Design Review for the VLS design changes required for SM-3 Block IIA. <p>FY 2015 Plans:</p>		206.672 -	263.191 -	180.628 -

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>	Project (Number/Name) MD09 / <i>Aegis BMD</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
<ul style="list-style-type: none"> - Continue software development for the BMD 5.1 Standard Missile-3 Cooperative Development Program (SCD) configuration for the SCD Flight Tests. - Complete preparations for Critical Design Review (CDR) which will finalize the Baseline Program Performance requirements for the Ballistic Missile Defense (BMD) 5.1 Capability to include EoR and BMDS integration. - Conduct BMD 5.1 Critical Design Review (CDR) data package and conduct Navy Review Team (NRT) review. - Commence software development of the BMD 5.1 Phase 2 Tactical Computer Program to achieve partial European Phased Adaptive Approach (EPAA) Phase III threats and capabilities by 2018. - Complete development of BMD 5.1 Element Capabilities Specification (ECS) and System Specification for Aegis Modernization Advanced Capability Build 12 requirements needed to adapt BMD 5.1 for the Aegis Ashore configuration. - Conduct development of BMD 5.1 Prime Item Development Specification requirements needed to adapt BMD 5.1 for the Aegis Ashore configuration. - Conduct BMD 5.1 VLS Formal Integration and Qualification Testing in support of SM-3 Block IIA development. <p>Increase in funding levels from FY 2014 to FY 2015 due to transitioning from requirements and design efforts to software development efforts to complete the BMD 5.1 Phase 1 development and include development of BMD 5.1 Phase 2 Tactical Computer Program for the EPAA Phase III ship and ashore capabilities. Development scope also increases for developmental testing to verify the SM-3 BLK IIA missile integration, VLS integration and BMDS Integration testing. System and software development efforts begin to ensure BMD 5.1 supports the Aegis Ashore configuration for EPAA Phase III.</p> <p>FY 2016 Plans: Decrease from FY 2015 is inclusive of all the following funding movements and effort reductions: Total capability decrease of \$32.03M</p> <ul style="list-style-type: none"> - Development life cycle shift from requirement and design efforts to implementation and testing of functionality - Development of major functionality complete by mid-year 2016 and program shift to primarily testing - Reduction of software development efforts for Aegis BMD 5.1 capability as cycle of program moves to focus on efforts in support of scheduled flight tests <p>Total decrease attributed to movement of funding to other accomplishments \$50.53M</p> <ul style="list-style-type: none"> - Funding for Developmental Support Engineering efforts moved to Project MX09, Aegis Ballistic Weapon System Support - Funding for DoD Civilian and Contractor support moved to Project MD09, Program Operations - Funding for Aegis Systems Engineering efforts moved to Project MD09, Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion - Funding for SM-3 Block IIA Integration with the 5.1 Baseline moved to Project MD09, SM-3 Block IIA Development <p>- Aegis Ballistic Missile Defense (BMD) Phase 1 capabilities include Standard Missile-3 (SM-3) Block IIA missile integration, SM-3 weapons selection algorithm, enhanced tracking, discrimination and mission planner updates to support organic engagements,</p>			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
<p>Launch-on-Remote (LoR) engagements, and Long Range Surveillance & Tracking (LRS&T) missions. Aegis BMD 5.1 Phase 1 integration, testing, and evaluation (IT&E) events include various lab-based and shipboard weapon-system-to-missile integration testing utilizing the Virtual Operational Missile (VOM) and the Inert Operational Missile (IOM), as well as participation in Ballistic Missile Defense System-wide (BMDS-wide) ground test campaigns.</p> <ul style="list-style-type: none"> - Aegis BMD 5.1 Phase 1 development support early integration and testing with the SM-3 BLK IIA missile testing planned for SFTM-1 and SFTM-2. The development of partial capability is contiguous across both Phase 1 and Phase 2 and supports delivery for European Phased Adaptive Approach (EPAA) Phase III. - Aegis BMD 5.1 Phase 1 System Development: Continue Engineering, Development, Integration and Testing of the tactical Weapons System computer program, and integration of the SM-3 Block IIA missile. This development reduces risk to Aegis BMD 5.1 Phase 2 and EPAA Phase III by front-loading the development of the weapons system/missile functionality and integration in the development phase to support the upcoming SM-3 Block IIA Co-Development (SCD) Flight Test Mission-1 (SFTM-1) and SFTM-2 flight tests. - Conduct Engineering Assessment (EA) of Aegis BMD 5.1 functionality, stability, performance and readiness for the test execution of SFTM-1 and SFTM-2 as reflected in the IMTP - Support SFTM-1 using the Aegis BMD 5.1 Phase 1 tactical computer program for the first SM-3 Block IIA intercept test - Continue software development for the partial Aegis BMD 5.1 Phase 2, which includes all Phase 1 capabilities, and partial European Phased Adaptive Approach (EPAA) Phase III capabilities and threats - Continue assessment cycles to prepare certification and deployment of Aegis BMD 5.1 computer program at sea and ashore for European Phased Adaptive Approach (EPAA) Phase III - Conduct Aegis Ballistic Missile Defense (BMD) 5.1 Vertical Launch System (VLS) Formal Integration and Qualification Testing required for the fielding of 5.1 capability on DDG Flight I & II configured USN ships and Aegis Ashore - Continue Aegis BMD VLS modifications required for the fielding of 5.1 capability on DDG Flight IIA configured USN ships - Evaluate Mark (MK) 41 VLS performance results during Controlled Test Vehicle-1 (CTV-1) and CTV-2 and apply results to design to verify the capability of MK 41 VLS to fire the SM-3 BLK IIA prior to shipboard testing - Conduct Aegis BMD 5.1 Mark (MK) 41 VLS Formal Integration and Qualification Testing in support of fielding on DDG Flight I and IIA ship configurations - Provide MK 41 VLS support to Aegis Integration Event (AIE) to verify the compatibility of the MK 41 VLS firing the SM-3 BLK IIA with Aegis BMD 5.1 and perform regression testing - Conduct Aegis BMD 5.1 MK 41 VLS Certification and Safety Assessments for shipboard fielding to obtain Naval Ordnance System Safety Activity authorization for the placement of the SM-3 BLK IIA in the MK 41 VLS approving the safe firing the SM-3 BLK IIA - Provide Aegis BMD 5.1 MK 41 VLS support to the execution of SFTM-1 and SFTM-2 and evaluate the VLS performance results demonstrating the capability of the MK 41 VLS to launch the SM-3 BLK IIA missile. - Execute provisions for transition to production of Aegis BMD 5.1 MK 41 VLS modifications required on USN ships for the fielding of 5.1 capability with SM-3 Block IIA 			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
All efforts on schedule to meet European Phased Adaptive Approach (EPAA) Phase III deployment.					
Title: Standard Missile-3 (SM-3) Block IB Development			43.865	69.876	41.242
Articles:			-	-	-
Description: See Description below.					
FY 2014 Accomplishments:					
<ul style="list-style-type: none"> - Continued IB Threat Update (IBTU) for 5.0 Capability Upgrade (5.0CU) and additional threats. - Prepared for and successfully conducted Ballistic Missile Defense System (BMDS) flight tests FTM-21, FTM-22 and Aegis Ashore Controlled Test Vehicle-01 (AACVT-01) as reflected in the Integrated Master Test Plan (IMTP) and the exhibit R-4 schedule. All missile objectives were met and all criteria was satisfied. 					
FY 2015 Plans:					
<ul style="list-style-type: none"> - Complete IB Threat Update (IBTU) for 5.0 Capability Upgrade (5.0CU) and additional threats. - Prepare for and conduct Ballistic Missile Defense System (BMDS) flight test as reflected in the Integrated Master Test Plan (IMTP) and the exhibit R-4 schedule. - Increase in FY 2015 due to development of common avionics architecture between SM-3 IB and SM-3 IIA to support Diminishing Manufacturing Sources and Material Shortages (DMSMS) management, and provide long term cost savings in preparation of Foreign Military Sales. 					
FY 2016 Plans:					
Decrease from FY 2015 is inclusive of all the following funding movements and effort reductions:					
Total capability decrease \$16.468M					
- No flight test execution support due to the lack of Aegis BMD flight test missions scheduled for FY 2016 execution according to the Integrated Master Test Plan (IMTP)					
Total decrease attributed to the movement of funding to other accomplishments \$12.166					
<ul style="list-style-type: none"> - Funding for DoD Civilian and Contractor support moved to Project MD09, Program Operations - Funding for Aegis Systems Engineering efforts moved to Project MD09, Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion 					
<ul style="list-style-type: none"> - Assess the SM-3 Block IB missile capability against evolving threat characteristics to define improvements in missile discrimination processes to counter threat changes - Continue development of common avionics architecture between SM-3 Block IB and SM-3 Block IIA. This includes a SM-3 BLK IB sized Read-While-Integrate (ROIC) based on SM-3 BLK IIA technology for increased acquisition range for greater capability against extended range threats, repackage SM-3 BLK IIA Kinetic Warhead (KW) Guidance Electronic Unit (GEU) hardware to fit 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD		Project (Number/Name) MD09 / Aegis BMD	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
within SM-3 BLK IB allowing implementation of SM-3 BLK IIA software improvements to enhance missile performance against advanced threats					
Title: Standard Missile-3 (SM-3) Block IIA Development			-	-	83.246
Articles:			-	-	-
Description: The SM-3 Block IIA missile will increase the area that can be defended by Aegis Ballistic Missile Defense (BMD) and increase the probability of kill against a larger threat set. It will leverage enhanced capability provided by Ballistic Missile Defense System (BMDS) sensor upgrades and is required to meet EPAA Phase III.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Plans: Increase from FY 2015 is inclusive of all the following funding movements and additional efforts: Total increase attributed to movement of funding from other accomplishments \$42.33M - Funding request for SM-3 Block IIA Integration previously captured in Project MD09, Aegis Ballistic Missile Defense (BMD) 5.x Development Total capability increase of \$40.91M - Begin implementation of SM-3 Block IIA cost reduction initiatives to support meeting cost goals to reduce the current estimated Average Unit Production Price (AUPP) of the missile - Conduct Aegis Ballistic Missile Defense (BMD) 5.1 weapon system and SM-3 Block IIA Missile integration and testing - Conduct Kinetic Warhead (KW) Guidance Electronic Unit (GEU) hardware commonality development efforts to enhance missile performance against advanced threats - Conduct SM-3 Block IIA software update to support engagements against additional complex threats identified during Aegis BMD 5.1 design process conducted after missile Critical Design Review - Conduct adaptations to the SM-3 Block IIA missile to include software and G-switch modifications that meet range safety requirements for Aegis Ashore					
Title: SM-3 Manufacturing			-	53.801	136.217
Articles:			-	-	-
Description: Purchase of SM-3 missiles for the purposes of flight testing and delivery to the fleet as operational assets prior to an initial production decision.					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: N/A				
FY 2015 Plans: - Begin purchase of hardware material needed to support the manufacture of SM-3 Block IIA missile components. - Establish purchase orders for hardware material including, but not limited to, power devices, raw materials, lower level assemblies, and optics hardware.				
FY 2016 Plans: Increase from FY 2015 is to allow for the award of the follow-on full scope of effort to produce SM-3 Block IIA missiles in support of flight testing and delivery to fleet for initial deployment in FY 2017 - Continue funding for SM-3 Block IIA All Up Rounds (AURs) for use in support of flight test events (FTM-29, FTO-03 E1, FT0-03 E2, FTX-23 etc) as reflected in the Integrated Master Test Plan (IMTP), and initial deployment in support of European Phased Adaptive Approach (EPAA) Phase III. SM-3 Block IIA AURs validate the Engineering Manufacturing Readiness Level 3 criteria for an Initial Production Decision in FY 2017 Funding for DoD Civilian and Contractor support moved to Project MD09, Program Operations Funding for Aegis Systems Engineering efforts moved to Project MD09, Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion				
Title: Fielding - Aegis Weapon System (AWS)		111.326	7.800	-
Articles:		1	-	-
Description: See Description below.				
FY 2014 Accomplishments: Based on updated Navy Modernization Plan: - Completed one (1) 4.0 Install - Started two (2) additional 4.0 Installs - Purchased two (2) BMD 4.0 shipsets - Purchased one (1) BMD 5.x shipset				
FY 2015 Plans: - Install three (3) AMOD (Aegis Modernization program) BMD 5.0CU DDGs shipsets inline. - Update BMD 4.0 to 4.1 software for current ships.				

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
Decrease from FY2014 to FY2015 is due to hardware and installations transitioning to procurement articles.				
FY 2016 Plans: No funding requested for FY 2016 under this program element. All Aegis BMD Weapon System Fielding efforts and hardware purchases have transitioned to Aegis Procurement account captured in PE 0208866C.				
Title: Fleet Integration		5.420	6.463	-
Articles:		-	-	-
Description: See description below				
FY 2014 Accomplishments: - Provided leadership and engineering/technical support to conduct Aegis BMD Combat Systems Readiness Assessment - Provided In-service Engineering support to Aegis Ballistic Missile Defense (ABMD) Weapon system and Vertical Launch System (VLS) - Identified and resolved BMD specific material issues with maintenance, engineering and operability - Responded to BMD readiness issues with maintenance, engineering and operability - Responded to BMD readiness issues related to Aegis BMD capability, introduction, and employment - Supported Combatant Commanders (COCOM)-directed Wargames and Exercises - Provided reach back analytical support to the COCOMs for real world operations - Provided maintenance and updates for Force on Force Modeling and Simulation				
FY 2015 Plans: - Provide In-service Engineering support to Aegis BMD - Provide leadership and engineering/technical support to conduct Aegis BMD Combat System Readiness - Respond to Fleet issues related to Aegis BMD installations, BMD operations and BMD events. - Provide reach back analytical support to the COCOMs for real world operations - Provide maintenance and update of Force on Force Modeling and Simulation - Provide BMD specific training to BMD ships, COCOM/Fleet Staffs; prepare/coordinate training documents for new BMD baselines.				
FY 2016 Plans: All efforts for this accomplishment have transitioned to Budget Project, MX09 Fleet Integration.				
Title: Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion		-	-	23.169
Articles:		-	-	-
Description: Aegis BMD Core System Engineering, Modeling and Simulation and Aegis BMD's participation in Ballistic Missile Defense System (BMDS) Modeling & Simulation Engineering which enables the program to provide cross baseline specification				

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>		Project (Number/Name) MD09 / <i>Aegis BMD</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
management processes and capability assessments; Test Program alignment/trace to BMD specification and Element Specifications, Aegis BMD Modeling and Simulation Verification and Validation (V&V); Runs for Record; BMDS Operational Test Agencies (OTA) model accreditation for Hardware in the Loop (HWIL) Modeling and Simulation (M&S); Objective Simulation Framework (OSF) interface development; Core Truth Model (CTM) model upgrades; and Aegis BMD objectives in the BMDS Phased Adaptive Approach (PAA) Phases Integrated Master Assessment Plan (IMAP) assessments.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Plans: New accomplishment developed to align to Aegis BMD FY 2014 restructure.					
Increase from FY 2015 is attributed to: (Total Capability increase 4.594M) - Funding was previously allocated in Project MD09, Aegis Ballistic Missile Defense (BMD) 4.x Development, Aegis Ballistic Missile Defense (BMD) 5.0 Development, Aegis Ballistic Missile Defense (BMD) 5.x Development, Standard Missile-3 (SM-3) Block IB Development, and SM-3 Manufacturing - Conduct requirements development, trace and configuration management for Aegis BMD Weapon System and Missile System Specifications - Conduct medium fidelity Monte Carlo Analysis contributing to Aegis BMD Capability Baselines and Ballistic Missile Defense System (BMDS) alignment for performance requirements, design space and threat capability assessments - Conduct development of Performance Assessment Matrix, Threat Compliance and Critical Engagement Conditions/Empirical Measurement Events (CEC/EMEs) to influence Aegis BMD Test and Evaluation efforts through a requirements-based input to MDA's Integrated Master Test Plan (IMTP) - Conduct Systems Engineering tasking for model development and Verification and Validation (V&V) of the following models in support of Commander Operational Test & Evaluation Force (COMOPTEVFOR) accreditation: FirmTrack X, Command and Decision Simulation (C&DSim), Link, Weapons Control System (WCS), Argo, and Standard Missile-3 (SM-3) 6 Degrees of Freedom (DOF) - Conduct Modeling and Simulation (M&S) Reviews in support of Aegis BMD Ground Tests - Conduct Extended Air Defense Simulation (EADSIM) development required for participation in exercises and wargames in support of the Warfighter					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD		Project (Number/Name) MD09 / Aegis BMD	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none"> - Conduct Aegis BMD Tier 2 Hardware-in-the-Loop (HWIL) Single Stimulation Framework (SSF) transition to the Objective Simulation Framework (OSF) BMDS initiative with focus on; Next Generation Simulation (NGS) OSF Interface development for Aegis BMD 4.1 and BL 9C.2. - Implement OSF Core Truth Model (CTM) updates for NGS including Aegis BMD signatures, lethality, environments, and truth interactions - HWIL OSF driven V&V for interface and CTM modifications of the Aegis BMD NGS - Conduct Aegis BMD NGS OSF BMDS integration testing - Conduct systems engineering for digital M&S transition to OSF - Conduct M&S Integrated Master Assessment Plan (IMAP) assessment activities - Conduct development of advanced discrimination algorithms as related to the Aegis BMD baselines in support of Discrimination Improvements for Homeland Defense (DIHD) requirements - Demonstrate updated discrimination and develop a plan for insertion into the Aegis BMD Baselines and SM-3 variants to eliminate gaps and enable future BMDS architectures in support of DIHD requirements - Participate in Far-term DIHD threat models specification. - Update element models to support the Far-term DIHD program. - Participate in planning and conduct technology trades and analysis to refine capabilities to mitigate the Far-term DIHD threats. - Fund efforts and studies to address the BMDS emergent threat. 					
Title: Program Operations			-	-	113.734
			Articles:	-	-
Description: Government, contractor, and Federally Funded Research and Development Center (FFRDC) workforce that manage the overall Aegis Ballistic Missile Defense (BMD) program and enable the program to develop, build, and test standard missiles and the associated Aegis Weapon Systems. Includes all operations support for the Aegis program office in Engineering, Logistics Program, Acquisition, Safety, Quality Assurance, Testing, Finance, Budget Formulation and Execution, Cost Estimation, and Earned Value Management in support of development activities.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Plans: New accomplishment developed to align to Aegis Ballistic Missile Defense (BMD) FY 2014 restructure:					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
<div>- Funding was previously allocated within each budget accomplishment in Project MD09, Aegis Ballistic Missile Defense (BMD) 4.x Development, Aegis Ballistic Missile Defense (BMD) 5.0 Development, Aegis Ballistic Missile Defense (BMD) 5.x Development, Standard Missile-3 (SM-3) Block IB Development, and SM-3 Manufacturing</div> <div>- Aligning funds under one accomplishment and one purview allows for better cost efficiencies and oversight into operations costs of the development program</div> <div>- Total operations cost change from FY 2015 to FY 2016 is a slight increase of \$3.5M to account for inflation indices</div> <div>- Ensure Aegis Ballistic Missile Defense (BMD) program compliance with internal and external directives, policies, laws and regulations</div> <div>- Conduct Internal Baseline Reviews (IBRs) that align with the Missile Defense Agency (MDA) approved baselines</div> <div>- Conduct a Mission Assurance and Manufacturing Engineering Program to include Quality, Configuration Management (CM), Manufacturing, Engineering, Security, and Safety</div> <div>- Provide Quality Safety and Mission Assurance operations to ensure compliance with Agency requirements for design, test, manufacturing, quality, safety, and reliability to ensure high quality products are delivered for BMDS test events</div> <div>- Provide program management, subcontract management, quality assurance, verification of hardware and software development, technical oversight and testing execution</div> <div>- Provide technical and business management support activities, financial management, cost and schedule performance analysis, cost estimation and analysis, Configuration Management and integration activities</div>				
<div>Title: Modeling & Simulation HWIL Framework, Simulations, Models</div> <div>Articles:</div> <div>Description: The M&S Hardware-in-the-Loop (HWIL) Framework, Models and Simulations effort develops, maintains and deploys the HWIL framework hardware and software for use at element laboratories and Combatant Command (COCOM) locations to support IMTP events, BMDS capability delivery assessments, Warfighter training, exercises, and wargames.</div> <div>FY 2014 Accomplishments:</div> <div>- Maintained Single Stimulation Framework (SSF) support to Post Flight Reconstruction activities.</div> <div>- Continued integration of Optimistic Sensor Model (OSM) into SSF.</div> <div>- Continued deployment and integration of BMDS Hardware-in-the-loop (HWIL) SSF Objective Hardware for MDA Elements and a Releasable configuration for Allied and Coalition partners.</div> <div>- Continued integration of the SSF with the DSA into the Objective Simulation Framework (OSF).</div> <div>- Delivered the OSF Version 1.0 to begin the transition of HWIL capabilities.</div> <div>- Delivered improved debris and phenomenology modeling capabilities to support Aegis 4.0 and future baselines.</div>		39.871 -	40.076 -	41.580 -

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD		Project (Number/Name) MD09 / Aegis BMD	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none"> - Incorporated advanced Modeling and Simulation (M&S) capabilities into the next version of the OSF for Aegis Ballistic Missile Defense (BMD) for tracking, discrimination, engagement and associated upper tier mitigation for Phased Adaptive Approach (PAA) III. - Maintained BMDS HWIL SSF software capability and necessary hardware/ maintenance to support ground testing. - Continued SSF sustainment, maintenance and product support. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> - Transition Single Stimulation Framework (SSF) support for Post Flight Reconstruction activities to Objective Simulation Framework (OSF). - Continue Optimistic Sensor Model (OSM) integration into OSF. - Complete integration of the SSF with the DSA into the Objective Simulation Framework (OSF). - Begin OSF sustainment, maintenance and product support for use in activities supporting MDA stakeholders and allies/coalition partners. - Deliver improved debris and phenomenology modeling capabilities to support Aegis future baselines. - Continue deployment and integration of BMDS Hardware-in-the-loop (HWIL) SSF and OSF Objective Hardware for MDA Elements and a Releasable configuration for Allied and Coalition partners. <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Develop Objective Simulation Framework (OSF) upgrades to incorporate advanced tracking, discrimination, engagement and associated upper tier debris mitigation capabilities, as well as other requirements and capabilities to meet MDA's evolving system level Modeling and Simulation Enterprise needs. - Begin implementation of new capabilities needed to support MDA's Tier 2 Digital requirements, including hardware and software, data storage and transmission, and verification tools. - Control and maintain the Modeling and Simulation (M&S) Integration and Development Laboratories for Element M&S. - Develop plans, procedures and documentation for scheduled events including Wargames and COCOM Exercises and the Distributed, Focused and Integrated Hardware-In-the-Loop Events as presented in the Integrated Master Test Plan (IMTP). - Develop, maintain, test, field, and operate model representations for use in system level events and other MDA M&S stakeholder application areas. Deploy hardware and software updates to CONUS and OCONUS distributed sites. Perform regular maintenance and critical repairs of hardware and software. 					
<p>Title: Systems Engineering & Integration</p> <p align="right">Articles:</p> <p>Description: Perform requirements development, engineering analysis, capability integration, and performance verification for Aegis BMD development and BMDS integration, including Aegis BMD compliance with the BMDS Specification, BMDS Description Document, and Master Integration Plan (MIP).</p>			11.784 -	17.888 -	19.109 -

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>		Project (Number/Name) MD09 / <i>Aegis BMD</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
<p><i>FY 2014 Accomplishments:</i></p> <ul style="list-style-type: none"> - Continued support to the Combat Systems Engineering Development Site (CSEDS) for Aegis BMD system development. - Conducted non-advocate assessments of BMDS capabilities and limitations prior to capability delivery decisions to determine fielding readiness - Performed top-down system level engineering analysis, capability integration, and performance verification for Aegis BMD development and BMDS integration, including Aegis BMD compliance with the BMD System Specification, BMD System Description Document, and Master Integration Plan (MIP). - Conducted system level performance analyses to support ongoing BMDS Architecture and Systems Engineering efforts. - Conducted extensive analysis of data collected in BMD test events to evaluate BMD operations and performance. <p><i>FY 2015 Plans:</i></p> <ul style="list-style-type: none"> - Identify BMDS architecture alternatives that improve the system's performance and are complementary to and interoperable with NATO systems and theaters around the world. - Develop and refine Capability Planning specifications for future BMDS Elements/Components. - Develop functional performance, interface, and design suitability requirements in collaboration with BMDS element engineers to flow-down and allocate requirements to Programs. - Conduct system level performance analyses to support ongoing BMDS Architecture and Systems Engineering efforts. - Respond to Warfighter, COCOM and Other requests for analyses and requests for information; provide analytical support for real-world events. - Conduct non-advocate assessments of BMDS capabilities and limitations prior to capability delivery decisions to determine fielding readiness (including Defense of the Homeland, Defense of Israel and Theater/Regional BMD) - Conduct extensive analysis of data collected in BMD test events to evaluate BMD operations and performance. - FY 2015 increase is due to increased effort to identify and analyze future architecture alternatives for BMDS and Aegis BMD applications, and support assessment of capabilities to support Warfighter analyses and fielding decisions. <p><i>FY 2016 Plans:</i></p> <p>FY 2016 increase is due to increased capability integration and assessment support for Aegis BMD/BMDS leading to EPAA Phase II Technical Capability Declaration.</p> <ul style="list-style-type: none"> - Conduct system level performance analyses to support ongoing BMDS Architecture and Systems Engineering efforts. - Perform top-down system level engineering analysis, capability integration, and performance verification for Aegis BMD development and BMDS integration, including Aegis BMD compliance with the BMD System Specification, BMD System Description Document, and Master Integration Plan (MIP). - Identify architecture alternatives that improve the BMD System's performance and are complementary to and interoperable with NATO systems and theaters around the world. 					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD		Project (Number/Name) MD09 / Aegis BMD	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none"> - Develop functional performance, interface, and design suitability requirements in collaboration with Aegis BMD engineers to ensure correct flow-down and allocation of BMD System-level requirements to Aegis BMD. - Respond to Warfighter, COCOM and other requests for analyses and requests for information; provide analytical support for real-world events. - Conduct non-advocate assessments of BMDS capabilities and limitations prior to capability delivery decisions to determine fielding readiness (including Theater/Regional BMD) - Conduct extensive analysis of data collected in BMD test events to evaluate BMD System operations and performance. 					
Title: M&S Digital Framework, Simulation, Models Articles: Description: The Modeling and Simulation (M&S) Digital Framework, simulation, and models effort includes: development and sustainment of digital products and the architecture framework, and delivery/maintenance of infrastructure for BMDS performance assessments. FY 2014 Accomplishments: -Incorporated advanced Modeling and Simulation (M&S) capabilities into the next version of the Objective Simulation Framework (OSF) for Aegis Ballistic Missile Defense (BMD) for tracking, discrimination, engagement and associated upper tier mitigation to satisfy Phased Adaptive Approach (PAA) Phase 2/3 needs in BMDS Performance Assessment test venues. -Began the transition of real-time digital simulations to the OSF to support Warfighter Exercises, Warfighter Training, Element spiral development, and Ground Test campaigns. FY 2015 Plans: - Continue the transition of real-time digital simulation capability to the Objective Simulation Framework (OSF) to support Warfighter Exercises, Warfighter Training, Element spiral development, and Ground Test campaigns. - Integrate, test, functionally qualify, and deliver end to end BMDS simulations supporting various events (utilizing the OSF and Element-provided medium/high-resolution models) to support full-envelope BMDS Digital Performance Assessments. FY 2016 Plans: - Continue re-architecting of MDA's BMD International Simulation (I-SIM) to adapt to growing distributed event requirements in support of COCOM and International Wargames, conceptual planning, BMD visualizations, BMD training/orientation, M&S demonstrations, and the Joint Functional Component Command for Integrated Missile Defense (JFCC IMD) Material & Fielding Requirements List (MFRL). - Integrate, test, functionally qualify, and deliver BMDS M&S tools for use in MDA test events, Wargames, and exercises - Continue the transition of real-time digital simulation capability to the Objective Simulation Framework (OSF) to support BMD System and Element Intended Uses.			4.990 -	4.957 -	4.989 -

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015	
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
<ul style="list-style-type: none"> - Provide threat representations (kinematic trajectories, radar cross section (RCS), and infrared (IR) signature data) for use in real-world events, simulations, exercises, wargames, and test and evaluation activities across the DoD. - Perform operational planning for the FY 2017 BMDS assessment events. 			
Title: BMDS Verification, Validation & Assessment (VV&A) Description: See Description below. FY 2014 Accomplishments: <ul style="list-style-type: none"> - Provided integrated Verification, Validation and Accreditation (VV&A) of Missile Defense Agency (MDA) M&S at the system level for specific events, to include Technical Assessment, Performance Assessment, Ground Tests that support Ballistic Missile Defense System (BMDS) fielding decisions, and tier one Combatant Commanders (COCOM) exercises. - Developed integrated VV&A event Plans and Reports for events as reflected in the Integrated Master Test Plan (IMTP). - Conducted specified system post-flight reconstructions and pre-mission testing events so as to optimize the body of evidence and analysis supporting system-level Ballistic Missile Defense System (BMDS) accreditation perform all system-level VV&A associated with these events as reflected in the IMTP. - 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. FY 2015 Plans: <ul style="list-style-type: none"> - Conduct verification and validation (V&V) in support of MDA BMD system level accreditation process in support of Ground Test and Performance Assessment events. - Develop integrated Verification, Validation and Accreditation (VV&A) and V&V event Plans and Reports for events as reflected in the Integrated Master Test Plan (IMTP) and the Exhibit R-4 schedule. - Conduct specified system post-flight reconstructions, element post-flight reconstructions, and pre-mission testing events so as to optimize the body of evidence and analysis supporting system-level Ballistic Missile Defense System (BMDS) accreditation. Perform all system-level V&V associated with these events as reflected in the IMTP and the Exhibit R-4 schedule. - Conduct system-level V&V of threat trajectory and signature end-to-end environmental implementation is consistent and correct communications and architecture behave properly and interoperability is adequately addressed. - FY 2015 increase is due to re-categorization of assessment efforts previously reported in budget project MT09. FY 2016 Plans: <ul style="list-style-type: none"> - FY 2016 increase is due to increased assessment and validation activities supporting capability declaration for EPAA phase II. - Conduct extensive analysis of data collected in BMDS ground and flight test events, instrumental to understanding BMD System operations and performance and anchoring models and simulations. 		15.534	17.730
Articles:		-	-
		20.724	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none"> - Identify mitigation approaches for BMDS performance issues uncovered during system level analysis and assessment. - Monitor development and recommend improvements to the Missile Defense Agency wide simulation enterprise based on an evaluation of the validity of Component, Element and System-level models, frameworks, and participation in system level assessment activities and Modeling and Simulation events. - Conduct verification and validation (V&V) in support of MDA BMD System level accreditation process in support of BMDS Ground Test and performance assessment events. - Develop integrated Verification, Validation and Accreditation (VV&A) and V&V event Plans and Reports for events as reflected in the Integrated Master Test Plan (IMTP) and the Exhibit R-4 schedule. - Conduct specified BMD System post-flight reconstructions, element post-flight reconstructions, and pre-mission testing events so as to optimize the body of evidence and analysis supporting system-level Ballistic Missile Defense System (BMDS) accreditation. Perform all system-level V&V associated with these events as reflected in the IMTP and the Exhibit R-4 schedule. 			
Accomplishments/Planned Programs Subtotals	711.040	681.417	732.273

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

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0604880C: Land Based SM-3 (LBSM3)	124.568	123.444	34.970	-	34.970	40.787	30.486	20.193	22.079	Continuing	Continuing
• 0604881C: AEGIS SM-3 Block IIA Co-Development	297.169	263.695	172.645	-	172.645	66.828	-	-	-	-	800.337

Remarks

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 Standard Missile-3 (SM-3) missile and the Aegis BMD Weapon System, respectively.

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 (FFRDCs) and University Affiliated Research Centers (UARC)s).

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>	Project (Number/Name) MD09 / <i>Aegis BMD</i>
<u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev MD09	MIPR	AEGIS Techrep : Moorestown, NJ	0.324	0.352		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev MD09 - Crane	MIPR	NSWC Crane : Crane, IN	0.071	-		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev MD09 - PAC	MIPR	SPAWAR PAC : San Diego, CA	0.170	-		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev MD09 - SCSC	MIPR	Wallops Island : VA	0.751	1.467		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev.	MIPR	NAVSEA : VA	8.239	0.848		-		-		-		-	-	9.087	-
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - 201112203132279	MIPR	NSWC Corona : CA	0.659	0.017		1.398	Oct 2014	3.746	Nov 2015	-		3.746	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09	MIPR	NSWC/DD : DAHLGREN, VA	75.128	2.811		5.490	Oct 2014	9.711	Nov 2015	-		9.711	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - 20117142293189	MIPR	NSWC/PHD : PT. HUENEME, CA	13.072	0.824		1.046	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD	MIPR	JHU/APL/MD : COLUMBIA, MD	25.874	4.120		4.144	Oct 2014	2.803	Nov 2015	-		2.803	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
4.0 Dev. - MD09 - 20117142293191															
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - 20117142293195	SS/CPIF	LOCKHEED MARTIN : MOORESTOWN, NJ	681.821	34.758		13.422	Oct 2014	6.415	Nov 2015	-		6.415	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - AG	SS/CPAF	RAYTHEON/AZ : TUCSON, AZ	1.943	10.468		-		11.966	Nov 2015	-		11.966	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - AG APL	MIPR	JHU/APL : Columbia, MD	0.000	1.937		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - AG Corona	MIPR	NSWC Corona : CA	0.000	0.770		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - AG DD	MIPR	NSWC Dahlgren : Dahlgren, VA	0.000	0.220		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - AG PHD	MIPR	NSWC PHD : Pt. Hueneme, CA	0.000	0.566		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 - D AG	MIPR	MDA : VA	15.309	5.000		-		6.050	Nov 2015	-		6.050	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 Aegis VLS	MIPR	AEGIS BMD : DAHLGREN, VA	71.221	0.274		-		-		-		-	-	71.495	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 SEG	MIPR	SEG : CA	0.000	0.050		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 TD	MIPR	Aegis BMD : Various	0.000	3.370		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 TD LM	SS/CPIF	Lockheed Martin : Moorestown, NJ	0.000	27.950		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 VLS	MIPR	NSWC Dahlgren : Dahlgren, VA	0.000	3.187		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev. - MD09 VLS LM	MIPR	NAVSEA - LM : Washington, DC	0.000	0.086		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - C2BMC Program	MIPR	MDA : VA	6.150	-		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09	SS/CPIF	LOCKHEED MARTIN : MOORESTOWN, NJ	637.457	69.744		75.156	Oct 2014	20.502	Nov 2015	-		20.502	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 -	MIPR	MITRE : CECOM	1.829	-		0.897	Oct 2014	0.751	Nov 2015	-		0.751	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 2011714231 TD	MIPR	AEGIS BMD : AZ, VA, CA	1.848	9.291		0.977	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0	MIPR	NSWC/DD : DAHLGREN, VA	64.127	18.929		8.914	Oct 2014	2.049	Nov 2015	-		2.049	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development - MD09 - 20117142316263															
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142316266	MIPR	NSWC/PHD : PT. HUENEME, CA	4.085	0.902		1.009	Oct 2014	0.557	Nov 2015	-		0.557	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142316267	MIPR	JHU/APL/MD : COLUMBIA, MD	34.353	5.499		8.199	Oct 2014	2.849	Nov 2015	-		2.849	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142316272	C/CPAF	RAYTHEON/AZ : TUCSON, AZ	0.030	-		0.672	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142316275	SS/CPAF	RAYTHEON/AZ : TUCSON, AZ	4.000	-		-		-		-		-	-	4.000	-
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142316278 - 2012628495024	MIPR	NSWC Crane : Crane, IN	0.000	-		0.470	Oct 2014	0.236	Nov 2015	-		0.236	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - AW	MIPR	Various : Various	0.000	0.912		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - AW Navsea	MIPR	NAVSEA : Washington, DC	0.000	5.728		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - AW Techrep	MIPR	Aegis Techrep : Moorestown, NJ	0.000	0.603		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0	MIPR	Wallops Island : VA	0.000	0.578		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development - MD09 - AW Wallops															
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - AWE	MIPR	Wallops Island : VA	0.000	0.351		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - AWE LM	MIPR	NAVSEA - LM : Washington, DC	0.000	5.016		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - Aegis	MIPR	Aegis BMD : VA	44.594	-		0.825	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - Development Test	SS/CPIF	Lockheed Martin : Moorestown, NJ	21.169	-		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - LM	SS/CPIF	Lockheed Martin : Moorestown, NJ	24.600	-		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - TD	SS/CPFF	IDT : Arlington VA	0.000	1.499		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - TD LM	SS/CPIF	Lockheed Martin : Moorestown, NJ	0.000	6.200		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - AA Development	MIPR	PMRF : Hawaii	0.000	-		-		5.967		-		5.967	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - BMD 5.1 Dev. - MD09 VLS IH	MIPR	NSWC Indian Head : Indian Head, MD	0.000	0.232		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense (BMD) 5.x Development - BMD 5.1 Development - MD09	MIPR	NSWC Corona : CA	3.737	2.623		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - BMD 5.1 Development - MD09 LM	MIPR	Lockheed Martin : MD	8.633	-		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - BMD 5.1 Development MD09	MIPR	Various : MA, MD, VA, NJ	2.022	2.732		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - BMD 5.1.0 Dev MD09 - AW LM	MIPR	NAVSEA - LM : Washington, DC	0.000	7.807		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - BMD 5.1.0 Dev MD09 - AW VLS	MIPR	NAVSEA - LM : Washington, DC	0.000	9.920		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - BMD 5.1.0 Dev MD09 - SCSC	MIPR	Wallops Island : VA	0.000	0.546		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - C2BMC ADNS III	MIPR	Aegis TechRep : Moorestown, NJ	6.150	0.148		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142323680	MIPR	NSWC/DD : DAHLGREN, VA	35.202	4.106		7.174	Oct 2014	7.237	Nov 2015	-		7.237	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142323684	MIPR	NSWC/PHD : PT HUENEME, CA	1.579	0.368		0.866	Nov 2014	5.060	Nov 2015	-		5.060	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142323686	MIPR	JHU/APL/MD : COLUMBIA, MD	30.874	3.180		8.381	Oct 2014	6.169	Nov 2015	-		6.169	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142323689	SS/CPAF	LOCKHEED MARTIN : MOORESTOWN, NJ	243.789	88.427		195.003	Oct 2014	133.685	Nov 2015	-		133.685	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20126284501509	MIPR	SPAWAR : CA	6.829	-		6.123	Nov 2014	3.079	Nov 2015	-		3.079	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - AG	SS/CPAF	RAYTHEON/AZ : TUCSON, AZ	0.210	35.504		33.295	Oct 2014	16.745	Nov 2015	-		16.745	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - TD	MIPR	Various : MA, MD, VA, NJ	22.088	5.167		3.539	Nov 2014	1.780	Nov 2015	-		1.780	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - VLS	MIPR	AEGIS BMD : AZ, VA, CA	54.407	1.266		3.046	Nov 2014	0.906	Nov 2015	-		0.906	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - VLS 5.1 FIELDING	MIPR	NAVSEA - BAE : Washington, DC	0.000	0.700		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - VLS 5.1 FIELDING LM	MIPR	NAVSEA - LM : Washington, DC	0.000	0.500		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09	SS/CPAF	Raytheon : Tucson, AZ	974.516	17.978		48.059	Oct 2014	41.242	Nov 2015	-		41.242	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142332255	MIPR	NSWC/DD : Dahlgren, VA	35.769	0.352		2.351	Oct 2014	-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142332256	MIPR	JHU/APL/MD : Columbia, MD	44.231	5.600		5.170	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142332259	MIPR	NSWC/PHD : Port Hueneme, CA	13.148	0.934		1.880	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142332261	MIPR	NSWC Carderock : MD	17.117	1.165		0.940	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - AFMETCAL	MIPR	AFMETCAL : Heath, OH	0.880	1.754		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - AFRL	MIPR	AFRL : Edward AFB, CA	0.273	1.800		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - AW	MIPR	NAVSEA : Washington, DC	0.000	1.482		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - AW Wallops	MIPR	Wallops Island : VA	0.000	0.104		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - China Lake	MIPR	NAWC : China Lake, CA	1.568	1.258		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - Corona	MIPR	NSWC Corona : Corona, CA	0.579	0.770		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - Indian Head	MIPR	NSWC Indian Head : Indian Head, MD	0.806	0.779		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - NSA	MIPR	NSA : MD	0.180	-		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Standard Missile-3 (SM-3) Block IB Development - MD09 - Oak Ridge National Laboratory	MIPR	Oak Ridge National Laboratory : Oak Ridge, TN	0.017	-		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - SMC	MIPR	Space Missile Command : El Segundo, CA	0.161	-		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - USTRANSCOM	MIPR	USTRANSCOM : Scott Air Force Base Illinois	0.000	0.064		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 Crane	MIPR	NSWC Crane : Crane, IN	0.548	0.651		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 TD	MIPR	Various : MA, CA, VA, MD	0.000	1.317		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IIA Development - MD09 - SM-3 BLK IIA AFFORDABILITY DEVELOPMENT	SS/CPIF	Raytheon : Tucson, AZ	0.000	-		-		12.100	Nov 2015	-		12.100	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IIA Development - MD09 - SM-3 BLK IIA INTEGRATION	SS/CPIF	Raytheon : Tucson, AZ	0.000	-		-		47.900	Nov 2015	-		47.900	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IIA Development - MD09 - SM-3 BLK IIA INTEGRATION - APL	MIPR	JHU/APL : Laurel, MD	0.000	-		-		13.400	Nov 2015	-		13.400	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IIA Development - MD09 - SM-3 BLK IIA INTEGRATION - DD	MIPR	NSWC DD : Dahlgren, VA	0.000	-		-		9.846	Nov 2015	-		9.846	Continuing	Continuing	Continuing
SM-3 Manufacturing - SM-3 MANUFACTURING - MD09	SS/CPAF	Raytheon : Tucson, AZ	337.105	-		53.801	Oct 2014	136.217	Dec 2015	-		136.217	-	527.123	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD						Project (Number/Name) MD09 / Aegis BMD			
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fielding - Aegis Weapon System (AWS) - 3.6 Training and Support Services	MIPR	PEO IWS : Washington, DC	0.000	6.462		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - MD09 - SWRMC	MIPR	SWRMC : San Diego, CA	0.000	6.000		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment	MIPR	MDA : Arlington Va	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - Norfolk Ship Support	MIPR	Norfolk Ship Support : Norfolk, VA	8.475	6.930		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment NSWCD	MIPR	NSWC CD : Philadelphia, PA	0.210	0.524		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - Aegis Tech	MIPR	AEGIS TECHREP : Moorestown, NJ	3.604	0.360		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - Crane	MIPR	NSWC Crane : Crane, IN	1.600	1.295		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - Dahlgren	MIPR	NSWC/DD : Dahlgren, VA	33.014	4.443		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - E CPFF	C/CPFF	Various : Dahlgren, VA	0.608	1.172		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD						Project (Number/Name) MD09 / Aegis BMD			
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fielding - Aegis Weapon System (AWS) - Production and Deployment - Ingalls	MIPR	Ingalls Planning Yard : Pascagoula, MS	0.101	0.134		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - LM	SS/CPIF	Lockheed Martin : Moorestown, NJ	230.827	28.394		3.997	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - NSWC PHD	MIPR	NSWC/PHD : Port Hueneme, CA	42.904	10.706		3.803	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - PEO IWS	MIPR	PEO IWS : Washington Navy Yard, DC	36.692	35.500		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - Raytheon	C/CPAF	Raytheon : Washington, DC	12.979	3.740		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment - SUPSHIP	MIPR	SUPSHIP : Bath. ME	5.700	3.700		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment NAVSEA	MIPR	NAVSEA : VA	114.474	0.625		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and Deployment SPAWAR CH	MIPR	SPAWAR CH : Charleston, SC	0.015	0.256		-		-		-		-	Continuing	Continuing	Continuing
Fielding - Aegis Weapon System (AWS) - Production and	MIPR	SPAWAR PAC : San Diego, CA	0.267	1.085		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Deployment SPAWAR OAC															
Fleet Integration - 20098185191945	MIPR	NSWC/PHD : Port Hueneme, CA	17.038	0.328		2.393	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Fleet Integration - MD09	MIPR	SMDC/ARSTRST : Huntsville, AL	8.742	0.320		0.137	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Fleet Integration - MD09 - 20117142371317	MIPR	CSCS : Dahlgren, VA	11.148	0.975		1.360	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Fleet Integration - MD09 - 20117142371318	MIPR	JHU/APL/MD : Columbia, MD	6.417	1.656		0.941	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Fleet Integration - MD09 - 2011714237132	MIPR	NSWC/DD : Dahlgren, VA	15.833	2.141		1.526	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Fleet Integration - MD09 - 2012723031274	MIPR	MDA : VA	2.072	-		0.106	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion - MD09 - NAVSEA	MIPR	NAVSEA : Tewksbury, MA	0.000	-		-		1.100	Nov 2015	-		1.100	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion - MD09 - TD APL	SS/CPFF	JHU/APL : Columbia, MD	0.000	-		-		5.737	Nov 2015	-		5.737	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion - MD09 - TD LM	C/CPFF	Lockheed Martin : Moorestown, NJ	0.000	-		-		4.700	Nov 2015	-		4.700	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion - MD09 - TD MIT	MIPR	Hanscom AFB - MIT/ LL : Lexington, MA	0.000	-		-		2.200	Nov 2015	-		2.200	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) Technology Design and	MIPR	CECOM - MITRE : Dahlgren, VA	0.000	-		-		0.345	Nov 2015	-		0.345	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD						Project (Number/Name) MD09 / Aegis BMD			
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Insertion - MD09 - TD MITRE															
Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion - MD09 - TD NSWCDD	MIPR	NSWC DD : Dahlgren, VA	0.000	-		-		7.087	Nov 2015	-		7.087	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) Technology Design and Insertion - Technology Design and Insertion - FT DIHD Support (DE)	MIPR	Various - MDA : AL,VA	0.000	-		-		2.000	Nov 2015	-		2.000	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations, Models - M&S HWIL Engineering	Various	MDA : AL, VA	0.000	-		2.796	Nov 2014	4.467	Nov 2015	-		4.467	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations, Models - M&S HWIL Engineering - CSS Support	C/CPFF	Sparta : AL, CO	6.383	4.782		2.930	Nov 2014	2.588	Nov 2015	-		2.588	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations, Models - M&S HWIL Engineering - Engineering Support	C/CPAF	Northrop Grumman : CO	2.360	5.363		4.800	Nov 2014	4.700	Nov 2015	-		4.700	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations, Models - M&S HWIL Engineering - Integration	MIPR	AMRDEC : AL	1.935	4.482		4.300	Nov 2014	4.347	Nov 2015	-		4.347	Continuing	Continuing	Continuing
Modeling & Simulation HWIL Framework, Simulations, Models - M&S HWIL Engineering - Prime	C/CPFF	Teledyne Brown Engineering : AL, CO	23.938	25.244		25.250	Nov 2014	25.478	Nov 2015	-		25.478	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation HWIL Framework, Simulations, Models - Single Stimulation Framework & Objective Simulation Framework, Procure, Install, Test - MD09	C/CPAF	Boeing : AL	151.380	-		-		-		-		-	-	151.380	-
Systems Engineering & Integration - CSS - MD09	C/CPFF	Cobham : CA	6.660	-		-		-		-		-	-	6.660	-
Systems Engineering & Integration - Systems Engineering	MIPR	MDA : VA, AL	35.430	4.966		6.807	Nov 2014	6.852	Nov 2015	-		6.852	Continuing	Continuing	Continuing
Systems Engineering & Integration - Systems Engineering - CSS	C/CPFF	CSC : VA	9.357	1.573		1.200	Nov 2014	1.224	Nov 2015	-		1.224	Continuing	Continuing	Continuing
Systems Engineering & Integration - Systems Engineering - Industry	C/CPAF	Boeing : VA	17.026	5.245		9.881	Nov 2014	11.033	Nov 2015	-		11.033	Continuing	Continuing	Continuing
M&S Digital Framework, Simulation, Models - Digital Simulation Architecture - MD09	C/CPAF	Northrop Grumman : CO	14.992	4.990		4.957	Nov 2014	4.989	Nov 2015	-		4.989	Continuing	Continuing	Continuing
BMDS Verification, Validation & Assessment (VV&A) - Verification & Assessment - CSS Support	C/CPFF	CSC : AL	0.000	-		3.890	Nov 2014	3.852	Nov 2015	-		3.852	Continuing	Continuing	Continuing
BMDS Verification, Validation & Assessment (VV&A) - Verification & Assessment - CSS Support (2)	C/CPFF	Sparta : AL	0.000	-		0.510	Nov 2014	0.525	Nov 2015	-		0.525	Continuing	Continuing	Continuing
BMDS Verification, Validation & Assessment	C/CPAF	Boeing : AL	0.000	-		4.778	Nov 2014	6.914	Nov 2015	-		6.914	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
(VV&A) - Verification & Assessment - Industry															
BMDS Verification, Validation & Assessment (VV&A) - Verification & Assessment - Labs	MIPR	MITRE : VA	0.000	-		1.295		1.476	Nov 2015	-		1.476	Continuing	Continuing	Continuing
BMDS Verification, Validation & Assessment (VV&A) - Verification & Assessment - OGA	MIPR	AMRDEC : AL	0.000	-		7.257	Nov 2014	7.957	Nov 2015	-		7.957	Continuing	Continuing	Continuing
Subtotal			4,403.423	596.952		587.161		618.539		-		618.539	-	-	-
Remarks N/A															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09	MIPR	MDA MIDAESS : Arlington, VA	3.789	8.952		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09 -	MIPR	Dahlgren : Dahlgren, VA	4.817	1.241		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09 - 0	MIPR	MDA : Arlington, VA	41.632	4.956		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD	MIPR	NAVSEA : Washington, DC	20.742	2.981		9.000		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD						Project (Number/Name) MD09 / Aegis BMD			
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
4.0 Dev - MD09 - 20117142431989															
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09 - 20117142432002	C/CPIF	Lockheed Martin : Arlington, VA	2.006	0.396		25.000		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09 - 20117142432014	C/CPAF	Raytheon : Arlington, VA	1.960	-		25.598		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09 - 20117142432019	MIPR	Aegis BMD : Dahlgren, VA	3.834	0.400		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09 - 20117142432022	MIPR	MDA : Arlington, VA	24.296	0.414		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 4.x Development - BMD 4.0 Dev - MD09 - 2012722816284	MIPR	JHU/APL : Columbia MD	0.000	-		7.000		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09	MIPR	MDA : Arlington, VA	32.552	7.152		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 -	MIPR	JHU/APL : Columbia MD	0.000	-		1.349		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0	MIPR	NAVSEA : Washington, DC	16.875	4.302		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD					Project (Number/Name) MD09 / Aegis BMD				
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development - MD09 - 20117142454161															
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142454173	MIPR	Dahlgren : Dahlgren, VA	9.022	1.792		1.349		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142454175	C/CPIF	Lockheed Martin : Arlington, VA	0.849	0.571		7.720		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142454178	C/CPAF	Raytheon : Arlington, VA	0.287	-		-		-		-		-	-	0.287	-
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142454181	MIPR	Aegis BMD : Dahlgren, VA	24.312	0.577		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142454184	MIPR	MDA : Arlington, VA	33.704	0.598		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.0 Development - MD09 - 20117142454188	MIPR	MDA MIDAESS : Arlington, VA	16.606	12.919		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09	MIPR	MDA : Arlington, VA	12.198	11.133		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 2011714247033	MIPR	NAVSEA : Washington, DC	6.189	6.697		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x	MIPR	Dahlgren : Dahlgren, VA	6.069	2.789		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD					Project (Number/Name) MD09 / Aegis BMD				
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development - MD09 - 20117142470341															
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142470344	C/CPIF	Lockheed Martin : Arlington, VA	0.225	0.889		5.764		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142470352	C/CPAF	Raytheon : Arlington, VA	0.182	-		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142470355	MIPR	Aegis BMD : Dahlgren, VA	4.389	0.897		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142470358	MIPR	MDA : Arlington, VA	21.523	0.931		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 20117142470359	MIPR	MDA MIDAESS : Arlington, VA	10.260	20.110		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense (BMD) 5.x Development - MD09 - 2012722862854	MIPR	JHU/APL : Columbia MD	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09	MIPR	JHU/APL : Columbia MD	0.000	-		2.000		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 -	MIPR	MDA : Arlington, VA	29.386	1.979		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142487038	MIPR	NAVSEA : Washington, DC	81.311	1.190		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142487073	MIPR	Dahlgren : Dahlgren, VA	9.053	0.495		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142487113	C/CPIF	Lockheed Martin : Arlington, VA	2.009	0.158		9.476		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142487117	C/CPAF	Raytheon : Arlington, VA	0.318	0.138		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142487119	MIPR	Aegis BMD : Dahlgren, VA	39.449	0.159		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142487125	MIPR	MDA : Arlington, VA	27.079	0.165		-		-		-		-	Continuing	Continuing	Continuing
Standard Missile-3 (SM-3) Block IB Development - MD09 - 20117142487128	MIPR	MDA MIDAESS : Arlington, VA	9.870	3.573		-		-		-		-	Continuing	Continuing	Continuing
Program Operations - MD09 - Civ Sal	MIPR	MDA : Arlington, VA	0.000	-		-		35.328	Oct 2015	-		35.328	Continuing	Continuing	Continuing
Program Operations - MD09 - DA/DAC	MIPR	MDA : Arlington, VA	0.000	-		-		0.264	Nov 2015	-		0.264	Continuing	Continuing	Continuing
Program Operations - MD09 - DD PM	MIPR	NSWC DD : Dahlgren, VA	0.000	-		-		7.632	Nov 2015	-		7.632	Continuing	Continuing	Continuing
Program Operations - MD09 - IT	MIPR	MDA : Arlington, VA	0.000	-		-		0.519	Nov 2015	-		0.519	Continuing	Continuing	Continuing
Program Operations - MD09 - MDA Travel	MIPR	MDA : Arlington, VA	0.000	-		-		2.065	Oct 2015	-		2.065	Continuing	Continuing	Continuing
Program Operations - MD09 - MIDAESS	MIPR	MDA : Arlington, VA	0.000	-		-		48.168	Oct 2015	-		48.168	Continuing	Continuing	Continuing
Program Operations - MD09 - NAVSEA Civ Sal	MIPR	NAVSEA : Washington, DC	0.000	-		-		13.856	Oct 2015	-		13.856	Continuing	Continuing	Continuing
Program Operations - MD09 - NAVSEA RB Sal	MIPR	NAVSEA : Washington, DC	0.000	-		-		2.109	Oct 2015	-		2.109	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency **Date:** February 2015

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD09 / Aegis BMD
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Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Operations - MD09 - NAVSEA Train	MIPR	NAVSEA : Washington, DC	0.000	-		-		0.069	Oct 2015	-		0.069	Continuing	Continuing	Continuing
Program Operations - MD09 - NAVSEA Travel	MIPR	NAVSEA : Washington, DC	0.000	-		-		1.056	Oct 2015	-		1.056	Continuing	Continuing	Continuing
Program Operations - MD09 - PCS	MIPR	MDA : Arlington, VA	0.000	-		-		0.105	Nov 2015	-		0.105	Continuing	Continuing	Continuing
Program Operations - MD09 - PE Comms	C/CPAF	Lockheed Martin : Moorestown, NJ	0.000	-		-		0.960	Nov 2015	-		0.960	Continuing	Continuing	Continuing
Program Operations - MD09 - Security	MIPR	Various : VA	0.000	-		-		1.603	Nov 2015	-		1.603	Continuing	Continuing	Continuing
Subtotal			496.793	98.554		94.256		113.734		-		113.734	-	-	-

Remarks

New accomplishment developed to align to Aegis Ballistic Missile Defense (BMD) FY 2014 restructure: - Funding was previously allocated within each budget accomplishment in Project MD09.

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BMDS Verification, Validation & Assessment (VV&A) - VV&A - MD09	C/CPAF	Northrop Grumman : VA	60.943	-		-		-		-		-	-	60.943	-
BMDS Verification, Validation & Assessment (VV&A) - VV&A - OGA	MIPR	AMRDEC : AL	7.482	6.970		-		-		-		-	Continuing	Continuing	Continuing
BMDS Verification, Validation & Assessment (VV&A) - Validation & Assessment - CSS	C/CPFF	CSC : AL	0.000	7.308		-		-		-		-	Continuing	Continuing	Continuing
BMDS Verification, Validation & Assessment (VV&A) - Validation & Verification Support	MIPR	Various : VA, AL, CO	3.014	1.256		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD09 / Aegis BMD					

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			71.439	15.534		-		-		-		-	-	-	-

Remarks N/A															
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Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-

Remarks N/A															
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	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4,971.655	711.040		681.417		732.273		-		732.273	-	-	-

Remarks Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, MIPRs, and civilian salaries on the R-3.													
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD		Project (Number/Name) MD09 / Aegis BMD	

Significant Event Complete ▲
 Significant Event Planned △
 Milestone Decision Complete ★
 Milestone Decision Planned ☆
 Element Test Complete ◆
 Element Test Planned ◇
 System Level Test Complete ●
 System Level Test Planned ○
 Complete Activity ✦
 Planned Activity ✧

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BMD 5.1 Preliminary Design Review (PDR)	▲																											
BMD 3.6.1 Ship Installations	✦																											
BMD 4.0 Ship Installations	✧	✧	✧	✧	✧																							
BMD 5.0 CU Development	✧	✧	✧	✧	✧	✧																						
BMD 5.1 Development	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧												
BMD 5.0 Ship Installations	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧												
BMD 5.1 Critical Design Review (CDR)					△																							
BMD 5.0 CU Certification						△																						
SFTM-01 E2 (AEGIS 5.1 Intercept Flight Test)										✧																		
SFTM-02 (AEGIS 5.1 Intercept Flight Test)													△															
BMD 5.1 Demo													△															
BMD 5.1 Certification																	△											

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>	Project (Number/Name) MD09 / <i>Aegis BMD</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
BMD 5.1 Preliminary Design Review (PDR)	1	2014	1	2014
BMD 3.6.1 Ship Installations	1	2014	1	2014
BMD 4.0 Ship Installations	1	2014	1	2015
BMD 5.0 CU Development	1	2014	2	2015
BMD 5.1 Development	1	2014	4	2017
BMD 5.0 Ship Installations	1	2014	4	2017
BMD 5.1 Critical Design Review (CDR)	1	2015	1	2015
BMD 5.0 CU Certification	3	2015	3	2015
SFTM-01 E2 (AEGIS 5.1 Intercept Flight Test)	3	2016	3	2016
SFTM-02 (AEGIS 5.1 Intercept Flight Test)	1	2017	1	2017
BMD 5.1 Demo	3	2017	3	2017
BMD 5.1 Certification	3	2018	3	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MC09 / Cyber Operations			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MC09: Cyber Operations	-	0.820	0.265	0.870	-	0.870	0.885	0.891	0.891	0.891	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project MC09, Defensive Cyber Operations Project was established in this Program Element (PE) for PB 2014.

Increase from FY 2015 is due to all cyber security efforts being moved from MD09 to MC09 to match execution. FY 2015 amounts will be updated accordingly to match actual costs at the end of FY 2015.

A. Mission Description and Budget Item Justification

The funds in this project sustain Missile Defense Agency (MDA) DoD Information Assurance Certification and Accreditation Program (DIACAP) and Controls Validation Testing (CVT) activities, analysis of validation results, risk assessments and reviews of proposed Program Manager/Information Assurance Manager (PM/IAM) Plans of Action and Milestones (POA&Ms) for MDA Aegis Ballistic Missile Defense (BMD) mission systems. It maintains the Certification and Accreditation (C&A) data repository, capturing the DIACAP documentation (artifacts, validation results, and Information Assurance Risk Assessment results, and Designated Approving Authority (DAA) accreditation decisions) and POA&M on all MDA information systems.

This project supports the monitoring and tracking of cyber security mitigation detailed in Information Technology Security POA&Ms. Activities include preparation of C&A documentation and accreditation recommendations to the MDA Senior Information Assurance Officer (SIAO)/Certification Authority (CA) and DAA. Independent Verification and Validation (IV&V) team actions ensure the availability, integrity, authentication, confidentiality and non-repudiation of the MDA mission, test and administrative systems. Activities in the Project are necessary to comply with the Federal Information Security Management Act (FISMA).

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

	FY 2014	FY 2015	FY 2016
Title: Network / System Certification and Accreditation (C&A)	0.820	0.265	0.870
Articles:	-	-	-
Description: See Description below.			
FY 2014 Accomplishments:			
- Conducted cyber security / information assurance engineering and architecture planning for Aegis BMD information technology systems.			
- Planned and tested the Information Assurance (IA) controls for Ballistic Missile Defense System (BMDS) Aegis BMD systems.			
- Developed Aegis BMD DIACAP certification and accreditation packages.			
- Conducted Controls Validation Testing (CVT) of Aegis BMD mission systems and provided Plan of Action and Milestones to mitigate information assurance deficiencies.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD		Project (Number/Name) MC09 / Cyber Operations	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
<p>- Conducted annual information assurance reviews on the Aegis BMD enclaves to assess compliance in implementing and maintaining IA controls.</p> <p>FY 2015 Plans:</p> <p>-Cyber security was recently reallocated to Project MC09 in FY 2014. All cyber security efforts are being combined within this Project and the FY 2015 data will be updated with the actual costs when adjustments are authorized.</p> <p>- Conduct cyber security / information assurance engineering and architecture planning for Aegis BMD information technology systems.</p> <p>- Plan and test the IA controls for Ballistic Missile Defense System (BMDS) Aegis BMD systems.</p> <p>- Develop Aegis BMD DIACAP certification and accreditation packages.</p> <p>- Conduct Controls Validation Testing (CVT) of Aegis BMD mission systems and provide Plan of Action and Milestones to mitigate information assurance deficiencies.</p> <p>- Conduct annual information assurance reviews on the Aegis BMD enclaves to assess compliance in implementing and maintaining IA controls.</p> <p>FY 2016 Plans:</p> <p>Increase from FY 2015 is due to all cyber security efforts being moved from MD09 to MC09 to match execution. FY 2015 amounts will be updated accordingly to match actual costs at the end of FY 2015.</p> <p>- Conduct cybersecurity engineering and architecture requirements planning for Aegis BMD systems</p> <p>- Plan and test the Risk Management Framework (RMF) controls for Ballistic Missile Defense System (BMDS) in regards to Aegis BMD systems to comply with new directive, RMF for DoD Information Technology (DoDI 8510.01) to replace the DoD Information Assurance Certification and Accreditation Process (DIACAP).</p> <p>- Coordinate the development of Aegis BMD Risk Management Framework (RMF) accreditation packages</p> <p>- Conduct Controls Validation Testing (CVT) of Aegis BMD systems and provide a Risk Assessment Report (RAR) to mitigate cybersecurity deficiencies</p> <p>- Conduct annual cybersecurity reviews on the Aegis BMD systems to assess compliance in implementing and maintaining RMF controls</p>					
Accomplishments/Planned Programs Subtotals			0.820	0.265	0.870

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency	Date: February 2015
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MC09 / Cyber Operations
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	1,064.445	873.923	1,284.891	-	1,284.891	936.425	803.392	903.539	912.890	Continuing	Continuing
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	340.391	270.901	233.588	-	233.588	228.437	142.363	140.740	141.733	Continuing	Continuing
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	390.207	428.277	450.085	-	450.085	461.759	423.843	442.926	460.112	Continuing	Continuing
• 0603898C: <i>Ballistic Missile Defense Joint Warfighter Support</i>	41.051	46.387	49.570	-	49.570	50.533	51.363	52.217	54.247	Continuing	Continuing
• 0603904C: <i>Missile Defense Integration and Operations Center (MDIOC)</i>	50.271	58.503	49.211	-	49.211	58.074	53.655	55.194	57.162	Continuing	Continuing
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	124.568	123.444	34.970	-	34.970	40.787	30.486	20.193	22.079	Continuing	Continuing
• 0901598C: <i>Management HQ - MDA</i>	34.712	35.598	35.871	-	35.871	35.187	34.509	33.466	33.992	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
0400 / 4						PE 0603892C / AEGIS BMD				MC09 / Cyber Operations					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Network / System Certification and Accreditation (C&A) - BOOZ ALLEN HAMILTON INC	C/CPIF	MDA : MCLEAN, VA	0.000	0.643		-		0.640	Nov 2015	-		0.640	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - CND/IA Advisory and Assistance Services	C/CPIF	Torch Technologies : Huntsville, AL	0.000	0.177		0.265	Oct 2014	0.230	Nov 2015	-		0.230	Continuing	Continuing	Continuing
Subtotal			0.000	0.820		0.265		0.870		-		0.870	-	-	-
Remarks															
N/A															
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.820		0.265		0.870		-		0.870	-	-	-
Remarks															
N/A															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MC09 / Cyber Operations	

Significant Event Complete▲
Significant Event Planned△

Milestone Decision Complete★
Milestone Decision Planned☆

Element Test Complete◆
Element Test Planned◇

System Level Test Complete●
System Level Test Planned○

Complete Activity✦
Planned Activity✧

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MC09 Cyber Operations									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MC09 / Cyber Operations

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MC09 Cyber Operations	1	2016	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MT09 / Aegis BMD Test			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MT09: Aegis BMD Test	166.697	105.000	-	-	-	-	-	-	-	-	-	271.697
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Beginning in FY 2015, the MT09 Aegis BMD Test project was transferred to PE 0604878C: Aegis BMD Test in accordance with Public Law 113-235, FY2015 Omnibus; Consolidated and Further Continuing Appropriations Act.

A. Mission Description and Budget Item Justification

The Aegis Ballistic Missile Defense (BMD) mission is to deliver an enduring, operationally effective and supportable BMD capability to defend the nation, deployed forces, friends and allies, and to increase this capability by delivering evolutionary improvements as part of the Ballistic Missile Defense System (BMDS) upgrades. The Aegis BMD element of the BMDS capitalizes upon and evolves from the existing United States 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 (SRBMs), Medium-Range Ballistic Missiles (MRBMs), and Intermediate-Range Ballistic Missiles (IRBMs) in the midcourse phase of flight and shorter range missiles in the terminal phase of flight. 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 missile 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), Missile Defense Agency (MDA) has developed a test program to improve confidence in missile defense capabilities under development and ensure the capabilities transferred to the warfighter 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.

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

	FY 2014	FY 2015	FY 2016
Title: Aegis Ballistic Missile Defense (BMD) Testing	55.160	-	-
Articles:	-	-	-
Description: See Description below.			
FY 2014 Accomplishments:			
- Continued to conduct Aegis BMD-specific analysis during pre and post-mission analysis phases.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MT09 / Aegis BMD Test		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none">- Began test planning for FY 2015 Aegis flight test missions: prepared target, developed models and simulations, and readied the range for test.- Continued to conduct Post Flight Analysis for test conducted in FY 2014 Aegis flight test missions.- Prepared for and conducted Ballistic Missile Defense System (BMDS) Flight and Ground Test events as reflected in the Integrated Master Test Plan (IMTP) and the Exhibit R-4 schedule.- Participated in BMD special technology experiments. <p>FY 2015 Plans: Per FY 2015 appropriations bill, all Test funding moved to PE 0604878C.</p> <p>FY 2016 Plans: Per FY 2015 appropriations bill, all Test funding moved to PE 0604878C.</p>				
<p>Title: BMDS Level Testing</p> <p>Articles:</p> <p>Description: See Description below.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none">- Prepared for and conducted BMDS Flight and Ground Test events as reflected in the IMTP and the Exhibit R-4 schedule.- Exercised of Phase II capability of the Phased Adaptive Approach. <p>FY 2015 Plans: Per FY 2015 appropriations bill, all Test funding moved to PE 0604878C.</p> <p>FY 2016 Plans: Per FY 2015 appropriations bill, all Test funding moved to PE 0604878C.</p>		34.161 -	- -	- -
<p>Title: Modeling & Simulation Hardware-In-the-Loop (HWIL) Framework, Simulations, Models</p> <p>Articles:</p> <p>Description: See Description below.</p> <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none">- Provided support for scheduled Integrated Master Test Plan (IMTP) events Global Lightning 14, Terminal Fury 14, Vigilant Shield 14, Global Defender (GDEx06 Part 1), FTG-06b Countdown Exercise, FTG-06b HWIL System Pre-Mission Test (SPMT), GTI-04e Part 1a, and GTI-04e Part 2.- Delivered the Objective Simulation Framework (OSF) Version 2.0 Version 1.0 to begin the transition of Hardware-in-the-loop (HWIL) capabilities.- Integrated, tested, functionally qualified, and delivered end-to-end BMDS simulations supporting various uses.		15.679 -	- -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency							Date: February 2015				
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD			Project (Number/Name) MT09 / Aegis BMD Test				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2014	FY 2015	FY 2016		
<ul style="list-style-type: none"> - Developed and established Hardware-in-the-loop (HWIL) M&S Integration Test Cases for Ground and Flight Tests (Pre-Post Mission). - Developed and presented M&S objectives, event requirements, accreditation status and strategic VV&A plans as part of MDA BMDS Integrated Master Test Plan (IMTP) development. - Provided engineering support for planning, execution, and analysis of the test events listed in the Integrated Master Test Plan (IMTP) - Participated in major test reviews. - Utilized models and simulations (M&S) for pre-test assessment and post-test review. <p>FY 2014 decrease is due to initial consolidation of Digital and HWIL frameworks as part of OSF implementation.</p> <p>FY 2015 Plans: No funding requested due to completion of consolidation of Digital and HWIL frameworks as part of OSF implementation.</p> <p>Per FY 2015 appropriations bill, all Test funding moved to PE 0604878C.</p> <p>FY 2016 Plans: N/A</p>											
Accomplishments/Planned Programs Subtotals							105.000	-	-		
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u> <u>Base</u>	<u>FY 2016</u> <u>OCO</u>	<u>FY 2016</u> <u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0604881C: AEGIS SM-3 Block IIA Co-Development	297.169	263.695	172.645	-	172.645	66.828	-	-	-	-	800.337
Remarks											
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 2014, as appropriate.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD						Project (Number/Name) MT09 / Aegis BMD Test			
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Remarks N/A															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Remarks N/A															
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense (BMD) Testing - MT09 -	MIPR	NSWC : DAHLGREN, VA	8.254	8.039		-		-		-		-	-	16.293	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - 201112202597076	MIPR	PMRF Barking Sands : Kauai, HI	0.000	1.366		-		-		-		-	-	1.366	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - 201112202597078	MIPR	NAWC/ PM PT : MUGU, CA	0.000	0.700		-		-		-		-	-	0.700	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - 201112202630564	MIPR	JHU/APL/ MD : COLUMBIA, MD	16.750	13.953		-		-		-		-	-	30.703	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - 201112202630567	MIPR	Aegis BMD : VA	1.591	2.562		-		-		-		-	-	4.153	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MT09 / Aegis BMD Test					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - 201112202630569	SS/CPIF	Lockheed Martin : Moorestown, NJ	0.000	10.565		-		-		-		-	-	10.565	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - 20111220263057	MIPR	SPAWAR : San Diego, CA	1.800	5.027		-		-		-		-	-	6.827	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - 20111220266947	MIPR	NSWC/PHD PT. : HUENEME, CA	6.900	6.679		-		-		-		-	-	13.579	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09 - NAVSEA	MIPR	NAVSEA : VA	0.480	1.775		-		-		-		-	-	2.255	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09- Corona	MIPR	NSWC Corona : CA	4.105	3.900		-		-		-		-	-	8.005	-
Aegis Ballistic Missile Defense (BMD) Testing - MT09- Various	Various	Various : HI, VA, CA, MA	2.106	0.594		-		-		-		-	-	2.700	-
BMDS Level Testing - MT09	MIPR	NSWC PHD PT. : HUENEME, CA	11.764	3.048		-		-		-		-	-	14.812	-
BMDS Level Testing - MT09 - 201112202535339	MIPR	JHU/APL/MD : COLUMBIA, MD	11.455	3.305		-		-		-		-	-	14.760	-
BMDS Level Testing - MT09 - 20111220253534	MIPR	NAVSEA : VA	0.625	-		-		-		-		-	-	0.625	-
BMDS Level Testing - MT09 - 201112202535342	MIPR	SPAWAR SAN DIEGO : CA	8.549	1.120		-		-		-		-	-	9.669	-
BMDS Level Testing - MT09 - 201112202535344	MIPR	CORONA : CA	5.435	2.495		-		-		-		-	-	7.930	-
BMDS Level Testing - MT09 - 201112202535347	MIPR	LOCKHEED MARTIN : MOORESTOWN NJ	9.865	1.550		-		-		-		-	-	11.415	-
BMDS Level Testing - MT09 - 201112202535348	MIPR	MDA : VA	6.187	5.403		-		-		-		-	-	11.590	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD						Project (Number/Name) MT09 / Aegis BMD Test			
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BMDs Level Testing - MT09 - NSWC DD	MIPR	NSWC DD : Dahlgren, VA	4.595	1.254		-		-		-		-	-	5.849	-
BMDs Level Testing - MT09 - PM PT	MIPR	NAWC/ PM PT : MUGU, CA	5.750	4.575		-		-		-		-	-	10.325	-
BMDs Level Testing - MT09 - PMRF	MIPR	PMRF Barking Sands : Hawaii	10.932	6.547		-		-		-		-	-	17.479	-
BMDs Level Testing - MT09 - Pearl Harbor	MIPR	Commander Pacific Fleet : Pearl Harbor, HI	6.150	1.209		-		-		-		-	-	7.359	-
BMDs Level Testing - MT09 - Target Hardware	MIPR	MDA : VA	15.110	-		-		-		-		-	-	15.110	-
BMDs Level Testing - NAWC/AD	MIPR	NAWC/AD : Pax River, MD	0.000	2.253		-		-		-		-	-	2.253	-
BMDs Level Testing - Various	MIPR	Various : VA, MD, CA, DC, MA, AL, TN, NM	7.188	1.402		-		-		-		-	-	8.590	-
Modeling & Simulation Hardware-In-the-Loop (HWIL) Framework, Simulations, Models - Test Analysis Support	MIPR	Various : AL, CO, VA	2.013	4.232		-		-		-		-	-	6.245	-
Modeling & Simulation Hardware-In-the-Loop (HWIL) Framework, Simulations, Models - Test Engineering Support	MIPR	MDA : Various	7.724	6.149		-		-		-		-	-	13.873	-
Modeling & Simulation Hardware-In-the-Loop (HWIL) Framework, Simulations, Models - Testing - Industry	C/CPAF	Boeing : AL	11.369	5.298		-		-		-		-	-	16.667	-
Subtotal			166.697	105.000		-		-		-		-	-	271.697	-
Remarks N/A															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MT09 / Aegis BMD Test					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Remarks N/A															
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			166.697	105.000		-		-		-		-	-	271.697	-
Remarks N/A															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency

Date: February 2015

Appropriation/Budget Activity

0400 / 4

R-1 Program Element (Number/Name)


PE 0603892C / AEGIS BMD



Project (Number/Name)



MT09 / Aegis BMD Test

Significant Event Complete 
Significant Event Planned 

Milestone Decision Complete 
Milestone Decision Planned 

Element Test Complete 
Element Test Planned 

System Level Test Complete 
System Level Test Planned 

Complete Activity 
Planned Activity 

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Warfighter TP 07b (BMDS Ground Test)																												
Warfighter TP 06 (BMDS Ground Test)																												
Warfighter TP 07a (BMDS Ground Test)																												
FTO-03 E1 (Aegis Multiple Engagement Flight Test)																												
FTX-20 (Aegis Simulated Intercept Flight Test)																												
FTM-24 (Aegis Intercept Flight Test)																												
FTO-02 E1 (Aegis Ashore Intercept Flight Test)																												
FTM-26 (Aegis Intercept Flight Test)																												
FTM-25 (Aegis Intercept Flight Test)																												
FTX-23 (AEGIS 5.1 Target Only Flight Test)																												
FTO-02 E2 (AA/Aegis/THAAD/Patriot Multiple Engagement Flight Test)																												
FTM-30 (AEGIS 5.1 Intercept Flight Test)																												
GTD-04E																												
FTX-19 (Aegis Simulated Intercept Flight Test)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>	Project (Number/Name) MT09 / <i>Aegis BMD Test</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Warfighter TP 07b (BMDS Ground Test)	1	2019	2	2019
Warfighter TP 06 (BMDS Ground Test)	3	2016	3	2016
Warfighter TP 07a (BMDS Ground Test)	3	2017	3	2017
FTO-03 E1 (Aegis Multiple Engagement Flight Test)	3	2018	3	2018
FTX-20 (Aegis Simulated Intercept Flight Test)	1	2015	1	2015
FTM-24 (Aegis Intercept Flight Test)	3	2015	3	2015
FTO-02 E1 (Aegis Ashore Intercept Flight Test)	3	2015	3	2015
FTM-26 (Aegis Intercept Flight Test)	1	2015	1	2015
FTM-25 (Aegis Intercept Flight Test)	1	2015	1	2015
FTX-23 (AEGIS 5.1 Target Only Flight Test)	4	2019	4	2019
FTO-02 E2 (AA/Aegis/THAAD/Patriot Multiple Engagement Flight Test)	4	2015	4	2015
FTM-30 (AEGIS 5.1 Intercept Flight Test)	4	2020	4	2020
GTD-04E	1	2015	1	2015
FTX-19 (Aegis Simulated Intercept Flight Test)	2	2015	2	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MX09 / Aegis BMD Development Support			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MX09: Aegis BMD Development Support	16.521	20.276	28.758	73.118	-	73.118	85.642	68.805	76.361	58.207	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In February 2014, Aegis Ballistic Missile Defense (BMD) underwent a program reorganization in order to gain efficiencies and improve program affordability. As the primary budget exhibit for the program, 0603892C is restructured in a method that better aligns with agency organization by providing more transparency and allowing for more efficient funding justification. FY 2016 budget exhibits are provided in the more efficient reorganization structure.

Increase from FY 2015 is attributed to development efforts progressing through the life-cycle of the Aegis BMD program from development to developmental support.

A. Mission Description and Budget Item Justification

Aegis Ballistic Missile Defense (BMD), in accordance with negotiated agreements between the United States Navy and the Missile Defense Agency (MDA) has identified and segregated funding for Developmental Support of Aegis BMD specific elements resident aboard Aegis capable Navy ships. Computer Program Support, consists of, but is not limited to, reviews of Technical 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 CPCR's, and tests installation of Aegis Weapon System (AN/SPY-radar/Fire Control Section (FCS)) alignment updates as required. Aegis BMD provides support to Annual Integration Events (AIEs) to ensure any updated Aegis Combat System (ACS) computer programs do not degrade BMD equipped ships and provides distance and technical support for BMD equipped ships. Additionally, Aegis BMD continues to analyze the Ballistic Missile Defense System (BMDS) elements to ensure that any and all interoperability impacts are captured and resolved to eliminate any impact to the warfighter. Aegis continues to work with Program Executive Office (PEO) Integrated Warfare Systems (IWS) and PEO Command, Control, Communications, Computers, & Intelligence (C4I), Aegis' Navy counterparts, in order to maintain common C4I top level requirements for all Aegis BMD Baselines.

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

	FY 2014	FY 2015	FY 2016
Title: Aegis Ballistic Missile Defense Operations and Support	20.276	28.758	-
Articles:	-	-	-
Description: See Description below. FY 2014 Accomplishments: - Maintained and operated the facility at PMRF and ensure Aegis Ashore mission. - Provided Sustainment of BMD 3.6 Computer Program to include the engineering and development of all 3.6 baseline update software and associated safety, system engineering, configuration management, performance verification, supporting documentation, labs, information assurance, certification, and critical emergent code corrections based on test data.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MX09 / Aegis BMD Development Support		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
<p>- Provided Shipboard Sustainment of BMD specific equipment to include In-service sustainment of BMD Baseline Aegis Combat System (ACS) and Vertical Launch System Global Positioning System (VLS GPS) Interface (VGI) hardware configuration management and integrated logistics support certifications submission and approval, Commercial Off-The-Shelf management Technical documentation updates.</p> <p>- Provided Sustainment of Standard Missile-3 (SM-3) to include Recertification, Transportation, Integrated Logistics Support, VLS Canister Support, Quality and Reliability, Minor repairs, and Surveillance.</p> <p>- Provided In-service Engineering support to Aegis BMD.</p> <p>- Provided capability and maintenance training for Aegis BMD ship crews.</p> <p>The FY 2014 increase is due to the increase in the number of operational SM-3s and BMD capable ships.</p> <p>FY 2015 Plans:</p> <p>- Provide Sustainment of BMD 3.6 Computer Program to include the engineering and development of all 3.6 baseline update software and associated safety, system engineering, configuration management, performance verification, supporting documentation, labs, information assurance, certification, and critical emergent code corrections based on test data. - Provide Shipboard Sustainment of BMD specific equipment to include In-service sustainment of BMD Baseline Aegis Combat System (ACS) and Vertical Launch System Global Positioning System (VLS GPS) Interface (VGI) hardware configuration management and integrated logistics support certifications submission and approval, Commercial Off-The-Shelf management Technical documentation updates.</p> <p>- Provide Sustainment of Standard Missile-3 (SM-3) to include Recertification, Transportation, Integrated Logistics Support, VLS Canister Support, Quality and Reliability, Minor repairs, and Surveillance.</p> <p>- Provide In-service Engineering support to Aegis BMD.</p> <p>- Provide capability and maintenance training for Aegis BMD ship crews.</p> <p>Increase in request from FY2014 to FY2015 due to the increase in sustainment support for additional shipsets.</p> <p>FY 2016 Plans:</p> <p>Begining in FY 2016 funding for the Sustainment of Aegis Ashore, Computer Program, Shipboard BMD Specific Equipment, and SM-3 Block IB Sustainment efforts are transferred to Operations and Maintenance.</p> <p>Computer Program Development Support efforts transferred to Project MX09, Aegis Ballistic Weapon System Support.</p>				
Title: Fleet Integration		-	-	6.132
Articles:		-	-	-
Description: Provide Fleet operations and mission support to enable the conduct of sustained BMD operations, advocate war fighter requirements and fleet feedback in baseline development and capability upgrades to Aegis BMD weapon system. To				

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015	
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MX09 / Aegis BMD Development Support	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
provide analysis and Mission Planning support for Geographic Combatant Commanders for operational application of Maritime BMD capabilities. Provide BMD Capabilities Analysis and Exercise Support for Aegis BMD baselines under development or currently employed in the Operational Fleet.			
FY 2014 Accomplishments: N/A			
FY 2015 Plans: N/A			
FY 2016 Plans: Beginning in FY 2016, transferred from Project MD09, Fleet Integration - Provide In-service Engineering support to Aegis Ballistic Missile Defense (BMD) ships and resolve any identified issues. - Provide leadership, engineering, and technical support to conduct Aegis BMD Combat System Readiness to resolve any identified issues. - Respond to Fleet training, analysis, and operational integration of maritime capabilities as part of Aegis BMD installations, BMD operations and BMD events and resolve any interoperability issues. - Provide reach back analytical support to the Combatant Commanders (COCOMs) for real world operations and resolve any readiness issues Aegis BMD ships might encounter. - Provide maintenance and updates for Force on Force Modeling and Simulation to ensure accurate characterization of capability is provided to the warfighter community. - Prepare and coordinate training documents for new BMD baselines to ensure that operators are provided current BMD baseline material for training. - Provide BMD specific training to BMD ships, COCOM, and Fleet Staffs to ensure full interoperability between Aegis BMD ships and Fleet staffs.			
Title: Aegis Ballistic Weapon System Support			
		Articles:	
Description: Command, Control, Computer, Communications and Intelligence (C4I) systems engineering for the development and fielding of Aegis Ballistic Missile Defense (BMD) communications systems which includes Aegis BMD and BMDS interoperability, integration of space and joint sensors systems with Aegis BMD and Aegis BMD baseline certifications; Integrated Air and Missile Defense (IAMD) planning; and maintaining Top Level Requirements (TLR) between the Missile Defense Agency and the Navy. Aegis BMD Mission and Quality Assurance which provides for the assessment of flight test readiness and ensure root cause of failures and nonconformance is adequate and corrective actions are sufficient to prevent repeat failures.		-	-
FY 2014 Accomplishments:		-	-
			48.328
			-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency			Date: February 2015		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MX09 / Aegis BMD Development Support		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2014	FY 2015	FY 2016
N/A FY 2015 Plans: N/A FY 2016 Plans: Increase from FY 2015 to FY 2016 attributed to: - New accomplishment developed to align to Aegis BMD FY 2014 program reorganization - Beginning in FY 2016, funding for Computer Program Development Support efforts previously transferred from Project MX09, Aegis Ballistic Missile Defense Operations and Support - Beginning in FY 2016, funding for Developmental Support Engineering efforts transferred from Project MD09, Aegis Ballistic Weapon System Development (BMD 4.x), Aegis Ballistic Missile Defense (BMD) 5.0 Development, and Aegis Ballistic Weapon System Development (BMD 5.x) - Conduct Command, Control, Computer, Communications and Intelligence (C4I) systems engineering for the development of Aegis Ballistic Missile Defense (BMD) requirements, analysis of development efforts by other Ballistic Missile Defense System (BMDS) element for potential Aegis BMD interoperability issues, and resolve any identified interoperability problems - Implement C4I systems for operational deployment by Aegis BMD ships and elements - Maintain C4I Top Level Requirements (TLRs) for development of systems supporting command and control, and communications equipment between Navy and MDA Program Executive Offices - Certify Deterministic Routing for Aegis Ashore and Aegis BMD ships, including development of Concepts of Operation (ConOps), and Tactics for use of this capability, and deployment of operational assets - Conduct Navy and Joint Link certifications required for BMD Baseline certifications for operational deployment - Certify overhead satellite data sources to meet Aegis BMD fire control capabilities in support of dual path requirement in Aegis BMD 5.1 - Develop and implement collaborative Integrated Air and Missile Defense (IAMD) planning tools for ensuring effective Strategic Homeland, Regional, and Theater Aegis BMD employment - Implement and manage C4I aspects of the BMDS Test Site (BTS) San Diego upgrade plan to maintain fleet representative C4I configurations to support testing, troubleshooting, and Fleet operations - Conduct Mission and Quality Assurance (QA) reviews for failures and non-conformance for the SM-3 Block IIA - Support all phases of computer program baseline functionality by providing engineering development testing, certification testing, and special testing - Perform system troubleshooting and maintenance as required for Aegis BMD related systems - Provide preventative and corrective maintenance services and upgrades in support of Aegis BMD systems and associated support systems - Support the fielded Aegis BMD computer programs baselines approved as an Operational Capability Baseline					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency								Date: February 2015			
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MX09 / Aegis BMD Development Support			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2014	FY 2015	FY 2016	
<div>- Provide engineering support to Operationally Capable Baseline ships that participate in BMD test events</div> <div>- Conduct test event analysis to investigate Technical Observation Reports (TORs) and BMD Deficiency Reports (BDRs) in order to provide an engineering solution for impacts to Aegis BMD capabilities</div> <div>- Develop Computer Program Change Requests (CPCRs) and determine appropriate baseline for insertion</div> <div>- Monitor and address Fleet feedback concerns raised during waterfront technical exchanges and ship visits</div> <div>- Update threat adaptation data to keep pace with emergent threats</div> <div>- Provide support for contingency operations of National interest</div>											
<div>Title: Infrastructure Upgrades</div> <div>Articles:</div> <div>Description: -Special Access Program (SAP) infrastructure labor to include Contractor Program Security Officers, Information Assurance Officers, and System Administrators that will oversee the data transfer efforts.</div> <div>-Sustainment of core information technology data and unified communications services to accomplish research and development activities.</div> <div>FY 2014 Accomplishments:</div> <div>N/A</div> <div>FY 2015 Plans:</div> <div>N/A</div> <div>FY 2016 Plans:</div> <div>Increase from FY 2015 to FY 2016 is attributed to new security efforts as directed by the Security Classification Guide (SCG)</div> <div>- Transfer necessary data between collateral and SAP environments to comply with Federal and DoD mandates (Cybersecurity and Joint Information Environment)</div> <div>- Configuration and data management to ensure Modeling and Simulation (M&S) and software builds are identical in collateral and SAP environment</div>								- -	- -	18.658 -	
Accomplishments/Planned Programs Subtotals								20.276	28.758	73.118	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0604880C: Land Based SM-3 (LBSM3)	124.568	123.444	34.970	-	34.970	40.787	30.486	20.193	22.079	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency							Date: February 2015	
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD			Project (Number/Name) MX09 / Aegis BMD Development Support	

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

<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u> <u>Base</u>	<u>FY 2016</u> <u>OCO</u>	<u>FY 2016</u> <u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0604881C: AEGIS SM-3 Block IIA Co-Development	297.169	263.695	172.645	-	172.645	66.828	-	-	-	-	800.337

Remarks

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 Standard Missile-3 (SM-3) missile and the Aegis BMD Weapon System, respectively.

Competition will be maximized for purchase of any products or services in FY 2016, as appropriate.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD						Project (Number/Name) MX09 / Aegis BMD Development Support			
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense Operations and Support - ABMD O&S - MX09	MIPR	JHU/APL : MD	5.031	0.547		28.758	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - Corona	MIPR	NSWC Corona : Corona, CA	0.706	0.259		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - Crane	MIPR	NSWC Crane : Crane, IN	0.000	0.074		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - D	MIPR	MDA : Various	0.000	0.508		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - DD	MIPR	NSWC/DD : VA	5.100	5.275		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - Indian Head	MIPR	NSWC Indian Head : Indian Head, MD	0.000	0.090		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - LM	C/CPFF	Lockheed Martin : Moorestown, NJ	1.754	2.003		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - NAVSEA	MIPR	NAVSEA : Wash Navy Yard	0.862	1.151		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - NSWC CD	MIPR	NSWC Carderock : MD	1.171	0.127		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - PEO C4I	MIPR	SPAWAR : San Diego, CA	0.000	1.124		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency **Date:** February 2015

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MX09 / Aegis BMD Development Support
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Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Missile Defense Operations and Support - MX09 - PHD	MIPR	NSWC PHD : Port Hueneme, CA	0.927	2.511		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - PMRF	MIPR	PMRF : Hawaii	0.175	1.800		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - Raytheon	SS/CPAF	Raytheon : Tucson, AZ	0.000	4.237		-		-		-		-	Continuing	Continuing	Continuing
Aegis Ballistic Missile Defense Operations and Support - MX09 - Tech Rep	MIPR	Tech Rep : Moorestown, NJ	0.795	0.570		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			16.521	20.276		28.758		-		-		-	-	-	-

Remarks

N/A

Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fleet Integration - MX09 - Fleet PHD	MIPR	NSWC PHD : Port Hueneme, CA	0.000	-		-		0.432	Nov 2015	-		0.432	Continuing	Continuing	Continuing
Fleet Integration - MX09 - Fleet APL	C/CPAF	JHU/APL/MD : Columbia, MD	0.000	-		-		1.342	Nov 2015	-		1.342	Continuing	Continuing	Continuing
Fleet Integration - MX09 - Fleet DD	MIPR	NSWC DD : Dahlgren, VA	0.000	-		-		2.913	Nov 2015	-		2.913	Continuing	Continuing	Continuing
Fleet Integration - MX09 - Fleet SMDC	MIPR	SMDC/ARSTRST : Huntsville, AL	0.000	-		-		0.369	Nov 2015	-		0.369	Continuing	Continuing	Continuing
Fleet Integration - MX09 - Fleet CSCS	MIPR	CSCS : Dahlgren, VA	0.000	-		-		1.076	Nov 2015	-		1.076	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MX09 / Aegis BMD Development Support					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Weapon System Support - MX09 - AW APL	SS/CPFF	JHU/APL : Columbia, MD	0.000	-		-		0.900	Nov 2015	-		0.900	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - AW DD	MIPR	NSWC DD : Dahlgren, VA	0.000	-		-		5.000	Nov 2015	-		5.000	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - AW LM	C/CPFF	Lockheed Martin : Moorestown, NJ	0.000	-		-		12.000	Nov 2015	-		12.000	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - AW NAVSEA	MIPR	NAVSEA : Washington, DC	0.000	-		-		17.038	Nov 2015	-		17.038	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - AW SSCPAC	MIPR	SPAWAR : San Diego, CA	0.000	-		-		2.390	Nov 2015	-		2.390	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - AW TECH REP	MIPR	Tech Rep : Moorestown, NJ	0.000	-		-		0.600	Nov 2015	-		0.600	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - AW Wallops	MIPR	SCSC : Wallops Island, VA	0.000	-		-		2.000	Nov 2015	-		2.000	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - D	MIPR	MDA : Arlington, VA	0.000	-		-		1.037	Nov 2015	-		1.037	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - TD Corona	MIPR	NSWC Corona : Corona, CA	0.000	-		-		0.240	Nov 2015	-		0.240	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - TD JHU/APL	SS/CPFF	JHU/APL : Columbia, MD	0.000	-		-		0.750	Nov 2015	-		0.750	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - TD MITRE	MIPR	CECOM - MITRE : Dahlgren, VA	0.000	-		-		0.900	Nov 2015	-		0.900	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MX09 / Aegis BMD Development Support					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aegis Ballistic Weapon System Support - MX09 - TD NSWC DD	MIPR	NSWC DD : Dahlgren, VA	0.000	-		-		0.820	Nov 2015	-		0.820	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - TD PHD	MIPR	NSWC PHD : Port Hueneme, CA	0.000	-		-		0.250	Nov 2015	-		0.250	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - TD SSCPAC	MIPR	SPAWAR : San Diego, CA	0.000	-		-		3.903	Nov 2015	-		3.903	Continuing	Continuing	Continuing
Aegis Ballistic Weapon System Support - MX09 - AW PHD	MIPR	NSWC PHD : Port Hueneme, CA	0.000	-		-		0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
Infrastructure Upgrades - MX09 - ICT Funding	MIPR	Various : Various	0.000	-		-		11.832	Oct 2015	-		11.832	Continuing	Continuing	Continuing
Infrastructure Upgrades - MX09 - S APL	SS/CPAF	JHU/APL : Laurel, MD	0.000	-		-		0.400	Nov 2015	-		0.400	Continuing	Continuing	Continuing
Infrastructure Upgrades - MX09 - S Corona	MIPR	NSWC Corona : Corona, CA	0.000	-		-		0.630	Nov 2015	-		0.630	Continuing	Continuing	Continuing
Infrastructure Upgrades - MX09 - S LM	C/CPAF	Lockheed Martin : Moorestown, NJ	0.000	-		-		1.296	Nov 2015	-		1.296	Continuing	Continuing	Continuing
Infrastructure Upgrades - MX09 - S MIT	C/CPAF	MIT : Lexington, MA	0.000	-		-		0.120	Nov 2015	-		0.120	Continuing	Continuing	Continuing
Infrastructure Upgrades - MX09 - S RMS	C/CPAF	Raytheon : Tucson, AZ	0.000	-		-		3.720	Nov 2015	-		3.720	Continuing	Continuing	Continuing
Infrastructure Upgrades - MX09- S DD	MIPR	NSWC DD : Dahlgren, VA	0.000	-		-		0.660	Nov 2015	-		0.660	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		73.118		-		73.118	-	-	-
Remarks N/A															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MX09 / Aegis BMD Development Support					

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-

Remarks
N/A

Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-

Remarks
N/A

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.521	20.276	28.758	73.118	-	73.118	-	-	-

Remarks
N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MX09 / Aegis BMD Development Support	

Significant Event Complete▲
Significant Event Planned△

Milestone Decision Complete★
Milestone Decision Planned☆

Element Test Complete◆
Element Test Planned◇

System Level Test Complete●
System Level Test Planned○

Complete Activity✦
Planned Activity✧

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MX09 Aegis BMD Development Support									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>	Project (Number/Name) MX09 / <i>Aegis BMD Development Support</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MX09 Aegis BMD Development Support	1	2016	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD40 / Program-Wide Support			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MD40: Program-Wide Support	88.065	48.568	53.784	37.094	-	37.094	36.060	38.322	30.089	31.395	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2015, Program Wide Support reflects a proportional change as a result of increases in BMD Aegis and in FY 2016, reflects a proportional change as a result of decreases in BMD Aegis.
Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

A. Mission Description and Budget Item Justification

Program-Wide Support (PWS) contains non-headquarters management costs in support of Missile Defense Agency (MDA) functions and activities across the entire Ballistic Missile Defense System (BMDS). It Includes Government Civilians, Contract Support Services, and Federally Funded Research and Development Center (FFRDC) support. This provides integrity and oversight of the BMDS as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes Global Deployment personnel and support performing deployment site preparation and activation and, provides facility capabilities for MDA Executing Agent locations. Other MDA wide costs includes: physical and technical security; civilian drug testing; audit readiness; the Science, Technology, Engineering, and Mathematics (STEM) program; legal services and settlements; travel and agency training; office and equipment leases; utilities; data and unified communications support; supplies and maintenance; materiel and readiness and central property management of equipment; and similar operating expenses. Program Wide Support is allocated on a pro-rata basis and therefore, fluctuates by year based on the adjusted RDT&E profile (which excludes:0305103C Cyber Security Initiative, 0603274C Special Program, 0603913C Israeli Cooperative Program and 0901598C Management Headquarters).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
Title: Program Wide Support Description: See Description below. FY 2014 Accomplishments: See paragraph A: Mission Description and Budget Item Justification FY 2015 Plans: See paragraph A: Mission Description and Budget Item Justification FY 2016 Plans: See paragraph A: Mission Description and Budget Item Justification		48.568	53.784	37.094
	Articles:	-	-	-
Accomplishments/Planned Programs Subtotals		48.568	53.784	37.094

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / <i>AEGIS BMD</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy N/A		
E. Performance Metrics NA		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD				Project (Number/Name) MD40 / Program-Wide Support					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Wide Support - Agency Operations Management	C/CPAF	Various : Multi: AL, CA, CO, VA	0.000	0.108		1.614		-		-		-	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations User Services	C/CPAF	Various/Multi: AL, CA, CO, : NM, VA, various	0.000	-		0.623		-		-		-	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Civilian Salaries	Allot	MDA : Multi: AK, AL, CO, CA, VA	61.579	34.211		41.567	Nov 2014	33.229	Nov 2015	-		33.229	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services	MIPR	Various : Multi: AK/AL/CA/CO/HI/MD/VA/NJ/NY/OCONUS	10.482	7.535		6.100	Mar 2015	-		-		-	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi: AL, CA, CO, VA	14.947	6.714		3.880		3.621	Nov 2015	-		3.621	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support, International, and materiel and Readiness	MIPR	Naval Surface Warfare Center : AL, VA	0.000	-		-		0.244	Mar 2016	-		0.244	Continuing	Continuing	Continuing
Program Wide Support - FFRDC/UARC	MIPR	Various : Multi: AL, CA, CO, VA	1.057	-		-		-		-		-	1.615	2.672	-
Subtotal			88.065	48.568		53.784		37.094		-		37.094	-	-	-
Remarks N/A															
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			88.065	48.568		53.784		37.094		-		37.094	-	-	-
Remarks N/A															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD40 / Program-Wide Support

Significant Event Complete▲
Significant Event Planned△

Milestone Decision Complete★
Milestone Decision Planned☆

Element Test Complete◆
Element Test Planned◇

System Level Test Complete●
System Level Test Planned○

Complete Activity✦
Planned Activity✧

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MD40 Program-Wide Support									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency		Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603892C / AEGIS BMD	Project (Number/Name) MD40 / Program-Wide Support

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD40 Program-Wide Support	1	2016	4	2020