Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Missile Defense Agency										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*				R-1 ITEM NOMENCLATURE PE 0603902C: *STANDARD MISSILE-3 BLOCK IIB (SM-3 IIB)*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	123.456	-	123.456	433.106	384.647	401.141	394.803	Continuing	Continuing
MD70: *Standard Missile-3 Block IIB (SM-3 IIB)*	-	-	118.876	-	118.876	416.857	369.406	386.241	380.173	Continuing	Continuing
MD40: *Program-Wide Support*	-	-	4.580	-	4.580	16.249	15.241	14.900	14.630	Continuing	Continuing

Note

The SM-3 Blk IIB program is a new Program Element beginning in FY 2012. FY 2010 and FY 2011 High Performance Interceptor and Propulsion Technology efforts were contained in PE 0603175C (FY 2010 $21.897 million and FY 2011 $40.790 million) and 0603890C (FY 2010 $2.287 million and FY 2011 $6.354 million).

A. Mission Description and Budget Item Justification

The Standard Missile SM-3 Block IIB is a significant element of the layered Intercontinental Ballistic Missile (ICBM) defense of our homeland by serving as the first tier of a two tier homeland defense system. Contributions to Combatant Commanders Prioritized Capabilities list include:

Engage a threat Intercontinental Ballistic Missile (ICBM)
Engage a threat Intermediate Range Ballistic Missile (IRBM)
Engage a threat Medium Range Ballistic Missile (MRBM)

The goals of the SM-3 Blk IIB program are:
1. Develop an operational, hit-to-kill missile to be fielded in the fiscal year 2020 time frame to counter first generation Intercontinental Ballistic Missiles (ICBM) targeted at the US homeland early in their flight profile and serve as a significant element of the layered defense of the U.S. Homeland. Matched against regional medium-range and intermediate range ballistic missiles, the SM-3 Blk IIB missile will defend a greater area than the SM-3 IIA. The SM-3 Blk IIB will be integrated into the Aegis BMD 5.1 Weapon System using Engage on Remote, leveraging the BMD distributed sensor architecture and Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR) network of 2020.

2. To reduce technical and programmatic risk, begin by developing and testing key component technologies to increase the speed of the missile and ensure flexible energy management to engage targeted ballistic missiles early in their trajectory. Our goal is to increase the Technology Readiness Level (TRL) of key components to a level of 5-6 by FY 2013.

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3. Competitively award three contracts with potential prime contractors to define missile concepts, assess technology risk, and complete system level trade studies in preparation for the Product Development Phase. From these three vendors, conduct a limited competition to select the Industry Team that will execute the Product Development contract that will begin in fiscal year 2013.

4. Establish the technical and programmatic foundation for developing and procuring the operational system.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	123.456	-	123.456
Total Adjustments	-	-	123.456	-	123.456
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustment Detail	-	-	123.456	-	123.456

Change Summary Explanation

The High Performance Interceptor funding and associated content from PE 0603175C was moved to this PE and combined with the Propulsion Technology content and funding from PE 0603890C to establish this Standard Missile-3 Block IIB (SM-3 Blk IIB) PE.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603902C: *STANDARD MISSILE-3 BLOCK IIB (SM-3 IIB)*	PROJECT MD70: *Standard Missile-3 Block IIB (SM-3 IIB)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
MD70: *Standard Missile-3 Block IIB (SM-3 IIB)*	-	-	118.876	-	118.876	416.857	369.406	386.241	380.173	Continuing	Continuing

A. Mission Description and Budget Item Justification

During the Technology Development phase, MDA will execute a two-pronged strategy to reduce the technical risk and plan for the Product Development phase. The SM-3 Blk IIB will pursue component technology development with component vendors to mature key enabling technologies to a Technology Readiness Level (TRL) of 5-6 by the end of FY 2013. For example, investments in lighter weight structures and materials to reduce inert mass will increase missile velocity. Other opportunities include investments in advanced seeker technologies to increase kill vehicle acquisition range thus improving threat missile containment. In parallel, MDA will competitively award three concept development and program planning contracts to define and assess viable and affordable missile configurations, conduct trade studies, and define an executable development plan. In these contracts, we are assessing alternative missile architectures and technologies to define the trade space across cost, risk, and missile performance and to establish missile requirements that are feasible and affordable. The engineering trade space includes alternative configurations for booster to enable higher burnout velocities, larger diameter missiles and resulting modifications to the MK41 VLS launcher, rocket propellants, missile structures, control mechanisms, missile communication concepts to enable communication with multiple sensors over several frequencies, kinetic warhead seeker, and kinetic warhead divert and attitude control. Another key aspect of the trade studies and technology development is to analyze and define a larger canister and missile threat that is compatible with the current MK 41 launcher used on Aegis ships to ensure compatibility with Aegis Ashore and Afloat. This comprehensive strategy of technology investments to reduce risk, exploit technology opportunities, and engage industry early will provide the foundation for executable plans for the product development phase. The SM-3 Blk IIB program enters the Product Development Phase in FY 2013 after a limited competition among the three concept development contractors to support fielding in the 2020 time frame.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: SM-3 Block IIB	-	-	118.876
Description: See Description Below			
FY 2010 Accomplishments: The High Performance Interceptor funding and associated content from PE 0603175C was moved to this PE and combined with the Propulsion Technology content and funding from PE 0603890C to establish this Standard Missile-3 Block IIB (SM-3 Blk IIB) PE. FY 2010 High Performance Interceptor and Propulsion Technology efforts were contained in PE 0603175C (FY 2010 $21,897) and 0603890C (FY 2010 $2,287).			
FY 2011 Plans: FY 2011 High Performance Interceptor and Propulsion Technology efforts were contained in PE 0603175C (FY 2011 $40,790) and 0603890C (FY 2011 $6,354).			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603902C: *STANDARD MISSILE-3 BLOCK IIB (SM-3 IIB)*	PROJECT MD70: *Standard Missile-3 Block IIB (SM-3 IIB)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
-Conduct divert and attitude control system component technology development and testing to reduce the risk associated with developing a high velocity, large divert missile that meets SM-3 Blk IIB performance goals. -Conduct missile electronics component design verification testing to reduce risk for meeting key performance standards such as increased seeker sensitivity and HAENS survivability. -Conduct lightweight structural component design verification testing to demonstrate the ability to produce and incorporate lightweight components into the SM-3 Blk IIB missile. -Continue interceptor system engineering trades to support product development to refine achievable performance within risk, cost and schedule goals. -Continue to develop missile digital models and simulations to support comprehensive missile and system trades and definition of SM-3 Blk IIB performance requirements. -Begin development of enlarged canister and launcher module for the MK 41 Vertical Launching System in support of integrating a larger diameter missile onto the Aegis BMD ship. -Complete development of RFP package and begin source selection for limited competition for Product Development Phase that will begin in early FY 2013.			
Accomplishments/Planned Programs Subtotals	-	-	118.876

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0603175C: *Ballistic Missile Defense Technology*	164.670	132.220	75.003		75.003	103.844	111.712	164.378	170.851	Continuing	Continuing
• 0603892C: *BMD AEGIS*	1,418.992	1,467.278	960.267		960.267	957.992	1,001.510	970.607	1,033.710	Continuing	Continuing

D. Acquisition Strategy

MDA`s fiscal year 2012 budget submission reflects an emphasis on early intercept research and development. The acquisition strategy to conduct this technology development effort consists of three focus areas. First, leverage the technical expertise of Federally Funded Research and Development Centers, University Applied Research Centers, Universities and government laboratories. Second, continue to leverage relevant existing contracts within the limits of Competition and Contracting Act taking into account contractor past performance, scope, ceiling and period of performance. Third, for new technology risk reduction initiatives, seek industry solutions via the Advanced Technology Broad Agency Announcement and competitive procurements. MDA will also competitively award three concept definition and program planning contracts to missile integration contractors to define viable and affordable missile configurations, conduct interceptor level trades, anchor technology assessments, benchmark performance, identify risks and mitigation strategies, and define an executable product development program. One of the contractors will be selected via a limited competition to complete the Product Development beginning in FY 2013.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603902C: *STANDARD MISSILE-3 BLOCK IIB (SM-3 IIB)*	PROJECT MD70: *Standard Missile-3 Block IIB (SM-3 IIB)*

E. Performance Metrics

NA

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 3: *Advanced Technology Development (ATD)*	R-1 ITEM NOMENCLATURE PE 0603902C: *STANDARD MISSILE-3 BLOCK IIB (SM-3 IIB)*	PROJECT MD40: *Program-Wide Support*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
MD40: *Program-Wide Support*	-	-	4.580	-	4.580	16.249	15.241	14.900	14.630	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

The budget project in this PE did not exist in program wide support in FY2010.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Civilian Salaries and Support	-	-	4.580
Description: See Description Below ***FY 2010 Accomplishments:*** The budget project in this PE did not exist in program wide support in FY2010. ***FY 2011 Plans:*** The budget project in this PE did not exist in program wide support in FY2011. ***FY 2012 Plans:*** See paragraph A, Mission Description and Budget Item Justification			
Accomplishments/Planned Programs Subtotals	-	-	4.580

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency		DATE: February 2011
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E. Performance Metrics

NA