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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	102.823	86.483	86.198	0.000	86.198	88.181	78.517	80.410	83.087	0	605.699
<i>CX22: Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>	22.795	23.215	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	46.010
<i>YX22: Missile Defense Integration & Operations Center (MDIOC) Core</i>	77.249	61.201	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	138.450
<i>MD22: Missile Defense Integration and Operations Center (MDIOC)</i>	0.000	0.000	83.298	0.000	83.298	84.956	75.965	77.889	80.173	Continuing	Continuing
<i>ZX40: Program-Wide Support</i>	2.779	2.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	4.846
<i>MD40: Program-Wide Support</i>	0.000	0.000	2.900	0.000	2.900	3.225	2.552	2.521	2.914	Continuing	Continuing

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Project(s) CX22, YX22, and ZX40 is captured in Project MD22 and MD40 beginning FY11.

The FY11 program is balanced reflecting the four focus areas of the current Missile Defense Program: to develop, rigorously test, and field an integrated BMDS architecture to counter existing regional threats, continue a viable Homeland Defense against rouge threats beyond 2030: demonstrate our proven technologies to show Missile Defense works: and develop technologies to hedge against future missile threat growth.

The best way to dissuade, deter, and defeat ballistic missile threats is through integrated ballistic missile defense capabilities -- weapons, sensors, and Command and Control Battle Management and Communications (C2BMC). A potential or actual attack may cross regions and may fly higher and faster than stand-alone, autonomous capabilities operated by a single Military Service can defend against. Integrated BMD capabilities draw on space-, land-, and sea-based assets operated by multiple Services to provide both the best sensor information on the enemy missile's location and track as well as a more diverse and effective set of weapon options for the Combatant Commander to defeat the attack -- all connected by a unifying C2BMC system. As a result, an effort funded in a Program Element may be critical to the success of efforts in the other Program Elements -- we refer to these connections as ``interdependencies.`` Throughout the budget justification materials we have attempted to highlight interdependencies in order to fully explain the relationship between different parts of the proposed program.

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MDA has a set of Unifying Missile Defense Functions (UMDFs), which increase the effectiveness of the BMD System (including probability of engagement success, increase in defended area and raid size capacity, additional redundancy of architecture, unity of command) through the integration of MDA developed capabilities. For C2BMC these UMDF efforts are Sensor Registration (reporting of sensor errors / biases), Correlation (ensuring the information from multiple sensors seeing a threat relates to the same object), System Track (creating a single engageable track of a threat from multiple reports provided by different land, sea, and space based multiple sensors), Discrimination (identifying object details to determine the target from debris or decoys), Battle Management (combining the best sensors and shooters to ensure the highest probability of a kill), Hit / Kill Assessment (determining if the target selected was destroyed after missile impact), and Communications (providing the worldwide connection of sensors and shooters to command authorities). UMDFs are implemented across the BMDS elements to create and utilize system level data and decisions that allow Combatant Commanders the ability to automatically and manually optimize sensor coverage and interceptor inventory to defend against all ranges of ballistic threats.

A. Mission Description and Budget Item Justification

The Missile Defense Integration and Operations Center (MDIOC) is MDA's field operating activity in Colorado Springs, CO. It provides the necessary infrastructure and support services through a mission execution platform for nine MDA elements/components and designated Combatant Commanders' Ballistic Missile Defense System (BMDS) operations executing missions at the MDIOC. The Integration Center is the organization responsible for providing a single, integrated set of skilled personnel matrixed from MDA Functional's to manage this mission execution platform. The MDIOC mission execution platform consists of a highly secure research and development complex and a mission support facility located within a military installation (Schriever AFB) that is adjacent to and North American Aerospace Defense Command (NORAD) and United States Northern Command (USNORTHCOM). As a mission execution platform supporting MDA efforts, the MDIOC hosts and supports the Ground-based Midcourse Defense (GMD)'s Mission Control Center Facility (MCCF) that is utilized for both flight and distributed ground tests; the C2BMC's Integration and Test Centers (ITCs) and Experimentation Laboratories (X-Labs); the Space Tracking and Surveillance System (STSS)'s Missile Defense Space Experimentation Center (MDSEC); the Targets & Countermeasure's Joint Target Operations Center (JTOC); and the Enterprise Network Operations and Support Center for the Agency's Chief Information Officer (CIO). For the COCOMs, the MDIOC provides infrastructure support for USNORTHCOM's C2BMC Command and Control Center; United States Strategic Command (USSTRATCOM's) Joint Functional Component Command-Integrated Missile Defense (JFCC-IMD); and the Missile Defense Element (MDE) manned by the Army 100th Missile Defense Brigade. The MDA Integration Center organization directly supports the missions of the Warfighter Support Center, the BMDS Ground Test, and MDA's BMDS Digital Modeling and Simulation effort to develop applications vital to BMDS wargaming and system testing. The MDA Integration Center provides mission critical system technical capabilities and subject matter expertise in a dedicated and adaptable environment that enables developers, testers, and operators to evolve, assess and quickly deliver the capabilities required for layered missile defense execution and homeland defense. The MDIOC interfaces with the Information Technology/Information Assurance Enterprise to provide high availability access to worldwide secure communications connectivity, network health and status monitoring, mission critical restoral capability, and technical expertise for all MDA directed activities and events performed on-site. Additionally, the MDIOC functions (within MDA's capabilities-based acquisition strategy) as the only system-level integration and interoperability mission execution platform for BMDS fire control; and it provides the physical interface between the developers and the Combatant Commanders.

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>
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The MDIOC mission execution platform contributes to the BMDS by directly supporting the concept of Concurrent Test, Training, and Operations (CTTO) for the BMDS. The MDIOC accomplishes this by providing engineering integration, resource scheduling, configuration management, and implementation development support for MDA and BMDS-level test, training, and operational mission execution. The Integration Center provides engineering integration by: implementing the technical event architectures for the models and simulations used to support missile defense planning seminars, wargames, exercises, tests, and analyses; supporting the planning and execution of the only end-to-end operator-in-the-loop/element-in-the-loop missile defense wargames accomplished by the Warfighter Support Center; supporting BMDS Critical Engagement Conditions (CEC) testing and analysis by operating the Test Execution Control (TEC) for distributed BMDS ground tests; and, providing network operations and information assurance for all on-site integration activities. The MDIOC mission execution platform provides BMDS-level operational support by: integrating and sustaining the enabling infrastructure, services, and processes that support the operation of designated elements of the BMDS and resident Combatant Command (COCOM) operations and/or support centers; providing technical support for the BMDS Watch Officers (BWO`s), BMDS Safety Officers (BSO`s), and Information Assurance Officers in their efforts to monitor and assess the health and status of the networks and elements that impact BMDS test and operations; operating the Joint Early Warning Laboratory (JEWL) for anomaly resolution; and supporting the Intelligence Support Center (ISC) for critical situational awareness intelligence on worldwide ballistic missile developments that could affect the development and/or operation of the BMDS.

Missile Defense Integration and Operations Center (MDIOC) Major Program Goals

- Provide the capabilities and services necessary to support engineering integration, resource scheduling, configuration management, and implementation development support of on-site activities
- Ensure around the clock support and restoral of designated on-site operational activities
- Improve physical interface with designated COCOM missile defense activities; host/support the headquarters and operations center for USSTRATCOM`s Joint Functional Component Command - Integrated Missile Defense (JFCC-IMD)
- Continue to achieve cost effectiveness and efficiencies through the leveraging of existing MDIOC infrastructure, services, processes, and expertise to support assigned missions
- Maintain and improve as designated the reliability, availability, and maintainability of mission critical systems

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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	106.040	86.949	0.000	0.000	0.000
Current President's Budget	102.823	86.483	86.198	0.000	86.198
Total Adjustments	-3.217	-0.466	86.198	0.000	86.198
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		-0.466			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-1.633	0.000			
• SBIR/STTR Transfer	-1.584	0.000			
• Other Adjustment Detail	0.000	0.000	86.198	0.000	86.198

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: YX22: *Missile Defense Integration & Operations Center (MDIOC) Core*

Congressional Add: *Modeling and Simulation*

	<u>FY 2009</u>	<u>FY 2010</u>
	9.600	0.000
Congressional Add Subtotals for Project: YX22	9.600	0.000
Congressional Add Totals for all Projects	9.600	0.000

Change Summary Explanation

FY 2009 Program Changes: The decrease of \$3.217 million reflects \$1.633 million for MDA programmatic changes to support BMDS priorities and \$1.584 million in SBIR/STTR transfers

FY 2010 Program Changes: The decrease of \$466 thousand reflects Congressional Directed Reductions for Economic Assumptions 801 and FFRDC (\$338 thousand for YX22 and \$128 thousand CX22)

No FY 2011 data provided in PB10.

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>				PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
<i>CX22: Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>	22.795	23.215	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	46.010
Quantity of RDT&E Articles	0	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 CX22 is captured in Project MD22 beginning FY11.

A. Mission Description and Budget Item Justification

The C2BMC Testbed located at the Missile Defense Integration and Operations Center (MDIOC) supports the program office by providing the test articles, test environment, analysis tools, and communications interfaces to conduct Element Verification, Hardware-in-the-Loop Tests, and Systems Test programs. The testbed provides systems and support to recurring warfighter training, exercises, and war-game events. In addition, the C2BMC Testbed maintains the Experimentation Laboratory (X-Lab) where advanced concepts, new technology, and risk reduction prototypes are developed and tested. The C2BMC Testbed also provides infrastructure support to the warfighter by managing the requirements and facilities for the C2BMC Control Center (CCC) and the Distributed Multi-echelon Training System (DMETS). The Joint Early Warning Laboratory (JEWL) is a computing and analysis resource located at the Missile Defense Integration and Operations Center (MDIOC). The JEWL is used by several tasks to support analysis and studies to assess and improve theater Early Warning (EW) and Ballistic Missile Defense (BMD) performance. The different Technical Requirement Document (TRD) tasks using the JEWL support Missile Defense Agency (MDA), United States Strategic Command (USSTRATCOM) and Joint Integrated Air and Missile Defense Organization (JIAMDO) with resources and Subject Matter Expertise (SME)s in a wide variety of disciplines including early warning, tactical communications, data links, tactical data processors and theater EW architectures and radar Infrared (IR) integration efforts. The JEWL is the USSTRATCOM designated facility for testing all changes or additions to the Theater Event System (TES) architecture. JEWL replicates all known theater EW architecture and maintains a replay capability for fault isolation, anomaly identification, and can modify data to isolate anomalies. JEWL supports BMD system by providing timely analysis and comparisons of BMD and legacy EW data. Quick Reports and Comparison Reports provide C2BMC Directorate timely insight into the Overhead Persistent Infrared (OPIR) data provided to C2BMC by ground processors and C2BMC reporting. The JEWL brings together the technical and operational EW communities.

B. Accomplishments/Planned Program (\$ in Millions)

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>C2BMC Test Beds</p> <p>See Description Below</p> <p><i>FY 2009 Accomplishments:</i> The C2BMC Testbed located at the Missile Defense Integration and Operations Center (MDIOC) supports the program office by providing the test articles, test environment, analysis tools, and communications interfaces to conduct Element Verification, Hardware-in-the-Loop Tests, and Systems Test programs. The Testbed provides systems and support to recurring warfighter training, exercises, and war-game events. In addition, the C2BMC Testbed maintains the Experimentation Laboratory (X-Lab) where advanced concepts, new technology, and risk reduction prototypes are developed and tested. The C2BMC Testbed also provides infrastructure support to the warfighter by managing the requirements and facilities for the C2BMC Control Center (CCC), the USNORTHCOM C2BMC Help Desk, the BMDS Network Operations and Security Center (BNOSC), and the Distributed Multi-echelon Training System (DMETS).</p> <p>C2BMC Testbed: The following efforts include the requirements, design, implementation, and sustainment of the C2BMC Test Articles, Test Environment, Communications Interfaces, Test Set-Up, Execution, and Recovery.</p> <p>Conducted C2BMC software loads, test environment configuration, physical audits, network configuration, and configuration management of all C2BMC Test assets at the MDIOC Conducted sustainment testing of C2BMC Spiral 6.2 (Operationally Deployed) Built and upgraded the C2BMC Test Environment to support integration and testing of C2BMC Spiral 6.4 functionality and architecture, improve Testbed Information Security, and to increase the reliability of the Testbed Conducted planning, execution, data collection, assessment, and reporting of the C2BMC Spiral 6.4 (COCOM and GEM) Verification Testing</p>	20.691	21.066	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Sustained and improved the C2BMC Components of the Distributed Multi-Echelon Distributed Training System (DMETS)</p> <p>Installed DMETS Spiral 6.4 Global Engagement Manager (GEM) #1 for Warfighter TTP development, Training Materials Development, Subject Matter Expert Training System Test, Training, and Exercises: The C2BMC Testbed executed the following events. Each event included planning, test preparation, execution, and data collection and reporting</p> <p>Caravan-2 Space Based Infrared System (SBIRS); Software, Qualification, Integration and ;Checkout (SQINC); SBIRS 08-1b; SBIRS 09-1 GTD-03, GTX-03e FTG-05, FCE-B Hardware In The Loop (HWIL), FTG-06 Assured Response (AR)-09a, Vigilant Shield (VS)-09, Keen Edge (KE)-09, Terminal Fury (TF)-09, KE-10</p> <p>Designed and installed an International Point of Presence (IPOP) conducted US-NATO interoperability tests, Interface Control Specification development, and initial interface development and test.</p> <p>Integrated Patriot, Aegis, C2BMC Situational Awareness, C2BMC-ACCS into the IPOP Architecture Participated in International Exercises and Wargames: Nimble Fire 09-3, Defense of the Homeland Against Asymmetric Missile Attacks (DOHMA)-08, DOHMA-09, Joint Distributed Test Network (JDTN) Defense of Israel Evaluation (JDIE) -08 C2BMC Control Center (CCC) accomplishments include the facilities, infrastructure, and sustainment activities to support the Program Office Operational Missions CCC Spiral 6.4 Facilities Upgrades BMDS Network Operations and Security Center (BNOSC) Operations floor build out Spiral 6.4 Parallel Staging Network (PSN) Coordination Center Upgrades</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Conducted warfighter training and pre-mission testing for real-world events</p> <p>Fast Shield II, Dynamic Spring, Dynamic Summer Conducted C2BMC X-Lab Events and Experimentation:</p> <p>Network Enabled Command and Control (NECC) Integration, Test, and Operational Pilot with USSTRATCOM Global Sensor Integrated Network (GSIN) - Missile Warning and Missile Defense Integration Discrimination Fusion Engine Test and Evaluation BMD Overhead Persistent Infrared (OPIR) Architecture (BOA) Development, Test, and Integration BOA Precision Boost Phase Cue Testing: GT-195 Refined C2BMC interfaces to BMDS Elements and Space-based Sensors</p> <p><i>FY 2010 Plans:</i> Sustain and upgrade MDIOC C2BMC Testbed to support integration, test, training, and experimentation</p> <p>Build out and upgrade MDIOC C2BMC Testbed to support testing of C2BMC Spiral 6.4</p> <p>Spiral 6.4 BOA Test Capability X-Lab Spiral 6.4 GEM C2BMC Net Centric Architecture Support FY10 BMDS tests, wargames, and exercises as planned in the IMTP Continue to support the integration of missile defense elements into the BMDS command and control structure Support interoperability and integration of the BMDS program elements Improve the operational realism of the system test architectures</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Upgrade the International Point of Presence (iPOP) for interoperability tests, experiments, exercises, and wargames Conduct C2BMC X-Lab Events and Experimentation</p> <p>Refine C2BMC interfaces to BMDS Elements and Space-based Sensors: Space Tracking and Surveillance System (STSS), External Sensors Laboratory (ESL), Airborne Laser (ABL), Terminal High Altitude Area Defense (THAAD), MDSEC Refine BMDS technologies and transitioning them to development and operations such as BMDS Overhead Non-Imaging Infrared (OPIR) Architecture (BOA), Missile Defense / Missile Warning Integration, Combined Test, Training, and Operations Prototypes Sustain the C2BMC Components of the Distributed Multi-Echelon Distributed Training system (DMETS) in the conduct of BMDS-level wargames, exercises, and training</p> <p>Install DMETS Spiral 6.4 COCOM #1 Install DMETS GEM #2 Start Warfighter familiarization, training, and exercises with Spiral 6.4 Provide infrastructure, network, and troubleshooting support to:</p> <p>C2BMC Control Center (CCC) BMDS Communications Network (BCN) Parallel Staging Network (PSN) BMDS Network Operations and Security Center (BNOSC) Perform BMDS / Joint Early Warning Laboratory test, operational assessments, integration and fielding support (JEWL)</p> <p><i>FY 2011 Base Plans:</i> Plans captured in Project MD22</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2010 Plans:</i></p> <ul style="list-style-type: none"> Perform BMDS Early Warning test, integration and fielding support Perform Joint Early Warning operational assessments and support Record data on all missile events broadcast over Theater Event System (TES) Maintain database on all missile events recorded since Jan 2003 Perform USSTRATCOM Configuration Control Board (CCB) assessments of new systems for inclusion in Theater Missile Warning (TMW) TES Architecture Support testing and integration of TMW producer improvement initiatives testing Perform Early Warning communications integration Perform testing on new systems for inclusion into the TMW architecture Perform Early Warning Target of Opportunity (TOO) initial quick reports and comparative analysis Support integration and testing of the C2BMC Net Centric Architecture Provide BMDS C2BMC Test support Perform Operational Early Warning Anomaly Tracking and Analysis Provide BMDS C2BMC Early Warning Integration support Perform Operator/Warfighter TMW Exercise Data Analysis Provide and chair USSTRATCOM CCB Engineering Subgroup Establish the Early Warning Incident / Anomaly tracking database in support of the TMW CCB and BMDS EW SPT reporting and metrics tracking Upgrade JEWL hardware/software/communications Perform C2BMC display analysis Perform in-theater Health checks in support of the warfighter Perform Joint Early Warning Laboratory support for BMDS Early Warning Special Product Team (EW SPT) <p><i>FY 2011 Base Plans:</i></p> <ul style="list-style-type: none"> Plans captured in Project MD22 					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> NA					
Accomplishments/Planned Programs Subtotals	22.795	23.215	0.000	0.000	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603175C: <i>Ballistic Missile Defense Technology</i>	117.602	189.229	132.220	0.000	132.220	236.875	239.873	197.118	197.852	0	1,310.769
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	951.414	715.732	436.482	0.000	436.482	250.275	336.711	500.983	521.717	0	3,713.314
• 0603882C: <i>Ballistic Missile Defense Mid-Course Segment</i>	1,472.683	1,027.371	1,346.181	0.000	1,346.181	1,112.655	1,291.790	1,099.029	1,033.213	0	8,382.922
• 0603883C: <i>Ballistic Missile Defense Boost Defense Segment</i>	384.365	182.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	566.682
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	682.754	621.017	454.859	0.000	454.859	469.589	681.397	650.525	616.342	0	4,176.483
• 0603886C: <i>Ballistic Missile Defense System Interceptor</i>	308.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	308.869
• 0603888C: <i>Ballistic Missile Defense Test and Targets</i>	906.952	823.333	1,113.425	0.000	1,113.425	1,105.959	951.371	871.929	829.608	0	6,602.577
• 0603890C: <i>Ballistic Missile Defense Enabling Programs</i>	402.776	358.751	402.769	0.000	402.769	468.673	457.745	473.871	488.799	0	3,053.384
• 0603891C: <i>SPECIAL PROGRAMS - MDA</i>	182.998	250.185	270.189	0.000	270.189	269.040	450.645	517.486	601.315	0	2,541.858

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603892C: <i>BMD AEGIS</i>	1,054.323	1,435.717	1,467.278	0.000	1,467.278	1,021.878	1,112.668	1,076.739	923.316	0	8,091.919
• 0603893C: <i>SPACE TRACKING & SURVEILLANCE SYSTEM</i>	209.831	161.609	112.678	0.000	112.678	98.500	56.424	52.928	34.661	0	726.631
• 0603894C: <i>MULTIPLE KILL VEHICLE</i>	226.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	226.027
• 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	23.250	12.492	10.942	0.000	10.942	11.182	11.347	11.749	12.155	0	93.117
• 0603896C: <i>BMD C2BMC</i>	275.174	334.734	342.625	0.000	342.625	364.085	289.778	323.922	298.936	0	2,229.254
• 0603897C: <i>BMD HERCULES</i>	51.629	47.932	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	99.561
• 0603898C: <i>BMD JOINT WARFIGHTER SUPPORT</i>	66.283	61.098	68.726	0.000	68.726	62.239	63.451	65.158	67.231	0	454.186
• 0603901C: <i>DIRECTED ENERGY RESEARCH</i>	0.000	0.000	98.688	0.000	98.688	101.371	103.449	104.572	104.141	0	512.221
• 0603906C: <i>REGARDING TRENCH</i>	3.159	6.130	7.529	0.000	7.529	8.295	8.286	8.479	8.675	0	50.553
• 0603907C: <i>SEA BASED X-BAND RADAR (SBX)</i>	143.878	167.153	153.056	0.000	153.056	150.104	159.832	160.163	197.099	0	1,131.285
• 0603908C: <i>BMD EUROPEAN INTERCEPTOR SITE</i>	348.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	348.722
• 0603909C: <i>BMD EUROPEAN MIDCOURSE RADAR</i>	73.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	73.728
• 0603911C: <i>BMD EUROPEAN CAPABILITY</i>	0.000	50.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	50.226
• 0603912C: <i>BMD European Comm Support</i>	26.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	26.016
• 0603913C: <i>ISRAELI COOPERATIVE</i>	0.000	201.323	121.735	0.000	121.735	111.100	113.101	116.114	119.172	0	782.545
• 0604880C: <i>LAND-BASED SM-3</i>	0.000	0.000	281.378	0.000	281.378	345.937	187.062	93.456	139.595	0	1,047.428

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0604881C: <i>Aegis SM-3 BLOCK IIA CO-DEVELOPMENT</i>	0.000	255.987	318.800	0.000	318.800	405.500	416.300	337.300	227.500	0	1,961.387
• 0604883C: <i>PRECISION TRACKING SPACE SYSTEM</i>	0.000	0.000	66.969	0.000	66.969	123.851	184.800	348.360	482.952	0	1,206.932
• 0604884C: <i>AIRBORNE INFRARED (ABIR)</i>	0.000	0.000	111.671	0.000	111.671	103.636	123.591	103.668	58.773	0	501.339
• 0605502C: <i>Small Business Innovative Research BMDO</i>	124.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	124.788
• 0901585C: <i>Pentagon Reservation</i>	20.146	19.709	20.482	0.000	20.482	0.000	0.000	0.000	0.000	0	60.337
• 0901598C: <i>Management Headquarters-MDA</i>	87.151	52.403	29.754	0.000	29.754	29.421	29.974	30.567	31.171	0	290.441

D. Acquisition Strategy

The strategy for the Missile Defense Integration and Operation Center (MDIOC) mission execution is to employ an integration contract to simultaneously perform all of the Ballistic Missile Defense System (BMDS) Research, Development, Test and Evaluation (RDT&E) tasks with integrated operation and sustainment. The MDIOC is operated by missile defense subject matter experts (SME) composed of Government military and civilian personnel, Federally Funded Research and Development Center (FFRDC), MDIOC Technical Advisory and Assistance Services, and major defense contractors.

MDA will transition from the existing legacy, project-oriented Systems Engineering and Technical Assistance (SETA) contractor construct to an enterprise-wide Advisory and Assistance Services (A&AS) approach to support the Ballistic Missile Defense System (BMDS) mission. The objectives are to implement national engineering and support services for the BMDS mission across the enterprise, enhance the sharing of ballistic missile defense expertise and knowledge across the agency, centralize the acquisition of support services manpower in a more efficient manner and reduce agency overhead costs enterprise-wide. A&AS support includes engineering and technical services; studies, analyses, and evaluation; and management and professional services. All future procurement actions will be competed to the practical extent possible.

E. Performance Metrics

NA

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks

NA

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks

NA

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
C2BMC Test Beds C2BMC Testbed-1 CX22	C/CPFF	MDIOC/Northrop Grumman Mission Systems Colorado Springs, CO	17.801	5.559	Jan 2010	0.000		0.000		0.000	0	23.360	0
C2BMC Test Beds C2BMC Testbed-2 CX22	C/FFP	MDIOC/SRS/Mantech Colorado Springs, CO	1.091	1.135	Apr 2010	0.000		0.000		0.000	0	2.226	0
C2BMC Test Beds C2BMC Testbed-3 CX22	TBD/TBD	IDA Colorado Springs, CO	0.830	0.830	Oct 2009	0.000		0.000		0.000	0	1.660	0
C2BMC Test Beds BMDS Level Testing CX22	C/CPFF	MDIOC/Northrop Grumman Mission Systems Colorado Springs, CO	13.542	13.542	Jan 2010	0.000		0.000		0.000	0	27.084	0
Joint Early Warning Laboratory (JEWL) JEWL CX22	TBD/TBD	MULTIPLE Colorado Springs, CO	2.104	2.149	Apr 2010	0.000		0.000		0.000	0	4.253	0
Subtotal			35.368	23.215		0.000		0.000		0.000	0.000	58.583	0.000

Remarks
NA

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks
NA

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		35.368	23.215		0.000		0.000	0.000	0.000	58.583	0.000

Remarks
NA

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
CCC Facility Upgrade Event																												
CCC Facility Upgrade 4Q FY09				■																								
CCC Facility Upgrade 1Q FY10				■																								
CCC Facility Upgrade 2Q FY10							■																					
CCC Spiral 6.4 Upgrades Q1 FY09	■																											
CCC Spiral 6.4 Upgrades Q2 FY09		■																										
X-Lab Global Engagement Manager (GEM) Q3 FY10											■																	
X-Lab Global Engagement Manager (GEM) Q4 FY10												■																
X-Lab Facility Modernization Q2 FY09		■																										
X-Lab Facility Modernization Q3 FY09			■																									
X-Lab Facility Modernization Q4 FY09				■																								
X-Lab Facility Modernization Q1 FY10					■																							
IPOP Lab Build Out Q4 FY10																												
IPOP Lab Build Out Q1 FY11																												
DMETS Training Event Upgrades Q2 FY10							■																					
DMETS Training Event Upgrades Q3 FY10								■																				
DMETS Spiral 6.4 COCOM Q4 FY10																												
DMETS Spiral 6.4 COCOM Q1 FY11																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
DMETS Spiral 6.4 Global Engagement Manager (GEM) #2 Q4 FY10								■																				
DMETS Spiral 6.4 Global Engagement Manager (GEM) #2 Q1 FY11											■																	
C2BMC Regional Testbed 4Q FY10								■																				
C2BMC Regional Testbed 1Q FY11											■																	
Spiral 6.4 BMD Overhead Persistent IR March (BOA) Capability Q4 FY09				■																								
Spiral 6.4 BMD Overhead Persistent IR March (BOA) Capability Q1 FY10								■																				
Spiral 6.4 BMD Overhead Persistent IR March (BOA) Capability Q2 FY10											■																	
BMDS Network Operations Support Buildout								■																				
BMDS Network Operations Support Build 2Q FY09		■																										
BMDS Network Operations Support Build 3Q FY09			■																									
BMDS Network Operations Support Build 4Q FY09				■																								
BMDS Network Operations Support Build 1Q FY10								■																				
System Test Control Room Q1	■																											

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015							
	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				
System Test Control Room Q2																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
CCC Facility Upgrade Event	4	2010	4	2010
CCC Facility Upgrade 4Q FY09	4	2009	4	2009
CCC Facility Upgrade 1Q FY10	4	2009	4	2009
CCC Facility Upgrade 2Q FY10	2	2010	2	2010
CCC Spiral 6.4 Upgrades Q1 FY09	1	2009	1	2009
CCC Spiral 6.4 Upgrades Q2 FY09	2	2009	2	2009
X-Lab Global Engagement Manager (GEM) Q3 FY10	3	2010	3	2010
X-Lab Global Engagement Manager (GEM) Q4 FY10	4	2010	4	2010
X-Lab Facility Modernization Q2 FY09	2	2009	2	2009
X-Lab Facility Modernization Q3 FY09	3	2009	3	2009
X-Lab Facility Modernization Q4 FY09	4	2009	4	2009
X-Lab Facility Modernization Q1 FY10	1	2010	1	2010
IPOP Lab Build Out Q4 FY10	4	2010	4	2010
IPOP Lab Build Out Q1 FY11	1	2011	1	2011
DMETS Training Event Upgrades Q2 FY10	2	2010	2	2010
DMETS Training Event Upgrades Q3 FY10	3	2010	3	2010
DMETS Spiral 6.4 COCOM Q4 FY10	4	2010	4	2010
DMETS Spiral 6.4 COCOM Q1 FY11	1	2011	1	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT CX22: <i>Missile Defense Integration & Operations Center (MDIOC) - Block 3.0</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
DMETS Spiral 6.4 Global Engagement Manager (GEM) #2 Q4 FY10	4	2010	4	2010
DMETS Spiral 6.4 Global Engagement Manager (GEM) #2 Q1 FY11	1	2011	1	2011
C2BMC Regional Testbed 4Q FY10	4	2010	4	2010
C2BMC Regional Testbed 1Q FY11	1	2011	1	2011
Spiral 6.4 BMD Overhead Persistent IR March (BOA) Capability Q4 FY09	4	2009	4	2009
Spiral 6.4 BMD Overhead Persistent IR March (BOA) Capability Q1 FY10	1	2010	1	2010
Spiral 6.4 BMD Overhead Persistent IR March (BOA) Capability Q2 FY10	2	2010	2	2010
BMDS Network Operations Support Buildout	1	2010	1	2010
BMDS Network Operations Support Build 2Q FY09	2	2009	2	2009
BMDS Network Operations Support Build 3Q FY09	3	2009	3	2009
BMDS Network Operations Support Build 4Q FY09	4	2009	4	2009
BMDS Network Operations Support Build 1Q FY10	1	2010	1	2010
System Test Control Room Q1	1	2009	1	2009
System Test Control Room Q2	2	2009	2	2009

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency								DATE: February 2010			
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>	77.249	61.201	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	138.450
Quantity of RDT&E Articles	0	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(s) CX22, YX22, and ZX40 is captured in Project MD22 and MD40 beginning FY11.

A. Mission Description and Budget Item Justification

The Missile Defense Integration and Operations Center (MDIOC) supports the technical development integral to the mission execution platform for several critical Agency activities at the MDIOC. The MDIOC mission execution platform supports the Ground-based Midcourse Missile Defense Mission Control Center Facility, as well as the Command, Control, Battle Management, and Communications (C2BMC) Integration and Test Centers and the C2BMC Experimentation Laboratories. It provides infrastructure support for the Satellite Tracking and Surveillance System's Missile Defense Space Experimentation Center; the Targets and Countermeasures Joint Target Operations Center; and the developmental support to the External Sensors Laboratory (ESL) as directed, of a common satellite ground station and sensor netting test bed for designated Ballistic Missile Defense System (BMDS) elements. It also supports BMDS Critical Engagement Conditions testing and analysis through the operation of the Test Execution Control node for distributed BMDS ground tests. The MDIOC provides the mission execution platform that supports operations of the Missile Defense Element, manned by the Army 100th Missile Defense Brigade, the United States Northern Command (USNORTHCOM) C2BMC Command and Control Center, and United States Strategic Command's (USSTRATCOM's) Joint Functional Component Command-Integrated Missile Defense (JFCC-IMD) and the Missile Defense Agency (MDA) Warfighter Support Center. In addition, the MDIOC mission execution platform supports the MDA Operations Support Center, which provides situational awareness of the health and status of the end-to-end BMDS and provides network subject matter expertise and technical reach back for the program elements and Combatant Commanders. The mission execution platform enables BMDS wargames and exercises in support of the warfighter. Funds Modeling and Simulation to provide and integrate digital modeling and simulation assets to the Digital Simulation Architecture to form system-level constructive simulations for full-envelope BMDS performance assessment with surrogate capability for BMDS ground tests. The MDIOC maintains a technical repository of BMDS Implementation Architectures for real-time operations and configuration control; provides both state change management and asset management technical support for the BMDS; and provides the technical environment for BMDS Watch Officers, Safety Officers, and Information Assurance Officers to execute their assigned duties. The MDIOC also

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency			DATE: February 2010			
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supports the operations of the Joint Early Warning Laboratory, which provides USSTRATCOM with quick response analyses of real-world launches, and rapid anomaly identification and resolution.						
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Infrastructure Systems and Support See Description Below <i>FY 2009 Accomplishments:</i> Computing Center (Operating Systems, Print/Storage Services, Audio/Visual, Operations and Maintenance) Continued to maintain a mission execution platform to provide an enabling infrastructure (to include hardware, software maintenance, licenses, and upgrades) that supports MDA RDT&E efforts at the MDIOC for the MDA elements/components, and Combatant Command and warfighter operational elements Provided file, print, and messaging services; manage and maintain automated patching software, and virus protection servers. Managed and maintained the MDA Enterprise directory services supporting user access to MDA Enterprise network resources; performed preventive maintenance and ensure data recovery capability through proper data backup scheduling and execution Provided computer hosting of specified threat models and support the integration of other threat tools as required MDIOC Communication Services Acquired and distributed mission critical unclassified and secure communications capability to ten resident MDA elements/components and BMDS and warfighter operational elements		20.957	19.185	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency	DATE: February 2010
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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Provided telephony services to include: Telephone/Fax Service; Provided local, long distance and Defense Switch Network telephone systems. Telephone Switch Operations: Operate, maintain, and upgrade (per government direction) telephone switches, nodes, and Private Branch Exchanges to include 911 support</p> <p>Network Management Transport Services</p> <p>Installed communications and networking infrastructure (hardware/software) in support of changing and expanding mission requirements of resident MDA development, testing, training, and operational activities</p> <p>Provided management of network capabilities by monitoring and controlling the network infrastructure, available bandwidth, hardware, and distributed software resources.</p> <p>Maintained the optimum condition of the hardware and software that comprises the technical infrastructure. This equipment included, but was not limited to: Routers, and switches, Core Cryptographic Devices; Edge Encryption Devices; Global Engagement Manager (GEM); base and long-haul communications</p> <p>Information Assurance Systems</p> <p>Provided information assurance to MDA elements/components, BMDS elements, COCOM and warfighter operational elements resident at the MDIOC</p> <p>Developed and maintained DoD Information Assurance Certification and Accreditation Process (DIACAP) accreditation packages as required; managed the Information Assurance Vulnerability Assessment Program and provided technical assistance to Controls Validation Tests as directed</p> <p>Provided DIACAP package management, ensure timely submissions to Information Assurance Manager/Designated Accreditation Authority (IAM/DAA) for MDA Administration/ General Services (GENSER) and Event Packages.</p>					

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Performed architecture design, engineering, and configuration management reviews for over all assigned projects</p> <p>Managed the Information Assurance Vulnerability Assessment and Communications Tasking Order remediation and implementation efforts to ensure Defense Information Systems Agency (DISA)/JTF-GNO directed compliance</p> <p>Infrastructure Implementation Engineering</p> <p>Improved Information Technology change and configuration management capabilities in support of the MDA Chief Information Officer and MDA test events</p> <p>Provided MDIOC centric test event network related detailed designs in support of Test Events and real world operational events, provide implementation plans, update interface control documents and perform Change Control and Configuration Management services</p> <p>Planned, designed, tested and operated the IT and communications technical architecture including Internet Protocol addressing schema, routing tables, switching policies, data paths, information assurance controls, fire wall configurations, application configurations, band width allocations for sub networks and eventual post event return to base line.</p> <p>Provided technical health and status monitoring, troubleshooting, and break/fix, IT/Communications support for each of the event architectures including critical asset identification, monitoring, Quality Assurance/Quality Control (QA/QC) seals with configuration management and job control</p> <p>Implemented intelligence hardware/software updates as required to support the Operations Support Center (OSC)</p> <p>Planned/Initiated, when directed, the installation of any additional intelligence data feeds required to support the OSC</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Software Licenses, Services and Applications</p> <p>Maintain must-fund software licensing and maintenance agreements to meet essential customer and legal requirements that enable continued software support necessary to maintain the directed computer network defense posture and ensure continued system operational availability</p> <p>Critical Infrastructure Systems Repair and Sustainment</p> <p>Improve audio-visual distribution capability in the MDIOC for MDA elements/components and warfighter operational elements</p> <p>Upgrade the MDIOC Local Area Network backbone capability in support of voice, video, and data transport requirements</p> <p>Continue to refresh Automated Data Processing Equipment for all designated customers</p> <p><i>FY 2010 Plans:</i></p> <p>Computing Center (Operating Systems, Print/Storage Services, Audio/Visual, Operations and Maintenance)</p> <p>Continue to maintain a mission execution platform to provide an enabling infrastructure (to include hardware, software maintenance, licenses, and upgrades) that supports MDA RDT&E efforts at the MDIOC for the MDA elements/components, and Combatant Command and warfighter operational elements</p> <p>Provide computer hosting of specified threat models and support the integration of other threat tools as required</p> <p>Plan/Initiate, when directed, the installation of any additional intelligence data feeds required to support the OSC</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Software Licenses, Services and Applications Maintain must-fund software licensing and maintenance agreements to meet critical customer and legal requirements, enable continued software support necessary to maintain the directed computer network defense posture and ensure continued system operational availability <i>FY 2011 Base Plans:</i> Plans are captured in Project MD22 <i>FY 2011 OCO Plans:</i> NA					
Facilities and Maintenance See Description Below <i>FY 2009 Accomplishments:</i> Utilities (Electrical, Gas, Sewer, Water, Steam, & Chilled Water) Procured utility services through 50th AF Space Wing (Host Base) Sustained utility infrastructure and delivery systems Facility Operations and Sustainment Provided 24 hours a day, 7 days a week, 365 days a year, facility maintenance break/fix response for all facility systems (electrical; Heating, Ventilating Air Conditioning; plumbing; locksmith) Conducted over 320 preventative maintenance inspections (PMIs) a month for all building systems Environmental, Safety & Occupational Health (ESOH)	20.831	20.781	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Continued maintenance and update of the program accident prevention plan Provided required industrial safety training to facility services personnel Procured and distributed personal protection equipment for contracted activities Ensured compliance with Hazardous Waste/Hazardous Material/Recycling and National Environmental Protection Agency (NEPA) programs Conducted recurring safety and environmental audits Facilities Repair & Sustainment</p> <p>Corrected Facility Installation Standards (FIS) and Safety deficiencies identified in the previous fiscal year Replaced two 2250 KVA Uninterrupted Power Supply (UPS) Systems to include system modules and batteries Removed and redistributed critical loads to the upgraded uninterruptible power supply and power distribution system Renovated chilled water system, Phase I (installation of isolation valves and replace aging evaporative coolers coils) Repaired elevators (Building 720) Planned the reconfiguration of the 1201 sector of the Research Building and Consolidated Support Facility Second Floor for operations support, Phase I Facilities Engineering</p> <p>Conducted Management Process/Facility Installation Standard Audits Provided risk management analysis and mitigation plans Maintained infrastructure drawings/configuration management databases Developed and documented facility long range planning/programming Provided consulting services, preliminary designs and engineering/rough order of magnitude estimates for required infrastructure builds/changes</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>MDIOC Operating Expenses</p> <p>Leased GSA Vehicles and two commercial warehouses Schriever AFB Support Costs to the MDA/MDIOC (DRSN Support, Local Dial Tone, Long Distance, Cable TV, & Grounds Maintenance) Facility Services</p> <p>Provided custodial services for over 675,000 s of floor space in Buildings 720/730 Provided Copy Center and Shuttle Services for over 2,000 personnel Provided In/Out Processing & Personnel Moves Cable Plant/Cubicle/Workstation</p> <p>Installed facility connectivity cabling; provided trouble shooting and repair Installed and reconfigured furniture and workstations MDIOC Operational Security</p> <p>Provided maintenance and trouble shooting of the electronic security system Installed upgrades, replacements, and modifications to the electronic security system Independent Assessments</p> <p>Provided UPS Installation Oversight Reviewed root cause analysis and procured consulting services Updated database single line drawings, both electrical and Heating, Ventilation, and Air Conditioning Established a robust Reliability Centered Maintenance program</p> <p><i>FY 2010 Plans:</i> Utilities (Electrical, Gas, Sewer, Water, Steam, & Chilled Water)</p>					

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Procure utility services through 50th AF Space Wing (Host Base) Sustain utility infrastructure and delivery systems Facility Operations and Sustainment</p> <p>Provide 24 hours a day, 7 days a week, 365 days a year, facility maintenance break/fix response for all facility systems (electrical; Heating, Ventilating, Air-conditioning; plumbing; locksmith) Conduct over 320 preventative maintenance inspections (PMIs) a month for all building systems Environmental, Safety & Occupational Health (ESOH)</p> <p>Continue maintenance and update of the program accident prevention plan Provide required industrial safety training to facility services personnel Procure and distribute personal protection equipment for contracted activities Ensure compliance with Hazardous Waste/Hazardous Material/Recycling, and NEPA programs Conduct recurring safety and environmental audits Facilities Repair & Sustainment</p> <p>Upgrade facility electrical distribution system for dual redundancy (Phase I) Upgrade Power Plant Switchboard Replace roof on Building 730 Plan and build-out the 1207 and 2304 Sectors of Building 720 Retrofit fire detection and suppression system Replace obsolete 12,470 kVa switchgear components ;with new automated technology Facilities Engineering</p> <p>Conduct Management Process/Facility Installation Standard Audits Provide risk management analysis and mitigation plans</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Maintain infrastructure drawings/configuration management databases Develop and document facility long range planning/programming Provide consulting services, preliminary designs and engineering/rough order of magnitude estimates for required infrastructure builds/changes MDIOC Operating Expenses</p> <p>Lease GSA Vehicles and two commercial warehouses Schriever AFB Support Costs to MDA/MDIOC (DRSN Support, Local Dial Tone, Long Distance, Cable TV, & Grounds Maintenance) Facility Services</p> <p>Provide custodial services for over 675,000 s of floor space in Buildings 720/730 Provide Copy Center and Shuttle Services for over 2,000 personnel Provide In/Out Processing & Personnel Moves Cable Plant/Cubicle/Workstation</p> <p>Install facility connectivity cabling; provide trouble shooting and repair Install and reconfigure furniture and workstations Independent Assessments</p> <p>Conduct root cause analysis and consulting services as required Conduct an electrical coordination study of technical and non-technical services Provide Quality Assurance Assessments</p> <p><i>FY 2011 Base Plans:</i> Plans are captured in Project MD22</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 OCO Plans:</i> NA</p>					
<p>Engineering and Event Services See Description Below</p> <p><i>FY 2009 Accomplishments:</i> Mission Assurance and Event Execution Support</p> <p>Implemented baseline technical control for all MDIOC mission critical subsystems and services Executed MDIOC engineering management, quality assurance, configuration management and integration of all mission critical systems including:</p> <p>Technical power distribution, Uninterruptable Power Supply Systems, major transformer substations, and circuit protection Heating, Ventilation and Air Conditioning, chilled water and steam systems Secure and non-secure voice communications for BMDS Operations, major tests, and general constituencies Local and wide area secure data networking environments and network health and status tools 24 hours a day, 7 days a week, 365 days a year Ensured high availability and maintenance economic of integrated MDIOC systems and BMDS Operations support 24 hours a day, 7 days a week, 365 days a year Implemented `last mile` integration for BMDS Operations, BMDS test, Wargaming, exercise, training and general/administrative services Executed comprehensive configuration baseline integrity freezes, periods of interest and work screening for all major tests and real world contingencies</p>	13.514	12.803	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Coordinated process improvement investments across all mission areas Executed aggressive, proactive and tailored risk management to ensure integrity and persistent connectivity for all MDIOC missions including:</p> <p>C2MBC incremental development and integration across the Integration Laboratory, X-Lab, and the International Point of Presence BMDS focused, system and distributed ground testing and Hardware-in-the-Loop execution Modeling and Simulation program management; Digital Simulation Architecture Development; Validation, Verification & Accreditation BMDS flight tests including FTG execution; FTM and FTT planning, coordination and situational awareness Joint Target Operations Center (JTOC) Target of Opportunity (TOO) and target tracking, coordination and visualization BMDS Operational Support Center and technical integration and implementation services 24 hours a day, 7 days a week, 365 days a year MDA Intelligence Support Cell and Threat Modeling Center services BMDS Wargame, exercise and DMETS training execution; Warfighter Support Center program integration Missile Defense Space Experimentation Center (MDSEC) Satellite Operations, Ground System and experiment support operations External Sensor Laboratory experimental, networking and facility support and coordination GMD Fire Control component-level operations, integration, testing, and training Joint Early Warning Laboratory mission services and connectivity Combatant Command (COCOM) operations work centers including the USNORTHCOM C2BMC Control Center, Army 100th Missile Defense Brigade, and USSTRATCOM's Joint Functional Component Command-Integrated Missile Defense</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>MDA General Services Network and Operational Support Center and Network Communications Center MDA Computer Emergency Response Team</p> <p>24 Hours a Day, 7 Days a Week, 365 Days a Year, Technical Watch Support</p> <p>Provided on-site technical environment for BMDS Watch Officers, Safety Officers, and Information Assurance Officers to execute their duties 24 hours a day, 7 days a week, 365 days a year Implemented recall procedures to augment subject matter expertise availability during contingencies and major events Executed tabletop exercises to assess readiness for COCOM Operational contingencies and major BMDS tests Provided state change management and asset management technical support for the BMDS Coordinated, report and escalate critical information and BMDS test and operational event information to all MDIOC technical and management staff to ensure rapid break/fix actions are executed</p> <p>JNIC Research and Development Contract (JRDC) Business & Finance Operations</p> <p>Provided overarching contract and financial management support for all JRDC integrated programs/projects Provided engineering coordination, resource management, and event integration across all MDIOC mission areas Conducted continuous process improvement and implementation across all JRDC execution and MDIOC missions Delivered integrated skill mix planning, coordination and workforce deployment across the dynamic spectrum of MDIOC events</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Executed integrated resource forecasting and economic Performed project management for discrete enterprise enhancements</p> <p>Event Architecture & Engineering Design</p> <p>Coordinated design and implementation of technical architectures for all major MDIOC hosted BMDS tests, training, operations, and RDT&E activities Delivered technical documentation packages for all major BMDS flight tests, ground tests, training and COCOM exercise support Led requirements coordination and technical architecture enhancements for BMDS wargame, exercise and training networks Updated BMDS end-to-end COCOM deployed architecture as-built documentation reflecting new incremental content and deployments Maintained a technical repository of BMDS Implementation Architectures for real-time operations and configuration management</p> <p>Event and Personnel Support</p> <p>Provided quality event planning, coordination, logistics, security access and host support for all MDIOC events and visitors Delivered integrated service coordination for all MDIOC event and protocol support including:</p> <p>Event Registration Web site Offsite event registration Security processing, including clearance verification and badging Coordination of group lodging Arrangement/Coordination/Scheduling of Bus Transportation</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Liaison between event POC and catering POC</p> <p>Reserved, setup and coordinated access for all primary shared MDIOC conference rooms Operated Audio Visual equipment during events Prepared and conducted official ceremonies; coordinated and hosted Distinguished Visitor itineraries; obtained information disclosure approval; coordinated offsite dinners and socials</p> <p>Special Program Support</p> <p>Developed and integrated Cross-Domain Solution implementations for BMDS ground testing and contingency deployments Integrated experimental application and networking environments for multi-mission integration with external agencies and customers Provided mission unique automation and IT integration for Intelligence Support Center and Threat Modeling Center critical applications</p> <p>Local Video Product Information Center Services</p> <p>Delivered multi-media products and services for wide spectrum of customer demands including test, training and operation support Designed and delivered integrated graphics support for DVs, foreign dignitaries, Congressional inquiries and MDIOC information briefings Provided wide spectrum of graphics products and services including:</p> <p>Event Posters and signage Visual Enhancements Historical and Special Event Posters</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Facility Design and Standardization Ceremonial Programs Certificates and awards Informational Brochure Design</p> <p>Provided photographic services and products Provided integrated audio-visual Motion Media products and services including:</p> <p>Three-dimensional animated modeling Departmental overview videos Training videos Facility Engineering and Design Classified mission and support videos Audio Recording Scripts and story boards Web-based training module development Historical video production</p> <p><i>FY 2010 Plans:</i> Mission Assurance and Event Execution Support</p> <p>Implement baseline technical control for all MDIOC mission critical subsystems and services Execute MDIOC engineering management, quality assurance, configuration management and integration of all mission critical systems including:</p> <p>Technical power distribution, Uninterruptable Power Supply Systems, major transformer substations, and circuit protection</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Heating, Ventilation and Air Conditioning (HVAC), chilled water and steam systems Secure and non-secure voice communications for BMDS Operations, major tests, and general constituencies Local and wide area secure data networking environments 24 hours a day, 7 days a week, 365 days a year and network health and status tools</p> <p>Ensure high availability and maintenance economic of integrated MDIOC systems 24 hours a day, 7 days a week, 365 days a year for BMDS Operations support Implement `last mile` integration for BMDS Operations, BMDS test, Wargaming, exercise, training and general/administrative services Execute comprehensive configuration baseline integrity freezes, periods of interest and work screening for all major tests and real world contingencies Coordinate process improvement investments across all mission areas</p> <p>Execute aggressive, proactive and tailored risk management to ensure integrity and persistent connectivity for all MDIOC missions including:</p> <p>C2MBC incremental development and integration across the Integration Laboratory, X-Lab, and the International Point of Presence BMDS focused, system and distributed ground testing and Hardware-in-the-Loop execution Modeling and Simulation program management; Digital Simulation Architecture Development; Validation, Verification & Accreditation BMDS flight tests including FTG execution; FTM and FTT planning, coordination and situational awareness Joint Target Operations Center (JTOC) Target of Opportunity (TOO) and target tracking, coordination and visualization</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>BMDS Operational Support Center 24 hours a day, 7 days a week, 365 days a year for technical integration and implementation services</p> <p>MDA Intelligence Support Cell and Threat Modeling Center services</p> <p>BMDS Wargame, exercise and DMETS training execution; Warfighter Support Center program integration</p> <p>Missile Defense Space Experimentation Center (MDSEC) Satellite Operations, Ground System and experiment support operations</p> <p>External Sensor Laboratory experimental, networking and facility support and coordination</p> <p>GMD Fire Control component-level operations, integration, testing, and training</p> <p>Joint Early Warning Laboratory mission services and connectivity</p> <p>Combatant Command (COCOM) operations work centers including the USNORTHCOM C2BMC Control Center, Army 100th Missile Defense Brigade, and USSTRATCOM's Joint Functional Component Command-Integrated Missile Defense</p> <p>MDA General Services Network and Operational Support Center and Network Communications Center</p> <p>MDA Computer Emergency Response Team</p> <p>24 Hours a Day, 7 Days a Week, 365 Days a Year Technical Watch Support</p> <p>Provide on-site technical environment for BMDS Watch Officers, Safety Officers, and Information Assurance Officers to execute their duties 24 hours a day, 7 days a week, 365 days a year</p> <p>Implement recall procedures to augment subject matter expertise availability during contingencies and major events</p> <p>Execute tabletop exercises to assess readiness for COCOM Operational contingencies and major BMDS tests</p> <p>Provide state change management and asset management technical support for the BMDS</p>					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Maintain a technical repository of BMDS Implementation Architectures for real-time operations and configuration management</p> <p>Event and Personnel Support</p> <p>Provide quality event planning, coordination, logistics, security access and host support for all MDIOC events and visitors Deliver integrated service coordination for all MDIOC event and protocol support including:</p> <p>Event Registration Web site Offsite event registration Security processing, including clearance verification and badging Coordination of group lodging Arrangement/Coordination/Scheduling of Bus Transportation Liaison between event Point of Contact (POC) and catering POC</p> <p>Reserve, setup and coordinate access for all primary shared MDIOC conference rooms Operate Audio Visual equipment during events Prepare and conduct official ceremonies; coordinate and host Distinguished Visitor itineraries; obtain information disclosure approval; coordinate offsite dinners and socials</p> <p>Special Program Support</p> <p>Develop and coordinate Cross-Domain Solution architectures for high priority BMDS testing and contingency deployments Coordinate MDA leveraged involvement in multi-mission integration opportunities sponsored by external agencies and customers</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 Base Plans:</i> Plans are captured in Project MD22</p> <p><i>FY 2011 OCO Plans:</i> NA</p>					
<p>Operations and Sustainment</p> <p>See Description Below</p> <p><i>FY 2009 Accomplishments:</i> Government Civilian, Contract Support Services (CSS), Training, Travel, Federally Funded Research and Development Contract (FFRDC)</p> <p>Funded Civilian, CSS, FFRDC positions supporting operations and sustainment of Infrastructure Systems, and Support; Facility Maintenance; Engineering and Event Services Funded Training and Travel for Infrastructure Systems, and Support; Facility Maintenance; Engineering and Event Services</p> <p><i>FY 2010 Plans:</i> Government Civilian, Contract Support Services (CSS), Training, Travel, Federally Funded Research and Development Contract (FFRDC)</p> <p>Fund Civilian, CSS, FFRDC positions supporting operations and sustainment of Infrastructure Systems, and Support; Facility Maintenance; Engineering and Event Services Fund Training and Travel for Infrastructure Systems, and Support; Facility Maintenance; Engineering and Event Services</p>	9.889	8.432	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 Base Plans:</i> Plans are captured in Project MD22</p> <p><i>FY 2011 OCO Plans:</i> NA</p>						
<p>MDIOC BMDS Security</p> <p>See Description Below</p> <p><i>FY 2009 Accomplishments:</i> Provided program protection, force protection, and an anti-terrorism posture in compliance with Missile Defense Agency (MDA) and Department of Defense (DOD) requirements, capable of supporting various events scheduled at the MDIOC Provided an integrated security approach for all new mission areas assigned to the MDIOC Provided ongoing industrial and physical security, including foreign disclosure, counterintelligence analysis and threat assessment, and guard/response force management Developed and managed secure emergency preparedness procedures</p> <p><i>FY 2010 Plans:</i> BMDS Security transferred to PE 0603890C</p> <p><i>FY 2011 Base Plans:</i> BMDS Security transferred to PE 0603890C</p> <p><i>FY 2011 OCO Plans:</i> NA</p>		2.458	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		67.649	61.201	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010
Congressional Add: Modeling and Simulation <i>FY 2009 Accomplishments:</i> Congressional Add executed in full during the 2009 fiscal year <i>FY 2010 Plans:</i> Integrated Element-provided high fidelity models and testing of the resultant Ballistic Missile Defense System (BMDS) digital simulation for the Performance Assessment 2009 Built-out dedicated laboratory space for Performance Assessment 2009 event execution Threat Modeling Center software engineering of enhanced six-degree-of-freedom (6DoF) models of ballistic missile threats. Modeling based on Defense Intelligence Agency information (capabilities and engineering estimates) and used for MDA-wide common threat need	9.600	0.000
Congressional Adds Subtotals	9.600	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603175C: <i>Ballistic Missile Defense Technology</i>	117.602	189.229	132.220	0.000	132.220	236.875	239.873	197.118	197.852	0	1,310.769
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	951.414	715.732	436.482	0.000	436.482	250.275	336.711	500.983	521.717	0	3,713.314
• 0603882C: <i>Ballistic Missile Defense Mid-Course Segment</i>	1,472.683	1,027.371	1,346.181	0.000	1,346.181	1,112.655	1,291.790	1,099.029	1,033.213	0	8,382.922

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603883C: <i>Ballistic Missile Defense Boost Defense Segment</i>	384.365	182.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	566.682
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	682.754	621.017	454.859	0.000	454.859	469.589	681.397	650.525	616.342	0	4,176.483
• 0603886C: <i>Ballistic Missile Defense System Interceptor</i>	308.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	308.869
• 0603888C: <i>Ballistic Missile Defense Test and Targets</i>	906.952	823.333	1,113.425	0.000	1,113.425	1,105.959	951.371	871.929	829.608	0	6,602.577
• 0603890C: <i>Ballistic Missile Defense Enabling Programs</i>	402.776	358.751	402.769	0.000	402.769	468.673	457.745	473.871	488.799	0	3,053.384
• 0603891C: <i>SPECIAL PROGRAMS - MDA</i>	182.998	250.185	270.189	0.000	270.189	269.040	450.645	517.486	601.315	0	2,541.858
• 0603892C: <i>BMD AEGIS</i>	1,054.323	1,435.717	1,467.278	0.000	1,467.278	1,021.878	1,112.668	1,076.739	923.316	0	8,091.919
• 0603893C: <i>SPACE TRACKING & SURVEILLANCE SYSTEM</i>	209.831	161.609	112.678	0.000	112.678	98.500	56.424	52.928	34.661	0	726.631
• 0603894C: <i>MULTIPLE KILL VEHICLE</i>	226.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	226.027
• 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	23.250	12.492	10.942	0.000	10.942	11.182	11.347	11.749	12.155	0	93.117
• 0603896C: <i>BMD C2BMC</i>	275.174	334.734	342.625	0.000	342.625	364.085	289.778	323.922	298.936	0	2,229.254
• 0603897C: <i>BMD HERCULES</i>	51.629	47.932	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	99.561
• 0603898C: <i>BMD JOINT WARFIGHTER SUPPORT</i>	66.283	61.098	68.726	0.000	68.726	62.239	63.451	65.158	67.231	0	454.186
• 0603901C: <i>DIRECTED ENERGY RESEARCH</i>	0.000	0.000	98.688	0.000	98.688	101.371	103.449	104.572	104.141	0	512.221
• 0603906C: <i>REGARDING TRENCH</i>	3.159	6.130	7.529	0.000	7.529	8.295	8.286	8.479	8.675	0	50.553
	143.878	167.153	153.056	0.000	153.056	150.104	159.832	160.163	197.099	0	1,131.285

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603907C: <i>SEA BASED X-BAND RADAR (SBX)</i>											
• 0603908C: <i>BMD EUROPEAN INTERCEPTOR SITE</i>	348.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	348.722
• 0603909C: <i>BMD EUROPEAN MIDCOURSE RADAR</i>	73.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	73.728
• 0603911C: <i>BMD EUROPEAN CAPABILITY</i>	0.000	50.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	50.226
• 0603912C: <i>BMD European Comm Support</i>	26.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	26.016
• 0603913C: <i>ISRAELI COOPERATIVE</i>	0.000	201.323	121.735	0.000	121.735	111.100	113.101	116.114	119.172	0	782.545
• 0604880C: <i>LAND-BASED SM-3</i>	0.000	0.000	281.378	0.000	281.378	345.937	187.062	93.456	139.595	0	1,047.428
• 0604881C: <i>Aegis SM-3 BLOCK IIA CO-DEVELOPMENT</i>	0.000	255.987	318.800	0.000	318.800	405.500	416.300	337.300	227.500	0	1,961.387
• 0604883C: <i>PRECISION TRACKING SPACE SYSTEM</i>	0.000	0.000	66.969	0.000	66.969	123.851	184.800	348.360	482.952	0	1,206.932
• 0604884C: <i>AIRBORNE INFRARED (ABIR)</i>	0.000	0.000	111.671	0.000	111.671	103.636	123.591	103.668	58.773	0	501.339
• 0605502C: <i>Small Business Innovative Research BMDO</i>	124.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	124.788
• 0901585C: <i>Pentagon Reservation</i>	20.146	19.709	20.482	0.000	20.482	0.000	0.000	0.000	0.000	0	60.337
• 0901598C: <i>Management Headquarters-MDA</i>	87.151	52.403	29.754	0.000	29.754	29.421	29.974	30.567	31.171	0	290.441

D. Acquisition Strategy

The strategy for the Missile Defense Integration and Operation Center (MDIOC) mission execution is to employ an integration contract to simultaneously perform all of the Ballistic Missile Defense System (BMDS) Research, Development, Test and Evaluation (RDT&E) tasks with integrated operation and sustainment. The MDIOC

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
<p>is operated by missile defense subject matter experts (SME) composed of Government military and civilian personnel, Federally Funded Research and Development Center (FFRDC), MDIOC Technical Advisory and Assistance Services, and major defense contractors.</p> <p>MDA will transition from the existing legacy, project-oriented Systems Engineering and Technical Assistance (SETA) contractor construct to an enterprise-wide Advisory and Assistance Services (A&AS) approach to support the Ballistic Missile Defense System (BMDS) mission. The objectives are to implement national engineering and support services for the BMDS mission across the enterprise, enhance the sharing of ballistic missile defense expertise and knowledge across the agency, centralize the acquisition of support services manpower in a more efficient manner and reduce agency overhead costs enterprise-wide. A&AS support includes engineering and technical services; studies, analyses, and evaluation; and management and professional services. All future procurement actions will be competed to the practical extent possible.</p> <p>E. Performance Metrics NA</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks

NA

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Infrastructure Systems and Support MDIOC YX22	C/CPAF	MDIOC/Northrop Grumman Mission Systems CO Springs	20.957	19.185	Jan 2010	0.000		0.000		0.000	0	40.142	0
Facilities and Maintenance MDIOC-1 YX22	TBD/TBD	50th Space Wing Schriever AFB, CO	1.800	2.100	Oct 2009	0.000		0.000		0.000	0	3.900	0
Facilities and Maintenance MDIOC-2 YX22	C/CPAF	Northrop Grumman Mission Systems CO Springs	14.891	17.178	Jan 2010	0.000		0.000		0.000	0	32.069	0
Facilities and Maintenance MDIOC-3 YX22	C/CPAF	Northrop Grumman Mission Systems	2.733	0.000	Jan 2010	0.000		0.000		0.000	0	2.733	0

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Colorado Springs, CO											
Facilities and Maintenance MDIOC-4 YX22	Various/ Various	Various(GSA,50th SW, Warehouses) CO Springs, CO	1.407	1.503	Apr 2010	0.000		0.000		0.000	0	2.910	0
Engineering and Event Services MDIOC YX22	C/CPAF	MDIOC/Northrop Grumman Mission Systems CO Springs	13.514	12.803	Apr 2010	0.000		0.000		0.000	0	26.317	0
Operations and Sustainment MDIOC-1 YX22	Various/ Various	MDIOC Colorado Springs, CO	4.631	4.270	Apr 2010	0.000		0.000		0.000	0	8.901	0
Operations and Sustainment MDIOC-2 YX22	C/FFP	MDIOC/SRS Colorado Springs, CO	3.381	2.840	Jan 2010	0.000		0.000		0.000	0	6.221	0
Operations and Sustainment MDIOC-3 YX22	TBD/TBD	MDIOC Colorado Springs, CO	1.704	1.027	Oct 2009	0.000		0.000		0.000	0	2.731	0
Operations and Sustainment MDIOC-4 YX22	Various/ Various	MDIOC Colorado Springs, CO	0.173	0.295	Jul 2010	0.000		0.000		0.000	0	0.468	0
MDIOC BMDS Security MDIOC YX22	C/CPAF	Qinetiq Colorado Springs, CO	2.458	0.000		0.000		0.000		0.000	0	2.458	0
Subtotal			67.649	61.201		0.000		0.000		0.000	0.000	128.850	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
 These funds are for utilities and base communications as specified in the Inter-service Support Agreement with the 50th Space Wing and government salaries. In addition, funds are executed by the Missile Defense Integration and Operations Center (MDIOC) and provide Federally Funded Research and Development Center (FFRDC) and Technical Advisory and Assistance Services employees, for MDIOC operations and oversight of the Joint Research and Development Contractor (JRDC), as well as funding for JRDC work as required by the government.

 BMDS Security transfers to PE 0603890C beginning FY 2010

 FY 2011 funds are captured in Project MD22

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks
NA

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks
NA

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	67.649	61.201		0.000		0.000		0.000	0.000	128.850	0.000

Remarks
NA

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Assured Response 09A			■																									
JFTM-02 E1 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)	■																											
FTG-05 (GMD Intercept Flight Test)	■																											
Recapitalization AF Tenant Space 1201 Ph 1 & 2 - 3Q2009			■																									
Recapitalization AF Tenant Space 1201 Ph 1 & 2-1Q2009-2Q2009	■	■																										
GTX-03c (Full BMDS Distributed Test)	■																											
Uninterruptible Power Supply Replacement Install - 3Q2009			■																									
Uninterruptible Power Supply Replacement Install-1Q2010-2Q2010						■	■																					
Vigilant Shield 09	■																											
GT-198 Target of Opportunity (TOO)	■																											
Keen Edge 09		■																										
Recapitalization AF Tenant Space 1201 Ph 1 & 2-3Q2010-4Q2010							■	■																				
GTD-03 (Full BMDS Distributed Test)		■																										
Terminal Fury 09			■																									
Eagle Resolve			■																									

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Patriot 7-2 (Patriot Intercept Flight Test)		■																										
FTM-15 (Aegis Intercept Flight Test)							■																					
ATM-48 (Patriot Intercept Flight Test)							■																					
FTG-06 (GMD Intercept Flight Test)				■																								
FTT-11 (THAAD Intercept Flight Test)				■																								
GT-195 (TOO) (Ground Test)			■																									
FTX-06 E1 (Aegis Track Ex)			■																									
AEP Test Campaign-1Q2009-2Q2009	■	■																										
AEP Test Campaign-3Q2009			■																									
AEP Test Campaign 4Q2009				■																								
Assured Response 04A							■																					
BVT-01 (EC 2-Stage Booster Interceptor Flight Test)											■																	
Caravan 2 USFT-3 (Israeli Program Intercept Flight Test)				■																								
Caravan 2 USFT-4 (Israeli Program Intercept Flight Test)				■																								
Contingency Ops											■																	
EC OITL 09							■																					
F-10b-Non-C-TOO											■																	

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
FCE-C Distributed (Regional Distributed Contingency Test)					■																							
FCE-C HWIL (Regional HWIL Contingency Test)					■																							
FTG-05 SPRF (GMD System Post Flight Reconstruction)							■																					
FTL-01 E1, E2 (ABL Intercept Flight Test)					■																							
FTL-02 (ABL Intercept Flight Test)						■																						
FTL-03 (ABL Intercept Flight Test)							■																					
FTL-04 (ABL Intercept Flight Test)							■																					
FTM-17 (Aegis Track Ex Risk Reduction for JFTM-03)							■																					
FTS-01 (STSS Demonstrator Flight Test)								■																				
FTT-10a (THAAD Operational Intercept Flight Test)		■																										
FTT-12 (THAAD Intercept Flight Test)							■																					
FTX-06 E2 (Aegis Simulated Intercept Flight Test)							■																					
FTX-06 E3 (Aegis Simulated Intercept Flight Test)							■																					
FTX-06 E4 (Aegis Simulated Intercept Flight Test)							■																					

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
FTX-07 (GT-200) (Aegis Glory Trip TOO)				■																								
FTX-08 (GT-201) (ABL Glory Trip TOO)					■																							
FTX-09 (GT-202) (ABL Glory Trip TOO)					■																							
FTX-10 (Cobra Dane Tracking Test)									■																			
FTX-11 (GT-203) (Aegis Glory Trip TOO)									■																			
Fast Shield II (Warfighter Contingency Ground Test)			■																									
Foreign Exercise - 1Q2010					■																							
Foreign Exercise - 2Q2010						■																						
Foreign Exercise - 3Q2010							■																					
Foreign Exercise - 4Q2010								■																				
G-04a-L (High Altitude Test Chamber)					■																							
G-17-L (TEC HWIL)					■																							
GMD 3 Stg Int (Ground Base Missile Defense)							■																					
GT-200 (Ground Test)					■																							
GTX-03e (BMDS Strategic Focused HWIL Test)			■																									
GTX-04a (Regional Focused HWIL Test)					■																							
GTX-04b (Full BMDS HWIL Test)						■																						
Global Lightning 10					■																							

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Global Thunder 09			■																									
JFTM-03 E1 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)				■																								
JFTM-03 E2 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)				■																								
Keen Edge 10 -3Q 2010							■																					
Keen Edge 10 - 2Q 2010						■																						
Keen Edge 10 - 4Q 2010								■																				
Keen Edge 10 -1Q 2010				■																								
Nimble Titan 10							■																					
P2RF-23-T				■																								
P2RF-24-T								■																				
P2RF-25-I (FTM-16)								■																				
P2RF-39-T							■																					
PA09-2Q2009-3Q2009		■	■																									
PA09-4Q2009-1Q2010				■	■																							
PA10								■																				
Recapitalization AF Tenant Space 1201 Ph 1 & 2 - 4Q2009				■																								
Uninterruptible Power Supply Replacement Design/Demo/Site Prep - 4Q2009				■																								

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Uninterruptible Power Supply Replacement Design/Demo/Site Prep-1Q2009-2Q2009	■	■																										
Uninterruptible Power Supply Replacement Design/Demo/Site Prep-3Q2009			■																									
Uninterruptible Power Supply Replacement Install - 4Q2009				■																								
Vigilant Shield 10					■																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Assured Response 09A	3	2009	3	2009
JFTM-02 E1 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)	1	2009	1	2009
FTG-05 (GMD Intercept Flight Test)	1	2009	1	2009
Recapitalization AF Tenant Space 1201 Ph 1 & 2 - 3Q2009	3	2009	3	2009
Recapitalization AF Tenant Space 1201 Ph 1 & 2-1Q2009-2Q2009	1	2009	2	2009
GTX-03c (Full BMDS Distributed Test)	1	2009	1	2009
Uninterruptible Power Supply Replacement Install - 3Q2009	3	2009	3	2009
Uninterruptible Power Supply Replacement Install-1Q2010-2Q2010	1	2010	2	2010
Vigilant Shield 09	1	2009	1	2009
GT-198 Target of Opportunity (TOO)	1	2009	1	2009
Keen Edge 09	2	2009	2	2009
Recapitalization AF Tenant Space 1201 Ph 1 & 2-3Q2010-4Q2010	3	2010	4	2010
GTD-03 (Full BMDS Distributed Test)	2	2009	2	2009
Terminal Fury 09	3	2009	3	2009
Eagle Resolve	3	2009	3	2009
Patriot 7-2 (Patriot Intercept Flight Test)	2	2009	2	2009
FTM-15 (Aegis Intercept Flight Test)	2	2010	2	2010
ATM-48 (Patriot Intercept Flight Test)	1	2010	1	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>

Event	Start		End	
	Quarter	Year	Quarter	Year
FTG-06 (GMD Intercept Flight Test)	4	2009	4	2009
FTT-11 (THAAD Intercept Flight Test)	1	2010	1	2010
GT-195 (TOO) (Ground Test)	3	2009	3	2009
FTX-06 E1 (Aegis Track Ex)	4	2009	4	2009
AEP Test Campaign-1Q2009-2Q2009	1	2009	2	2009
AEP Test Campaign-3Q2009	3	2009	3	2009
AEP Test Campaign 4Q2009	4	2009	4	2009
Assured Response 04A	2	2010	2	2010
BVT-01 (EC 2-Stage Booster Interceptor Flight Test)	3	2010	3	2010
Caravan 2 USFT-3 (Israeli Program Intercept Flight Test)	4	2009	4	2009
Caravan 2 USFT-4 (Israeli Program Intercept Flight Test)	4	2009	4	2009
Contingency Ops	3	2010	3	2010
EC OITL 09	2	2010	2	2010
F-10b-Non-C-TOO	4	2010	4	2010
FCE-C Distributed (Regional Distributed Contingency Test)	1	2010	1	2010
FCE-C HWIL (Regional HWIL Contingency Test)	1	2010	1	2010
FTG-05 SPRF (GMD System Post Flight Reconstruction)	4	2009	4	2009
FTL-01 E1, E2 (ABL Intercept Flight Test)	4	2009	4	2009
FTL-02 (ABL Intercept Flight Test)	1	2010	1	2010
FTL-03 (ABL Intercept Flight Test)	2	2010	2	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
FTL-04 (ABL Intercept Flight Test)	2	2010	2	2010
FTM-17 (Aegis Track Ex Risk Reduction for JFTM-03)	4	2009	4	2009
FTS-01 (STSS Demonstrator Flight Test)	3	2010	3	2010
FTT-10a (THAAD Operational Intercept Flight Test)	2	2009	2	2009
FTT-12 (THAAD Intercept Flight Test)	2	2010	2	2010
FTX-06 E2 (Aegis Simulated Intercept Flight Test)	1	2010	1	2010
FTX-06 E3 (Aegis Simulated Intercept Flight Test)	1	2010	1	2010
FTX-06 E4 (Aegis Simulated Intercept Flight Test)	1	2010	1	2010
FTX-07 (GT-200) (Aegis Glory Trip TOO)	1	2010	1	2010
FTX-08 (GT-201) (ABL Glory Trip TOO)	2	2010	2	2010
FTX-09 (GT-202) (ABL Glory Trip TOO)	2	2010	2	2010
FTX-10 (Cobra Dane Tracking Test)	4	2010	4	2010
FTX-11 (GT-203) (Aegis Glory Trip TOO)	4	2010	4	2010
Fast Shield II (Warfighter Contingency Ground Test)	3	2009	3	2009
Foreign Exercise - 1Q2010	1	2010	1	2010
Foreign Exercise - 2Q2010	2	2010	2	2010
Foreign Exercise - 3Q2010	3	2010	3	2010
Foreign Exercise - 4Q2010	4	2010	4	2010
G-04a-L (High Altitude Test Chamber)	1	2010	1	2010
G-17-L (TEC HWIL)	1	2010	1	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
GMD 3 Stg Int (Ground Base Missile Defense)	3	2010	3	2010
GT-200 (Ground Test)	1	2010	1	2010
GTX-03e (BMDS Strategic Focused HWIL Test)	4	2009	4	2009
GTX-04a (Regional Focused HWIL Test)	1	2010	1	2010
GTX-04b (Full BMDS HWIL Test)	2	2010	2	2010
Global Lightning 10	1	2010	1	2010
Global Thunder 09	3	2009	3	2009
JFTM-03 E1 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)	1	2010	1	2010
JFTM-03 E2 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)	1	2010	1	2010
Keen Edge 10 -3Q 2010	3	2010	3	2010
Keen Edge 10 - 2Q 2010	2	2010	2	2010
Keen Edge 10 - 4Q 2010	4	2010	4	2010
Keen Edge 10 -1Q 2010	1	2010	1	2010
Nimble Titan 10	3	2010	3	2010
P2RF-23-T	1	2010	1	2010
P2RF-24-T	4	2010	4	2010
P2RF-25-I (FTM-16)	4	2010	4	2010
P2RF-39-T	3	2010	3	2010
PA09-2Q2009-3Q2009	2	2009	3	2009
PA09-4Q2009-1Q2010	4	2009	1	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT YX22: <i>Missile Defense Integration & Operations Center (MDIOC) Core</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
PA10	4	2010	4	2010
Recapitalization AF Tenant Space 1201 Ph 1 & 2 - 4Q2009	4	2009	4	2009
Uninterruptible Power Supply Replacement Design/Demo/Site Prep - 4Q2009	4	2009	4	2009
Uninterruptible Power Supply Replacement Design/Demo/Site Prep-1Q2009-2Q2009	1	2009	2	2009
Uninterruptible Power Supply Replacement Design/Demo/Site Prep-3Q2009	3	2009	3	2009
Uninterruptible Power Supply Replacement Install - 4Q2009	4	2009	4	2009
Vigilant Shield 10	1	2010	1	2010

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>	0.000	0.000	83.298	0.000	83.298	84.956	75.965	77.889	80.173	Continuing	Continuing
Quantity of RDT&E Articles	0	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(s) CX22, YX22, and ZX40 is captured in Project MD22 and MD40 beginning FY11.

A. Mission Description and Budget Item Justification

The Missile Defense Integration and Operations Center (MDIOC) supports the technical development integral to the mission execution platform for several critical Agency activities at the MDIOC. The MDIOC mission execution platform supports the Ground-based Midcourse Missile Defense Mission Control Center Facility, as well as the Command, Control, Battle Management, and Communications (C2BMC) Integration and Test Centers and the C2BMC Experimentation Laboratories. It provides infrastructure support for the Satellite Tracking and Surveillance System's Missile Defense Space Experimentation Center; the Targets and Countermeasures Joint Target Operations Center; and the developmental support to the External Sensors Laboratory (ESL) as directed, of a common satellite ground station and sensor netting test bed for designated Ballistic Missile Defense System (BMDS) elements. It also supports BMDS Critical Engagement Conditions testing and analysis through the operation of the Test Execution Control node for distributed BMDS ground tests. The MDIOC provides the mission execution platform that supports operations of the Missile Defense Element, manned by the Army 100th Missile Defense Brigade, the United States Northern Command (USNORTHCOM) C2BMC Command and Control Center, and United States Strategic Command's (USSTRATCOM's) Joint Functional Component Command-Integrated Missile Defense (JFCC-IMD) and the Missile Defense Agency (MDA) Warfighter Support Center. In addition, the MDIOC mission execution platform supports the MDA Operations Support Center, which provides situational awareness of the health and status of the end-to-end BMDS and provides network subject matter expertise and technical reach back for the program elements and Combatant Commanders. Funds BMDS wargames and exercises in support of the warfighter. Funds Modeling and Simulation to provide and integrate digital modeling and simulation assets to the Digital Simulation Architecture to form system-level constructive simulations for full-envelope BMDS performance assessment with surrogate capability for BMDS ground tests. The MDIOC maintains a technical repository of BMDS Implementation Architectures for real-time operations and configuration control; provides both state change management and asset management technical support for the BMDS; and provides the technical environment for BMDS Watch Officers, Safety Officers, and Information Assurance Officers to execute their assigned duties. The MDIOC also supports the operations of the Joint Early Warning Laboratory, which provides USSTRATCOM with quick response analyses of real-world launches, and rapid anomaly identification and resolution.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Infrastructure Systems and Support See Description Below <i>FY 2009 Accomplishments:</i> Accomplishments captured under Project YX22 <i>FY 2010 Plans:</i> Plans ;captured under Project YX22 <i>FY 2011 Base Plans:</i> Computing Center (Operating Systems, Print/Storage Services, Audio/Visual, Operations and Maintenance) Continue to maintain a mission execution platform to provide an enabling infrastructure (to include hardware, software maintenance, licenses, and upgrades) that supports MDA RDT&E efforts at the MDIOC for the MDA elements/components, and Combatant Command and warfighter operational elements Provide computer hosting of specified threat models and support the integration of other threat tools as required Plan/Initiate, when directed, the installation of any additional intelligence data feeds required to support the OSC Provide file, print, and messaging services; manage and maintain automated patching software, and virus protection servers. Manage and maintain the MDA Enterprise directory services supporting user access to MDA Enterprise network resources; perform preventive maintenance and ensure data recovery capability through proper data backup scheduling and execution MDIOC Communication Services	0.000	0.000	19.246	0.000	19.246

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Provide telephony services to include: Telephone/Fax Service: Provide local, long distance and Defense Switch Network telephone systems. Telephone Switch Operations: Operate, maintain, and upgrade (per government direction) telephone switches, nodes, and Private Branch Exchanges to include 911 support</p> <p>Install communications and networking infrastructure (hardware/software) in support of changing and expanding mission requirements of resident MDA development, testing, training, and operational activities</p> <p>Network Management Transport Services</p> <p>Acquire and distribute mission critical unclassified and secure communications capability to ten resident MDA elements/components and BMDS and warfighter operational elements</p> <p>Provide management of network capabilities by monitoring and controlling the network infrastructure, available bandwidth, hardware, and distributed software resources.</p> <p>Maintain the optimum condition of the hardware and software that comprises the technical infrastructure. This equipment includes, but is not limited to: Routers and switches, Core Cryptographic Devices; Edge Encryption Devices; GEM; base and long-haul communications</p> <p>Information Assurance Systems</p> <p>Provide information assurance to MDA elements/components, BMDS elements, and COCOM and warfighter operational elements resident at the MDIOC</p> <p>Maintain DIACAP accreditation packages; manage the Information Assurance Vulnerability Assessment Program and provide technical assistance to Controls Validation Tests</p> <p>Provide DIACAP package management; ensure timely submissions to IAM/DAA for MDA Admin/ GENSER and Event Packages</p> <p>Perform architecture design, engineering, and configuration management reviews for all assigned projects</p>					

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Manage the Information Assurance Vulnerability Assessment and Communications Tasking Order remediation and implementation efforts to ensure DISA/JTF-GNO directed compliance Infrastructure Implementation Engineering</p> <p>Implement intelligence hardware/software updates as required to support the Operations Support Center</p> <p>Provide MDIOC centric test event network related detailed designs in support of Test Events and real world operational events, provide implementation plans, update interface control documents and perform Change Control and Configuration Management services</p> <p>Plan, design, test and operate the IT and communications technical architecture including Internet Protocol addressing schema, routing tables, switching policies, data paths, information assurance controls, fire wall configurations, application configurations, band width allocations for sub networks and eventual post event return to base line</p> <p>Provide technical health and status monitoring, troubleshooting, and break/fix, IT/Communications support for each of the event architectures including critical asset identification, monitoring, Quality Assurance/Quality Control (QA/QC) seals with configuration management and job control</p> <p>Software Licenses, Services and Applications</p> <p>Maintain must-fund software licensing and maintenance agreements to meet critical customer and legal requirements, enable continued software support necessary to maintain the directed computer network defense posture and ensure continued system operational availability</p> <p><i>FY 2011 OCO Plans:</i> NA</p>					
Facilities and Maintenance	0.000	0.000	18.743	0.000	18.743

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency	DATE: February 2010
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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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B. Accomplishments/Planned Program (\$ in Millions)	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>See Description Below</p> <p><i>FY 2009 Accomplishments:</i> Accomplished ;captured under Project YX22</p> <p><i>FY 2010 Plans:</i> Plans ;captured under Project YX22</p> <p><i>FY 2011 Base Plans:</i> Utilities (Electrical, Gas, Sewer, Water, Steam, & Chilled Water)</p> <p>Procure utility services through 50th AF Space Wing (Host Base) Sustain utility infrastructure and delivery systems Facility Operations and Sustainment</p> <p>Provide 24 hours a day, 7 days a week, 365 days a year, facility maintenance break/fix response for all facility systems (electrical; Heating, Ventilation, and Air Conditioning; plumbing; locksmith) Conduct over 320 preventative maintenance inspections (PMIs) a month for all building systems Environmental, Safety & Occupational Health (ESOH)</p> <p>Continue maintenance and update of the program accident prevention plan Provide required industrial safety training to facility services personnel Procure and distribute personal protection equipment for contracted activities Ensure compliance with Hazardous Waste/Hazardous Material/Recycling, and NEPA programs Conduct recurring safety and environmental audits Facilities Repair & Sustainment</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Upgrade facility electrical distribution system for dual redundancy (Phase II) and (Phase III) Elevator Retrofit (Phase II) Replace Building 720 concrete seals (Phase I and II) Property Management software upgrade Diversify chilled water system distribution Facilities Engineering</p> <p>Conduct Management Process/Facility Installation Standard Audits Provide risk management analysis and mitigation plans Maintain infrastructure drawings/configuration management databases Develop and document facility long range planning/programming Provide consulting services, preliminary designs and engineering/rough order of magnitude estimates for required infrastructure builds/changes MDIOC Operating Expenses</p> <p>Lease GSA Vehicles and two commercial warehouses Fund Schriever AFB Support Costs (DRSN Support, Local Dial Tone, Long Distance, Cable TV, & Grounds Maintenance) Facility Services</p> <p>Provide custodial services for over 675,000 sf of floor space in Bldgs 720/730 Provide Copy Center and Shuttle Services for over 2,000 personnel Provide In/Out Processing & Personnel Moves Cable Plant/Cubicle/Workstation</p> <p>Install facility connectivity cabling; provide trouble shooting and repair Install and reconfigure furniture and workstations</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and</i> <i>Operations Center (MDIOC)</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Independent Assessments Conduct root cause analysis and consulting services as required Conduct an electrical coordination study of technical and non-technical services Provide Quality Assurance Assessments <i>FY 2011 OCO Plans:</i> NA						
Engineering and Event Services See Description Below <i>FY 2009 Accomplishments:</i> Accomplishments ;captured under Project YX22 <i>FY 2010 Plans:</i> Plans ;captured under Project YX22 <i>FY 2011 Base Plans:</i> Mission Assurance and Event Execution Support Implement baseline technical control for all MDIOC mission critical subsystems and services Execute MDIOC engineering management, quality assurance, configuration management and integration of all mission critical systems including:		0.000	0.000	11.531	0.000	11.531

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>BMDS Operational Support Center and technical integration and implementation services 24 hours a day, 7 days a week, 365 days a year</p> <p>MDA Intelligence Support Cell and Threat Modeling Center services</p> <p>BMDS Wargame, exercise and DMETS training execution; Warfighter Support Center program integration</p> <p>Missile Defense Space Experimentation Center (MDSEC) Satellite Operations, Ground System and experiment support operations</p> <p>External Sensor Laboratory experimental, networking and facility support and coordination</p> <p>GMD Fire Control component-level operations, integration, testing, and training</p> <p>Joint Early Warning Laboratory mission services and connectivity</p> <p>Combatant Command (COCOM) operations work centers including the USNORTHCOM C2BMC Control Center, Army 100th Missile Defense Brigade, and USSTRATCOM's Joint Functional Component Command-Integrated Missile Defense</p> <p>MDA General Services Network and Operational Support Center and Network Communications Center</p> <p>MDA Computer Emergency Response Team</p> <p>24 Hours a Day, 7 Days a Week, 365 Days a Year, Technical Watch Support</p> <p>Provide on-site technical environment for BMDS Watch Officers, Safety Officers, and Information Assurance Officers to execute their duties 24 hours a day, 7 days a week, 365 days a year</p> <p>Implement recall procedures to augment subject matter expertise availability during contingencies and major events</p> <p>Execute tabletop exercises to assess readiness for COCOM Operational contingencies and major BMDS tests</p> <p>Provide state change management and asset management technical support for the BMDS</p> <p>Coordinate, report and escalate critical information and BMDS test and operational event information to all MDIOC technical and management staff to ensure rapid break/fix actions are executed</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>JNIC Research and Development Contract (JRDC) Business & Finance Operations</p> <p>Provide overarching contract and financial management support for all JRDC integrated programs/projects</p> <p>Provide engineering coordination, resource management, and event integration across all MDIOC mission areas</p> <p>Conduct continuous process improvement and implementation across all JRDC execution and MDIOC missions</p> <p>Deliver integrated skill mix planning, coordination and workforce deployment across the dynamic spectrum of MDIOC events</p> <p>Execute integrated resource forecasting and de-confliction</p> <p>Perform project management for discrete enterprise enhancements</p> <p>Event Architecture & Engineering Design</p> <p>Coordinate design and implementation of technical architectures for all major MDIOC hosted BMDS tests, training and operations</p> <p>Deliver technical documentation packages for all major BMDS flight tests, ground tests, training and COCOM exercise support</p> <p>Lead requirements coordination and technical architecture enhancements for BMDS wargame, exercise and training networks</p> <p>Update BMDS end-to-end COCOM deployed architecture as-built documentation reflecting new incremental content and deployments</p> <p>Maintain a technical repository of BMDS Implementation Architectures for real-time operations and configuration management</p> <p>Event and Personnel Support</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Provide quality event planning, coordination, logistics, security access and host support for all MDIOC events and visitors Deliver integrated service coordination for all MDIOC event and protocol support including:</p> <ul style="list-style-type: none"> Event Registration Website Offsite event registration Security processing, including clearance verification and badging Coordination of group lodging Arrangement/Coordination/Scheduling of Bus Transportation Liaison between event POC and catering POC Reserve, setup and coordinate access for all primary shared MDIOC conference rooms Operate Audio Visual equipment during events Prepare and conduct official ceremonies; coordinate and host Distinguished Visitor itineraries; obtain information disclosure approval; coordinate offsite dinners and socials Special Program Support <p>Develop and coordinate Cross-Domain Solution architectures for high priority BMDS testing and contingency deployments</p> <p>Coordinate MDA leveraged involvement in multi-mission integration opportunities sponsored by external agencies and customers</p> <p><i>FY 2011 OCO Plans:</i> NA</p>						
Operations and Sustainment See Description Below		0.000	0.000	8.231	0.000	8.231

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> Accomplishments ;captured under Project YX22</p> <p><i>FY 2010 Plans:</i> Plans ;captured under Project YX22</p> <p><i>FY 2011 Base Plans:</i> Government Civilian, Contract Support Services (CSS), Training, Travel, Federally Funded Research and Development Contract (FFRDC)</p> <p>Fund Civilian, CSS and FFRDC ;positions supporting operations and sustainment of Infrastructure Systems, and Support; Facility Maintenance; Engineering and Event Services</p> <p>Fund Training and Travel for Infrastructure Systems, and Support; Facility Maintenance; Engineering and Event Services</p> <p><i>FY 2011 OCO Plans:</i> NA</p>					
<p>C2BMC Test Beds</p> <p>See Description Below</p> <p><i>FY 2009 Accomplishments:</i> Accomplishments ;captured under Project CX22</p> <p><i>FY 2010 Plans:</i> Plans ;captured under Project CX22</p>	0.000	0.000	21.613	0.000	21.613

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 Base Plans:</i></p> <p>The BMDS performance evaluation strategy is to develop models and simulations of the BMDS and compare their predictions to empirical data collected through comprehensive flight and ground testing to validate their accuracy, rather than physically testing all possible combinations of BMDS configurations, engagement conditions, and target phenomena. The BMDS test review determined how to validate our models and simulations so that our war fighting commanders consider employing the BMDS in ways other than originally planned or against threats unknown at this time.</p> <p>Transition the MDIOC C2BMC Testbed to support sustainment testing of C2BMC Spiral 6.4 Build out and upgrade MDIOC C2BMC Testbed to support early integration and test C2BMC Spiral 8.2 functionality and architecture Plan, collect data, assess, examine, and report on MDA directed C2BMC spiral integration testing Continue to support the integration of missile defense elements into the BMDS command and control structure Support interoperability and integration of the BMDS program elements Improve the operational realism of the system test architectures Conduct a system test campaign across the architecture based on the Integrated Master Plan Test (IMPT) Schedule Support the field testing of the European Deployment Sustain the C2BMC Components of the Distributed Multi-Echelon Distributed Training system (DMETS) in the conduct of BMDS-level wargames, exercises, and training Provide infrastructure, network, and troubleshooting support to:</p> <p>C2BMC Control Center (CCC) BMDS Communications Network (BCN) Parallel Staging Network (PSN)</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>BMDS Network Operations and Security Center (BNOSC) Conduct C2BMC X-Lab Events and Experimentation</p> <p>Refine C2BMC interfaces to BMDS Elements and Sensors Conduct concept development for highly adaptive, highly secure, highly reliable CTTO Network Architectures</p> <p>Extend the BMD OPIR Architecture (BOA), interfaces, testing, integration, and fielding Perform BMDS / Joint Early Warning test, operational assessments, integration and fielding support (JEWL)</p> <p><i>FY 2011 OCO Plans:</i> NA</p>						
<p>Joint Early Warning Laboratory (JEWL) See Description Below</p> <p><i>FY 2009 Accomplishments:</i> Accomplishments ;captured under Project CX22</p> <p><i>FY 2010 Plans:</i> Plans ;captured under Project CX22</p> <p><i>FY 2011 Base Plans:</i> Perform BMDS Early Warning test, integration and fielding support Perform Joint Early Warning operational assessments and support Record data on all missile events broadcast over Theater Event System (TES)</p>		0.000	0.000	2.190	0.000	2.190

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
See Description Below					
<i>FY 2009 Accomplishments:</i> Activity did not exist in the MDIOC PE FY 2009					
<i>FY 2010 Plans:</i> Activity did not exist in the MDIOC PE FY 2010					
<i>FY 2011 Base Plans:</i> Development and maintenance of system level configuration management capabilities for the BMDS system					
<i>FY 2011 OCO Plans:</i> NA					
Accomplishments/Planned Programs Subtotals	0.000	0.000	83.298	0.000	83.298

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

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0603175C: <i>Ballistic Missile Defense Technology</i>	117.602	189.229	132.220	0.000	132.220	236.875	239.873	197.118	197.852	0	1,310.769
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	951.414	715.732	436.482	0.000	436.482	250.275	336.711	500.983	521.717	0	3,713.314
• 0603882C: <i>Ballistic Missile Defense Mid-Course Segment</i>	1,472.683	1,027.371	1,346.181	0.000	1,346.181	1,112.655	1,291.790	1,099.029	1,033.213	0	8,382.922
	384.365	182.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	566.682

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603883C: <i>Ballistic Missile Defense Boost Defense Segment</i>											
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	682.754	621.017	454.859	0.000	454.859	469.589	681.397	650.525	616.342	0	4,176.483
• 0603886C: <i>Ballistic Missile Defense System Interceptor</i>	308.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	308.869
• 0603888C: <i>Ballistic Missile Defense Test and Targets</i>	906.952	823.333	1,113.425	0.000	1,113.425	1,105.959	951.371	871.929	829.608	0	6,602.577
• 0603890C: <i>Ballistic Missile Defense Enabling Programs</i>	402.776	358.751	402.769	0.000	402.769	468.673	457.745	473.871	488.799	0	3,053.384
• 0603891C: <i>SPECIAL PROGRAMS - MDA</i>	182.998	250.185	270.189	0.000	270.189	269.040	450.645	517.486	601.315	0	2,541.858
• 0603892C: <i>BMD AEGIS</i>	1,054.323	1,435.717	1,467.278	0.000	1,467.278	1,021.878	1,112.668	1,076.739	923.316	0	8,091.919
• 0603893C: <i>SPACE TRACKING & SURVEILLANCE SYSTEM</i>	209.831	161.609	112.678	0.000	112.678	98.500	56.424	52.928	34.661	0	726.631
• 0603894C: <i>MULTIPLE KILL VEHICLE</i>	226.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	226.027
• 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	23.250	12.492	10.942	0.000	10.942	11.182	11.347	11.749	12.155	0	93.117
• 0603896C: <i>BMD C2BMC</i>	275.174	334.734	342.625	0.000	342.625	364.085	289.778	323.922	298.936	0	2,229.254
• 0603897C: <i>BMD HERCULES</i>	51.629	47.932	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	99.561
• 0603898C: <i>BMD JOINT WARFIGHTER SUPPORT</i>	66.283	61.098	68.726	0.000	68.726	62.239	63.451	65.158	67.231	0	454.186
• 0603901C: <i>DIRECTED ENERGY RESEARCH</i>	0.000	0.000	98.688	0.000	98.688	101.371	103.449	104.572	104.141	0	512.221
• 0603906C: <i>REGARDING TRENCH</i>	3.159	6.130	7.529	0.000	7.529	8.295	8.286	8.479	8.675	0	50.553
	143.878	167.153	153.056	0.000	153.056	150.104	159.832	160.163	197.099	0	1,131.285

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603907C: <i>SEA BASED X-BAND RADAR (SBX)</i>											
• 0603908C: <i>BMD EUROPEAN INTERCEPTOR SITE</i>	348.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	348.722
• 0603909C: <i>BMD EUROPEAN MIDCOURSE RADAR</i>	73.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	73.728
• 0603911C: <i>BMD EUROPEAN CAPABILITY</i>	0.000	50.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	50.226
• 0603912C: <i>BMD European Comm Support</i>	26.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	26.016
• 0603913C: <i>ISRAELI COOPERATIVE</i>	0.000	201.323	121.735	0.000	121.735	111.100	113.101	116.114	119.172	0	782.545
• 0604880C: <i>LAND-BASED SM-3</i>	0.000	0.000	281.378	0.000	281.378	345.937	187.062	93.456	139.595	0	1,047.428
• 0604881C: <i>Aegis SM-3 BLOCK IIA CO-DEVELOPMENT</i>	0.000	255.987	318.800	0.000	318.800	405.500	416.300	337.300	227.500	0	1,961.387
• 0604883C: <i>PRECISION TRACKING SPACE SYSTEM</i>	0.000	0.000	66.969	0.000	66.969	123.851	184.800	348.360	482.952	0	1,206.932
• 0604884C: <i>AIRBORNE INFRARED (ABIR)</i>	0.000	0.000	111.671	0.000	111.671	103.636	123.591	103.668	58.773	0	501.339
• 0605502C: <i>Small Business Innovative Research BMDO</i>	124.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	124.788
• 0901585C: <i>Pentagon Reservation</i>	20.146	19.709	20.482	0.000	20.482	0.000	0.000	0.000	0.000	0	60.337
• 0901598C: <i>Management Headquarters-MDA</i>	87.151	52.403	29.754	0.000	29.754	29.421	29.974	30.567	31.171	0	290.441

D. Acquisition Strategy

The strategy for the Missile Defense Integration and Operation Center (MDIOC) mission execution is to employ an integration contract to simultaneously perform all of the Ballistic Missile Defense System (BMDS) Research, Development, Test and Evaluation (RDT&E) tasks with integrated operation and sustainment. The MDIOC

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<p>is operated by missile defense subject matter experts (SME) composed of Government military and civilian personnel, Federally Funded Research and Development Center (FFRDC), MDIOC Technical Advisory and Assistance Services, and major defense contractors.</p> <p>MDA will transition from the existing legacy, project-oriented Systems Engineering and Technical Assistance (SETA) contractor construct to an enterprise-wide Advisory and Assistance Services (A&AS) approach to support the Ballistic Missile Defense System (BMDS) mission. The objectives are to implement national engineering and support services for the BMDS mission across the enterprise, enhance the sharing of ballistic missile defense expertise and knowledge across the agency, centralize the acquisition of support services manpower in a more efficient manner and reduce agency overhead costs enterprise-wide. A&AS support includes engineering and technical services; studies, analyses, and evaluation; and management and professional services. All future procurement actions will be competed to the practical extent possible.</p> <p><u>E. Performance Metrics</u> NA</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks

NA

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Infrastructure Systems and Support MD22	C/CPAF	MDIOC/Northrop Grumman Mission Systems Colorado Springs, CO	0.000	0.000		19.246	Jan 2011	0.000		19.246	Continuing	Continuing	Continuing
Facilities and Maintenance MD22	C/CPAF	MDIOC/Northrop Grumman Mission Systems Colorado Springs, CO	0.000	0.000		14.997	Jan 2011	0.000		14.997	Continuing	Continuing	Continuing
Facilities and Maintenance MD22	TBD/TBD	Various (GSA, 50th Space Wing, Warehouses)	0.000	0.000		1.572	Apr 2011	0.000		1.572	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Colorado Springs, CO											
Facilities and Maintenance MDIOC Utilities MD22	TBD/TBD	50th Space Wing Schriever AFB, CO	0.000	0.000		2.174	Oct 2010	0.000		2.174	Continuing	Continuing	Continuing
Engineering and Event Services MDIOC NG MD22	C/CPAF	MDIOC/Northrop Grumman Mission Systems Colorado Springs, CO	0.000	0.000		11.531	Apr 2011	0.000		11.531	Continuing	Continuing	Continuing
Operations and Sustainment MDIOC Ops & Sustainment MD22	Various/ Various	MDIOC Colorado Springs, CO	0.000	0.000		4.370	Apr 2011	0.000		4.370	Continuing	Continuing	Continuing
Operations and Sustainment MDIOC ManTech MD22	C/FFP	MDIOC/SRS/ ManTech Colorado Springs, CO	0.000	0.000		2.939	Jan 2011	0.000		2.939	Continuing	Continuing	Continuing
Operations and Sustainment MDIOC FFRDC MD22	TBD/TBD	MDIOC Colorado Springs, CO	0.000	0.000		0.727	Oct 2010	0.000		0.727	Continuing	Continuing	Continuing
Operations and Sustainment MDIOC Various MD22	Various/ Various	MDIOC Colorado Springs, CO	0.000	0.000		0.195	Jul 2011	0.000		0.195	Continuing	Continuing	Continuing
BMDS Engineering Implementation and	C/CPAF		0.000	0.000		1.744	Jan 2011	0.000		1.744	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration BMDS Engineering MD22		Northrop Grumman Mission System Colorado Springs, CO											
Subtotal			0.000	0.000		59.495		0.000		59.495			

Remarks
 FY2009 and FY2010 data is captured under Project YX22

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
C2BMC Test Beds C2BMC Testbed - 1 MD22	C/FFP	Mantech Colorado Springs, CO	0.000	0.000		1.664	Apr 2011	0.000		1.664	Continuing	Continuing	Continuing
C2BMC Test Beds C2BMC Testbed - 2 MD22	TBD/TBD	IDA Colorado Springs, CO	0.000	0.000		0.900	Oct 2010	0.000		0.900	Continuing	Continuing	Continuing
C2BMC Test Beds BMDS Level Testing MD22	C/CPFF	Northrop Grumman Mission Systems	0.000	0.000		19.049	Oct 2010	0.000		19.049	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Colorado Springs, CO											
Joint Early Warning Laboratory (JEWL) JEWL MD22	Various/ Various	MULTI Colorado Springs, CO	0.000	0.000		2.190	Jan 2011	0.000		2.190	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		23.803		0.000		23.803			

Remarks

NA

Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks

NA

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	83.298	0.000	83.298			

Remarks

NA

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and</i> <i>Operations Center (MDIOC)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Recapitalization AF Tenant Space 1201 Ph 2 Q1									■																			
Electrical Power Distribution Upgrade PhII Q1,Q2									■	■																		
Recapitalization AF Tenant Space 1201 Ph 2 Q2										■																		
Electrical Power Distribution Upgrade PhII Q3,Q4											■	■																
Electrical Power Distribution Upgrade PhIII Q1,Q2													■	■														
Design, procure, and implement additional data storage capacity														■														
Electrical Power Distribution Upgrade PhIII Q3,Q4															■	■												
Replace Roof, Bldg 730															■													
Emergency Lighting System Replacement															■													
Electrical Power Distribution Upgrade PhIV Q1,Q2																			■	■								
Modify Cafeteria for Multi-use Facility Q1,Q2																			■	■								
Electrical Power Distribution Upgrade PhIV Q3,Q4																							■	■				
																							■					

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and</i> <i>Operations Center (MDIOC)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Network Operations Center Expansion and Command Center																												
Install Restricted Area Access Telephone System																												
Modify Cafeteria for Multi-use Facility Q3																												
Electrical Power Distribution Upgrade PhV Q1,Q2																												
Electrical Power Distribution Upgrade PhV Q3,Q4																												
Replace Elevators																												
Spiral 6.4D Testing Q1 FY11																												
Spiral 6.4D Testing Q2 FY11																												
Spiral 6.4D Testing Q3 FY11																												
System Test (ST) (C2BMC Suite for Ground Test) - 1 Spiral 6.4 Upgrade Q1																												
System Test (ST) (C2BMC Suite for Ground Test) -1 Spiral 6.4 Upgrade Q2																												
System Test (ST) (C2BMC Suite for Ground Test) -1 Spiral 6.4 Upgrade Q3																												
System Test (ST) (C2BMC Suite for Ground Test) -1 Spiral 6.4 Upgrade Q4																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and</i> <i>Operations Center (MDIOC)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q1																												
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q2																												
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q3																												
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q4																												
Spiral 8.2 Testing Q4 FY11																												
Spiral 8.2 Testing Q1 FY12																												
Spiral 8.2 Testing Q2 FY12																												
Spiral 8.2 Testing Q3 FY12																												
Spiral 8.4 Testing Q2 FY13																												
Spiral 8.4 Testing Q3 FY13																												
Spiral 8.4 Testing Q4 FY13																												
Spiral 8.4 Testing Q1 FY14																												
Spiral 10.2 Testing Q4 FY14																												
Spiral 10.2 Testing Q1 FY15																												
Spiral 10.2 Testing Q2 FY15																												
Spiral 10.2 Testing Q3 FY15																												
Vigilant Shield 11																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Vigilant Shield 12													■															
Vigilant Shield 13																	■											
Vigilant Shield 14																					■							
Vigilant Shield 15																										■		
Key Resolve 12														■														
Key Resolve Q2 FY13																												
Key Resolve Q2 FY14																												
Key Resolve Q2 FY15																												■
Global Lightening 12														■														
Global Lightening 13																												
Keen Edge																												
Keen Edge Q2																												
Nimble Titan																												
Nimble Titan Q3																												
Terminal Fury 11																												
Terminal Fury 12																												
Terminal Fury 13																												
Terminal Fury 14																												
Terminal Fury 15																												■

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and</i> <i>Operations Center (MDIOC)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Eagle Resolve 12																												
Eagle Resolve																												
Future Epoch Wargame																												
Assured Response 04X Q1 FY11																												
Assured Response 04A																												
Assured Response 04X Q1 FY12																												
Assured Response 05a																												
Assured Response 06a																												
Air and Missile Defense Exercise Q3 FY13																												
Air and Missile Defense Exercise Q3 FY15																												
Austere Challenge																												
Eagle Resolve Q1																												
Foreign Exercise Q1																												
Foreign Exercise Q2																												
Foreign Exercise Q3,Q4																												
Congressional Wargame Q4 FY12																												
Congressional Wargame Q2 FY13																												
Congressional Wargame Q2 FY14																												
Congressional Wargame Q2 FY15																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

PE 0603904C: *MISSILE DEFENSE
 INTEGRATION & OPERATIONS CENTER
 (MDIOC)*

PROJECT

MD22: *Missile Defense Integration and
 Operations Center (MDIOC)*

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Global Thunder 11											■																	
Global Thunder 12															■													
Global Thunder 13																												
Global Thunder 14																												
Global Thunder 15																												
Future Epoch Wargame Q1																												
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #1 Q2											■																	
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #1 Q3												■																
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #1 Q4																												
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #2																												
C2BMC Regional Testbed											■																	
Ground Test Environment												■																
Performance Assessment (PA)-11 Q2											■																	
Performance Assessment (PA)-11 Q3												■																
Performance Assessment (PA)-11 Q4																												
Global Lightening 11											■																	
Global Lightening 14																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
G-19-H (TPY-2 FBM HWIL)												■																
FTM-16 E1 (Aegis Simulated Intercept Flight Test)									■																			
FTM-16 E2 (Aegis Intercept Flight Test)									■																			
GTX-04c (Full BMDS Distributed Test)									■																			
GTX-04d (Full BMDS HWIL Test)									■																			
JFTM-04 E1 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)									■																			
JFTM-04 E2 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)									■																			
Patriot 7-3 (Patriot Multiple Simultaneous Engagement)									■																			
AST-14 (Israeli Cooperative Intercept Flight Test)										■																		
FTG-07 (EC Intercept Flight Test)										■																		
FTL-05 (ABL Intercept Flight Test)										■																		
FTT-13 (THAAD Intercept Flight Test)										■																		
GTI-04 (INT) (Full BMDS HWIL Test)										■																		
FTS-02 (STSS Demonstrator Flight Test)											■																	
GTX-04e (Regional Focused HWIL Test)											■																	
GTI-04 (EXE) (Full BMDS HWIL Test)											■																	

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
EPOCH-1 (Aegis/THAAD/Patriot Multiple Engagement Flight Test)												■																
FTL-06 (ABL Intercept Flight Test)												■																
FTG-08 (GMD Intercept Flight Test)													■															
FTM-19 E1 (Aegis Simulated Intercept Flight Test)													■															
FTM-19 E2 (Aegis Intercept Flight Test)													■															
FTM-18 (Aegis Intercept Flight Test)														■														
FTT-14 (THAAD Intercept Flight Test)														■														
PTV-1 (Aegis Interceptor Only Test)														■														
FTL-07 (ABL Intercept Flight Test)															■													
FTL-08 (ABL Intercept Flight Test)															■													
GTX-05a (Regional Focused HWIL Test)															■													
CTV-1 (Aegis Interceptor Only Test)																■												
FTG-09 (GMD Salvo Flight Test)																■												
FTT-15 (THAAD Intercept Flight Test)																■												
GTX-05b (Strategic Focused HWIL Test)																■												
AST-15 (Israeli Cooperative Intercept Flight Test)																				■								
FTM-20 E1 (Aegis Simulated Intercept Flight Test)																				■								

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

PE 0603904C: *MISSILE DEFENSE
 INTEGRATION & OPERATIONS CENTER
 (MDIOC)*

PROJECT

MD22: *Missile Defense Integration and
 Operations Center (MDIOC)*

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
FTM-20 E2 (Aegis Intercept Flight Test)																												
FTM-20 E3 (Aegis Simulated Intercept Flight Test)																												
FTX-12 (UEWR Tracking Test)																												
CTV-2 (Aegis Interceptor Only Test)																												
FTT-16 (THAAD Intercept Flight Test)																												
GTI-05 (INT) (Full BMDS HWIL Test)																												
GTX-06a (BMDS Focused HWIL Test)																												
FTL-09 (ABL Intercept Flight Test)																												
FTL-10 (ABL Intercept Flight Test)																												
FTX-13 (GMD Risk Reduction Flight)																												
FTX-14 (Aegis Simulated Intercept Flight Test)																												
GTX-06b (BMDS Focused HWIL Test)																												
FTG-10 (EC Intercept Flight Test)																												
FTT-17 (THAAD Intercept Flight Test)																												
SFTM-1 E1 (Aegis Simulated Intercept Flight Test)																												
SFTM-1 E2 (Aegis Interceptor Only Test)																												
GTI-05 (EXE) (Full BMDS HWIL Test)																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
AST-16 (Israeli Cooperative Intercept Flight Test)																												
GTX-06c (BMDS Focused HWIL Test)																				■								
SFTM-2 E1 (Aegis Simulated Intercept Flight Test)																				■								
SFTM-2 E2 (Aegis Non Intercept Flight Test)																				■								
FTG-11 (GMD Intercept Flight Test)																					■							
FTM-21 (Aegis Intercept Flight Test)																					■							
FTM-22 (Aegis Intercept Flight Test)																					■							
FTT-18 (THAAD Intercept Flight Test)																					■							
FTL-11 (ABL Intercept Flight Test)																						■						
FTL-12 (ABL Intercept Flight Test)																						■						
SFTM-3 E1 (Aegis Simulated Intercept Flight Test)																						■						
SFTM-3 E2 (Aegis Intercept Flight Test)																						■						
GTI-06 (INT) (Full BMDS HWIL Test)																						■						
FTT-19 (THAAD Intercept Flight Test)																							■					
FTX-15 (ECM Test Flight)																							■					
GTI-06 (EXE) (Full BMDS HWIL Test)																										■		
SFTM-4 (Aegis Intercept Flight Test)																											■	

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Recapitalization AF Tenant Space 1201 Ph 2 Q1	1	2011	1	2011
Electrical Power Distribution Upgrade PhII Q1,Q2	1	2011	2	2011
Recapitalization AF Tenant Space 1201 Ph 2 Q2	2	2011	2	2011
Electrical Power Distribution Upgrade PhII Q3,Q4	3	2011	4	2011
Electrical Power Distribution Upgrade PhIII Q1,Q2	1	2012	2	2012
Design, procure, and implement additional data storage capacity	2	2012	2	2012
Electrical Power Distribution Upgrade PhIII Q3,Q4	3	2012	4	2012
Replace Roof, Bldg 730	3	2012	3	2012
Emergency Lighting System Replacement	3	2012	3	2012
Electrical Power Distribution Upgrade PhIV Q1,Q2	1	2013	2	2013
Modify Cafeteria for Multi-use Facility Q1,Q2	1	2013	2	2013
Electrical Power Distribution Upgrade PhIV Q3,Q4	3	2013	4	2013
Network Operations Center Expansion and Command Center	3	2013	3	2013
Install Restricted Area Access Telephone System	3	2013	3	2013
Modify Cafeteria for Multi-use Facility Q3	3	2013	3	2013
Electrical Power Distribution Upgrade PhV Q1,Q2	1	2014	2	2014
Electrical Power Distribution Upgrade PhV Q3,Q4	3	2014	4	2014
Replace Elevators	2	2015	3	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Spiral 6.4D Testing Q1 FY11	1	2011	1	2011
Spiral 6.4D Testing Q2 FY11	2	2011	2	2011
Spiral 6.4D Testing Q3 FY11	3	2011	3	2011
System Test (ST) (C2BMC Suite for Ground Test) - 1 Spiral 6.4 Upgrade Q1	1	2011	1	2011
System Test (ST) (C2BMC Suite for Ground Test) -1 Spiral 6.4 Upgrade Q2	2	2011	2	2011
System Test (ST) (C2BMC Suite for Ground Test) -1 Spiral 6.4 Upgrade Q3	3	2011	3	2011
System Test (ST) (C2BMC Suite for Ground Test) -1 Spiral 6.4 Upgrade Q4	4	2011	4	2011
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q1	1	2011	1	2011
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q2	2	2011	2	2011
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q3	3	2011	3	2011
ST-2 Spiral 6.4 BMD Overhead Persistent IR (BOA) Upgrade Q4	4	2011	4	2011
Spiral 8.2 Testing Q4 FY11	4	2011	4	2011
Spiral 8.2 Testing Q1 FY12	1	2012	1	2012
Spiral 8.2 Testing Q2 FY12	2	2012	2	2012
Spiral 8.2 Testing Q3 FY12	3	2012	3	2012
Spiral 8.4 Testing Q2 FY13	2	2013	2	2013
Spiral 8.4 Testing Q3 FY13	3	2013	3	2013
Spiral 8.4 Testing Q4 FY13	4	2013	4	2013
Spiral 8.4 Testing Q1 FY14	1	2014	1	2014
Spiral 10.2 Testing Q4 FY14	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Spiral 10.2 Testing Q1 FY15	1	2015	1	2015
Spiral 10.2 Testing Q2 FY15	2	2015	2	2015
Spiral 10.2 Testing Q3 FY15	3	2015	3	2015
Vigilant Shield 11	1	2011	1	2011
Vigilant Shield 12	1	2012	1	2012
Vigilant Shield 13	1	2013	1	2013
Vigilant Shield 14	1	2014	1	2014
Vigilant Shield 15	1	2015	1	2015
Key Resolve 12	2	2012	2	2012
Key Resolve Q2 FY13	2	2013	2	2013
Key Resolve Q2 FY14	2	2014	2	2014
Key Resolve Q2 FY15	2	2015	2	2015
Global Lightening 12	1	2012	1	2012
Global Lightening 13	1	2013	1	2013
Keen Edge	2	2012	2	2012
Keen Edge Q2	2	2014	2	2014
Nimble Titan	3	2012	3	2012
Nimble Titan Q3	3	2014	3	2014
Terminal Fury 11	3	2011	3	2011
Terminal Fury 12	3	2012	3	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Terminal Fury 13	3	2013	3	2013
Terminal Fury 14	3	2014	3	2014
Terminal Fury 15	3	2015	3	2015
Eagle Resolve 12	3	2012	3	2012
Eagle Resolve	1	2013	1	2013
Future Epoch Wargame	1	2013	1	2013
Assured Response 04X Q1 FY11	1	2011	1	2011
Assured Response 04A	4	2011	4	2011
Assured Response 04X Q1 FY12	1	2012	1	2012
Assured Response 05a	1	2014	1	2014
Assured Response 06a	2	2015	2	2015
Air and Missile Defense Exercise Q3 FY13	3	2013	3	2013
Air and Missile Defense Exercise Q3 FY15	3	2015	3	2015
Austere Challenge	3	2013	3	2013
Eagle Resolve Q1	1	2014	1	2014
Foreign Exercise Q1	1	2014	1	2014
Foreign Exercise Q2	2	2014	2	2014
Foreign Exercise Q3,Q4	3	2014	4	2014
Congressional Wargame Q4 FY12	4	2012	4	2012
Congressional Wargame Q2 FY13	2	2013	2	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Congressional Wargame Q2 FY14	2	2014	2	2014
Congressional Wargame Q2 FY15	2	2015	2	2015
Global Thunder 11	3	2011	3	2011
Global Thunder 12	3	2012	3	2012
Global Thunder 13	3	2013	3	2013
Global Thunder 14	3	2014	3	2014
Global Thunder 15	3	2015	3	2015
Future Epoch Wargame Q1	1	2015	1	2015
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #1 Q2	2	2011	2	2011
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #1 Q3	3	2011	3	2011
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #1 Q4	4	2011	4	2011
Global Engagement Manager (GEM) Spiral 8.2 Test Environment #2	4	2011	4	2011
C2BMC Regional Testbed	1	2011	1	2011
Ground Test Environment	3	2011	3	2011
Performance Assessment (PA)-11 Q2	2	2011	2	2011
Performance Assessment (PA)-11 Q3	3	2011	3	2011
Performance Assessment (PA)-11 Q4	4	2011	4	2011
Global Lightening 11	1	2011	1	2011
Global Lightening 14	1	2014	1	2014
Global Lightening 15	1	2015	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
GTI-04 OT (WF on Console HWIL Test)	4	2011	4	2011
GTD-04 (Full BMDS District Test)	1	2012	1	2012
GTD-04 OT (WF on Console Distributed Test)	2	2012	2	2012
GTD-04 (WF Trial period for Suitability Testing)	3	2012	3	2012
GTD-04 (Warfighter Global Defender Exercise)	3	2012	3	2012
GTD-05 (Full BMDS Distributed Test)	1	2014	1	2014
GTD-05 (WF Trial period for Suitability Testing)	3	2014	3	2014
GTD-05 OT (WF on Console Distributed Test)	3	2014	3	2014
GTD-05 (Warfighter Global Defender Exercise)	3	2014	3	2014
GTI-05 OT (WF on Console HWIL Test)	1	2014	1	2014
Joint Project Optic Windmill	4	2014	4	2014
G-1b-L (EKV solar angle chamber test)	1	2011	1	2011
G-17-H (PCIL Integration Test)	2	2011	2	2011
G-48.1-L (AEDC 10V Chamber Test)	3	2011	3	2011
G-7-H (TEC HWIL)	3	2011	3	2011
G-04b-L (Space Chamber Test)	4	2011	4	2011
G-19-H (TPY-2 FBM HWIL)	4	2011	4	2011
FTM-16 E1 (Aegis Simulated Intercept Flight Test)	1	2011	1	2011
FTM-16 E2 (Aegis Intercept Flight Test)	1	2011	1	2011
GTX-04c (Full BMDS Distributed Test)	1	2011	1	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
GTX-04d (Full BMDS HWIL Test)	1	2011	1	2011
JFTM-04 E1 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)	1	2011	1	2011
JFTM-04 E2 (Japanese Cooperative Aegis Track Ex/US Sim Engagement)	1	2011	1	2011
Patriot 7-3 (Patriot Multiple Simultaneous Engagement)	1	2011	1	2011
AST-14 (Israeli Cooperative Intercept Flight Test)	2	2011	2	2011
FTG-07 (EC Intercept Flight Test)	2	2011	2	2011
FTL-05 (ABL Intercept Flight Test)	2	2011	2	2011
FTT-13 (THAAD Intercept Flight Test)	2	2011	2	2011
GTI-04 (INT) (Full BMDS HWIL Test)	2	2011	2	2011
FTS-02 (STSS Demonstrator Flight Test)	3	2011	3	2011
GTX-04e (Regional Focused HWIL Test)	3	2011	3	2011
GTI-04 (EXE) (Full BMDS HWIL Test)	3	2011	3	2011
EPOCH-1 (Aegis/THAAD/Patriot Multiple Engagement Flight Test)	4	2011	4	2011
FTL-06 (ABL Intercept Flight Test)	4	2011	4	2011
FTG-08 (GMD Intercept Flight Test)	1	2012	1	2012
FTM-19 E1 (Aegis Simulated Intercept Flight Test)	1	2012	1	2012
FTM-19 E2 (Aegis Intercept Flight Test)	1	2012	1	2012
FTM-18 (Aegis Intercept Flight Test)	2	2012	2	2012
FTT-14 (THAAD Intercept Flight Test)	2	2012	2	2012
PTV-1 (Aegis Interceptor Only Test)	2	2012	2	2012

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
FTL-07 (ABL Intercept Flight Test)	3	2012	3	2012
FTL-08 (ABL Intercept Flight Test)	3	2012	3	2012
GTX-05a (Regional Focused HWIL Test)	3	2012	3	2012
CTV-1 (Aegis Interceptor Only Test)	4	2012	4	2012
FTG-09 (GMD Salvo Flight Test)	4	2012	4	2012
FTT-15 (THAAD Intercept Flight Test)	4	2012	4	2012
GTX-05b (Strategic Focused HWIL Test)	4	2012	4	2012
AST-15 (Israeli Cooperative Intercept Flight Test)	1	2013	1	2013
FTM-20 E1 (Aegis Simulated Intercept Flight Test)	1	2013	1	2013
FTM-20 E2 (Aegis Intercept Flight Test)	1	2013	1	2013
FTM-20 E3 (Aegis Simulated Intercept Flight Test)	1	2013	1	2013
FTX-12 (UEWR Tracking Test)	1	2013	1	2013
CTV-2 (Aegis Interceptor Only Test)	2	2013	2	2013
FTT-16 (THAAD Intercept Flight Test)	2	2013	2	2013
GTI-05 (INT) (Full BMDS HWIL Test)	2	2013	2	2013
GTX-06a (BMDS Focused HWIL Test)	2	2013	2	2013
FTL-09 (ABL Intercept Flight Test)	3	2013	3	2013
FTL-10 (ABL Intercept Flight Test)	3	2013	3	2013
FTX-13 (GMD Risk Reduction Flight)	3	2013	3	2013
FTX-14 (Aegis Simulated Intercept Flight Test)	3	2013	3	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
GTX-06b (BMDS Focused HWIL Test)	3	2013	3	2013
FTG-10 (EC Intercept Flight Test)	4	2013	4	2013
FTT-17 (THAAD Intercept Flight Test)	4	2013	4	2013
SFTM-1 E1 (Aegis Simulated Intercept Flight Test)	4	2013	4	2013
SFTM-1 E2 (Aegis Interceptor Only Test)	4	2013	4	2013
GTI-05 (EXE) (Full BMDS HWIL Test)	4	2013	4	2013
AST-16 (Israeli Cooperative Intercept Flight Test)	1	2014	1	2014
GTX-06c (BMDS Focused HWIL Test)	1	2014	1	2014
SFTM-2 E1 (Aegis Simulated Intercept Flight Test)	1	2014	1	2014
SFTM-2 E2 (Aegis Non Intercept Flight Test)	1	2014	1	2014
FTG-11 (GMD Intercept Flight Test)	2	2014	2	2014
FTM-21 (Aegis Intercept Flight Test)	2	2014	2	2014
FTM-22 (Aegis Intercept Flight Test)	2	2014	2	2014
FTT-18 (THAAD Intercept Flight Test)	2	2014	2	2014
FTL-11 (ABL Intercept Flight Test)	3	2014	3	2014
FTL-12 (ABL Intercept Flight Test)	3	2014	3	2014
SFTM-3 E1 (Aegis Simulated Intercept Flight Test)	3	2014	3	2014
SFTM-3 E2 (Aegis Intercept Flight Test)	3	2014	3	2014
GTI-06 (INT) (Full BMDS HWIL Test)	3	2014	3	2014
FTT-19 (THAAD Intercept Flight Test)	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD22: <i>Missile Defense Integration and Operations Center (MDIOC)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
FTX-15 (ECM Test Flight)	4	2014	4	2014
GTI-06 (EXE) (Full BMDS HWIL Test)	1	2015	1	2015
SFTM-4 (Aegis Intercept Flight Test)	1	2015	1	2015
EPOCH-2 (GMD/Aegis/THAAD/Patriot Multiple Engagement Flight Test)	2	2015	2	2015
GTD-06 (Full BMDS Distributed Test)	2	2015	2	2015
Caravan 3 (USFT-5) (Israeli Program Intercept Flight Test)	3	2015	3	2015
FTL-13 (ABL Intercept Flight Test)	3	2015	3	2015
FTL-14 (ABL Intercept Flight Test)	3	2015	3	2015
FTM-23 E1 (Aegis Salvo Flight Test)	3	2015	3	2015
FTM-23 E2 (Aegis Intercept Flight Test)	3	2015	3	2015
FTM-23 E3 (Aegis Intercept Flight Test)	3	2015	3	2015
Caravan 3 (USFT-6) (Israeli Program Intercept Flight Test)	4	2015	4	2015
Contingency Hardware-in-the-Loop	4	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
<i>ZX40: Program-Wide Support</i>	2.779	2.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	4.846
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

A. Mission Description and Budget Item Justification

Program-Wide Support provides funding for common non-headquarters support functions across the entire program. Includes costs for both government civilians performing these functions, as well as outside services and support contractors that augment government staff in these areas. Other costs included provide facility capabilities for MDA Executing Agent locations (with the exception of Federal Office Building 2), 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 fluctuations on a limited number of foreign contracts.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Civilian Salaries and Support See Description Below <i>FY 2009 Accomplishments:</i> See Section A: Mission Description and Budget Item Justification ; <i>FY 2010 Plans:</i> NA <i>FY 2011 Base Plans:</i> NA	2.779	2.067	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> NA					
Accomplishments/Planned Programs Subtotals	2.779	2.067	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0603175C: <i>Ballistic Missile Defense Technology</i>	117.602	189.229	132.220	0.000	132.220	236.875	239.873	197.118	197.852	0	1,310.769
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	951.414	715.732	436.482	0.000	436.482	250.275	336.711	500.983	521.717	0	3,713.314
• 0603882C: <i>Ballistic Missile Defense Mid-Course Segment</i>	1,472.683	1,027.371	1,346.181	0.000	1,346.181	1,112.655	1,291.790	1,099.029	1,033.213	0	8,382.922
• 0603883C: <i>Ballistic Missile Defense Boost Defense Segment</i>	384.365	182.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	566.682
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	682.754	621.017	454.859	0.000	454.859	469.589	681.397	650.525	616.342	0	4,176.483
• 0603886C: <i>Ballistic Missile Defense System Interceptor</i>	308.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	308.869
• 0603888C: <i>Ballistic Missile Defense Test and Targets</i>	906.952	823.333	1,113.425	0.000	1,113.425	1,105.959	951.371	871.929	829.608	0	6,602.577
• 0603890C: <i>Ballistic Missile Defense Enabling Programs</i>	402.776	358.751	402.769	0.000	402.769	468.673	457.745	473.871	488.799	0	3,053.384
• 0603891C: <i>SPECIAL PROGRAMS - MDA</i>	182.998	250.185	270.189	0.000	270.189	269.040	450.645	517.486	601.315	0	2,541.858

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603892C: <i>BMD AEGIS</i>	1,054.323	1,435.717	1,467.278	0.000	1,467.278	1,021.878	1,112.668	1,076.739	923.316	0	8,091.919
• 0603893C: <i>SPACE TRACKING & SURVEILLANCE SYSTEM</i>	209.831	161.609	112.678	0.000	112.678	98.500	56.424	52.928	34.661	0	726.631
• 0603894C: <i>MULTIPLE KILL VEHICLE</i>	226.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	226.027
• 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	23.250	12.492	10.942	0.000	10.942	11.182	11.347	11.749	12.155	0	93.117
• 0603896C: <i>BMD C2BMC</i>	275.174	334.734	342.625	0.000	342.625	364.085	289.778	323.922	298.936	0	2,229.254
• 0603897C: <i>BMD HERCULES</i>	51.629	47.932	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	99.561
• 0603898C: <i>BMD JOINT WARFIGHTER SUPPORT</i>	66.283	61.098	68.726	0.000	68.726	62.239	63.451	65.158	67.231	0	454.186
• 0603901C: <i>DIRECTED ENERGY RESEARCH</i>	0.000	0.000	98.688	0.000	98.688	101.371	103.449	104.572	104.141	0	512.221
• 0603906C: <i>REGARDING TRENCH</i>	3.159	6.130	7.529	0.000	7.529	8.295	8.286	8.479	8.675	0	50.553
• 0603907C: <i>SEA BASED X-BAND RADAR (SBX)</i>	143.878	167.153	153.056	0.000	153.056	150.104	159.832	160.163	197.099	0	1,131.285
• 0603908C: <i>BMD EUROPEAN INTERCEPTOR SITE</i>	348.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	348.722
• 0603909C: <i>BMD EUROPEAN MIDCOURSE RADAR</i>	73.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	73.728
• 0603911C: <i>BMD EUROPEAN CAPABILITY</i>	0.000	50.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	50.226
• 0603912C: <i>BMD European Comm Support</i>	26.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	26.016
• 0603913C: <i>ISRAELI COOPERATIVE</i>	0.000	201.323	121.735	0.000	121.735	111.100	113.101	116.114	119.172	0	782.545
• 0604880C: <i>LAND-BASED SM-3</i>	0.000	0.000	281.378	0.000	281.378	345.937	187.062	93.456	139.595	0	1,047.428

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE</i> <i>INTEGRATION & OPERATIONS CENTER</i> <i>(MDIOC)</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0604881C: <i>Aegis SM-3 BLOCK IIA CO-DEVELOPMENT</i>	0.000	255.987	318.800	0.000	318.800	405.500	416.300	337.300	227.500	0	1,961.387
• 0604883C: <i>PRECISION TRACKING SPACE SYSTEM</i>	0.000	0.000	66.969	0.000	66.969	123.851	184.800	348.360	482.952	0	1,206.932
• 0604884C: <i>AIRBORNE INFRARED (ABIR)</i>	0.000	0.000	111.671	0.000	111.671	103.636	123.591	103.668	58.773	0	501.339
• 0605502C: <i>Small Business Innovative Research BMDO</i>	124.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	124.788
• 0901585C: <i>Pentagon Reservation</i>	20.146	19.709	20.482	0.000	20.482	0.000	0.000	0.000	0.000	0	60.337
• 0901598C: <i>Management Headquarters-MDA</i>	87.151	52.403	29.754	0.000	29.754	29.421	29.974	30.567	31.171	0	290.441

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD40: <i>Program-Wide Support</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
<i>MD40: Program-Wide Support</i>	0.000	0.000	2.900	0.000	2.900	3.225	2.552	2.521	2.914	Continuing	Continuing
Quantity of RDT&E Articles	0	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 provides funding for common non-headquarters support functions across the entire program. Includes costs for both government civilians performing these functions, as well as outside services and support contractors that augment government staff in these areas. Other costs included provide facility capabilities for MDA Executing Agent locations (with the exception of Federal Office Building 2), 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 fluctuations on a limited number of foreign contracts.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Civilian Salaries and Support See Description Below <i>FY 2009 Accomplishments:</i> NA <i>FY 2010 Plans:</i> NA	0.000	0.000	2.900	0.000	2.900

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD40: <i>Program-Wide Support</i>
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B. Accomplishments/Planned Program (\$ in Millions)	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> NA					
<i>FY 2011 OCO Plans:</i> NA					
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.900	0.000	2.900

C. Other Program Funding Summary (\$ in Millions)	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0603175C: <i>Ballistic Missile Defense Technology</i>	117.602	189.229	132.220	0.000	132.220	236.875	239.873	197.118	197.852	0	1,310.769
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	951.414	715.732	436.482	0.000	436.482	250.275	336.711	500.983	521.717	0	3,713.314
• 0603882C: <i>Ballistic Missile Defense Mid-Course Segment</i>	1,472.683	1,027.371	1,346.181	0.000	1,346.181	1,112.655	1,291.790	1,099.029	1,033.213	0	8,382.922
• 0603883C: <i>Ballistic Missile Defense Boost Defense Segment</i>	384.365	182.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	566.682
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	682.754	621.017	454.859	0.000	454.859	469.589	681.397	650.525	616.342	0	4,176.483
• 0603886C: <i>Ballistic Missile Defense System Interceptor</i>	308.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	308.869
• 0603888C: <i>Ballistic Missile Defense Test and Targets</i>	906.952	823.333	1,113.425	0.000	1,113.425	1,105.959	951.371	871.929	829.608	0	6,602.577
	402.776	358.751	402.769	0.000	402.769	468.673	457.745	473.871	488.799	0	3,053.384

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD40: <i>Program-Wide Support</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603890C: <i>Ballistic Missile Defense Enabling Programs</i>											
• 0603891C: <i>SPECIAL PROGRAMS - MDA</i>	182.998	250.185	270.189	0.000	270.189	269.040	450.645	517.486	601.315	0	2,541.858
• 0603892C: <i>BMD AEGIS</i>	1,054.323	1,435.717	1,467.278	0.000	1,467.278	1,021.878	1,112.668	1,076.739	923.316	0	8,091.919
• 0603893C: <i>SPACE TRACKING & SURVEILLANCE SYSTEM</i>	209.831	161.609	112.678	0.000	112.678	98.500	56.424	52.928	34.661	0	726.631
• 0603894C: <i>MULTIPLE KILL VEHICLE</i>	226.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	226.027
• 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	23.250	12.492	10.942	0.000	10.942	11.182	11.347	11.749	12.155	0	93.117
• 0603896C: <i>BMD C2BMC</i>	275.174	334.734	342.625	0.000	342.625	364.085	289.778	323.922	298.936	0	2,229.254
• 0603897C: <i>BMD HERCULES</i>	51.629	47.932	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	99.561
• 0603898C: <i>BMD JOINT WARFIGHTER SUPPORT</i>	66.283	61.098	68.726	0.000	68.726	62.239	63.451	65.158	67.231	0	454.186
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• 0603906C: <i>REGARDING TRENCH</i>	3.159	6.130	7.529	0.000	7.529	8.295	8.286	8.479	8.675	0	50.553
• 0603907C: <i>SEA BASED X-BAND RADAR (SBX)</i>	143.878	167.153	153.056	0.000	153.056	150.104	159.832	160.163	197.099	0	1,131.285
• 0603908C: <i>BMD EUROPEAN INTERCEPTOR SITE</i>	348.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	348.722
• 0603909C: <i>BMD EUROPEAN MIDCOURSE RADAR</i>	73.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	73.728
• 0603911C: <i>BMD EUROPEAN CAPABILITY</i>	0.000	50.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	50.226
	26.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	26.016

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	PROJECT MD40: <i>Program-Wide Support</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603912C: <i>BMD European Comm Support</i>											
• 0603913C: <i>ISRAELI COOPERATIVE</i>	0.000	201.323	121.735	0.000	121.735	111.100	113.101	116.114	119.172	0	782.545
• 0604880C: <i>LAND-BASED SM-3</i>	0.000	0.000	281.378	0.000	281.378	345.937	187.062	93.456	139.595	0	1,047.428
• 0604881C: <i>Aegis SM-3 BLOCK IIA CO-DEVELOPMENT</i>	0.000	255.987	318.800	0.000	318.800	405.500	416.300	337.300	227.500	0	1,961.387
• 0604883C: <i>PRECISION TRACKING SPACE SYSTEM</i>	0.000	0.000	66.969	0.000	66.969	123.851	184.800	348.360	482.952	0	1,206.932
• 0604884C: <i>AIRBORNE INFRARED (ABIR)</i>	0.000	0.000	111.671	0.000	111.671	103.636	123.591	103.668	58.773	0	501.339
• 0605502C: <i>Small Business Innovative Research BMDO</i>	124.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	124.788
• 0901585C: <i>Pentagon Reservation</i>	20.146	19.709	20.482	0.000	20.482	0.000	0.000	0.000	0.000	0	60.337
• 0901598C: <i>Management Headquarters-MDA</i>	87.151	52.403	29.754	0.000	29.754	29.421	29.974	30.567	31.171	0	290.441

D. Acquisition Strategy

MDA will transition from the existing legacy, project-oriented Systems Engineering and Technical Assistance (SETA) contractor construct to an enterprise-wide Advisory and Assistance Services (A&AS) approach to support the Ballistic Missile Defense System (BMDS) mission. The objectives are to implement national engineering and support services for the BMDS mission across the enterprise, enhance the sharing of ballistic missile defense expertise and knowledge across the agency, centralize the acquisition of support services manpower in a more efficient manner and reduce agency overhead costs enterprise-wide. A&AS support includes engineering and technical services; studies, analyses, and evaluation; and management and professional services.

E. Performance Metrics

NA

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