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Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Justification					Date February 2006		
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
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COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	0	915,664	1,031,874	951,560	980,498	973,153	799,220
0709 AEGIS Block 2004 Test Bed	0	145,112	28,000	20,000	0	0	0
0809 AEGIS BMD Block 2006	0	455,635	482,500	87,600	76,100	47,800	3,500
0909 AEGIS BMD Block 2008	0	266,158	418,345	680,796	557,545	91,763	50,595
0009 AEGIS BMD Block 2010	0	0	29,000	52,800	171,600	471,900	341,200
R109 AEGIS BMD Block 2012	0	0	16,000	21,100	39,800	158,000	167,500
0402 Japanese Cooperative Program	0	36,234	44,000	75,000	125,000	193,000	225,000
0602 Program-Wide Support	0	12,525	14,029	14,264	10,453	10,690	11,425
Amount Included in PE 0904903D	0	0	0	-112,350	-126,245	-254,063	-106,431
Total PE Cost Reflected in R-1	0	915,664	1,031,874	839,210	854,253	719,090	692,789

Note: This PE is established per Congressional direction. All projects previously funded in FY05 in PE 0603882C, BMD Midcourse Defense.

A. Mission Description and Budget Item Justification

The Aegis Ballistic Missile Defense (Aegis BMD) mission is to deliver an enduring, operationally effective and supportable Ballistic Missile Defense Capability in Aegis cruisers and destroyers to defend the nation, deployed forces, friends and allies, and to incrementally increase this capability by delivering evolutionary spiral improvements as part of BMDS block upgrades.

The Aegis BMD element of the BMDS builds upon the existing Aegis Weapons System (AWS) and Standard Missile (SM) infrastructures deployed in Aegis cruisers and destroyers. 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 Missile (SRBM), Medium-Range Ballistic Missile (MRBM), Intermediate-Range Ballistic Missile (IRBM), and selected long-range class threats in the midcourse phase of flight. Spiral upgrades to both the Aegis BMD Weapon System and the SM-3 configurations will enable Aegis BMD to provide effective, supportable defensive capability against more difficult threats, including Long Range Ballistic Missiles (LRBMs).

A.1 System Element Description

Aegis BMD Block 2004 provides Long Range Surveillance and Track (LRS&T) capability to the BMDS against Ballistic Missile threats of all ranges. It also provides initial engagement capability against SRBM to MRBM-class threats. Aegis BMD is fielding the Block 2004 capability in three spirals: The first spiral provides an early LRS&T capability (BMD 3.0E Weapon System) to support BMDS engagements in support of Homeland Defense; The second spiral provides an initial engagement capability against SRBMs and MRBMs on Aegis BMD cruisers with the BMD

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3.0 Weapon System and SM-3 Blk I missile that can be used for emergency activation; Spiral three will provide an operationally certified LRS&T and engagement capability on Aegis BMD cruisers and destroyers configured with the BMD 3.6 Weapon System which is capable of firing SM-3 Blk I and IA missiles using organic and external sensors.

Aegis BMD Block 2006 will develop and test SPY-1 radar tracking, RF discrimination, and Aegis BMD Fire Control improvements to the BMD Weapon System (BMD 4.0E). It will begin development of a limited capability against IRBMs to expand the threat set. Block 2006 will deliver BMD 4.0E and the Aegis BMD Signal Processor (BSP) to the Combat System Engineering Development Site (CSEDS) testbed. Also during this timeframe: The BMD 3.6 Weapon System will be installed on Aegis cruisers and destroyers, tested during at-sea firing test missions, and assessed to determine the direction for future improvements; The SM-3 Blk IA missiles will also be tested, assessed for future improvements, and delivered for deployment.

Aegis BMD Block 2008 improves system effectiveness against an expanding threat set to include a fielded capability against some IRBM and long-range threats. This will be achieved by means of modifications to the Weapon System (BMD 4.0/4.0.1) that focus on the new RF discrimination and tracking capability, and an upgraded SM-3 guided missile. The Aegis BMD 4.0/4.0.1 Weapon System will build on Block 2006 BSP development (BMD 4.0E), integrating it with an updated variant of the SM-3 (SM-3 Blk IB). The SM-3 Blk IB configuration includes a performance-enhancing two-color IR seeker, and a Throttleable Divert and Attitude Control System (TDACS), which provides performance and manufacturing improvements and lowers unit cost. The initial capability (BMD 4.0) will be delivered as a testbed system with the SM-3 Blk IA missile. BMD 4.0.1 will be an operationally certified system firing either the SM-3 Blk IA or IB missile. Also during this timeframe, Aegis BMD will complete the installation of the BMD 3.6 Weapon System on Aegis cruisers and destroyers, complete delivery of SM-3 Blk IA missiles for deployment, and begin delivery of SM-3 Blk IB missiles for at-sea testing and deployment.

Aegis BMD Block 2010 will integrate the BMD mission with the Navy-developed Open Architecture system in order to preserve the sea-based BMD capability as Navy ship modernization plans are executed. The Aegis BMD Weapon System will transition from older, MIL-standard computers to new Commercial Off The Shelf (COTS) computing plants. This integration will allow ships operators to conduct combat missions with a single set of tactical computer programs running on the same computer system. This change will enhance display features and eliminate the need for a separate computing system specific to the BMD mission. This will enable Aegis BMD to maintain compatibility with Surface Navy ships and align with the Navy's modernization plan, while also expanding the number of ships available to serve as candidates for the BMD mission. Future fielded Aegis BMD system improvements will be built in this new architecture. Also during this timeframe, Aegis BMD will begin installations of the BMD 4.0.1 Weapon System on Aegis cruisers and destroyers, continue to deliver SM-3 Blk IB missiles for testing and deployment, and assess weapon system and missile performance to determine the direction for further improvements.

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<p>Aegis BMD is working with the Japan Defense Agency (JDA) on the U.S./Japan Cooperative Research (JCR) project, which is developing advanced missile technologies in four areas: nosecone, Divert and Attitude Control System (DACS), propulsion, and seeker. In addition, the two countries are undertaking an SM-3 Cooperative Development (SCD) program, which consists of a spiral upgrade to the SM-3 Blk IB missile - a 21-inch diameter SM-3 missile (SM-3 Blk II/IIA). Missile development will be covered under the SCD project prior to the SM-3 Blk IIA incorporation into a spiral Block upgrade to the Aegis Ballistic Missile Defense system.</p> <p>The Aegis BMD Block 2012 program will integrate and test the SM-3 Blk IIA missile with the Aegis BMD Weapon System, which will expand the battlespace to include IRBM and selected longer-range threats. Weapon System modifications will also be made to accommodate an Engage-on-Remote capability. Also during this timeframe, Aegis BMD will continue to install the BMD 4.0.1 Weapon System on Aegis cruisers and destroyers and assess performance to determine the direction for further improvements.</p> <p><u>A.2 System Element Budget Justification and Contribution to the Ballistic Missile Defense System (BMDS)</u></p> <p>Aegis BMD provides a mobile, forward-deployable LRS&T capability to the BMDS against ballistic missile threats of all ranges. In Block 2004, Aegis BMD also provides an engagement capability against short to medium range threats; in Block 2006, Aegis BMD will begin development of an engagement capability against limited IRBM threats; the Block 2008 fielded configuration will expand engagement capability to include more complex threats including intermediate range threats, and Block 2012 will further expand engagement capability against long-range threats, to include some ICBM-class threats.</p> <p>Aegis BMD Block upgrades will provide a capability to launch on and engage on cues from remote sensors, such as the FBX-T, via TADIL, as well as provide launch and engage data to other BMDS weapon systems, such as GMD and THAAD. Improvements to the Aegis BMD Signal Processor (BSP) will improve target object discrimination. Further improvements to the missile, such as the SM-3 Blk IB and Blk IIA planned configurations, will increase BMD battlespace by increasing the SM-3 range, speed, and discrimination capability.</p> <p>Aegis BMD will deliver the following:</p> <ul style="list-style-type: none">• Fifteen (15) Aegis Destroyers equipped with the Aegis BMD Weapon System to conduct the LRS&T and engagement missions• Three (3) Aegis Cruisers equipped with the Aegis BMD Weapon System to conduct the LRS&T and engagement missions• SM-3 Missile Deliveries - To Be Used for Testing and/or Deployment<ul style="list-style-type: none">○ Five (5) SM-3 Blk I missiles○ Six (6) MDP-1 SM-3 Blk I missiles○ Two (2) "Pathfinder" SM-3 Blk IA Flight Test Rounds (FTRs)		

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<ul style="list-style-type: none"> ○ Nineteen (19) MDP-1 SM-3 Blk IA missiles ○ Forty (40) MDP-2 SM-3 Blk IA and IB missiles ○ Twenty-four (24) MDP-3 SM-3 Blk IB missiles 			
<u>A.3 Major System Element Goals</u>			
<ul style="list-style-type: none"> • Block 2006 - Improve the Weapon System capability to identify and classify Ballistic Missile threat objects from debris and other components: Aegis BSP Engineering Development Model (EDM). • Block 2008 - Improve missile capability to identify and target the threat object through the All Reflective Optics (ARO), Advanced Signal Processor (ASP), and two-color missile seeker. Improve missile kinetic warhead (KW) kinematic performance: Throttleable Divert and Attitude Controls System (TDACS). Improve BMDS C2BMC performance: engagement coordination with THAAD and Patriot, kill assessment; and missile downlink system for improved kill assessment. Increase battlespace: enhanced Launch on Remote (via TADIL) and Aegis BMD integration with Joint Defense Planner. • Block 2010 - Broaden program application for U.S. and international Aegis ship population: Open Architecture. Improved BMDS C2BMC performance: migration to Joint Tactical Radio System and Common Link Interface Processor, and Forcenet/GIG compliance • Block 2012 - Increase battlespace: SM-3 Blk II/IIA integration into the Aegis BMD Weapon System, Engage on Remote, improved feature-aided track correlation, and improved BMDS sensor data fusion. • JCR/SCD - Complete the U.S./Japan Cooperative Research (JCR) project; Initiate U.S./Japan SM-3 Cooperative Development (SCD) of the SM-3 Blk II/IIA Missile (21-inch diameter SM-3 missile). 			
<u>A.4 Major Events Schedule and Description</u>			
Major Event	Project	Timeframe	Description
Flight Test			
Japan Cooperative Research Project			
JCTV-1	0402	2Q FY 2006	<ul style="list-style-type: none"> • Conduct Joint Control Test Vehicle-1 (JCTV-1) Proof-of-Principle flight test to test the lightweight nosecone.
Flight Tests			
FTM 04-1 (FM-7)	0709	2Q FY 2005	<ul style="list-style-type: none"> • Conducted FTM 04-1 (FM-7) flight test to verify BMD 3.0 emergency engagement capability with an intercept of a Group A target using an SM-3 Blk I missile.
FTM 04-2 (FM-8)	0709	1Q FY 2006	<ul style="list-style-type: none"> • Conducted FTM 04-2 (FM-8) flight test to verify BMD 3.0 emergency engagement capability with an intercept of a Group B (MRBM) target using an SM-3 Blk I missile.

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Major Event	Project	Timeframe	Description
FTM-10	0809	3Q FY 2006	<ul style="list-style-type: none"> Conduct FTM-10 flight test to verify BMD 3.6 engagement capability with an intercept of a Group B (MRBM) target using an SM-3 Blk IA missile, supporting BMD 3.6 certification.
FTM-11	0809	1Q FY 2007	<ul style="list-style-type: none"> Conduct FTM-11 flight test to verify BMD 3.6 engagement capability with a near simultaneous multiple engagement and intercept of one low exo-atmospheric Group A (SRBM) target using an SM-3 Blk IA missile, and a BQM-74 aerial target using an SM-2 Blk IIIA missile.
FTM-12	0809	3Q FY 2007	<ul style="list-style-type: none"> Conduct FTM-12 flight test to verify BMD 3.6 engagement capability with an intercept of a Group B target using an SM-3 Blk IA missile.
FTM-13	0809	1Q FY 2008	<ul style="list-style-type: none"> Conduct FTM-13 flight test to verify BMD 3.6 engagement capability with the near-simultaneous multiple engagement and intercept of two Group B (MRBM) targets, using two SM-3 Blk IA missiles.
Critical Design Review			
Development Milestones			
BMD 3.0 Engineering Assessment	0709	1Q FY 2005	<ul style="list-style-type: none"> Completed testing BMD 3.0 at the Combat Systems Engineering Development Site (CSEDS), and conducted BMD 3.0 Engineering Assessment to formally characterize the performance of BMD 3.0.
BMD 3.6 Engineering Assessment	0709	2Q FY 2006	<ul style="list-style-type: none"> Complete BMD 3.6 Engineering Assessment to provide an operationally-certified system with BMD LRS&T and engagement capability.
BMD 3.6 Weapon System Certification	0709	4Q FY 2006	<ul style="list-style-type: none"> Complete BMD 3.6 Weapon System certification following the BMD 3.6 Engineering Assessment.
Block 2010 Preliminary Concept Review	0009	3Q FY 2007	<ul style="list-style-type: none"> Conduct a Preliminary Concept Review of Aegis BMD Block 2010 with Open Architecture.
Block 2012 System Requirements Review	R109	4Q FY 2007	<ul style="list-style-type: none"> Conduct an SRR for Aegis BMD Block 2012
BMD 4.0E Engineering Assessment	0809	1Q FY 2008	<ul style="list-style-type: none"> Complete development of the computer program upgrade BMD 4.0E, culminating with an Engineering Assessment (EA) in December 2007.
BMD 4.0 Engineering Assessment	0909	1Q FY 2009	<ul style="list-style-type: none"> Perform an EA of BMD 4.0 to provide a testbed system with the SM-3 Block IA missile.
Block 2010 Preliminary Design Review	0009	1Q FY 2009	<ul style="list-style-type: none"> Conduct a Preliminary Design Review of Aegis BMD Block 2010 with Open Architecture.
BMD 4.0.1 Engineering Assessment	0909	1Q FY 2010	<ul style="list-style-type: none"> Perform EA of BMD 4.0.1 to provide an operationally-certified system with the SM-3 Blk IA or IB missile.
Block 2010 Critical Design Review	0009	1Q FY 2010	<ul style="list-style-type: none"> Conduct CDR for the Aegis BMD Block 2010 with Open Architecture.
Block 2012 Preliminary Design Review	R109	3Q FY 2010	<ul style="list-style-type: none"> Conduct PDR for the Aegis BMD Block 2012.
Block 2010 Engineering Assessment	0009	4Q FY 2011	<ul style="list-style-type: none"> Perform an EA of Aegis BMD Block 2010 with Open Architecture
SM-3 Blk II/IIA Development Milestones			
SM-3 Blk II/IIA System Concept Review	0402	4Q FY 2006	<ul style="list-style-type: none"> Conduct SM-3 Blk II/IIA SCR.

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Major Event	Project	Timeframe	Description
SM-3 Blk II/IIA System Requirements Review	0402	4Q FY 2007	<ul style="list-style-type: none"> Conduct SM-3 Blk II/IIA SRR.
SM-3 Blk II/IIA System Design Review	0402	3Q FY 2008	<ul style="list-style-type: none"> Conduct SDR for the SM-3 Blk II/IIA missile configurations.
SM-3 Blk II Preliminary Design Review	0402	3Q FY 2009	<ul style="list-style-type: none"> Conduct PDR for the SM-3 Blk IIA missile
SM-3 Blk IIA System Design Review 2	0402	2Q FY 2010	<ul style="list-style-type: none"> Conduct SDR for the SM-3 Blk IIA missile to be fielded in Block 2012.

Delivery			
Manufacturing Processes and Advanced Materials			
BMD 3.0 Computer Program	0709	1Q FY 2005	<ul style="list-style-type: none"> Delivered BMD 3.0 computer program to support testbed and emergency engagement operations.

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006 PB)	0	0	0
Current President's Budget (FY 2007 PB)	0	915,664	1,031,874
Total Adjustments	0	915,664	1,031,874
Congressional Specific Program Adjustments	0	929,076	0
Congressional Undistributed Adjustments	0	-13,412	0
Reprogrammings	0	0	0
SBIR/STTR Transfer	0	0	0
Adjustments to Budget Years	0	0	1,031,874

FY05 funding for projects 0709, 0809, 0909, 0009, and 0402 is accounted for in PE 0603882C, BMD Midcourse Defense Segment. For comparison, the FY05 amounts for those projects totaled \$1,092,362 thousand.

FY06 increase of \$915.664 million implements the Congressionally directed transfer of the Sea-based Midcourse Defense Segment from the BMD Midcourse Defense Segment Program Element (PE #0603882C) to a unique Program Element and includes a portion of the MDA Congressional undistributed adjustment.

FY07 Increase of \$1.032 billion follows through with implementation of the Congressionally directed Sea-based Midcourse Defense Segment transfer and includes adjustments to achieve overhead/infrastructure reductions.

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COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0709 AEGIS Block 2004 Test Bed	0	145,112	28,000	20,000	0	0	0
RDT&E Articles Qty	0	4	0	0	0	0	0

Note: This PE was created per Congressional direction for FY06 and beyond. Project 0709 was previously funded and described in PE 0603882C, BMD Midcourse Defense.

RDT&E Articles for FY06: Three (3) SM-3 missiles, and the installation of BMD 3.0E on one (1) DDG.

A. Mission Description and Budget Item Justification

Aegis BMD Block 2004 supports the BMDS mission of intercepting ballistic missiles in all regions, in all phases, and of all ranges, as follows:

- In all regions: Provide sea-based surveillance, tracking, and engagement capabilities in international waters.
- In all phases of ballistic missile flight: Long Range Surveillance and Track (LRS&T) capability against missile threats in all flight stages; engagement capability against missile threats in the midcourse flight stage
- Against all ranges:
 - Against long-range ballistic missiles by providing surveillance and tracking support as part of the Block 2004 Limited Defensive Capability (LDC).
 - Against short and medium range ballistic missiles by providing engagement support as part of Block 2004.

Aegis BMD supports LDC by providing LRS&T data to other elements of the BMDS. Aegis BMD will further improve both national and international security with its ability to launch Standard Missile 3 (SM-3) missiles based upon autonomous data and upon data received via the Tactical Digital Information Link Joint (TADIL-J) network.

The Aegis BMD Block 2004 program will:

- Defeat unitary and simple separating threats (Short Range Ballistic Missiles (SRBMs) and Medium Range Ballistic Missiles (MRBMs)) with Aegis BMD configured cruisers and destroyers using SM-3 Blk I or IA guided missiles.
- Provide Long Range Ballistic Missile (LRBM) surveillance and track data through the BMDS to the GMD element to cue and initiate fire control Weapons Task Plans.
- Provide Aegis BMD surveillance and track data to the BMDS to support Combatant Commander situational awareness.
- Expand the engagement battle space by using remote (Aegis AN/SPY-1) sensor data delivered via the TADIL-J network.
- Supply Aegis BMD operational data to the BMDS C2BMC Element to support Combatant Commander situational awareness.
- Provide an operational, engagement-capable system.

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Aegis BMD Block 2004 develops three incremental capabilities:

- LRS&T (BMD 3.0E computer program) support as part of LDC;
- A preliminary engagement capability (BMD 3.0 with SM-3 Blk I) for test bed operations and for emergency use, if required; and
- An operationally certified BMD capability that combines the engagement capability with the LRS&T capability (BMD 3.6 with SM-3 Blk I and IA). The final Block 2004 is fully compliant with the Element Capability Specification.

In collaboration with the MDA Systems Engineer, Aegis BMD is contributing to the BMDS in development of engagement sequence groups (ESGs). Aegis BMD supports an autonomous engagement against SRBMs and MRBMs without requiring external cueing.

Aegis BMD Block 2004 will support SM-3 Engage on AN/SPY-1, SM-3 Launch on Remote (AN/SPY-1), GBI Engage on AN/SPY-1, and GBI Launch on AN/SPY-1.

B. Accomplishments/Planned Program

	FY 2005	FY 2006	FY 2007
Weapon System Engineering	0	84,112	5,000
RDT&E Articles (Quantity)	0	1	0

In Block 2004, the Aegis BMD Weapon System Engineering group developed BMD 3.0E to provide LRS&T capability to the BMDS; BMD 3.0 to support testbed and emergency engagement operations; and BMD 3.6 to provide an operationally-certified system. Aegis BMD met the President's LDC objectives by deploying BMD 3.0E in Block 2004.

FY06 Planned Program:

RDT&E Articles: Aegis DDG configured with BMD 3.0E (1)

Aegis BMD Weapon System:

- For LRS&T:
 - Install BMD 3.0E (LRS&T) on one (1) Aegis Destroyer
 - Monitor the operational performance of the BMD 3.0E LRS&T Aegis destroyers.
 - Perform computer program maintenance modifications to BMD 3.0E to implement lessons learned from FTM 04-2 (FM-8) and GT-189.
 - Participate in Aegis BMD flight missions.

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<ul style="list-style-type: none">• For engagement capability:<ul style="list-style-type: none">○ Provide BMD 3.0 support on operational Aegis cruisers for testbed operations and emergency deployment.○ Complete development of BMD 3.6 Weapon System.<ul style="list-style-type: none">▪ Complete multi-element integration and testing of BMD 3.6.▪ Complete BMD 3.6 Weapon System certification following the BMD 3.6 Engineering Assessment. (Actual installs occur in CY06, and are captured under Block 2006, Project 0809).○ Temporarily install BMD 3.6 test load on an Aegis cruiser to support an engagement flight mission as part of the certification of BMD 3.6.○ Conduct waterfront integration testing of BMD 3.6.○ Gain approval for fielding BMD 3.6 at the SSSTRP and WSESRB reviews.○ Participate in Aegis BMD flight missions and other BMDS test events.○ Complete integration of CDLMS v. 3.4 into BMD 3.6 to accomplish multiple satellite data paths (UHF, SHF, and EHF) for improved BMDS interoperability.○ Continue to participate in the improvement of BMDS C2BMC interface control specifications requirements with other BMDS elements. <p>Vertical Launching System (VLS):</p> <ul style="list-style-type: none">• For engagement capability:<ul style="list-style-type: none">○ Provide BMD 3.0 support on operational Aegis cruisers for testbed operations and emergency deployment.○ Support Mk 41 VLS Phase I computer program and equipment during the transition to Mk 41 VLS Phase II implementation.○ Test the Mk 41 VLS Phase II system in ground tests.○ Field the Mk 41 VLS Phase II to support SM-3 Blk IA missile deployments and implement the “any missile, any cell” multi-mission capability. <p>FY07 Planned Program:</p> <p>Aegis BMD Weapon System:</p> <ul style="list-style-type: none">• Monitor the operational performance of BMD 3.0E, 3.0, and 3.6 Weapon Systems for potential improvements and corrections to future Weapon System development versions.		

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	FY 2005	FY 2006	FY 2007
SM-3 Missile	0	51,000	4,000
RDT&E Articles (Quantity)	0	3	0
<p>Aegis BMD Block 2004 provides the SM-3 Blk I missile that can be used for emergency activation; completed the design efforts of the SM-3 Blk IA and completes component and section level testing of the SM-3 Blk IA. Completed initial non-recurring engineering preparation for rate manufacturing of SM-3 components at various manufacturing facilities.</p> <p>FY06 Accomplishments/Planned Program: RDT&E Articles: SM-3 Blk I Missiles (3)</p> <ul style="list-style-type: none"> • Participated in Flight Test Mission (FTM) 04-2 (FM-8) with one (1) SM-3 Blk I missile. <ul style="list-style-type: none"> ○ Completed pre-flight analysis to verify mission scenarios and to predict flight performance. ○ Prepared and completed missile delivery package for the Mission Control Panel reviews. ○ Performed post-flight analysis to validate high fidelity models and simulations. ○ Conduct post-flight analysis to support Mission Data Reviews (MDRs). • Complete SM-3 Value Engineering Change Proposal (VECP) implementation efforts to ensure service life requirement compliance. • Complete SM-3 Blk IA Hazard Assessment and Safety compliance tests. • Complete Third Stage Rocket Motor obsolete material replacement design verification testing and qualification of the Blk IA design. • Complete SM-3 Blk IA sustain DACS design qualification tests. • Conduct SDACS pulse capability engineering, design verification and qualification tests (safety and environmental). • Complete SM-3 Blk IA design verification tests (i.e., Live Battery, Battery Qualification, EMI etc) to ensure design requirement compliance and margin assessment. • Complete SM-3 Blk IA HERO test. • Complete test equipment modifications and facility upgrades to expand missile manufacturing rate. • Monitor All-Up-Round obsolete material replacement effort. • Complete assembly and delivery of three (3) SM-3 Blk I missiles. • Complete initial non-recurring engineering preparation for rate manufacturing of SM-3 components in Tucson, AZ; Elkton, MD; Canoga Park, CA; Tempe, AZ; and Camden, AZ. 			

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	FY 2005	FY 2006	FY 2007
Fleet Intro/Operations & Support	0	10,000	19,000
RDT&E Articles (Quantity)	0	0	0

This effort provides funding for operator and maintenance training, engineering support, and logistics support and maintenance of Aegis BMD fielded assets.

FY06 Planned Program:

- Provide In-Service Engineering support to Aegis BMD: Weapon System, SM-3, and Vertical Launching System.
- Provide operational and maintenance training for Aegis BMD ship crews.
- Provide logistics support (including technical manuals, spares, and Reliability, Maintainability, and Availability) for Aegis BMD: Weapon System, SM-3, and Vertical Launching System.
- Achieve Integrated Logistics Support (ILS) for BMD 3.6 Aegis Destroyers.
- Respond to Fleet issues. Provide analysis to respond to operational tasking. Support the development of CONOPS and COCOM taskers.

FY07 Planned Program:

- Provide In-Service Engineering support to Aegis BMD: Weapon System, SM-3, and Vertical Launching System.
- Provide operational and maintenance training for Aegis BMD ship crews.
- Provide logistics support (including technical manuals, spares, and Reliability, Maintainability, and Availability) for Aegis BMD: Weapon System, SM-3, and Vertical Launching System.
- Respond to Fleet issues.

C. Other Program Funding Summary

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603893C Space Tracking & Surveillance System	0	239,998	361,515	429,679	640,367	787,008	818,606	3,277,173
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

D. Acquisition Strategy

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

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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I. Product Development Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapon System Engineering								
AWS	SS/CPIF	Lockheed Martin/ NJ	324,685	63,320	1Q	5,000	1Q	393,005
AWS	FFRDC	MIT/LL/ MA	5,325	400	1Q	0	N/A	5,725
AWS	SS/CPFF	JHU/APL/ MD	7,600	424	1Q	0	N/A	8,024
AWS	MIPR	NSWC/DD/ VA	28,836	9,100	1Q	0	N/A	37,936
AWS	MIPR	MITRE/ VA	1,400	0	N/A	0	N/A	1,400
AWS	MIPR	NSWC/PHD/ CA	13,824	0	N/A	0	N/A	13,824
AWS		MDA	13,586	3,177	1/2Q	0	N/A	16,763
AWS	Various	VARIOUS	19,016	775	1Q	0	N/A	19,791
AWS	MIPR	NAVSEA/ VA	0	2,000	1Q	0	N/A	2,000
SM-3 Missile								
MISSILE	SS/CPIF	RAYTHEON/AZ	704,637	36,362	1Q	4,000	1Q	744,999
MISSILE	SS/CPIF	JHU/APL/MD	21,693	4,000	2Q	0	N/A	25,693
MISSILE	FFRDC	MIT/LL/MA	1,650	155	1Q	0	N/A	1,805
MISSILE	MIPR	NSWC/DD/VA	16,667	2,959	1Q	0	N/A	19,626
MISSILE	MIPR	NSWC/PHD/CA	9,665	1,706	1Q	0	N/A	11,371
MISSILE	MIPR	WSMR/NM	1,642	765	1Q	0	N/A	2,407
MISSILE	MIPR	NSWC/CD/CA	4,168	450	1Q	0	N/A	4,618
MISSILE	MIPR	NSWC/IH/MD	3,013	640	1Q	0	N/A	3,653
MISSILE	MIPR	NAWC/CL/CA	1,755	389	1Q	0	N/A	2,144

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
MISSILE		MDA/VA	24,676	0	1Q	0	N/A	24,676
MISSILE	Various	VARIOUS/ VA/CA/NJ	6,280	2,016	1Q	0	N/A	8,296
MISSILE	MIPR	NAVSEA	0	931	1Q	0	N/A	931
MISSILE	MIPR	NSWC Corona	0	627	1Q	0	N/A	627
Subtotal Product Development			1,210,118	130,196		9,000		1349314

Remarks

II. Support Costs Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapon System Engineering								
	SS/CPFF	JHU/APL/ MD	7,902	424	1Q	0	N/A	8,326
	SS/CPAF	Lockheed Martin/ NJ	10,500	0	N/A	0	N/A	10,500
	MIPR	NSWC/DD/ VA	11,324	4,022	1Q	0	N/A	15,346
	MIPR	NSWC/PHD/ CA	6,807	0	N/A	0	N/A	6,807
	MIPR	SPAWAR/ CA	4,734	0	N/A	0	N/A	4,734
		MDA	2,489	0	N/A	0	N/A	2,489
	MIPR	NAVSEA/ DC	3,700	233	1/2Q	0	N/A	3,933

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis				
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
	MIPR	SupShip Pascagoula/ MS	4,635	0	N/A	0	N/A	4,635
	MIPR	SupShip Bath/ ME	1,965	0	N/A	0	N/A	1,965
	MIPR	VARIOUS/SSES Philadelphia/ VARIOUS	220	237	1/2Q	0	N/A	457
Fleet Intro/Operations & Support								
	MIPR	NSWC/DD/ VA	0	695	1Q	3,400	1Q	4,095
AWS	MIPR	NSWC/PHD/ CA	0	3,381	1Q	250	1Q	3,631
AWS		Lockheed Martin/ NJ	0	3,003	1/2Q	14,000	1Q	17,003
		MIT/ MA	0	0	N/A	350	1/2Q	350
		JHU/APL/ MD	0	250	1/2Q	500	1/2Q	750
	Various	Various	0	336	1Q	500	1Q	836
	MIPR	NSWC Corona/ CA	0	860	1Q	0	N/A	860
	MIPR	CSCS (ATRC)/ VA	0	1,475	1Q	0	N/A	1,475
Subtotal Support Costs			54,276	14,916		19,000		88192
Remarks								

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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III. Test and Evaluation Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation								

Remarks

IV. Management Services Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapon System Engineering								
		NAVSEA/ DC	26,435	0	N/A	0	N/A	26,435
	SS/CPFF	JHU/API/ MD	2,834	0	N/A	0	N/A	2,834
	MIPR	NSWC/DD/ VA	2,398	0	N/A	0	N/A	2,398
	C/CPFF	Anteon/ VA	46,749	0	N/A	0	N/A	46,749
	SS/CPFF	Paradigm/ VA	4,175	0	N/A	0	N/A	4,175
	SS/CPAF	Lockheed Martin/ NJ	1,700	0	N/A	0	N/A	1,700
	SS/CPAF	Raytheon/ AZ	2,000	0	N/A	0	N/A	2,000
		MDA	14,922	0	N/A	0	N/A	14,922
	Various	Various/ Various	8,517	0	N/A	0	N/A	8,517

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/Oblg Date	FY 2007 Cost	FY 2007 Award/Oblg Date	Total Cost
		MDA (Salaries)	1,763	0	N/A	0	N/A	1,763
Subtotal Management Services			111,493	0		0		111,493

Remarks

Project Total Cost			1,375,887	145,112		28,000		1,548,999
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Remarks

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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
Testing Milestones																												
At-Sea Demo 3.0 (Concurrent with FM-7)		▲																										
SM-3 Blk IA HERO Test					▲																							
Manufacturing Processes and Advanced Materials																												
BMD 3.0 Computer Program	▲																											
Aegis BMD FTM 04-1 configuration		▲																										
Development Milestones																												
VLS 3.1 Critical Design Review	▲																											
BMD 3.0 Engineering Assessment	▲																											
BMD 3.6 Engineering Assessment							▲																					
SM-3 Block IA Critical Design Review	▲																											
SM-3 Blk IA SDACS CDR					▲																							
BMD 3.6 Weapon System Certification									▲																			
Flight Tests																												
FTM 04-1 (FM-7)		▲																										
FTM 04-2 (FM-8)					▲																							

Legend	
▲ 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

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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
Integrated Flight Test																												
IFT 13C	▲																											
IFT 14		▲																										
FT-04-1					▲	▲																						
Fielding Deliveries/Ships																												
Engagement Cruisers (3.0)	▲	—	—	▲																								
Long Range Surveillance & Tracking DDGs (3.0E)	▲	—	—	▲																								
Fielding Deliveries/Missiles																												
Accelerated Block I Missiles	▲																											
Block I Missiles			▲	▲																								

Legend	
▲	Significant Event (complete)
★	Milestone Decision (complete)
◆	Element Test (complete)
▼	System Level Test (complete)
▲—▲	Complete Activity
▲	Significant Event (planned)
☆	Milestone Decision (planned)
◇	Element Test (planned)
▼	System Level Test (planned)
▲—▲	Planned Activity

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Testing Milestones							
At-Sea Demo 3.0 (Concurrent with FM-7)	2Q						
Third Stage Rocket Motor DVT-3	3Q						
SM-3 Blk IA HERO Test		1Q					
Manufacturing Processes and Advanced Materials							
BMD 3.0 Computer Program	1Q						
Aegis BMD FTM 04-1 configuration	2Q						
Development Milestones							
VLS 3.1 Critical Design Review	1Q						
BMD 3.0 M&S Performance Assessment	2Q						
BMD 3.0 Engineering Assessment	1Q						
BMD 3.6 Engineering Assessment		2Q					
SM-3 Block IA Critical Design Review	1Q						
SM-3 Blk IA SDACS CDR		1Q					
BMD 3.6 Weapon System Certification		4Q					
Flight Tests							
FTM 04-1 (FM-7)	2Q						
FTM 04-2 (FM-8)		1Q					
Integrated Flight Test							
IFT 13C	1Q						
IFT 14	2Q						
FT-04-1		2Q-3Q					
Fielding Deliveries/Ships							
Engagement Cruisers (3.0)	1Q-4Q	1Q					
Long Range Surveillance & Tracking DDGs (3.0E)	1Q-4Q	1Q					
Fielding Deliveries/Missiles							
Accelerated Block I Missiles	1Q						
Block I Missiles	3Q-4Q	1Q					

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006		
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APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603892C Ballistic Missile Defense Aegis			

COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0809 AEGIS BMD Block 2006	0	455,635	482,500	87,600	76,100	47,800	3,500
RDT&E Articles Qty	0	15	29	5	0	0	0

Note: This PE was created per Congressional direction for FY06 and beyond. Project 0809 was previously funded in PE 0603882C, BMD Midcourse Defense.

RDT&E Articles: FY06 - Three (3) SM-3 missiles, three (3) ARAVs, two (2) targets, installation of BMD 3.0E on two (2) DDGs, installation of BMD 3.0 on one (1) CG, delivery of the BMD 3.6 computer program, installation of BMD 3.6 on one (1) DDG, installation of BMD 3.6 on two (2) CGs. FY07 - Sixteen (16) SM-3 missiles, three (3) ARAVs, one (1) target, installation of BMD 3.0E on two (2) DDGs, installation of BMD 3.6 on one (1) DDG (LRS&T only), installation of BMD 3.6 on five (5) DDGs, installation of BMD 3.6 on one (1) CG. FY08 - Three (3) SM-3 missiles, installation of BMD 3.6 on one (1) DDG, delivery of the BMD 4.0E computer program to CSEDS.

A. Mission Description and Budget Item Justification

Aegis BMD Block 2006 supports the BMDS mission of intercepting ballistic missiles in all regions, in all phases, and of all ranges, as follows:

- In all regions: provide sea-based surveillance, tracking, and engagement capabilities.
- In all phases of ballistic missile flight: Long Range Surveillance and Track (LRS&T) capability against missile threats of all ranges; engagement capability against Short Range Ballistic Missile (SRBM) to Medium Range Ballistic Missile (MRBM)-class missile threats
 - Develop engagement capability against Intermediate range Ballistic Missile (IRBM)-class targets.
- Against all ranges:
 - Enhanced LRS&T capability against Ballistic Missile threats of all ranges through Aegis BMD Signal Processor (BSP) improvements.

Aegis BMD supported LDC by providing Long Range Surveillance and Track (LRS&T) data to other elements of the BMDS. Aegis BMD improved both national and international security with its ability to launch Standard Missile 3 (SM-3) missiles based upon data received via the Tactical Digital Information Link Joint (TADIL-J) network from other Aegis ships in Block 2004. Through development and testing of the Aegis BMD Signal Processor (BSP) in Block 2006, Aegis BMD will provide significant improvements in discrimination capability and performance against more diverse and longer range threats in Block 2008.

The Aegis BMD Block 2006 4.0E Weapon System will continue the evolutionary spiral development of Block 2004 by performing the initial integration of the BSP into the Aegis BMD Weapon System. BMD 4.0E will improve discrimination and tracking capability against more robust

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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threats for BMDS engagements. BMD 4.0E LRS&T upgrades using BSP will go through an Engineering Assessment and be delivered to the testbed (CSEDS) in Block 2006.

BMD 4.0E will continue to evolve into the BMD 4.0 and 4.0.1 configurations; these are to be delivered during Block 2008.

Ongoing missile development in the Block 2006 timeframe is listed and described under Block 2008, project 0909. Block 2006 missile efforts will complete testing of the SM-3 Blk IA missile with the BMD 3.6 Weapon System.

Aegis BMD Block 2006 will:

- Defeat unitary and more complex SRBM and MRBM threats with Aegis BMD configured cruisers, destroyers and Standard Missile-3 (SM-3) Blk I and IA guided missiles.
- Develop a limited IRBM capability.
- Complete development and engineering assessment of BMD 4.0E - testbed capability that provides improved ballistic missile threat tracking, discrimination, and object classification via the BSP Engineering Development Model (EDM).
- Continue installations of the BMD 3.0E surveillance and tracking capability and the BMD 3.6 engagement capability on additional Aegis destroyers, and deliver 22 SM-3 Blk IA missiles.

In collaboration with the MDA Systems Engineer, Aegis BMD is contributing to the BMDS in development of engagement sequence groups (ESGs). Aegis BMD supports an autonomous engagement against SRBMs and MRBMs without external cueing. Aegis BMD also supports an engagement against SRBMs and MRBMs using data from other BMDS elements and external sensors.

Aegis BMD Block 2006 will support SM-3 Engage on/Launch on AN/SPY-1, SM-3 Launch on FBX-T, GBI Engage on AN/SPY-1 Mod. 1, and GBI Launch on AN/SPY-1 Mod 1.

B. Accomplishments/Planned Program

	FY 2005	FY 2006	FY 2007
Weapons System Engineering	0	162,079	174,200
RDT&E Articles (Quantity)	0	7	9

In Block 2006, the Aegis BMD Weapon System Engineering group will develop BMD 4.0E to provide LRS&T capability to the BMDS (CSEDS only).

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis	
<p>FY06 Planned Program: RDT&E Articles: BMD 3.6 Computer Program (1), BMD 3.0 Aegis Cruiser (1), BMD 3.6 Aegis Cruisers (2), BMD 3.0E Surveillance and Tracking Aegis Destroyers (2), BMD 3.6 Aegis Destroyer (1)</p> <ul style="list-style-type: none">• Install BMD 3.0E on two (2) Aegis Destroyers. (Actual shipsets for all BMD 3.0E destroyers will be completed in FY06. Remaining ship installations are based on projected ship availability).• Install BMD 3.0 on one (1) Aegis Cruiser• Install BMD 3.6 on two (2) Aegis Cruisers and one (1) Aegis Destroyer.• Commence baseline consolidation effort:<ul style="list-style-type: none">○ Design documentation and system modeling analysis for the Block 2006 Aegis BMD Weapon System (BMD 4.0E/4.0/4.0.1).• Improve ballistic missile tracking, characterization, discrimination, feature extraction, object classification, and kill assessment as a part of the BMD 4.0E development, to include:<ul style="list-style-type: none">○ Real-time feature extraction capability and classification algorithm development.○ At-sea testing of the BSP Advanced Development Model (medium-band tracking, and medium-band and wide-band discrimination)• Continue development of the computer program upgrade BMD 4.0E in order to achieve a CY07 Engineering Assessment.• Commence studies to improve Lethal Object Designation in a clutter environment. <p>FY07 Planned Program: RDT&E Articles: BMD 3.0E Aegis LRS&T Destroyers (2), BMD 3.6 Aegis Cruiser (1), BMD 3.6 LRS&T Destroyer (1), BMD 3.6 Aegis Engagement Destroyers (5)</p> <ul style="list-style-type: none">• Install BMD 3.0E capability on two (2) Aegis destroyers. (Shipsets for final BMD 3.0E destroyer will be available at this time. Projected installation dates for remaining destroyer is based on ship availability).• Install BMD 3.6 on one (1) Aegis Cruiser.• Install BMD 3.6 (engagement capability) on five (5) Aegis destroyers.• Install BMD 3.6 (LRS&T capability) on one (1) Aegis destroyer.• Continue improvement to ballistic missile tracking, characterization, discrimination, feature extraction, object classification, and kill assessment as a part of BMD 4.0E development, to include:<ul style="list-style-type: none">○ Real-time feature extraction capability and classification algorithm development.		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2006	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603892C Ballistic Missile Defense Aegis	
<ul style="list-style-type: none"> ○ At-sea testing of the BSP Advanced Development Model (medium-band tracking, and medium-band and wide-band discrimination) ● Complete development of the computer program upgrade BMD 4.0E culminating with an Engineering Assessment (EA) in CY 2007. ● Install BMD 4.0E at the testbed site (CSEDS) for testing. ● Continue studies to improve Lethal Object Designation in a cluttered environment. 			
	FY 2005	FY 2006	FY 2007
SM-3 Missile	0	186,137	130,800
RDT&E Articles (Quantity)	0	3	16
<p>During Block 2006 the SM-3 Blk IA missiles will be tested, monitored for improvements, and delivered for deployment.</p> <p>FY06 Planned Program: RDT&E Articles: SM-3 Block IA Missiles (3)</p> <ul style="list-style-type: none"> ● Participate in FTM-10 (first SM-3 Blk IA test, using the Blk IA Pathfinder round) <ul style="list-style-type: none"> ○ Complete pre-flight analysis to verify scenarios and performance assessment. ○ Prepare and complete missile delivery package for Mission Control Panel reviews. ○ Perform post-flight analysis to validate high-fidelity simulations. ○ Conduct post-flight analysis to support Mission Data Reviews (MDRs). ○ Perform analysis of SM-3 Blk IA Hardware/Software based on flight results. ● Review data analysis and requirements to update the missile, as required, to pace threat and weapon system changes. ● Complete Block 2006 Element Capability Specifications (ECS) requirements analysis for flow down to missile top-level requirements. ● Complete Block 2006 capability performance assessment studies for SM-3 Blk IA. ● Continue to review manufacturing practices to lower unit cost of SM-3 Blk IA via improved manufacturing processes. ● Complete assembly and deliver three (3) SM-3 Blk IA missiles, including one (1) Pathfinder Flight Test Round. ● Continue component level assembly build-up for succeeding SM-3 Blk IA missiles. ● Continue material engineering to monitor parts obsolescence. 			

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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FY07 Planned Program:
RDT&E Articles: SM-3 Block IA Missiles (16)

- Continue assembly and delivery of SM-3 Blk IA missiles.
 - Deliver one (1) SM-3 Blk IA Pathfinder test round
 - Deliver fifteen (15) SM-3 Blk IA missiles
- Continue material engineering to monitor parts obsolescence.

	FY 2005	FY 2006	FY 2007
System Test & Evaluation	0	77,300	115,000
RDT&E Articles (Quantity)	0	0	0

This effort provides funding for Aegis BMD test and evaluation Block 2006 flight test missions, as well as other system-wide BMDS tests to support the development of the BMDS.

FY06 Accomplishments/Planned Program:

- Conduct STELLAR PREDATOR campaign, consisting of a Ballistic Missile Tracking Exercise, FTM-10, and BMD 3.6 Multi-Mission Operations:
 - Conduct an ARAV-A simulated engagement to verify BMD 3.6 capability.
 - Conduct FTM-10 flight test to verify BMD 3.6 engagement capability with an intercept of a Group B (MRBM) target using an SM-3 Blk IA missile.
 - Conduct a simulated, near-simultaneous engagement of a low exo-atmospheric ARAV-A and a BQM-74 aerial target to assess BMD 3.6 multiple simultaneous engagement capability in a multi-warfare environment.
 - Conduct BMD 3.6 Certification Test with a live engagement of two BQM-74 targets using two SM-2 Blk IIIA missiles.
- Continue to test interoperability with other BMDS elements.
- Participate in BMDS tests to include CMCM-2, SERV-3, Glory Trip 191, FT-3, FT-4, and Determined Sentinel (DS)-1.
- Continue test planning for FTM-11, and begin test planning for FTM-12 and FTM-13.

FY07 Planned Program:

- Conduct campaign consisting of a Ballistic Missile Tracking Exercise and FTM-11 Multiple Simultaneous Engagements:
 - Conduct an ARAV-B simulated engagement to verify BMD 3.6 capability.

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- Conduct FTM-11 flight test to verify BMD 3.6 engagement capability with a near simultaneous multiple engagement and intercept of one low exo-atmospheric Group A (SRBM) target using an SM-3 Blk IA missile, and a BQM-74 aerial target using an SM-2 Blk IIIA missile.
- Conduct campaign consisting of a Ballistic Missile Tracking Exercise and FTM-12:
 - Conduct multiple simultaneous simulated engagement of two (2) ARAV-Bs to verify BMD 3.6 capability.
 - Conduct FTM-12 flight test to verify BMD 3.6 engagement capability with an intercept of a Group B (MRBM) target using an SM-3 Blk IA missile.
- Continue to test interoperability with other BMDS elements.
- Participate in BMDS test to include CMCM-4, GT-194, FT-6, and THAAD missions.
- Begin test planning for FTM-13; prepare target, develop models and simulations, and ready the range for a test.
- Begin test planning for FTM-14; prepare target, develop models and simulations, and ready the range for test.
- Conduct critical experiments using the MK-99 Doppler Data Collection System or similar equipment as a risk mitigation for Block 2008 implementation.

	FY 2005	FY 2006	FY 2007
Block 2006 Targets	0	18,024	40,000
RDT&E Articles (Quantity)	0	5	4

This effort provides ballistic missile target hardware, target range support, logistic support, target integration, and associated launch services to support Aegis BMD Block 2006 flight tests, as well as other system-wide tests to support the development and integration of Aegis BMD into the BMDS.

FY06 Planned Program:
RDT&E Articles: Targets (2), Aegis Readiness Assessment Vehicles (ARAVs) (3)

- Acquired one (1) ARAV-A for the FTM-11 campaign.
- Completed design, manufacture, and delivery of one (1) Modified Ballistic Re-entry Vehicle (MBRV) and one (1) Bulk Chemical Lethality Front Section (BCLFS) payload insert in support of FTM-10.
- Acquire two (2) ARAV-As for the STELLAR PREDATOR campaign.
- Begin procurement of two (2) ARAV-B targets for FTM-12.
- Complete design, manufacture and delivery of one (1) MBRV-2 and one (1) Integrated Reactive Lethality Payload insert in support of FTM-12.
- Conduct Medium Range Target (MRT) presentation and post-flight analyses in support of FTM-10.

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- Conduct two ARAV-A presentations and post-flight analyses in support of FTM-10 Trackex.

FY07 Planned Program:

RDT&E Articles: ARAVs (3), targets (1)

- Acquire one (1) target for FTM-11.
- Acquire two (2) ARAV-B targets for FTM-12.
- Acquire one (1) ARAV-B targets for FTM-13.
- Conduct TTV presentation in support of FTM-11.
- Conduct one ARAV-B presentation and post-flight analyses in support of FTM-11 Trackex.
- Conduct MRT presentation and post-flight analyses in support of FTM-12.
- Conduct two ARAV-B presentations and post-flight analyses in support of FTM-12 Trackex.

	FY 2005	FY 2006	FY 2007
SE&I and BMDS Integration	0	3,495	4,900
RDT&E Articles (Quantity)	0	0	0

This effort provides funding to work in collaboration with the BMDS System Engineer to develop requirements flowdown for Aegis BMD Block 2006; and participate in definition of appropriate Engagement Sequence Groups to best utilize Aegis BMD capability in the overall BMDS.

FY06 Planned Program:

- Complete Block 2006 Element Capability Specifications (ECS) requirements analysis for flow down to Aegis BMD top-level requirements and contribution to the BMDS mission.
- Complete Block 2006 capability performance assessment studies.
- Participate in BMDS ESG planning and monitoring.

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	FY 2005	FY 2006	FY 2007
Aegis BMD Fire Control (BMC3)	0	8,600	8,600
RDT&E Articles (Quantity)	0	0	0
<p>This effort provides funding for BMC3 improvements, including establishment of alternate BMD data paths and enhancements, supported increased interoperability with other BMDS elements.</p> <p>FY06 Planned Program:</p> <ul style="list-style-type: none"> • Commence Block 2006 Aegis BMD Weapon System integration and test. • Incorporate CDLMS upgrades, including: <ul style="list-style-type: none"> ○ Interoperability improvements to support Long Range Surveillance and Track, enhanced Launch on TADIL, and engagement coordination missions • Conduct definition, planning and initial implementation to upgrade the Aegis BMD system in coordination with other BMDS elements (engagement coordination). • Conduct definition planning and initial implementation for Aegis BMD planning exchange with Joint Defense Planner via Global Command and Control System - Maritime. • Conduct definition, planning and initial implementation of Aegis BMD Link certification requirements. • Initiate analyses supporting the migration of Aegis BMD Fire Control (BMC3) architecture into future BMDS networks. <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> • Complete CDLMS upgrades to incorporate: <ul style="list-style-type: none"> ○ Enhanced Launch on TADIL J design and development to increase the battle space. • Complete implementation of Aegis BMD planning exchange with Joint Defense Planner via Global Command and Control System - Maritime. • Complete definition, planning, and initial implementation of Aegis BMD Link certification requirements. 			

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	FY 2005	FY 2006	FY 2007
Operations & Support/ Fleet Introduction	0	0	9,000
RDT&E Articles (Quantity)	0	0	0

This effort provides funding for operator and maintenance training, engineering support, and logistics support and maintenance of Aegis BMD fielded assets.

FY07 Planned Program:

- Provide In-Service Engineering support to Aegis BMD components, including the Aegis BMD Weapon System, SM-3 missile, and Vertical Launching System.
- Provide operational and maintenance training for Aegis BMD crews.
- Provide logistics support (including technical manuals, equipment spares, and Reliability, Maintainability, and Availability data) for Aegis BMD components, including the Aegis BMD Weapon System, SM-3 missile, CDLMS, Joint Tactical Terminal, and Vertical Launching System.

C. Other Program Funding Summary

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603893C Space Tracking & Surveillance System	0	239,998	361,515	429,679	640,367	787,008	818,606	3,277,173

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APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603892C Ballistic Missile Defense Aegis				

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

D. Acquisition Strategy

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

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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I. Product Development Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapons System Engineering								
	SS/CPAF	Lockheed Martin/ NJ	0	44,330	1Q	57,455	1Q	101,785
	CPFF	JHU/APL/ MD	0	712	1Q	1,750	1Q	2,462
	MIPR	NSWC/DD/ VA	0	878	1Q	1,750	1Q	2,628
	MIPR	NSWC/PHD/ CA	0	405	1Q	1,400	1Q	1,805
	MIPR	SPAWAR/ CA	0	455	1Q	1,400	1Q	1,855
	FPI	VA Sites/ VA	0	0	N/A	1,732	1Q	1,732
SBAR	SS/CPAF	Lockheed Martin/ NJ	0	5,150	1/2Q	0	N/A	5,150
Deployment	SS/CPAF	Lockheed Martin/ NJ	0	26,520	1Q	10,175	1Q	36,695
Deployment	MIPR	NAVSEA/ VA	0	3,030	1Q	3,300	1Q	6,330
Deployment	MIPR	NSWC/DD/ VA	0	3,370	1Q	3,018	1Q	6,388
Deployment	MIPR	NSWC/PHD/ CA	0	5,242	1Q	5,089	1Q	10,331
Deployment	MIPR	SPAWAR/ CA	0	1,275	1Q	1,525	1Q	2,800
Deployment	MIPR	SUPSHIP/BATH/ ME	0	853	1Q	2,325	1Q	3,178

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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Deployment	FPI	SUPSHIP/PASC/ MS	0	3,930	1Q	770	1Q	4,700
Deployment	Various	Various	0	2,175	1/2Q	1,898	1Q	4,073
SBAR	Various	Various	0	500	1/2Q	0	N/A	500
SM-3 Missile								
Missile	SS/CPIF	Raytheon/ AZ	0	155,352	1Q	95,447	1Q	250,799
Missile	SS/CPIF	JHU/APL/ MD	0	3,503	1Q	3,588	1Q	7,091
Missile	FFRDC	MIT/LL/ MA	0	325	1Q	196	1Q	521
Missile	MIPR	NSWC/DD/ VA	0	1,841	1Q	3,000	1Q	4,841
Missile	MIPR	NSWC/PHD/ CA	0	1,224	1Q	1,493	1Q	2,717
Missile	MIPR	WSMR/ NM	0	0	N/A	791	1Q	791
Missile	MIPR	NAWC/CL/ CA	0	280	1Q	341	1Q	621
Missile	MIPR	NSWC/IH/ MD	0	460	1Q	561	1Q	1,021
Missile	Various	Various/ MD, CA, VA	0	718	1Q	1,148	1Q	1,866
	MIPR	NSWC Corona/ CA	0	0	N/A	549	1Q	549
Block 2006 Targets								
	MIPR	MDA/ VA	0	18,024	N/A	40,000	1Q	58,024
Subtotal Product Development			0	280,552		240,701		521253

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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II. Support Costs Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapons System Engineering								
	SS/CPAF	MIT/LL/ MA	2,570	945	1Q	1,750	1Q	5,265
	SS/MIPR	NSWC/Coronaron / CA	225	0	N/A	88	1Q	313
	SS/CPFF	SEG/ VA	2,095	875	2Q	1,050	2Q	4,020
	Various	VARIOUS/ US	0	0	N/A	525	1Q	525
	MIPR	MDA/ VA	0	11,000	1Q	20,840	1Q	31,840
SM-3 Missile								
	MIPR	NSWC/DD/ VA	0	1,000	1Q	465	1Q	1,465
	MIPR	JHU/APL/ MD	0	500	1Q	1,000	1Q	1,500
		MIT/LL/ MA	0	100	1Q	100	1/2Q	200
	MIPR	NSWC/CD/ MD	0	450	1Q	459	1Q	909
	MIPR	NAVSEA/ VA	0	669	1Q	815	1Q	1,484
	Various	Various	0	276	1/2Q	847	1/2Q	1,123
	MIPR	MDA/ VA	0	19,439	1Q	20,000	1Q	39,439
SE&I and BMDS Integration								

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis				
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
	MIPR	JHU/APL/ MD	0	260	1Q	335	1Q	595
	MIPR	NSWC Corona/ CA	0	305	1Q	400	1Q	705
	MIPR	NSWC DD/ VA	0	2,291	1Q	2,950	1Q	5,241
	MIPR	NSWC PHD/ CA	0	540	1Q	700	1Q	1,240
	Various	Various	0	99	1/2Q	515	1/2Q	614
Aegis BMD Fire Control (BMC3)								
	MIPR	JHU/APL/ MD	0	1,565	1Q	1,600	1Q	3,165
	FPI	MIT/LL/ MA	0	663	1/2Q	663	1/2Q	1,326
		MITRE	0	548	1Q	548	1Q	1,096
	MIPR	NSWC PHD/ CA	0	656	1Q	656	1Q	1,312
	MIPR	SPAWAR/ CA	0	4,628	1Q	4,628	1Q	9,256
	Various	Various	0	540	1/2Q	505	1/2Q	1,045
Operations & Support/ Fleet Introduction								
	MIPR	JHU/APL/ MD	0	0	N/A	450	1Q	450
	MIPR	CSCS (ATRC)/ VA	0	0	N/A	1,975	1Q	1,975
	FPI	NSWC Corona/ CA	0	0	N/A	1,060	1Q	1,060

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/Oblg Date	FY 2007 Cost	FY 2007 Award/Oblg Date	Total Cost
	FPI	NSWC/DD/VA	0	0	N/A	795	1Q	795
	MIPR	NSWC/PHD/CA	0	0	N/A	3,881	1Q	3,881
	Various	Various	0	0	N/A	839	1/2Q	839
Subtotal Support Costs			4,890	47,349		70,439		122678

Remarks

III. Test and Evaluation Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/Oblg Date	FY 2007 Cost	FY 2007 Award/Oblg Date	Total Cost
System Test & Evaluation								
Test & Eval	MIPR	PMRF/ HI	0	6,700	1Q	7,800	1Q	14,500
Test & Eval	MIPR	SMDC/ AL	2,100	1,300	1Q	2,200	1Q	5,600
Test & Eval	MIPR	NSWC/DD/VA	0	8,200	1Q	9,600	1Q	17,800
Test & Eval	SS/CPFF	JHU/APL/ MD	0	13,200	1Q	16,700	1Q	29,900
Test & Eval		NAWC/WPNS	0	3,100	1Q	4,500	1Q	7,600
Test & Eval	MIPR	NSWC/PHD/CA	0	5,100	1Q	6,800	1Q	11,900
Test & Eval	MIPR	MIT/LL/ MD	0	1,100	1Q	2,100	1Q	3,200

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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Test & Eval	MIPR	AIRPAC/ HI	0	1,100	1Q	2,400	1Q	3,500
Test & Eval	MIPR	SPAWAR/ CA	0	2,500	1Q	3,800	1Q	6,300
Test & Eval	Various	Various	0	3,800	1/2Q	8,600	1Q	12,400
Test & Eval	MIPR	WSMR/ CA	0	800	1/2Q	1,700	1Q	2,500
	MIPR	NSWC/Corona/ CA	0	2,900	1Q	3,800	1Q	6,700
		Raytheon/ AZ	0	2,800	1Q	4,500	1Q	7,300
		Lockheed Martin/ NJ	0	15,700	1Q	20,500	1Q	36,200
		MDA/ VA	0	9,000	1Q	20,000	1Q	29,000
Subtotal Test and Evaluation			2,100	77,300		115,000		194400

Remarks

IV. Management Services Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapons System Engineering								
	MIPR	NAVSEA	0	13,867	1/2Q	13,867	1Q	27,734
	C/CPFF	Anteon/ VA	0	28,266	1/2Q	30,000	1Q	58,266

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
	C/CPFF	Paradigm/ VA	0	1,638	1/2Q	3,750	1Q	5,388
	SS/CPFF	JHU/APL/ MD	0	1,330	1Q	2,519	1Q	3,849
	SS/CPAF	Raytheon/ AZ	0	1,000	1Q	1,542	1Q	2,542
	SS/CPAF	Lockheed Martin/ NJ	0	1,000	1Q	1,336	1Q	2,336
	MIPR	NSWC/DD/ VA	0	1,285	1Q	1,851	1Q	3,136
	Various	Various	0	2,048	1/2Q	1,495	1/2Q	3,543
Subtotal Management Services			0	50,434		56,360		106,794

Remarks

Project Total Cost			6,990	455,635		482,500		945,125
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Remarks

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Fiscal Year	2005				2006				2007				2008				2009				2010				2011																																																		
	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																																															
Manufacturing Processes and Advanced Materials																																																																											
BSP Engineering Development Model (CSEDS)												▲																																																															
Development Milestones																																																																											
Block 2006 System Requirements Review		▲																																																																									
Block 2006 System Design Review							▲																																																																				
BMD 4.0 Preliminary Design Review											▲																																																																
BMD 4.0 Critical Design Review												▲																																																															
BMD 4.0E Engineering Assessment															▲																																																												
Flight Tests																																																																											
FTM-10								▲																																																																			
FTM-11											▲																																																																
FTM-12												▲																																																															
FTM-13																▲																																																											
Fielding Deliveries/Ships																																																																											
Long Range Surveillance & Tracking DDGs (BMD 3.0E)																																																																											
Engagement Cruisers (BMD 3.0)								▲																																																																			
<table border="0" style="width:100%; text-align: center;"> <tr> <td colspan="28">Legend</td> </tr> <tr> <td style="width:15%; text-align: center;">▲</td> <td style="width:15%;">Significant Event (complete)</td> <td style="width:15%; text-align: center;">▲</td> <td style="width:15%;">Significant Event (planned)</td> </tr> <tr> <td style="text-align: center;">★</td> <td>Milestone Decision (complete)</td> <td style="text-align: center;">☆</td> <td>Milestone Decision (planned)</td> </tr> <tr> <td style="text-align: center;">◆</td> <td>Element Test (complete)</td> <td style="text-align: center;">◇</td> <td>Element Test (planned)</td> </tr> <tr> <td style="text-align: center;">▼</td> <td>System Level Test (complete)</td> <td style="text-align: center;">▽</td> <td>System Level Test (planned)</td> </tr> <tr> <td style="text-align: center;">▲—▲</td> <td>Complete Activity</td> <td style="text-align: center;">▲—▲</td> <td>Planned Activity</td> </tr> </table>																												Legend																												▲	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
Legend																																																																											
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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Fiscal Year	2005				2006				2007				2008				2009				2010				2011									
	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						
Fielding Deliveries/Ships																																		
Engagement Cruisers (BMD 3.6)									▲	—	—	▲																						
Engagement DDGs (BMD 3.6)									▲	—	—	—	▲																					
Fielding Deliveries/Missiles																																		
Block IA Missiles									▲	—	—	—	—	▲																				

Legend	
▲	Significant Event (complete)
★	Milestone Decision (complete)
◆	Element Test (complete)
▼	System Level Test (complete)
▲—▲	Complete Activity
▲	Significant Event (planned)
☆	Milestone Decision (planned)
◇	Element Test (planned)
▼	System Level Test (planned)
▲—▲	Planned Activity

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Manufacturing Processes and Advanced Materials							
BSP Engineering Development Model (CSEDS)			3Q				
Development Milestones							
Block 2006 System Requirements Review	2Q						
Block 2006 System Design Review		2Q					
BMD 4.0 Preliminary Design Review			1Q				
BMD 4.0 Critical Design Review			3Q				
BMD 4.0E Engineering Assessment				1Q			
Flight Tests							
FTM-10		3Q					
FTM-11			1Q				
FTM-12			3Q				
FTM-13				1Q			
Fielding Deliveries/Ships							
Long Range Surveillance & Tracking DDGs (BMD 3.0E)		2Q-4Q	1Q-4Q	1Q			
Engagement Cruisers (BMD 3.0)		3Q					
Engagement Cruisers (BMD 3.6)		3Q-4Q	1Q				
Engagement DDGs (BMD 3.6)		4Q	1Q-4Q				
Fielding Deliveries/Missiles							
Block IA Missiles		3Q-4Q	1Q-4Q	1Q			

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0909 AEGIS BMD Block 2008	0	266,158	418,345	680,796	557,545	91,763	50,595
RDT&E Articles Qty	0	0	0	22	25	7	0

Note: This PE was created per Congressional direction for FY06 and beyond. Project 0909 was previously funded in PE 0603882C, BMD Midcourse Defense.

RDT&E Articles: FY08 - Nine (9) SM-3 missiles, three (3) ARAVs, two (2) targets, installation of BMD 3.0E on one (1) DDG, installation of BMD 3.6 (LRS&T capability only) on one (1) DDG, installation of BMD 3.6 on six (6) DDGs. FY09 - Eighteen (18) SM-3 missiles, two (2) ARAVs, one (1) target, installation of BMD 3.6 on two (2) DDGs, delivery of the BMD 4.0 computer program, one (1) BSP EDM (BMD 4.0) delivered to a CG. FY10 - Six (6) SM-3 missiles, delivery of the BMD 4.0.1 computer program.

A. Mission Description and Budget Item Justification

Aegis BMD Block 2008 supports the BMDS mission of intercepting ballistic missiles in all regions, in all phases, and of all ranges, as follows:

- In all regions: provide enhanced, sea-based Long Range Surveillance and Track (LRS&T) and engagement capabilities.
- In all phases of ballistic missile flight: LRS&T capability against missile threats in all flight stages; engagement capability against missile threats in the midcourse flight stage
- Against all ranges:
 - LRS&T capability against Ballistic Missiles threats of all ranges
 - Enhanced engagement capability: battlespace expanded to include Intermediate-Range Ballistic Missile (IRBM)-class threats

Aegis BMD supported LDC by providing Long Range Surveillance and Track (LRS&T) data to other elements of the BMDS. Aegis BMD will further improve both national and international security with its ability to launch Standard Missile 3 (SM-3) missiles based upon data received via the Tactical Digital Information Link (TADIL) network. Through development and fielding of the Aegis BMD Signal Processor and upgrades to the SM-3 Blk IA missile (SM-3 Blk IB) in Block 2008, Aegis BMD will improve discrimination capability and performance against more diverse and longer range threats.

Aegis BMD Block 2008 will build on BSP development in Block 2006 to expand Aegis BMD effectiveness against the threat base. It will provide a full upgrade to the Aegis BMD Weapon System (BMD 4.0/4.0.1) and an upgraded SM-3 missile, SM-3 Blk IB.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2006
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis	
<p>Block 2008 includes improvements to the kinetic warhead's seeker and Divert and Attitude Control System (DACS). Seeker improvements will include the introduction of seeker All-Reflective-Optics (ARO) to improve optics performance, and a Kinetic Warhead Advanced Signal Processor (ASP) to mitigate diminished manufacturing source issues in SM-3 Blk IA missiles. Additionally, the increased processing capability of the ASP will support new discrimination algorithms. The optics and processing improvements will enhance the Aegis BMD contribution to the BMDS missions by providing greater sensitivity and seeker discrimination capability. Other missile improvements include the integration of a two-color seeker and development of the Throttleable Divert and Attitude Control System (TDACS). These enhancements will be tested and verified for the SM-3 Block IB configuration in the Block 2008 timeframe.</p> <p>Aegis BMD Block 2008 will deliver in two spirals:</p> <ul style="list-style-type: none">• Spiral one (BMD 4.0) will deliver an initial testbed system capability with the SM-3 Blk IA missile. It will build on Block 2006 BSP enhancements to the LRS&T mission by adding improvements to the engagement mission.• Spiral two (BMD 4.0.1) will be an operationally-certified system capable of firing the SM-3 Blk IA or IB missile. <p>Other Block 2008 capability enhancements include:</p> <ul style="list-style-type: none">• Improvements in BMDS Command and Control, Battle Management, and Communications (C2BMC) to ensure future BMDS sensor enhancements and the resulting discrimination capabilities are able to be communicated, correlated, and acted upon.• Analysis for planned upgrades to the SM-3 missile to expand battlespace and improve discrimination, divert, and probability of mission success. <p>In collaboration with the MDA Systems Engineer, Aegis BMD is contributing to the BMDS in development of engagement sequence groups (ESGs). Aegis BMD supports an autonomous engagement against Short Range Ballistic Missiles (SRBMs) and Medium Range Ballistic Missiles (MRBMs) without requiring external cueing. It supports an engagement against SRBMs and MRBMs using data from other BMDS elements and external sensors. Aegis BMD will also provide target track data to support Ground Based Interceptor Launch and Engagement against Long Range Ballistic Missiles (LRBMs) and Intermediate Range Ballistic Missiles (IRBMs) via input for the Ground-based Midcourse Defense (GMD) Sensor Task Plan (STP) and Weapons Task Plan (WTP).</p>		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis	
<u>B. Accomplishments/Planned Program</u>			
	FY 2005	FY 2006	FY 2007
Weapon System	0	82,158	127,900
RDT&E Articles (Quantity)	0	0	0
<p>In Block 2008, the Aegis BMD Weapon System Engineering group will develop BMD 4.0 to support testbed operations; and BMD 4.0.1 to provide an operationally-certified system with either the SM-3 Block IA or IB.</p> <p>FY06 Planned Program:</p> <ul style="list-style-type: none"> • Prepare a Specification Change Notice (SCN) to the Block 2006 Element Capability Specification (ECS) to incorporate Block 2008 requirements. • Perform System level trade-off studies based on the updated Block 2006 ECS. • Prepare an SCN to the Block 2008 A-Spec., to define the Aegis Weapon System design requirements to meet Block 2008 system-level requirements. • Conduct a Delta System Requirements Review (SRR). • Commence studies to improve Lethal Object Designation in a cluttered environment. <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> • Support the MDA System Engineering's Update of the Test Bed System Specification (TBSS) to reflect Block 2008 requirements. • Update the Block 2006/2008 Element Capability Specification (ECS) based on the approved TBSS. • Conduct the Delta System Design Review (SDR), based on the updated ECS, to present Block 2008 requirements. • Conduct the Preliminary Design Review (PDR), based SDR direction to the prime contractor, to review and gain approval for the contractor's approach to meeting Block 2006/2008 requirements. • Complete work to improve Lethal Object Designation in a cluttered environment. • Conduct critical experiments using Aegis BMD Signal Processor testbed equipment. • Conduct studies on RF/IR sensor fusion for a Block 2008 implementation. 			

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2006	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603892C Ballistic Missile Defense Aegis	
	FY 2005	FY 2006	FY 2007
SM-3 Missile	0	184,000	290,445
RDT&E Articles (Quantity)	0	0	0
<p>Block 2008 missile improvements includes improvements to the kinetic warhead's seeker and Divert and Attitude Control System (DACS). Seeker improvements will include the introduction of seeker All-Reflective-Optics (ARO) to improve optics performance, and a Kinetic Warhead Advanced Signal Processor (ASP). Other missile improvements include the integration of a two-color seeker and development of the Throttleable Divert and Attitude Control System (TDACS). Also during this timeframe, Aegis BMD will complete delivery of SM-3 Blk IA missiles for deployment, and begin delivery of SM-3 Blk IB missiles for testing and deployment.</p> <p>FY06 Planned Program:</p> <ul style="list-style-type: none"> • Continue SM-3 Blk IB IR discrimination risk reduction and algorithm development. • Continue SM-3 Blk IB All Reflective Optics (ARO) engineering for improved missile discrimination capabilities. • Continue SM-3 Blk IB Advanced Signal Processor (ASP) design efforts for improved missile discrimination and to mitigate diminished manufacturing source issues. • Complete development and begin integration of the SM-3 Blk IB two-color seeker. • Continue SM-3 Blk IB TDACS design efforts. • Procure Long Lead Material for SM-3 Blk IA Missiles with delivery beginning in FY09. <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> • Continue SM-3 Blk IB All Reflective Optics (ARO) engineering for improved missile discrimination capabilities. • Continue SM-3 Blk IB Advanced Signal Processor (ASP) design efforts for improved missile discrimination. • Continue testing of SM-3 Blk IB two-color seeker upgrade. • Continue SM-3 Blk IB TDACS development. • Produce initial SM-3 Blk IB proof-of-design units. • Complete SM-3 Blk IB IR discrimination risk reduction and algorithm development. • Upgrade SM-3 Blk IA Virtual and Inert Operational Missile to SM-3 Blk IB configuration to validate interface integrity within the missile and across weapon system interfaces. • Conduct SM-3 Blk IB PDR and CDR. 			

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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C. Other Program Funding Summary								
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603893C Space Tracking & Surveillance System	0	239,998	361,515	429,679	640,367	787,008	818,606	3,277,173
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis	

D. Acquisition Strategy

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

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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I. Product Development Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapon System								
	SS/CPAF	Lockheed Martin/ NJ	0	72,510	1Q	106,645	1Q	179,155
	MIPR	NSWC/DD/ VA	0	1,632	1Q	3,250	1Q	4,882
		NSWC/PHD/ CA	0	751	1Q	2,600	1Q	3,351
	MIPR	JHU/APL/ MD	0	1,322	1Q	3,250	1Q	4,572
	MIPR	SPAWAR/ CA	0	845	1Q	2,600	1Q	3,445
	MIPR	Va Sites/ VA	0	0	N/A	3,055	1Q	3,055
SM-3 Missile								
		Raytheon/ AZ	0	182,000	1Q	279,434	1Q	461,434
	MIPR	NSWC DD/ VA	0	0	N/A	2,061	1Q	2,061
	MIPR	JHU/APL/ MD	0	0	N/A	2,164	1Q	2,164
	MIPR	NSWC/CR/ MD	0	0	N/A	184	1Q	184
	MIPR	NSWC/CL/ CA	0	0	N/A	350	1/2Q	350
	MIPR	NSWC/IH/ MD	0	0	N/A	576	1Q	576
	MIPR	NSWC Corona/ CA	0	0	N/A	564	1Q	564

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
	MIPR	MIT/LL/ MA	0	0	N/A	204	1Q	204
	MIPR	NSWC/PHD/ CA	0	0	N/A	1,534	1Q	1,534
	Various	Various	0	0	N/A	336	1/2Q	336
Subtotal Product Development			0	259,060		408,807		667867

Remarks

II. Support Costs Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapon System								
	MIPR	ATRC/ VA	0	0	N/A	650	1Q	650
	CPFF	SEG/ MD	0	1,625	1Q	1,950	1Q	3,575
	FFRDC	MIT/LL/ MA	0	1,755	1Q	3,250	1Q	5,005
	FFRDC	MITRE/ VA	0	0	N/A	325	1Q	325
	MIPR	NSWC/Corona/ CA	0	0	N/A	163	1Q	163
		Various	0	1,718	1Q	162	1Q	1,880
SM-3 Missile								
	MIPR	NSWC DD/ VA	0	1,000	1Q	500	1Q	1,500

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
	MIPR	JHU/APL/ MD	0	1,000	1Q	1,000	1Q	2,000
	FPI	MIT/LL/ MA	0	0	N/A	100	1/2Q	100
	MIPR	NSWC/CD/ MD	0	0	N/A	471	1Q	471
	MIPR	NAVSEA/ VA	0	0	N/A	838	1Q	838
	Various	Various	0	0	N/A	129	1Q	129
Subtotal Support Costs			0	7,098		9,538		16636

III. Test and Evaluation Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation								

IV. Management Services Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services								

Project Total Cost			0	266,158		418,345		684,503
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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																	Date February 2006															
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)										R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis																						
Fiscal Year	2005				2006				2007				2008				2009				2010				2011							
	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				
Development Milestones																																
BMD 4.0/4.0.1 Development					▲	—————													▲													
Block 2008 Preliminary Design Review									▲																							
Block 2008 Critical Design Review											▲																					
BMD 4.0 Engineering Assessment																			▲													
BMD 4.0.1 Engineering Assessment																									▲							
Manufacturing Processes and Advanced Materials																																
BSP Engineering Development Model (cruiser)																											▲					
Testing Milestones																																
RIMPAC 08															▲																	
Flight Tests																																
FTM-14															▲																	
FTM-15																											▲					
Fielding Deliveries/Ships																																
LRS&T destroyers															▲																	
Engagement DDGs (BMD 3.6)															▲	—————		▲														
BMD 4.0 Cruiser																											▲					
Fielding Deliveries/Missiles																																
Block 1A Missiles															▲	—————		▲														
Legend																																
▲	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																				

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development Milestones							
BMD 4.0/4.0.1 Development		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q	
Block 2008 Preliminary Design Review			1Q				
Block 2008 Critical Design Review			3Q				
BMD 4.0 Engineering Assessment					1Q		
BMD 4.0.1 Engineering Assessment						1Q	
Manufacturing Processes and Advanced Materials							
BSP Engineering Development Model (cruiser)					2Q		
Testing Milestones							
RIMPAC 08				4Q			
Flight Tests							
FTM-14				3Q			
FTM-15					2Q		
Fielding Deliveries/Ships							
LRS&T destroyers				2Q			
Engagement DDGs (BMD 3.6)				2Q-4Q	1Q-3Q		
BMD 4.0 Cruiser					2Q		
Fielding Deliveries/Missiles							
Block 1A Missiles				2Q-4Q	1Q-4Q		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006		
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APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603892C Ballistic Missile Defense Aegis			

COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0009 AEGIS BMD Block 2010	0	0	29,000	52,800	171,600	471,900	341,200
RDT&E Articles Qty	0	0	0	0	0	24	18

Note: This PE was created per Congressional direction for FY06 and beyond. Project 0009 was previously funded in PE 0603882C, BMD Midcourse Defense.

RDT&E Articles: FY10 - Eighteen (18) SM-3 missiles, one (1) ARAV, one (1) target, installation of BMD 4.0.1 on one (1) CG, installation of BMD 4.0.1 on three (3) DDGs. FY11 - Twelve (12) SM-3 missiles, one (1) ARAV, one (1) target, installation of BMD 4.0.1 on one (1) CG, installation of BMD 4.0.1 on three (3) DDGs.

A. Mission Description and Budget Item Justification

Aegis BMD Block 2010 supports the BMDS mission of intercepting ballistic missiles in all regions, in all phases, and of all ranges, as follows:

- In all regions: provide sea-based surveillance, tracking, and engagement capabilities.
- In all phases of ballistic missile flight: Long Range Surveillance and Track (LRS&T) capability against missile threats in all flight stages; engagement capability against missile threats in the midcourse flight stage
- Against all ranges:
 - LRS&T capability against Ballistic Missile threats of all ranges
 - Engagement capability against SRBM to IRBM-class threats

Aegis BMD supported LDC by providing Long Range Surveillance and Track (LRS&T) data to other elements of the BMDS. Aegis BMD will further improve both national and international security with its ability to launch Standard Missile 3 (SM-3) missiles based upon autonomous data and upon data received via the Tactical Digital Information Link (TADIL) network. Through development and fielding of the Aegis BMD Signal Processor and upgrades to the SM-3 Blk IA missile in Block 2006/2008, Aegis BMD will significantly improve discrimination capability and performance against more diverse and longer range threats.

The Aegis BMD Block 2010 program will integrate Aegis BMD Block 2008 and the BMD mission with the Navy-developed Open Architecture system. This effort will transition Aegis BMD from older, MIL-standard computers to newer Commercial Off The Shelf (COTS) computing plants. This change is necessary for Aegis BMD to remain compatible with Navy assets as Navy ship modernization plans are executed. This change will improve human-systems interface through display enhancements and eliminate the need for a separate computing system specific to the BMD

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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mission. This will also enable more ships to serve as candidates for the BMD mission as the threat projection changes. Open architecture will be included in future fielded BMD system improvements.

In collaboration with the MDA Systems Engineer, Aegis BMD is contributing to the BMDS in development of engagement sequence groups (ESGs). Aegis BMD Block 2010 will support an autonomous engagement against Short Range Ballistic Missiles (SRBMs), Medium Range Ballistic Missiles (MRBMs) and Intermediate-Range Ballistic Missiles (IRBMs) without external cueing. It will support an engagement against SRBM to IRBM- class targets using data from other BMDS elements and external sensors.

Aegis BMD will also provide target track data to support Ground Based Interceptor Launch and Engagement against Long Range Ballistic Missiles (LRBMs) and Intermediate Range Ballistic Missiles (IRBMs) via input for the Ground-based Midcourse Defense (GMD) Sensor Task Plan (STP) and Weapons Task Plan (WTP).

B. Accomplishments/Planned Program

	FY 2005	FY 2006	FY 2007
Weapon System Engineering	0	0	5,000
RDT&E Articles (Quantity)	0	0	0

For Block 2010, Aegis BMD will begin performance and threat analysis in FY07.

FY07 Planned Program:

- Perform preliminary analysis in support of Engineering Capability Specification (ECS) development.
 - Evaluate U.S. Navy Open Architecture computer program code.
 - Review U.S. Navy cruiser modernization and destroyer modernization hardware suites for future incorporation of Aegis BMD Block 2010 computer programs.
 - Begin drafting Block 2010 ECS.

	FY 2005	FY 2006	FY 2007
SM-3 Missile	0	0	24,000
RDT&E Articles (Quantity)	0	0	0

Aegis BMD Block 2010 will continue the procurement of SM-3 Block IB missiles.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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FY07 Planned Program:

- Procure Long Lead Material for SM-3 Blk IB missiles with delivery beginning in FY10.

C. Other Program Funding Summary

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603893C Space Tracking & Surveillance System	0	239,998	361,515	429,679	640,367	787,008	818,606	3,277,173
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2006		
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APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603892C Ballistic Missile Defense Aegis				

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

D. Acquisition Strategy

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

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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I. Product Development Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapon System Engineering								
AWS		Lockheed Martin/ NJ	0	0	N/A	5,000	1Q	5,000
SM-3 Missile								
Missile		Raytheon/ AZ	0	0	N/A	24,000	1Q	24,000
Subtotal Product Development			0	0		29,000		29000

Remarks Funding for this Budget Project does not commence until FY07

II. Support Costs Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs								

Remarks

III. Test and Evaluation Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation								

Remarks

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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
Development Milestones																												
Block 2010 System Requirements Review														▲														
Block 2010 Preliminary Design Review																			▲									
Block 2010 Critical Design Review																										▲		
Block 2010 Preliminary Concept Review												▲																
Block 2010 Engineering Assessment																												▲
Flight Tests																												
FTM-16																												▲
FTM-17																												▲
Fielding Deliveries/Ships																												
BMD 4.0.1 Cruiser																												▲
BMD 4.0.1 Destroyers																												▲

Legend	
▲	Significant Event (complete)
★	Milestone Decision (complete)
◆	Element Test (complete)
▼	System Level Test (complete)
▲	Complete Activity
▲	Significant Event (planned)
★	Milestone Decision (planned)
◆	Element Test (planned)
▼	System Level Test (planned)
▲	Planned Activity

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development Milestones							
Block 2010 System Requirements Review				1Q			
Block 2010 Preliminary Design Review					1Q		
Block 2010 Critical Design Review						1Q	
Block 2010 Preliminary Concept Review			3Q				
Block 2010 Preliminary Concept Review			3Q				
Block 2010 Engineering Assessment							4Q
Flight Tests							
FTM-16						3Q	
FTM-17							3Q
Fielding Deliveries/Ships							
BMD 4.0.1 Cruiser							1Q-4Q
BMD 4.0.1 Destroyers							1Q-4Q

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006		
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
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COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
R109 AEGIS BMD Block 2012	0	0	16,000	21,100	39,800	158,000	167,500
RDT&E Articles Qty	0	0	0	0	0	0	0

Note: This PE was created per Congressional direction for FY06 and beyond. All previous projects were funded in PE 0603882C, BMD Midcourse Defense.

A. Mission Description and Budget Item Justification

Aegis BMD Block 2012 supports the BMDS mission of intercepting ballistic missiles in all regions, in all phases, and of all ranges, as follows:

- In all regions: provide sea-based surveillance, tracking, and engagement capabilities. Japan, and possibly other countries, will deploy Aegis BMD.
- In all phases of ballistic missile flight: boost, midcourse, and terminal.
- Against all ranges:
 - Against long range ballistic missiles by providing surveillance and tracking support as part of the Block 04 Limited Defensive Capability (LDC).
 - Against short and medium range ballistic missiles by providing engagement support as part of Block 2004.
 - Against limited intermediate range ballistic missiles by providing engagement support as part of Block 2008.
 - Against long-range ballistic missiles, to include some Intercontinental Ballistic Missile (ICBM) threats, using the upgrade SM-3 Blk IIA missile.

Aegis BMD supported LDC by providing Long Range Surveillance and Track (LRS&T) data to other elements of the BMDS. Aegis BMD will further improve both national and international security with its ability to launch Standard Missile 3 (SM-3) missiles based upon autonomous data and upon data received via the Tactical Digital Information Link (TADIL) network. Through development and fielding of the Aegis BMD Signal Processor and upgrades to the SM-3 Blk IA missile in Block 2006/2008, Aegis BMD will significantly improve discrimination capability and performance against more diverse and longer range threats.

The Aegis BMD Block 2012 program will integrate Aegis BMD Weapon System improvements, including Engage on Remote, and the SM-3 BLK IIA missile. Other Aegis BMD Block 2012 improvements include:

- Defeat a wide variety of ballistic missiles in the presence of counter countermeasures (Short Range Ballistic Missiles (SRBMs), Medium Range Ballistic Missiles (MRBMs), Intermediate Range Ballistic Missiles (IRBMs), Long Range Ballistic Missiles (LRBMs), including limited Inter-Continental Ballistic Missiles (ICBMs).
- Feature Aided Track Correlation (FATC)

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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- Forcenet/GIG Compliance
- Improvements to BMDS Multi-Element Sensor Data Fusion.

In collaboration with the MDA systems engineer, Aegis BMD is contributing to the BMDS in development of engagement sequence groups (ESGs). Aegis BMD Block 2012 will support an autonomous engagement against SRBMs, MRBMs, IRBMs, LRBMs and some ICBMs without requiring external cueing. It will also support an engagement against SRBMs, MRBMs, IRBMs and LRBMs using data from other BMDS elements and external sensors. Aegis BMD will also provide target track data to support Ground Based Interceptor Launch and Engagement against IRBMs and ICBMs via input for the Ground-based Midcourse Defense (GMD) Sensor Task Plan (STP) and Weapons Task Plan (WTP).

B. Accomplishments/Planned Program

	FY 2005	FY 2006	FY 2007
Weapon System Engineering	0	0	16,000
RDT&E Articles (Quantity)	0	0	0

Block 2012 will integrate SM-3 Blk II/IIA missile improvements (developed under project 0402) with the Aegis BMD Weapon System, leveraging on improvements achieved under Block 2010, to include Open Architecture.

FY07 Planned Program:

- Perform preliminary analysis in support of Block 2012 Element Capability Specification (ECS) development.
- Begin modification of Block 2008 simulation programs to model Block 2012 performance.
- Conduct analyses of Block 2012 threat set.
- Perform initial Block 2012 requirements development in support of SM-3 Blk IIA top-level requirement generation.

C. Other Program Funding Summary

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603893C Space Tracking & Surveillance System	0	239,998	361,515	429,679	640,367	787,008	818,606	3,277,173
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

D. Acquisition Strategy

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

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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I. Product Development Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Weapon System Engineering		Lockheed Martin/ NJ	0	0	N/A	16,000	1/2Q	16,000
Subtotal Product Development			0	0		16,000		16000

Remarks

II. Support Costs Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs								

Remarks

III. Test and Evaluation Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation								

Remarks

Remarks

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development Milestones							
Block 2012 System Requirements Review			4Q				
Block 2012 System Design Review				2Q			
Block 2012 Preliminary Design Review						3Q	

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006		
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APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603892C Ballistic Missile Defense Aegis			

COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0402 Japanese Cooperative Program	0	36,234	44,000	75,000	125,000	193,000	225,000
RDT&E Articles Qty	0	1	0	0	0	0	0

Note: This PE was created per Congressional direction for FY06 and beyond. Project 0402 was previously funded in PE 0603882C, BMD Midcourse Defense.

RDT&E Article for FY06: One (1) SM-3 missile.

A. Mission Description and Budget Item Justification

The U.S./Japan Joint Cooperative Research (JCR) program will continue per the U.S. Department of Defense (DoD)/Japan Defense Agency (JDA) Memorandum of Agreement signed in 1999 to conduct cooperative research in Ballistic Missile Defense. The focus of research is on the development of advanced missile technologies in four components of the SM-3 guided missile: sensor, advanced kinetic warhead, second stage propulsion and lightweight nosecone. In FY06, the JCR project will flight test the lightweight nosecone in Joint Control Test Vehicle-1 (JCTV-1).

In addition, the U.S. and Japan have a mutual interest in the evolutionary development of improvements to the Standard Missile-3 (SM-3). The two countries recognize the benefits of cooperation and are in the process of finalizing a cooperative arrangement that will formalize the co-development of an upgraded, 21-inch diameter SM-3 missile (SM-3 Blk II/IIA). The objective of the SM-3 Cooperative Development (SCD) project is the development and initial at-sea flight test of the SM-3 Blk IIA missile. The SM-3 Blk II/IIA missile development will build upon established joint research investments by both the U.S. and Japan. The analysis approaches, system trade methodologies, and BMD system performance established in the U.S./Japan BMD Joint Analysis (JAWS) completed in March 2005 are the foundation for developing the SM-3 Blk IIA missile. Key technology improvements over the current SM-3 Blk IA missile planned for the SM-3 Blk IIA missile include a significant increase in velocity and range provided by a 21-inch diameter rocket motor propulsion stack, and increased seeker sensitivity and divert capability incorporated in an advanced kinetic warhead. Key component technologies to be developed under this Annex include, but are not limited to: Lightweight nosecone, advanced kinetic warhead, 21-inch second stage rocket motor, and 21-inch third stage rocket motor.

Both work share and cost will be equitably shared by the U.S. and Japan.

The Scope of Work of the SCD project will be conducted through a three-phased engineering approach which completes by 2014. Phase I will consist of requirements definition for the SM-3 Blk II and IIA missile configurations, concurrent with initial risk reduction efforts related to the 21-inch propulsion components, lightweight nosecone, advanced seeker, larger Divert and Attitude Control System (DACS), and preliminary test plans.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2006
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis	
<p>Also in Phase I, information exchange related to production and maintenance of the SM-3 Blk IIA missile will be initiated. Upon completion of requirements definition, a schedule for development and testing, and work share and cost share for development and testing will be refined. Phase II will define the performance allocation and component configuration for the development and testing of the SM-3 Blk II missile; Phase III will define the performance allocation and component configuration for the development and testing of the SM-3 Blk IIA missile.</p> <p>The SM-3 Blk II/IIA missile will increase the area that can be defended by Aegis BMD and increase the probability of kill against a larger threat set. It will leverage enhanced capability provided by BMDS sensor upgrades.</p> <p>The SCD project will:</p> <ul style="list-style-type: none">• Develop components for the SM-3 Blk II/IIA missile and integrate them into an All Up Round (AUR)<ul style="list-style-type: none">○ 21” 2nd and 3rd stage components:<ul style="list-style-type: none">▪ 21” nosecone▪ Advanced kinetic warhead▪ Advanced Seeker▪ Improved Large Diameter Divert and Attitude Control System• Modify the Aegis Weapon System to exploit the capability of the SM-3 Blk II/IIA missile and use of threat track data from BMDS sensors.• Integrate the SM-3 Blk IIA missile and VLS with Aegis ship systems<ul style="list-style-type: none">○ Includes development of a light weight VLS canister• Conduct test and evaluation using ground and flight tests<ul style="list-style-type: none">○ SM-3 Blk II/IIA missile○ Aegis BMD ship systems○ Aegis BMD weapon systems		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis	
<u>B. Accomplishments/Planned Program</u>			
	FY 2005	FY 2006	FY 2007
Japanese Cooperative Research	0	24,234	0
RDT&E Articles (Quantity)	0	1	0
<p>FY06 Planned Program: RDT&E Articles: SM-3 Missile (1)</p> <ul style="list-style-type: none"> • Conduct a Critical Design review (CDR) of the SM-3 missile for use in JCTV-1 PoP flight test. • Deliver one (1) SM-3 missile for use in JCTV-1 flight test. • Conduct JCTV-1 Proof-of-Principle (PoP) flight test. • Conduct analysis of JCTV-1 PoP flight test. • Conduct Captive Carry Testing (CCT) with QWIP sensor on WASP. • Complete hazard assessment and insensitive munitions testing of JDA rocket motors. • Continue system engineering support for JDA design and development of second stage propulsion, QWIP seeker, lightweight nosecone and SDACS valve and thruster components. 			
	FY 2005	FY 2006	FY 2007
SM-3 Blk II/IIA Development	0	12,000	44,000
RDT&E Articles (Quantity)	0	0	0
<p>FY06 Planned Program:</p> <ul style="list-style-type: none"> • Begin requirements definition for the SM-3 Blk II/IIA missile configurations. • Perform risk reduction efforts related to the 21-inch missile components, advanced seeker, and DACS. <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> • Initiate Phase I of the SM-3 Cooperative Development project • Finalize Joint System Concept for the SM-3 Blk II/IIA missile configurations. • Continue risk reduction efforts related to the 21-inch missile components, seeker, and DACS. • Prepare preliminary test plans for the SM-3 Blk II/IIA missile. • Initiate information exchange with Japan related to the production and maintenance of the SM-3 Blk IIA missile. • Initiate Aegis Weapon System design studies for the SM-3 Blk II/IIA missile effort. 			

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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C. Other Program Funding Summary								
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603893C Space Tracking & Surveillance System	0	239,998	361,515	429,679	640,367	787,008	818,606	3,277,173
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2006
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis	

D. Acquisition Strategy

The major near-term focus of activity for the Japan Cooperative Research Project will be preparation for and execution of the JCTV-1 flight test. The JCTV-1 flight test will be integrated into the larger Aegis BMD test program. Acquisition of hardware, software modifications and required services will occur in conjunction with contractual and tasking efforts for U. S. Navy work and events.

The SM-3 Cooperative Program for the SM-3 Blk II/IIA missile will utilize a performance based approach that ties program decision milestones to the performance of development prototypes, as well as Control Test Vehicle (CTV) and Guidance Test Vehicle (GTV) flight test article performance.

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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II. Support Costs Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Japanese Cooperative Research								
	SS/CPFF	NSWC/DD/ VA	4,812	0	N/A	0	N/A	4,812
	SS/CPFF	NSWC/PHD/ CA	895	0	N/A	0	N/A	895
	SS/CPFF	JHU/APL/ MD	5,493	0	N/A	0	N/A	5,493
	Various	Various/ Various	2,280	337	1Q	0	N/A	2,617
	SS/MIPR	NAWC/CL/ CA	725	0	N/A	0	N/A	725
	SS/MIPR	ANTEON/ VA	4,297	1,010	1Q	0	N/A	5,307
	SS/CPFF	PARADIGM/ VA	443	85	1Q	0	N/A	528
		MDA/ VA	2,994	2,134	1/2Q	0	N/A	5,128
	SS	NAVSEA/ DC	1,531	225	1Q	0	N/A	1,756
	SS/CPAF	Lockheed Martin/ NJ	3,032	500	1Q	0	N/A	3,532
SM-3 Blk II/IIA Development								
SCD	MIPR	NSWC/DD/ VA	0	250	1/2Q	250	1Q	500
SCD	MIPR	JHU/APL/ MD	0	250	1/2Q	250	1Q	500
SCD		Anteon/ VA	0	500	1/2Q	500	1Q	1,000

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
SCD	Various	Various	0	500	1/2Q	1,330	1Q	1,830
Subtotal Support Costs			26,502	5,791		2,330		34623

Remarks

III. Test and Evaluation Cost (\$ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Japanese Cooperative Research								
Test & Evaluation	MIPR	PMRF/ HI	190	0	N/A	0	N/A	190
	MIPR	NSWC/PHD/ CA	1,159	0	N/A	0	N/A	1,159
	MIPR	NAWC/PM/ CA	610	0	N/A	0	N/A	610
	MIPR	NSWC/Corona/ CA	735	0	N/A	0	N/A	735
	MIPR	NSWC/DD/ VA	368	0	N/A	0	N/A	368
	SS/CPFF	JHU/APL/ MD	260	0	N/A	0	N/A	260
	Various	Various	401	0	N/A	0	N/A	401
	MIPR	NAWC/CL	0	750	1/2Q	0	N/A	750
	MIPR	Kirtland AFB	0	2,249	1/2Q	0	N/A	2,249
Subtotal Test and Evaluation			3,723	2,999		0		6722

Remarks

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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Fiscal Year	2005				2006				2007				2008				2009				2010				2011							
	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				
Japan Cooperative Research Project																																
Proof of Principle System CDR					▲																											
JCTV-1						▲																										
JCTV-1 Mission Data Review							▲																									
Captive Carry Testing								▲																								
SM-3 Blk II/IIA Development Milestones																																
SM-3 Blk II/IIA System Concept Review								▲																								
SM-3 Blk II/IIA System Requirements Review											▲																					
SM-3 Blk II/IIA System Design Review															▲																	
SM-3 Blk II Preliminary Design Review																			▲													
SM-3 Blk IIA System Design Review 2																				▲												
SM-3 Blk II Critical Design Review																							▲									
SM-3 Blk IIA Preliminary Design Review																												▲				
Japan Cooperative Research Project																																
Ship System and VLS Critical Design Review		▲																														

Legend	
▲	Significant Event (complete)
★	Milestone Decision (complete)
◆	Element Test (complete)
◊	System Level Test (complete)
▲	Complete Activity
▲	Significant Event (planned)
★	Milestone Decision (planned)
◆	Element Test (planned)
◊	System Level Test (planned)
▲	Planned Activity

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Japan Cooperative Research Project							
Proof of Principle System CDR		1Q,1Q					
JCTV-1		2Q					
JCTV-1 Mission Data Review		3Q,3Q					
Captive Carry Testing		4Q,4Q					
SM-3 Blk II/IIA Development Milestones							
SM-3 Blk II/IIA System Concept Review		4Q					
SM-3 Blk II/IIA System Requirements Review			4Q				
SM-3 Blk II/IIA System Design Review				3Q			
SM-3 Blk II Preliminary Design Review					3Q		
SM-3 Blk IIA System Design Review 2						2Q	
SM-3 Blk II Critical Design Review						3Q	
SM-3 Blk IIA Preliminary Design Review							3Q
Ship System and VLS Critical Design Review	2Q						

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006		
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis			
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COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0602 Program-Wide Support	0	12,525	14,029	14,264	10,453	10,690	11,425
RDT&E Articles Qty	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification

Program-Wide Support provides funding for common non-headquarters support functions across the entire program such as strategic planning, program integration, business management, cost estimating, contracting, and financial management, to include preparation of financial statements, reimbursement of financial services provided by DFAS, internal review and audit, earned-value management, and program assessment. Includes costs for both government civilians performing these functions, as well as outside services and support contractors that augment government staff in these areas. Many of these costs reside within the Missile Defense Agency Executing Agents in the Services: Army Space and Missile Defense Command, Army PEO Space and Missile Defense, Office of Naval Research, and various Air Force laboratory and acquisition activities, although some functions and costs within this program element are performed by MDA employees assigned within the National Capital Region (NCR). Other costs included herein provide facility capabilities for MDA Executing Agent locations, such as physical and technical security, legal services, travel and training, office and equipment leases, utilities and communications, supplies and maintenance, and similar operating expenses. Also includes funding for charges on canceled appropriations in accordance with Public Law 101-510, legal settlements, and foreign currency fluctuation on a limited number of foreign contracts.

B. Accomplishments/Planned Program

	FY 2005	FY 2006	FY 2007
Civilian Salaries and Support	0	12,525	14,029
RDT&E Articles (Quantity)	0	0	0

See Section A: Mission Description and Budget Item Justification

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603892C Ballistic Missile Defense Aegis
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C. Other Program Funding Summary								
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
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PE 0603893C Space Tracking & Surveillance System	0	239,998	361,515	429,679	640,367	787,008	818,606	3,277,173
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475