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 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*							
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	1,022.019	1,346.181	1,161.001	-	1,161.001	1,040.949	925.943	856.839	875.969	Continuing	Continuing
CX08: *Ground Based Midcourse Defense (GMD) Block 3.0*	822.878	-	-	-	-	-	-	-	-	0.000	822.878
XX08: *Ground Based Midcourse Defense (GMD) Sustainment*	187.070	-	-	-	-	-	-	-	-	0.000	187.070
MD08: *Ground Based Midcourse*	-	1,300.655	1,112.771	-	1,112.771	997.349	884.402	820.197	838.630	Continuing	Continuing
ZX40: *Program-Wide Support*	12.071	-	-	-	-	-	-	-	-	0.000	12.071
MD40: *Program-Wide Support*	-	45.526	48.230	-	48.230	43.600	41.541	36.642	37.339	Continuing	Continuing

Note

In accordance with the Missile Defense Agency (MDA) revised budget structure, the content previously planned in Projects CX08, WX08 and XX08 in the Fiscal Year 2010 budget submissions are now captured in Project MD08.

A. Mission Description and Budget Item Justification

To counter the Intercontinental Ballistic Missile and Intermediate Range Ballistic Missile threat, in accordance with the Achievable Capability List, the United States deploys Ground-Based Midcourse Defense (GMD) interceptors in silos at Fort Greely, Alaska and Vandenberg Air Force Base, California to defend our Homeland from Intercontinental Ballistic Missiles or Intermediate Range Ballistic Missile attack. In Fiscal Year 2012, MDA will continue the development of long-range Ground-based Midcourse Defense capabilities with missile fields at Fort Greely, Alaska and Vandenberg Air Force Base, California, where MDA will maintain twenty-six and four Ground-Based Interceptors (GBI), respectively. This work protects the United States against a limited number of regional actor launches of 1st and 2nd generation Intermediate Range Ballistic Missiles and Intercontinental Ballistic Missiles. Given the small inventory of long-range ballistic missiles deployed by regional actors, thirty highly-ready Ground Based Interceptors in hardened silos will provide the United States defensive capability.

Ground-Based Midcourse Defense Element consists of a complex communications system, fire control capability, and ground-based interceptors. The Ground-Based Midcourse Defense element is a key component of the Ballistic Missile Defense System, providing Combatant Commanders capability to engage ballistic missiles in the midcourse phase of flight. This phase, compared to boost or terminal, allows significant time for sensor viewing from multiple platforms and thus provides multiple engagement opportunities for hit-to-kill interceptors. Ground-Based Midcourse Defense provides the capability to engage and destroy long-range threats in the midcourse battle space to protect the U.S. Homeland.

As part of the Department of Defense reform agenda, reduces funds below the aggregate level reported in FY 2010 for contracts that augment staff functions.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	1,027.371	1,346.181	1,112.655	-	1,112.655
Current President's Budget	1,022.019	1,346.181	1,161.001	-	1,161.001
Total Adjustments	-5.352	-	48.346	-	48.346
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	5.986	-			
• SBIR/STTR Transfer	-9.864	-			
• Other Adjustment Detail	-1.474	-	48.346	-	48.346

Change Summary Explanation

The FY 2012 $48.346 million dollar increase in this program element is the result of East Coast IDT, and High Priority MDA Transfers, less efficiency savings. This program has realized $52.271 million in efficiency savings.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	PROJECT CX08: *Ground Based Midcourse Defense (GMD) Block 3.0*	

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
CX08: *Ground Based Midcourse Defense (GMD) Block 3.0*	822.878	-	-	-	-	-	-	-	-	0.000	822.878
Quantity of RDT&E Articles	7	0	0		0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project CX08 has been transferred to project MD08.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: See Project MD08 for FY2010 Accomplishments	822.878	-	-
Articles:	7		
Description: See Description Below			
FY 2010 Accomplishments:			
Accomplishments/Planned Programs Subtotals	822.878	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency			DATE: February 2011
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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
XX08: *Ground Based Midcourse Defense (GMD) Sustainment*	187.070	-	-	-	-	-	-	-	-	0.000	187.070
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project XX08 has been transferred to project MD08.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: See Project MD08 for FY 2010 Accomplishments	187.070	-	-
Articles:	0		
Description: See Description Below			
FY 2010 Accomplishments: See Project MD08 for FY2010 Accomplishments.			
Accomplishments/Planned Programs Subtotals	187.070	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

NA

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 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	PROJECT MD08: *Ground Based Midcourse*	

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
MD08: *Ground Based Midcourse*	-	1,300.655	1,112.771	-	1,112.771	997.349	884.402	820.197	838.630	Continuing	Continuing
Quantity of RDT&E Articles	0	2	5		5	0	0	0	0		

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Projects CX08, WX08 and XX08 in the FY 2010 budget submissions is now captured in Project MD08.

A. Mission Description and Budget Item Justification

Project MD08 provides funding for continued development of Ground-Based Midcourse Defense (GMD) capabilities, with the following functionalities which are included in Ballistic Missile Defense System Integrated Build C and Build D, and fielded in Capability Delivery 04 and Capability Delivery 06.

The Ground-Based Midcourse Defense program is described as follows:

-Ground-Based Midcourse Defense capability consists of communications systems, fire control capabilities, and ground-based interceptors. MDA will continue the development and fielding of the Ground-Based Midcourse Defense capability to defend the U.S. against a limited number of launches of Intermediate-Range Ballistic Missiles and Intercontinental Ballistic Missiles
To prove the Ground-Based Midcourse Defense capability works, MDA will execute a rigorous test program that includes expanding our flight and ground test programs to test our capability against intermediate and long-range threats to build the confidence in the Ballistic Missile Defense System, bolster deterrence against their use, and send a message to potential adversaries looking to acquire ballistic missiles
-MDA will continue to provide for the operations and sustainment of Ground-Based Midcourse Defense fielded capability at Fort Greely, Alaska; Eareckson Air Station, Alaska; Vandenberg Air Force Base, California; the Missile Defense Integration Operations Center (MDIOC), Colorado and across the nation-wide Ground-Based Midcourse Defense Communications Network
-Ground-Based Midcourse Defense will pursue a competitive Development and Sustainment Contract (DSC) for future development; fielding; test; systems engineering, integration and configuration management; equipment manufacturing and upgrade; training; and operations and sustainment support for the Ground-Based Midcourse Defense system and associated support facilities
-MDA will continue execution of a lifecycle management plan to sustain the Ground-Based Midcourse Defense system through 2032 and beyond. To increase reliability of the Ground-Based Interceptor fleet we will rotate newer Ground-Based Interceptors into operational fleet and upgrade older Ground-Based Interceptors for flight testing and operational spares. MDA will execute an obsolescence and technology refresh program for Ground Systems components to mitigate obsolescence issues
-MDA will complete Missile Field 2 (MF2) at Fort Greely, Alaska and plan for the decommissioning of Missile Field 1 (MF1)
-MDA organized a Failure Investigation Team (FIT) that was formed to investigate the cause of the unsuccessful intercept of Flight Test Ground-Based Midcourse Defense-06 (FTG-06). FIT findings were published in August 2010
-MDA established a Failure Review Board (FRB) to investigate the cause of unsuccessful intercept of Flight Test Ground-Based Midcourse Defense-06a (FTG-06a)

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Ground Systems	-	195.563	71.773
Articles:	0	2	0

Description: See Description Below

FY 2010 Accomplishments:
The Ground Based Midcourse Defense Ground Systems enable control and operation of the Ground Based Midcourse Defense Element as part of the Ballistic Missile Defense System. Ground Systems consists of the Ground Based Midcourse Defense Fire Control, Test Exerciser, and External Systems Interface (ESI), Ground Based Midcourse Defense Communications Network, In-Flight Interceptor Communications System (IFICS) Data Terminal (IDT), Launch Site Components (LSC) (silos, SIVs), and Launch Support Systems (LSS) (Command Launch Equipment (CLE) and Launch Support Equipment (LSE)).

-Ground Systems 6B suite integrates additional forward based radars (6B1.5) from Sensor`s Army Navy/Transportable Radar Surveillance radars, and software builds (6B2) for Ground-Based Midcourse Defense to provide Command & Control, Battle Management and Communications essential elements of information, 2-stage interceptor demonstration capability, Sea Based X-Band Radar-Interceptor Data Terminal dynamic positioning, Warfighter requested changes, and supports activation of Fort Greely, Alaska Missile Field-2
-Continued the Fort Greely Future Power Plant
-Developed software builds for continued support of the Flight Test capability
-Continued development needed to support transition of the Ground-Based Midcourse Defense Communications Network Long Haul Communications to Defense Information Systems Agency
-Continued construction and integration of fourteen silos for Missile Field-2 and Missile Field-2 Mechanical Electrical Building (MEB)
-Continued development of Command Launch Equipment hardware and software to mitigate obsolescence and support an increased number of Ground Based Interceptors
-Participated in Booster Verification Test-01 (BVT-01) (For reference: event executed under Program Element 0603911C)
-Participated in a Failure Investigation Team (FIT) that was formed to investigate the cause of the unsuccessful intercept of Flight Test Ground-Based Midcourse Defense-06 (FTG-06)

Funding for these FY10 accomplishments are reported in prior year budget project CX08 ($91,385)

FY 2011 Plans:
-Deliver Ground Systems 6B1.5 suite of products to integrate additional forward based Army/Navy Transportable Radar Surveillance radar using the Ballistic Missile Defense System Command, Control, Battle Management, and Communications with the Ground-Based Midcourse Defense Ground System as part of Capability Delivery 04x

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Deliver Ground Systems 6B2 suite of products for Ground-Based Midcourse Defense to provide Command & Control, Battle Management and Communications essential elements of information for situational awareness, 2-stage interceptor demonstration capability, Sea Based X-Band Radar-Interceptor Data Terminal dynamic positioning, Sea Based X-Band Radar version 3 interoperability, Warfighter requested changes, use of data provided by Army Navy/Transportable Radar Surveillance radars with the Ground-Based Midcourse Defense Ground Systems, and supports activation of Fort Greely, Alaska Missile Field-2 -Initiate design and development of Ground Systems 6B3 suite of products to integrate with the Command & Control, Battle Management and Communications system, accommodate Ground Based Interceptors software changes, support interface change between Space-Based Infrared Satellite Network & the Ground-Based Missile Defense Fire Control and incorporate recommendations from the Warfighter -Continue construction and integration of a new fourteen silo Missile Field-2 and Missile Field-2 Mechanical Electrical Building (MEB) to provide the Warfighter with a highly reliable and hardened Missile Field capability at Fort Greely, Alaska -Continue the Missile Defense Complex Communications infrastructure repairs at Fort Greely, Alaska to meet current DoD / Army operational standards -Complete the Fort Greely Future Power Plant -Initiate design of a second Fire Direction Center Node at Fort Greely, Alaska -Conducted Flight Test Ground-Based Midcourse Defense 06a (FTG-06a) to verify corrective actions from Ground-Based Midcourse Defense 06 (FTG-06) failures ***FY 2012 Plans:*** -Continue development of Ground Systems 6B3 suite of products to initiate Near Term Discrimination (NTD), support interface changes with the Space-Based Infrared System, accommodate Ground Based Interceptors software changes, maintain sensor and Command & Control, Battle Management and Communications integration, and incorporate Warfighter requested changes -Continue the Missile Defense Complex Communications infrastructure repairs at Fort Greely, Alaska. Complete final cutover and transition to the communications Infrastructure to meet current DoD / Army operational standards -Complete the final integration of a new fourteen silo Missile Field-2 and Missile Field-2 Mechanical Electrical Building (MEB) to provide the Warfighter with a highly reliable and hardened Missile Field capability at Fort Greely, Alaska -Complete the design and installation of a second Fire Direction Center Node at Fort Greely, Alaska to provide redundant dual-node Warfighter capability. This node shall be primarily used for flight test, ground test and exercises -Initiate preliminary design in preparation for construction of an IFICS Data Terminal (IDT) at an East Coast site, and GFC and EKV software upgrades to enable a 3rd Communications Event (CE)			
Title: Element Engineering and Integration	-	190.236	108.471
Articles:	0	0	0

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: See Description Below ***FY 2010 Accomplishments:*** Ground-Based Midcourse Defense Element Engineering and Integration (EE&I) provides systems engineering and integration essential for the development and fielding of the Ground-Based Midcourse Defense hardware and software. Included in this effort are concept definition, requirements and interfaces, system design, integration, test planning and verification efforts. Key products are development and maintenance of the technical baseline and critical engineering processes for implementation and delivery of an integrated Ground-Based Midcourse Defense element capability. Ground-Based Midcourse Defense will support System Pre-Flight predictions for each system level flight test using the test framework set up with the Ballistic Missile Defense System configuration for a particular flight test. This provides the confidence in Flight Test execution by predicting element performance and exercising element interfaces. This work is also used to prove out the construct of the flight test to ensure the required data and data management plan will support System Post Flight Reconstruction objectives. System Post Flight Reconstruction will use a Hardware-In-The-Loop and / or a Digital Models and Simulations Environment to replicate the day of flight for the Ballistic Missile Defense System configuration, modified to represent the actual environmental conditions and target dynamics observed in flight. The results of this testing are used to increase confidence in the models and simulations by anchoring the results with emphasis on the Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs) back to the real world event. CECs/EMEs are the conditions and events where data is obtained from flight and ground tests in order to anchor system models and simulations system post flight reconstruction (SPFR) is used for validation (anchoring) of models and simulations. -Collected test data from CECs/EMEs necessary for validation, verification, and accreditation of modeling and simulation representations used for assessing Ground-Based Midcourse Defense weapon system performance -Collected and Analyzed Critical Engagement Conditions / Empirical Measurement Event data necessary for validation, verification, and accreditation of modeling and simulation applications in the following areas: solar modeling and potential effects on intercepts, Exoatmospheric Kill Vehicle divert system performance, Exoatmospheric Kill Vehicle performance and maneuverability when reentering the atmosphere and 2-stage interceptor performance (For reference: event executed under Program Element 0603911C) -Continued to deliver digital representations of the Ground-Based Midcourse Defense weapon system to support the annual performance assessment -Continued integration of Ground-Based Midcourse Defense digital simulations into the Missile Defense Agency common framework for assessing Ballistic Missile Defense System performance			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Continued system engineering effort enabling Ballistic Missile Defense System Level capabilities integration among Ground-Based Midcourse Defense, Command & Control, Battle Management and Communications, and Sensors -Continued requirements integration and traceability between Ballistic Missile Defense System Specification documents and corresponding Ground-Based Midcourse Defense requirements and integration documentation -Utilized Exoatmospheric Kill Vehicle Hardware-In-The-Loop Ten-Foot vacuum space chamber (10V Chamber) for Flight Test Ground-Based Midcourse Defense-06 Pre-Mission Testing (PMT). -Continued software management, verification, validation and specialty engineering -Continued system analysis, integration, verification and information sharing with Warfighter community -Continued design, planning, pre- and post-flight test analysis for current and future flight and ground tests -Participated in a Failure Investigation Team (FIT) that was formed to investigate the cause of the unsuccessful intercept of Flight Test Ground-Based Midcourse Defense-06 (FTG-06). FIT findings were published in Aug 2010 with separate failures identified in both the SBX and the EKV -Performed information assurance (IA) activities: conduct engineering and architectural analyses/studies; provide operations and maintenance for IA capabilities; maintain IA workforce training and certification; support certification and accreditation testing and analysis Funding for these FY10 accomplishments are reported in prior year budget project CX08 ($122,609)			
FY 2011 Plans: -Continue modeling and simulation development and integration to assess component and system performance and execute annual Technical Assessments -Continue modeling and simulation verification, validation, and accreditation to establish high confidence in Warfighter assessments -Continue engineering analysis, capability integration, and performance verification for successful Ground-Based Midcourse Defense development and Ballistic Missile Defense System integration; integrate Ground-Based Midcourse Defense Tactical System Hardware / Software with Missile Defense Agency Single Stimulation Framework in support of Ballistic Missile Defense System Ground Test (GT)-04 Campaign -Maintain traceability between the Ballistic Missile Defense System Specification, associated documentation and the corresponding Ground-Based Midcourse Defense Element requirements and integration into Ballistic Missile Defense System -Conduct Ground-Based Midcourse Defense Build D Element Requirements Review and Preliminary Design Review for Ground Systems 6B3, EKV 9.X and 22.X development -Support Component Requirements Reviews and Preliminary Design Reviews to ensure successful development capabilities			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Continue software management, verification, validation and planning for integration of Ground-Based Midcourse Defense Fire Control 6B2 functionality in support of the Ballistic Missile Defense System Capability Delivery 04 -Trace Ballistic Missile Defense System Specification requirements to Ground-Based Midcourse Defense Capability Document, identify verification methods, document technical Core Standard variances for planning future development activities consistent with window requirements identified in the BMD System Description Document and the software delivery requirements identified in the Master Integration Plan -Continue design, planning, pre- and post-flight test analysis for current and future flight and ground tests -Support planning, integration, execution, and analysis for the Ballistic Missile Defense System Technical Assessment and Ballistic Missile Defense System Performance Assessment -Support Ballistic Missile Defense Systems / Subsystem design review following Element Requirement Reviews to review the maturity of the technical baseline at both the System / Subsystem level and plans for integration, test and verification prior to execution -Support system-level models and simulations accreditation anchored to real-world events -Report element verification activity for Ballistic Missile Defense System performance verification in support of incremental capability deliveries -Initiate the FTG-06a failure response and corrective action implementation			
FY 2012 Plans: -Continue modeling and simulation development and integration to assess component and system performance and execute Technical Assessments -Continue modeling and simulation verification, validation, and accreditation to establish high confidence in Warfighter assessments -Continue engineering analysis, capability integration, and performance verification for successful Ground-Based Midcourse Defense development and Ballistic Missile Defense System integration; development and Ballistic Missile Defense System integration, including GMD certification of compliance with BMD System Specification requirements; ensure compliance with BMD System Description Document integration windows and Master Integration Plan software build requirements; integrate Ground-Based Midcourse Defense -Maintain traceability between the Ballistic Missile Defense System Specification, associated documentation and the corresponding Ground-Based Midcourse Defense Element requirements and integration into Ballistic Missile Defense System Conduct Ground-Based Midcourse Defense Build D Critical Design Review to initiate development for Ground Systems 6B3, EKV 9.X and 22.X -Support Component Critical Design Reviews to ensure successful development capabilities			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Continue software management, verification, validation and planning for utilization of Ground-Based Midcourse Defense Fire Control 6B2 functionality in support of the Ballistic Missile Defense System Capability Delivery 04 -Trace Ballistic Missile Defense System Specification requirements to Ground-Based Midcourse Defense Capability Document, identify verification methods, document technical Core Standard variances for planning future development activities consistent with window requirements identified in the BMD System Description Document and the software delivery requirements identified in the Master Integration Plan -Continue FTG-06a failure response and corrective action implementation -Continue design, planning, pre- and post-flight test analysis for current and future flight and ground tests -Utilize Exoatmospheric Kill Vehicle Hardware-In-The-Loop 10-foot vacuum space chamber (10V Chamber) for Pre-Mission Testing (PMT) and Post Flight Reconstruction (PFR) -Support planning, integration, execution, and analysis for the Ballistic Missile Defense System Technical Assessment and Ballistic Missile Defense System Performance Assessment -Support Ballistic Missile Defense System / Subsystem Design Review following Element Design Reviews to review the maturity of the technical baseline at both the System / Subsystem level and plans for integration, test and verification prior to execution -Support system-level models and simulations accreditation anchored to real-world events -Report element verification activity for BMDS performance verification in support of incremental capability deliveries			
Title: Program Integration and Control	-	189.536	146.773
Articles:	0	0	0
Description: See Description Below ***FY 2010 Accomplishments:*** This effort provides for the prime contractor and government management of the Ground-Based Midcourse Defense program. Included in this effort is program and business management, program administration, technical and testing oversight, verification of hardware and software development, quality / safety / mission assurance, integrated logistic support, and government manpower and infrastructure to develop, test and sustain the Ground-Based Midcourse Defense system and components. -Provided technical and business management support activities, financial management, cost and schedule performance analysis cost estimation and analysis, configuration management and integration activities -Provided contractor program management, subcontract management, quality assurance, verification of hardware and software development, and technical and testing oversight -Ensured Ground-Based Midcourse Defense program compliance with internal and external direction, policies, and regulations			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Continued a ``Mission Assurance and Manufacturing Engineering Program`` to include Quality, Configuration Management, Manufacturing, Engineering, and Safety -Provided Quality Safety and Mission Assurance (QSMA) operations to ensure compliance with Agency requirements for design, test, manufacturing, quality, safety and reliability -Provided Midcourse Element infrastructure support for Agency operations -Planned and executed Flight Test Ground-Based Midcourse Defense-06 (FTG-06) -Planned and executed Booster Verification Test-01 (BVT-01) (For reference: event executed under Program Element 0603911C) Funding for these FY10 accomplishments are reported in prior year budget project CX08 ($184,580)			
FY 2011 Plans: -Provide technical and business management support activities, financial management, cost and schedule performance analysis cost estimation and analysis, configuration management and integration activities -Provide contractor program management, subcontract management, quality assurance, verification of hardware and software development, and technical and testing oversight -Ensure Ground-Based Midcourse Defense program compliance with internal and external direction, policies, and regulations -Conducted Internal Baseline Reviews that align with the six Missile Defense Agency approved baselines -Continue a Mission Assurance and Manufacturing Engineering Program to include Quality, Configuration Management, Manufacturing, Engineering, and Safety -Provide Quality Safety and Mission Assurance (QSMA) operations to ensure compliance with Agency requirements for design, test, manufacturing, quality, safety and reliability -Planned and executed Flight Test Ground-Based Midcourse Defense-06a (FTG-06a) -Initiate the FTG-06a failure response and corrective action implementation			
FY 2012 Plans: -Provide technical and business management support activities, financial management, cost and schedule performance analysis cost estimation and analysis, configuration management and integration activities -Provide contractor program management, subcontract management, quality assurance, verification of hardware and software development, and technical and testing oversight -Ensure Ground-Based Midcourse Defense program compliance with internal and external direction, policies, and regulations -Conduct Internal Baseline Reviews that align with the six Missile Defense Agency approved baselines -Continue a Mission Assurance and Manufacturing Engineering Program to include Quality, Configuration Management, Manufacturing, Engineering, and Safety			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Provide Quality Safety and Mission Assurance (QSMA) operations to ensure compliance with Agency requirements for design, test, manufacturing, quality, safety and reliability -Continue FTG-06a failure response and corrective action implementation			
Title: Ground Based Interceptor	-	358.912	403.305
Articles:	0	0	5
Description: See Description Below			
FY 2010 Accomplishments: The Ground Based Interceptor program supports defense of the Homeland by completing and fielding five (GBIs 29-33) and continued manufacturing of six operational 3-stage interceptors (GBIs 34-39) to replace older fielded configuration to maintain a total of 30 operational assets. To aid in the accomplishment of this mission, the Ground Based Interceptor program provides developmental assets for flight testing through conversion of older fielded Ground Based Interceptors to Flight Test configuration. Ground Based Interceptor software builds will also be initiated to implement Single Shot Probability of Kill improvements and booster software changes to accommodate the Fleet Avionics Upgrade / Obsolescence Program. -Completed acquisition of three additional Ground Based Interceptors (GBIs 31-33) and emplaced a total of five Ground Based Interceptors (GBIs 29-33) at Fort Greely, Alaska or Vandenberg Air Force Base California to replace older fielded Ground Based Interceptors -Completed acquisition of Booster Verification Test-01 with Exoatmospheric Kill Vehicle for 2-Stage Interceptor Verification Testing. (For reference: event executed under Program Element 0603911C) -Initiated and completed upgrade of two fielded Ground Based Interceptors -Continued acquisition of 11 Ground Based Interceptors (GBIs 34-44) to replace older fielded Ground Based Interceptors -Continued development of software for Ground Based Interceptor -Participated in a Failure Investigation Team (FIT) that was formed to investigate the cause of the unsuccessful intercept of Flight Test Ground-Based Midcourse Defense-06 (FTG-06). FIT findings were published in Aug 2010 with separate failures identified in both the SBX and the EKV. EKV failure was determined to be a quality escape and process/procedural changes have been incorporated in future units including the FTG-06a EKV. Additional mitigations including hardware design modifications are being evaluated with plans for incorporation in follow-on test and operational assets Funding for these FY10 accomplishments are reported in prior year budget project CX08 ($326,660)			
FY 2011 Plans: -Initiate upgrade of one fielded Ground Based Interceptor			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Continue acquisition of six additional Ground Based Interceptors (GBIs 34-39) for Fort Greely, Alaska or Vandenberg Air Force Base to replace older fielded Ground Based Interceptors to reduce the age of the fielded fleet -Continue acquisition of five Ground Based Interceptors (GBIs 40-44) to replace older fielded Ground Based Interceptors -Initiate flight test rotation plan of older fielded Ground Based Interceptors to Flight Test configuration to support Integrated Master Test Plan requirements and Stockpile Reliability Program -Initiate Upgrade Kit and Limited Life Item Hardware purchases that will be used to upgrade the fielded Ground Based Interceptors to support flight test rotations of older GBIs as part of the program plan to sustain the Ground Based Interceptors to Fiscal Year 2032 and beyond -Continue purchase of booster and Exoatmospheric Kill Vehicle components including motor sets for five additional new Ground Based Interceptors, (Fleet Avionics Upgrade/Obsolescence Program), mitigating manufacturing restart costs of the select group of warm Ground Based Interceptor 3rd and 4th tier suppliers -Complete testing and fielding of Exoatmospheric Kill Vehicle version 9.X/22.X software that will improve Single Shot Probability of Kill by 30% -Initiate Exoatmospheric Kill Vehicle software development for increasing Single Shot Probability of Kill and to incorporate known critical software changes -Continue Ground Based Interceptor Stockpile Reliability Program which includes testing of available Ground Based Interceptor components to collect reliability and aging data and assessment of operational fleet and flight test rotation upgrade requirements -Resume development of the GBI Fleet Avionics Upgrade / Obsolescence Program -Initiate booster software development to accommodate the Fleet Avionics Upgrade / Obsolescence Program -Continue 2-Stage Ground Based Interceptor acquisition for Flight Test -Initiate the FTG-06a failure response and corrective action implementation			
FY 2012 Plans: -Complete acquisition of six Ground Based Interceptors (GBIs 34-39) to replace older fielded Ground Based Interceptors -Continue acquisition of five Ground Based Interceptor (GBI-40-44) to replace older fielded Ground-Based Interceptors -Continue flight test rotation plan of older fielded Ground Based Interceptors to Flight Test configuration to support Integrated Master Test Plan requirements -Continue acquisition of Upgrade Kit and Limited Life Item Hardware that will be used to support flight test rotations of fielded GBIs as part of the program plan to sustain the Ground Based Interceptors to Fiscal Year 2032 and beyond -Complete purchase of booster and Exoatmospheric Kill Vehicle components including motor sets for five additional new Ground Based Interceptors (Fleet Avionics Upgrade/Obsolescence Program), mitigating manufacturing restart costs of the select group of warm Ground Based Interceptor 3rd and 4th tier suppliers			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Complete Exoatmospheric Kill Vehicle software development for increasing Single Shot Probability of Kill and to incorporate known critical software changes -Continue Ground Based Interceptor Stockpile Reliability Program which includes testing of available Ground Based Interceptor components to collect reliability and aging data and assessment of operational fleet upgrade requirements -Continue development of the GBI Fleet Avionics Upgrade / Obsolescence Program -Continue FTG-06a failure response and corrective action implementation			
Title: BMDS Level Testing ***Articles:*** ***Description:*** See Description Below ***FY 2010 Accomplishments:*** Ground-Based Midcourse Defense executes a rigorous test program that includes expanding our flight and ground test programs to test our capability against intermediate- and long-range threats. The test program is intended to demonstrate the missile defense capabilities under developments and ensure the capabilities transferred to the Warfighter are operationally effective, suitable, and survivable. Missile Defense Agency Element testing is based on an integrated, comprehensive, and phased test program. Element systems, subsystems, and components are tested early in development and are necessary prior to conducting Ballistic Missile Defense-System level testing. Ground-Based Midcourse Defense Element Level testing is funded as part of a developmental program and reflected in this Program Element submission. This Program Element also provides Ground-Based Midcourse Defense participation in the consolidated Missile Defense Agency-wide System Test Program and the resources for the, planning, design, execution, and management of Ground-Based Midcourse Defense in Ballistic Missile Defense System testing in accordance with the Ballistic Missile Defense System Test Policy, Missile Defense Agency Directive 3202.03 (January 2009). -Conducted Flight Test Ground-Based Midcourse Defense-06 (FTG-06) intercept flight test, which resulted in an unsuccessful intercept of an IRBM-class target launched from the Reagan Test Site. -A Failure Investigation Team (FIT) was formed to investigate the cause of the unsuccessful intercept. FIT findings were published in Aug 2010 with separate failures identified in both the SBX and the EKV. -A re-test (Flight Test Ground-Based Midcourse Defense-06a) was conducted in 1QFY2011. -Mitigations for the SBX failure have been identified and will be incorporated in a spiral fashion with initial spiral planned for demonstration during FTG-06a. EKV failure was determined to be a quality escape and process/procedural changes have been	- 0	182.247 0	140.504 0

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
incorporated in future units including the FTG-06a EKV. Additional mitigations including hardware design modifications are being evaluated with plans for incorporation in follow-on test and operational assets -Participated in Booster Verification Test-01 (For reference: event executed under Program Element 0603911C) -First time event for flying a 2-stage Ground-Based Interceptor, performing Exoatmospheric Kill Vehicle separation from a 2-stage booster and delivering an Exoatmospheric Kill Vehicle to its insertion point -Collected Critical Engagement Conditions / Empirical Measurement Event data necessary for validation, verification, and accreditation of modeling and simulation applications in the following areas: solar modeling and potential effects on intercepts, Exoatmospheric Kill Vehicle divert system performance, Exoatmospheric Kill Vehicle performance and maneuverability when reentering the atmosphere and 2-stage interceptor performance -Initiated early planning and analysis for Flight Test Ground-based Midcourse Defense-06a, using a Ground Based Interceptor launched from Vandenberg AFB (VAFB) against a target launched from Reagan Test Site (RTS) -Conducted System Post-Flight Reconstruction using flight test data to assist in validation and updates of models and simulations -Continued to support execution of Ballistic Missile Defense System Ground Test-04 test campaign to assess Ballistic Missile Defense system capabilities -Demonstrated Ground-Based Midcourse Defense Fire Control 6B1.5 Funding for these FY10 accomplishments are reported in prior year budget project CX08 ($97,644)			
FY 2011 Plans: -Conducted Flight Test Ground-Based Midcourse Defense 06a (FTG-06a), a 3-stage intercept of IRBM target based on results from the FTG-06 3-stage intercept engagement with associated objects, using a Ground Based Interceptor launch from Vandenberg Air Force Base, California against a target launched from Reagan Test Site (RTS) but unable to achieve planned intercept -Verified corrective actions from FTG-06 failure -Initiated Failure Review Board (FRB) to identify root cause of unachieved intercept -Collected Critical Engagement Conditions / Empirical Measurement Event data that validates Models and Simulations estimates on interceptor performance in medium closing velocity engagements and Exoatmospheric Kill Vehicle performance with multiple competing objects -Initiate the FTG-06a failure response, which may include the conduct of a non-intercept test to verify FTG-06a corrective actions. Non-intercept test, if required, will be Flight Test Ground-Based Midcourse Defense Kill Vehicle Test (FTI-06b), a 3-stage			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Capability Enhancement II (CEII) non-intercept test of the EKV, using a Ground- Based Interceptor launch from Vandenberg Air Force Base, California. There is no target planned for this test. -Verify FTG-06a corrective actions -Critical Engagement Conditions / Empirical Measurement Event data collected validates Models and Simulations estimates on Exoatmospheric Kill Vehicle discrimination performance. -Demonstrate upgrades on the EKV as a risk reduction in preparation for GMD intercept flight test FTG-06b. -Continue to support execution of Ballistic Missile Defense System Ground Test-04 test campaign to assess Ballistic Missile Defense System capabilities -Initiate planning for Flight Test Ground-Based Midcourse Defense-06b (FTG-06b), a 3-stage intercept engagement with associated objects, using a Ground Based Interceptor launch from Vandenberg Air Force Base against a target launched from RTS ***FY 2012 Plans:*** -Continue to support execution of Ballistic Missile Defense System Ground Test-04 test campaign to assess Ballistic Missile Defense System capabilities -Continue FTG-06a failure response and corrective action implementation to include re-testing in FTG-06b -Conduct Flight Test Ground-Based Midcourse Defense-06b (FTG-06b), a 3-stage Capability Enhancement II (CEII) intercept engagement with associated objects, using a Ground-Based Interceptor launch from Vandenberg Air Force Base, California against a target launched from RTS -Verify FTG-06a corrective actions -Critical Engagement Conditions / Empirical Measurement Event data collected validates Models and Simulations estimates on booster, avionics and divert systems performance over time and Exoatmospheric Kill Vehicle discrimination performance on new threat scene with more and different types of multiple competing objects -Demonstrate Ground-Based Midcourse Defense Fire Control 6B2 / Command Launch Equipment 4.3 functionality in an intercept Flight Test GMD (FTG)			
Title: Sustainment	-	184.161	241.945
Articles:	0	0	0
Description: See Description Below			
FY 2010 Accomplishments:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
The Operations and Sustainment mission provides for the operations, maintenance, repair, training, sustaining engineering (including stock pile reliability and logistics) of the Ground-Based Midcourse Defense System. In addition to the above, base operations support for Ground-Based Midcourse Defense facilities in Colorado Springs, Colorado; Vandenberg Air Force Base, California; Fort Greely, Alaska; and Eareckson Air Station, Alaska are included as well as Government Furnished Services and Equipment (GFX). Execution of the Operations and Sustainment mission will be achieved through a combination of directed activities under the competitively awarded Performance Based Logistics contract (operations, maintenance, repair and training) and through direct placement of funding to mission essential activities (stockpile reliability, logistics, base operations costs and GFX). -Provided Ground-Based Midcourse Defense Element Operations and Sustainment for Primary Mission Equipment, support equipment, and operational facilities at all Ground-Based Midcourse Defense sites -Continued reduction of spares replenishment through logistics repair analysis captured through performance metrics creating changes in procedures that reduce preventative and corrective maintenance repairs, improve reliability, Reliability Centered Maintenance (RCM), and Condition Based Maintenance (CBM) -Continued on-site sustaining engineering, ensuring logistics analysis is incorporated in technical data products -Continued Stockpile Reliability Program (SRP) and component aging testing -Continued to train, educate, qualify and certify the Warfighter and other staff members as well as develop and field technical manuals to maintain crew proficiency and support architecture baseline changes -Continued Base Operations Support at all Ground-Based Midcourse Defense Sites in accordance with host installation support agreements Funding for these FY10 accomplishments are reported in prior year budget project XX08 ($187,070) ***FY 2011 Plans:*** -Provide Ground-Based Midcourse Defense Element operations and sustainment for Primary Mission Equipment (PME), support equipment, and operational facilities at all Ground-based Midcourse Defense sites -Continue reduction of spares replenishment through logistics repair analysis captured through performance metrics creating changes in procedures that reduce preventative and corrective maintenance repairs, improve reliability, Reliability Centered Maintenance (RCM), and Condition Based Maintenance (CBM) -Continue on-site sustaining engineering, ensuring logistics analysis is incorporated in technical data products -Continue Stockpile Reliability Program (SRP) and component aging testing to understand the health of the deployed assets -Continue to train, educate, qualify and certify the Warfighter and other staff members as well as develop and field technical manuals to maintain crew proficiency and support architecture baseline changes			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
-Continue Base Operations Support at all Ground-Based Midcourse Defense Sites in accordance with host installation support agreements ***FY 2012 Plans:*** -Provide Ground-Based Midcourse Defense Element operations and sustainment for Primary Mission Equipment (PME), support equipment, and operational facilities at all Ground-based Midcourse Defense sites -Continue reduction of spares replenishment through logistics repair analysis captured through performance metrics creating changes in procedures that reduce preventative and corrective maintenance repairs, improve reliability, Reliability Centered Maintenance (RCM), and Condition Based Maintenance (CBM) -Continue on-site sustaining engineering, ensuring logistics analysis is incorporated in technical data products -Continue Stockpile Reliability Program (SRP) and component aging testing to understand the health of the deployed assets -Continue to train, educate, qualify and certify the Warfighter and other staff members as well as develop and field technical manuals to maintain crew proficiency and support architecture baseline changes -Continue Base Operations Support at all Ground-Based Midcourse Defense Sites in accordance with host installation support agreements -Initiate Ground Systems Obsolescence and Technology Refresh Program to address software and hardware obsolescence, reliability, and information assurance			
Accomplishments/Planned Programs Subtotals	-	1,300.655	1,112.771

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
• 0603884C: *Ballistic Missile Defense Sensors*	544.352	454.859	222.374		222.374	357.271	336.514	318.321	348.944	Continuing	Continuing
• 0603888C: *Ballistic Missile Defense Test and Targets*	737.863	1,113.425	1,071.039		1,071.039	898.680	790.906	787.113	878.215	Continuing	Continuing
• 0603890C: *Ballistic Missile Defense Enabling Programs*	355.870	402.769	373.563		373.563	331.203	314.193	336.749	346.560	Continuing	Continuing
• 0603896C: *BMD C2BMC*	327.074	342.625	364.103		364.103	330.337	353.081	338.835	304.217	Continuing	Continuing
• 0603898C: *BMD JOINT WARFIGHTER SUPPORT*	58.105	68.726	41.225		41.225	58.089	55.961	56.479	60.684	Continuing	Continuing
	82.926	86.198	69.325		69.325	64.514	55.808	56.769	54.621	Continuing	Continuing

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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
• 0603904C: *MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)*											
• 0603907C: *SEA BASED X-BAND RADAR (SBX)*	157.739	153.056	177.058		177.058	172.622	162.628	185.934	173.587	Continuing	Continuing
• 0603911C: *BMD EUROPEAN CAPABILITY*	47.342	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	47.342

D. Acquisition Strategy

The Ground-Based Midcourse Defense program will continue to follow the Missile Defense Agency`s capability-based acquisition strategy that emphasizes testing, development, and evolutionary acquisition through incremental development. The Agency has structured the missile defense acquisition strategy to continually provide needed upgrades to the Ground-Based Midcourse Defense system components within authorized funding availability. This process minimizes the risk of obsolescence, provides opportunities for standards updates, and allows decision makers to make informed trades between cost, schedule, and performance while exploring operational and technological possibilities.

Ground-Based Midcourse Defense will award a competitive Development and Sustainment Contract (DSC) for continuing development; fielding; test; systems engineering, integration and configuration management; equipment manufacturing and upgrade; training, and operations and sustainment support for the Ground-Based Midcourse Defense system and associated support facilities. This competition based acquisition approach, emphasizes application of performance based tenets to establish long term relationships which provide timely high quality support of the core Ground-Based Midcourse Defense weapons system while reducing life cycle and long-term ownership costs. The Ground-Based Midcourse Defense competitive acquisition approach implements a transition strategy for the current contracts to DSC to support uninterrupted field operations, continued development, interceptor manufacturing, and test execution.

E. Performance Metrics

NA

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ground Systems Long Haul Communications Transfer to Defense Information Systems Agency MD08	MIPR	MDA:DISA	26.000	6.967	May 2011	5.585		-		5.585	Continuing	Continuing	Continuing
Ground Systems Fort Greely Missile Field 2 MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/VA	252.901	67.100	May 2011	-		-		-	0.000	320.001	Continuing
Ground Systems Ground Systems Engineering Services MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/VA	-	39.378	May 2011	16.712		-		16.712	Continuing	Continuing	Continuing
Ground Systems Ground Systems Software Development 6B Dot Builds MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/VA	17.160	21.412	May 2011	-		-		-	0.000	38.572	Continuing
Ground Systems Ground Systems Software Development 6B.3 with NTD MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/VA	-	27.804	May 2011	33.143		-		33.143	Continuing	Continuing	Continuing
Ground Systems East Coast IDT MD08	SS/CPAF	Boeing:AL	-	-	May 2011	16.333		-		16.333	Continuing	Continuing	Continuing
Ground Based Interceptor Ground Based Interceptors 34-44 MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	292.873	136.771	May 2011	182.770		-		182.770	Continuing	Continuing	Continuing
Ground Based Interceptor Ground Based Interceptors Upgrades & Operational Spares MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	22.006	73.153	May 2011	122.742		-		122.742	Continuing	Continuing	Continuing
Ground Based Interceptor Ground Based Interceptors Supplier Restart / Requalification MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	50.000	40.029	May 2011	28.084		-		28.084	Continuing	Continuing	Continuing
Ground Based Interceptor Ground Based Interceptors Software Maintenance & Updates MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	-	9.590	May 2011	11.593		-		11.593	Continuing	Continuing	Continuing

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ground Based Interceptor Ground Based Interceptors Fleet Avionics Upgrade/ Obsolescence Program Development MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/ CO/TX/VA	-	39.114	May 2011	2.912		-		2.912	Continuing	Continuing	Continuing
Ground Based Interceptor Ground Based Interceptors Rotations for Ballistic Missile Defense System Level Testing MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/ CO/TX/VA	86.422	60.255	May 2011	55.204		-		55.204	Continuing	Continuing	Continuing
		Subtotal	747.362	521.573		475.078		-		475.078			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ground Systems Ground Systems Prime Program Support MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/ CO/TX/VA	47.037	32.902	May 2011	-		-		-	0.000	79.939	Continuing
Element Engineering and Integration Ballistic Missile Defense System Hardware-In-The-Loop MD08	MIPR	MDA:AL/VA	34.145	34.257	May 2011	32.845		-		32.845	Continuing	Continuing	Continuing
Element Engineering and Integration Modeling and Simulation MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/ CO/TX/VA	39.788	48.554	May 2011	41.010		-		41.010	Continuing	Continuing	Continuing
Element Engineering and Integration System Engineering and Integration MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/ CO/TX/VA	105.337	84.391	May 2011	23.469		-		23.469	Continuing	Continuing	Continuing
Element Engineering and Integration Information Assurance MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/ CO/TX/VA	-	23.034	May 2011	11.147		-		11.147	Continuing	Continuing	Continuing
	MIPR	MDA:/AL	25.058	28.789	Oct 2010	22.218		-		22.218	Continuing	Continuing	Continuing

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Integration and Control Global Deployment Support MD08													
Program Integration and Control Prime Program Management MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	159.315	61.905	May 2011	34.388		-		34.388	Continuing	Continuing	Continuing
Program Integration and Control Govt Civilian Salaries MD08	MIPR	MDA:AL/VA	53.100	20.650	Oct 2010	39.334		-		39.334	Continuing	Continuing	Continuing
Program Integration and Control FFRDC Support MD08	MIPR	MIT/LL:AL/VA/CO	10.421	6.321	Oct 2010	2.360		-		2.360	Continuing	Continuing	Continuing
Program Integration and Control Contract Support Services MD08	C/CPAF	MDA:AL/VA/CO/AK	127.658	67.071	Oct 2010	43.713		-		43.713	Continuing	Continuing	Continuing
Program Integration and Control Other Govt Agencies MD08	MIPR	Various:AL/VA/FL/CO	11.800	3.500	Oct 2010	3.260		-		3.260	Continuing	Continuing	Continuing
Program Integration and Control Safety and Quality MD08	C/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	7.096	1.300	May 2011	-		-		-	Continuing	Continuing	Continuing
Program Integration and Control Travel MD08	MIPR	MDA:AL/VA	-	-	Oct 2010	1.500		-		1.500	Continuing	Continuing	Continuing
Sustainment Maintenance of Primary System MD08	SS/CPAF	Boeing:AL/AK/CA	270.223	69.914	May 2011	100.123		-		100.123	Continuing	Continuing	Continuing
Sustainment Sustaining Support Services MD08	SS/CPAF	Boeing:AL/AK/CA	259.254	49.895	May 2011	52.119		-		52.119	Continuing	Continuing	Continuing
Sustainment Operations & Sustainment Repair and Maintenance Personnel MD08	SS/CPAF	Boeing:AL/AK/CA	42.719	11.614	May 2011	21.309		-		21.309	Continuing	Continuing	Continuing
Sustainment Stockpile Reliability MD08	MIPR	Naval Surface Warfare Center:IN	34.949	16.098	May 2011	25.982		-		25.982	Continuing	Continuing	Continuing
	MIPR	Army:Ft. Greely, AK	23.289	15.440	May 2011	10.325		-		10.325	Continuing	Continuing	Continuing

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sustainment Fort Greely, Alaska Operations (Gov`t Leases & Services) MD08													
Sustainment Vandenberg Air Force Base Operations (Gov`t Leases & Services) MD08	MIPR	Air Force:Vandenberg, CA	-	4.500	May 2011	3.338		-		3.338	Continuing	Continuing	Continuing
Sustainment Colorado Springs Operations (Gov`t Leases & Services) MD08	MIPR	Air Force:COS, CO	-	8.200	May 2011	5.435		-		5.435	Continuing	Continuing	Continuing
Sustainment Government Furnished Equipment & Services (GFX) MD08	MIPR	Military Traffic Management Command:Various	25.297	8.500	May 2011	8.937		-		8.937	Continuing	Continuing	Continuing
Sustainment GS Obsolescence MD08	SS/CPAF	Boeing:AL/AK/AZ/CA/CO/VA	-	-	May 2011	14.186		-		14.186	Continuing	Continuing	Continuing
Sustainment Decomission Missile Field 1 Planning MD08	MIPR	MDA:AL	-	-	May 2011	0.191		-		0.191	Continuing	Continuing	Continuing
		Subtotal	1,276.486	596.835		497.189		-		497.189			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BMDS Level Testing Ground Test-04 Campaign (Focused-Integrated-Distributed) MD08	C/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	-	15.640	May 2011	17.344		-		17.344	Continuing	Continuing	Continuing
BMDS Level Testing Ground Based Midcourse Defense Ground Chamber Tests MD08	C/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	-	35.298	May 2011	3.629		-		3.629	Continuing	Continuing	Continuing
BMDS Level Testing Flight Test Range Costs MD08	MIPR	VAFB, CA/RTS, Kwaj:PMRF, HI	-	24.486	May 2011	13.227		-		13.227	Continuing	Continuing	Continuing
BMDS Level Testing Flight Test Planning, Analysis & Execution MD08	C/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	83.424	54.448	May 2011	57.481		-		57.481	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	PROJECT MD08: *Ground Based Midcourse*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BMDS Level Testing Target of Opportunity Test Participation (Flight Test Sensors / Flight Test Experiment) MD08	C/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	-	1.001	May 2011	-		-		-	Continuing	Continuing	Continuing
BMDS Level Testing Test Infrastructure & Support MD08	C/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	42.675	43.954	May 2011	42.349		-		42.349	Continuing	Continuing	Continuing
BMDS Level Testing Flight Test Silo Turnaround MD08	C/CPAF	Boeing:AL/AK/AZ/CA/CO/TX/VA	-	7.420	May 2011	6.474		-		6.474	Continuing	Continuing	Continuing
		Subtotal	126.099	182.247		140.504		-		140.504			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2,149.947	1,300.655		1,112.771		-		1,112.771			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Ground Systems 6B1.5	1	2010	1	2010
FTG-06 (GM Intercept Flight Test)	2	2010	2	2010
Ground Based Interceptor Refurbishment 17R	3	2010	3	2010
BVT-01 Ground Based Interceptor w/Exoatmospheric Kill Vehicle (PE 0603911C)	3	2010	3	2010
Ground Based Interceptor Refurbishment 24R	4	2010	4	2010
Ground Based Interceptor 31	4	2010	4	2010
Ground Based Interceptor 32	4	2010	4	2010
Ground Based Interceptor 33	4	2010	4	2010
GTI-04b	4	2010	4	2010
FTG-06a (Ground Based Interceptor Asset)	1	2011	1	2011
FTG-06a (GM Intercept Flight Test)	1	2011	1	2011
Fort Greely, Alaska Power Plant	1	2010	2	2011
Ground Systems 6B2 (FQT)	2	2011	2	2011
GTD-04b (BMDS Distributed Ground Test)	2	2011	2	2011
FTI-06b (Non-Intercept Flight Test)	4	2011	4	2011
Ground Based Interceptor 34	1	2012	1	2012
Ground Based Interceptor 35	1	2012	1	2012
2nd FGA GMD Fire Control Node	1	2012	1	2012
GTX-04e (BMDS Focused Ground Test)	1	2012	1	2012
Ground Based Interceptor 36	2	2012	2	2012
Ground Based Interceptor 37	2	2012	2	2012
Fort Greely, Alaska Missile Field - 2	1	2010	2	2012

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Ground Based Interceptor 38	3	2012	3	2012
FTG-06b (GM Intercept Flight Test)	3	2012	3	2012
Ground Based Interceptor 39	4	2012	4	2012
Ground Based Interceptor 40	1	2013	1	2013
GTI-04e (BMDS Integrated HWIL Ground Test) (VV&A)	1	2013	1	2013
Ground Based Interceptor 41	2	2013	2	2013
Ground Based Interceptor 42	2	2013	2	2013
GTD-04e (BMDS Distributed Ground Test) (VV&A)	2	2013	2	2013
Ground Systems 6B3 (FQT)	2	2013	2	2013
Ground Based Interceptor 43	3	2013	3	2013
GTI-04e (BMDS Integrated HWIL Ground Test) (DT)	3	2013	3	2013
GTI-04e (BMDS Integrated HWIL Ground Test) (OT)	3	2013	3	2013
Ground Based Interceptor 44	4	2013	4	2013
FTG-13 (GM Intercept Flight Test)	4	2013	4	2013
GTD-04e (BMDS Distributed Ground Test) (DT)	4	2013	4	2013
GTD-04e (BMDS Distributed Ground Test) (OT)	4	2013	4	2013
Fort Greely MDC Communications Infrastructure	4	2013	4	2013
GTX-06b (Focused Strategic Ground Test)	2	2014	2	2014
FTG-08 (GM Intercept Flight Test) (2-Stage)	4	2014	4	2014
GTI-06 (BMDS Integrated HWIL Ground Test) (VV&A)	4	2014	4	2014
GTD-06 (BMDS Distributed Ground Test) (VV&A)	1	2015	1	2015
GTI-06 (BMDS Integrated HWIL Ground Test) (DT)	2	2015	2	2015
GTI-06 (BMDS Integrated HWIL Ground Test) (OT)	2	2015	2	2015
GTD-06 (BMDS Distributed Ground Test) (DT)	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: *Research, Development, Test & Evaluation, Defense-Wide* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD08: *Ground Based Midcourse*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GTD-06 (BMDS Distributed Ground Test) (OT)	3	2015	3	2015
FTO-02 (GMD/Aegis Ashore/Aegis/THAAD/Patriot Multiple Intercept Flight Test) (Salvo)	4	2015	4	2015
GT-07 (Ground Test Campaign)	4	2015	4	2015
East Coast IDT	2	2012	4	2015
FTG-15 (GM Intercept Flight Test)	4	2016	4	2016
Ground Based Interceptors Rotation and Upgrades	1	2011	4	2016

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 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	PROJECT ZX40: *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
ZX40: *Program-Wide Support*	12.071	-	-	-	-	-	-	-	-	0.000	12.071
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Project ZX40 is now captured in Project MD40 beginning in FY11

A. Mission Description and Budget Item Justification

Project ZX40 has been transferred project MD40.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Civilian Salaries and Support	12.071	-	-
Articles:	0		
Description: See Description Below			
FY 2010 Accomplishments: NA			
Accomplishments/Planned Programs Subtotals	12.071	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

NA

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 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	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*	-	45.526	48.230	-	48.230	43.600	41.541	36.642	37.339	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Project ZX40 is now captured in Project MD40 beginning in FY11

A. Mission Description and Budget Item Justification

Program-Wide Support (PWS) contains non-headquarters management costs in support of MDA functions and activities across the entire Ballistic Missile Defense System (BMDS). Includes Government Civilians, Advisory and Assistance Services, and Federally Funded Research and Development Contracts (FFRDC) providing integrity and oversight of the BMDS as well as supporting MDA in enabling the development and evaluation of technologies that will respond to the changing threat. 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.

Funding for the FY 2010 accomplishments is reported in prior year budget project ZX40 ($18,722).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Civilian Salaries and Support	-	45.526	48.230
Articles:	0	0	0
Description: See Description Below			
FY 2010 Accomplishments: Funding for the FY 2010 accomplishments is reported in prior year budget project ZX40 ($18,722).			
FY 2011 Plans: See paragraph A, Mission Description and Budget Item Justification			
FY 2012 Plans: See paragraph A, Mission Description and Budget Item Justification			
Accomplishments/Planned Programs Subtotals	-	45.526	48.230

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603882C: *Ballistic Missile Defense Mid-Course Segment*	**PROJECT** MD40: *Program-Wide Support*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

NA