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**Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	660.382	336.763	372.309	410.863	-	410.863	412.264	400.813	531.752	637.123	Continuing	Continuing
MD24: <i>System Engineering &amp; Integration</i>	276.635	97.513	100.895	138.825	-	138.825	141.229	113.147	243.670	336.506	Continuing	Continuing
MT23: <i>Enabling - Test</i>	-	29.288	42.814	22.661	-	22.661	18.897	19.637	19.216	17.299	Continuing	Continuing
MD28: <i>Intelligence &amp; Security</i>	33.687	28.627	32.134	40.231	-	40.231	41.283	42.075	43.569	44.690	Continuing	Continuing
MD30: <i>BMD Information Management Systems</i>	-	97.258	92.411	97.097	-	97.097	95.087	104.976	91.876	93.524	Continuing	Continuing
MC30: <i>Cyber Operations</i>	-	-	14.431	15.452	-	15.452	15.208	17.762	16.322	16.941	Continuing	Continuing
MD31: <i>Modeling &amp; Simulation</i>	204.991	40.832	41.188	41.957	-	41.957	44.489	46.323	50.274	51.262	Continuing	Continuing
MC31: <i>M&amp;S Cyber Operations</i>	-	-	-	0.223	-	0.223	0.229	0.234	0.240	0.246	Continuing	Continuing
MD32: <i>Quality, Safety, and Mission Assurance</i>	93.537	28.505	30.115	30.637	-	30.637	31.621	31.541	31.674	32.343	Continuing	Continuing
MD40: <i>Program-Wide Support</i>	51.532	14.740	18.321	23.780	-	23.780	24.221	25.118	34.911	44.312	Continuing	Continuing

**MDAP/MAIS Code:** 362

# The FY 2015 OCO Request will be submitted at a later date.

**Note**  
N/A

**A. Mission Description and Budget Item Justification**

The Ballistic Missile Defense (BMD) System Enabling Programs provide the Missile Defense Agency (MDA) with the critical products and processes needed to integrate element missile defense systems into a layered Ballistic Missile Defense System (BMDS) providing the capability required by the BMD Review, while improving protection performance with increased defended area, and minimizing force structure costs. BMD System-level engineering and integration enables interoperability and drives future capability development from a System perspective to maximize the effectiveness of BMD technologies. Specifically, the Enabling Programs independently evaluate the integrated BMD System methodology, threat, manufacturing maturity, technical safeguards, and mission assurance effectiveness while simultaneously assessing whether the System is proficient at maintaining its integrity and superiority with advances in technology development. As a result, MDA is able to provide evolving, integrated and layered BMDS performance and capabilities that have been thoroughly assessed and validated through testing and Modeling and Simulation.

This Program Element includes support for the Discrimination Improvements for Homeland Defense (DIHD) effort. The goal of this effort is to develop and field an integrated set of Element capabilities to improve BMDS reliability, lethality, and discrimination. The end result will be a deployed future BMDS architecture more capable

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<p>of discriminating and destroying a reentry vehicle with a high degree of confidence that will improve Warfighter shot doctrine and preserve inventory. This effort will encompass a DIHD Near-Term capability fielding and a DIHD Mid-Term capability fielding.</p> <p>The MDA Enabling Programs are:</p> <ul style="list-style-type: none"> <li>-(MD24) Systems Engineering and Integration (SE&amp;I) - Systems Engineering and Integration leads the integration of the Ballistic Missile Defense (BMD) System using Element and Component capabilities to provide the Warfighter with the ability to defend the United States and its friends and allies from ballistic missile attacks. Systems Engineering defines and develops integrated BMD System capability improvements through BMD level control of system requirements, and allocates those requirements to the Element and Component levels most capable of supporting intercepts in a particular Phased Adaptive Approach (PAA) phase.</li> <li>-(MT23) Enabling-Test - The Enabling Programs Test project drives BMDS test planning, execution and post-test assessment and provides critical data for proving that missile defense works.</li> <li>-(MD28) Intelligence and Security - MDA develops data from intelligence sources into the necessary engineering products that drive the design, development, and testing used to inform and support internal MDA decisions and BMD System capability deliveries. Engineering processes translate missile data into threat parameter space and generate threat scenarios contained in the SE&amp;I-developed Adversary Capability Document. These products are also necessary for system ground testing, hardware-in-the-loop testing, and the target development for live-fire testing necessary to assess system operation and verify and validate system performance. Security is also provided as an Enabling Program to apply protection across the entire BMDS and MDA.</li> <li>-(MD30) Information Management Systems - Information Management is vital to the efficient operation and safeguarding of all information, from development to fielding new BMDS capabilities.</li> <li>-(MC30) Cyber Operations - The Cyber Operations project is a new project established in FY2014. The funds in this project were realigned from MD30 (BMDS Information Management Systems) to sustain MDA's DoD Information Assurance Certification and Accreditation Program (DIACAP) and Controls Validation Testing (CVT) activities. It also funds the MDA Security Operations Center (SOC), responsible for monitoring, managing, patching, and maintaining MDA network and core Information Technology (IT) services; issuing and tracking Technical Compliance Orders; and coordinating overarching Enterprise NetOps. The MDA Computer Emergency Response Team (CERT), funded in this project, monitors the classified and unclassified information technology MDA administrative IT networks and report vulnerabilities. The MDA CERT coordinates with U.S. Cyber Command to identify and implement network vulnerability updates and patches to comply with U.S. Cyber Command vulnerabilities identified for DoD networks. The project also funds Information Assurance (IA) governance management and administrative management support, annual Agency-wide computer-based IA training and metrics reporting, implementation of Public Key Infrastructure and Enabling and Communications Security (COMSEC) related activities.</li> <li>-(MD31) Modeling and Simulation (M&amp;S) - As missile defense technologies continually advance and the threat changes, M&amp;S develops system-level models, simulations, and environments, then evaluates performance of the Elements, Components, and overall BMD System in support of verification, validation and accreditation activities.</li> <li>-(MC31) M&amp;S Cyber Operations provides the network / system certification and accreditation of M&amp;S related information technology networks and systems necessary to comply with the Federal Information Security Management Act.</li> <li>-(MD32) Quality, Safety, and Mission Assurance - Quality, Safety, and Mission Assurance has the distinct management role of improving quality, safety, and mission assurance throughout the product life cycle of design, manufacturing, test and system operation, in order to achieve a safe and reliable BMD System.</li> <li>-(MD40) Program-Wide Support (PWS) consists of essential non-headquarters management costs in support of the MDA functions and activities across the entire Ballistic Missile Defense System (BMDS).</li> </ul>		

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	362.711	377.605	406.983	-	406.983
Current President's Budget	336.763	372.309	410.863	-	410.863
Total Adjustments	-25.948	-5.296	3.880	-	3.880
• Congressional General Reductions	-0.479	-0.296			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	18.209	-			
• SBIR/STTR Transfer	-14.653	-			
• Other Adjustment	-29.025	-	3.880	-	3.880

**Change Summary Explanation**

The FY 2015 adjustments reflect realignment of Department of Defense priorities.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs				<b>Project (Number/Name)</b> MD24 / System Engineering & Integration			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
MD24: <i>System Engineering &amp; Integration</i>	276.635	97.513	100.895	138.825	-	138.825	141.229	113.147	243.670	336.506	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

The FY 2015 increase represents increased priority on Discrimination requirements, additional requirements to effect new mission of Technical Integrator for the Joint-Service Integrated Air and Missile Defense (IAMD) program, and program re-alignments within the Enabling PE.

The Threat Systems Engineering activity has transferred in FY 2015 to project MD28, Intelligence & Security.

**A. Mission Description and Budget Item Justification**

Systems Engineering and Integration (SE&I) continues to develop and improve the integrated Ballistic Missile Defense System (BMDS) architectures, engineer major improvements to regional Ballistic Missile Defense (BMD) capabilities, and provide system improvements that enable earlier BMD engagements and development of the BMDS level Models and Simulations (M&S) necessary to support BMDS testing and delivery to the Warfighter. SE&I is the single team that applies its technical expertise and tools across many disciplines and specialties to lead a collaborative effort to define, design, test and integrate the Ballistic Missile Defense System. SE&I develops technical roadmaps, knowledge points, and capability trades at the BMDS level to balance integration and capability improvement efforts. The SE&I workforce, including Industry and Contractor Support Services (CSS), also provides analysis, decision-making and planning activities for real-world operations to the National Command Authority, Joint Staff, Military Services, North Atlantic Treaty Organization (NATO), Combatant Commanders, Operational Test Agencies, Director of Operational Test and Evaluation, Allies, and others.

Fundamental to the System Engineering and Integration (SE&I) approach is development, coordination, and dissemination of fully vetted products at each stage of the SE&I process. These products document and communicate key information such as: technical goals and objectives, design trades and resulting decisions to update system design and interface requirements; integration plans and schedules; test objectives that include the collection of data needed to anchor the system representative models and simulations and enable independent verification and validation; assessment through ground and flight test results; and fielding plans.

The system engineering process defines required system-wide behavior, validates Element system designs, and assesses and verifies system capabilities. The system engineering projects that accomplish these functions include: Future Concepts and Planning; Requirements and Design; and System Level Verification and Assessment. Additional engineering efforts cross multiple stages of the system engineering process: Countermeasures Mitigation/Counter-Countermeasures Mitigation (CM/CCM), BMDS Assessment, Engineering Analysis and Quick Response Team, anti-tamper, reliability, and Engineering Manufacturing Readiness Level development.

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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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The Discrimination Improvements for Homeland Defense (DIHD) effort will develop and field integrated Element capabilities to improve BMD System ability to identify lethal and non-lethal objects. Systems Engineering and Integration (SE&I) will perform BMDS performance analysis and requirements engineering activities to specify the BMDS requirements and interfaces to achieve the DIHD capability. SE&I will develop a Specification Change Notice (SCN) for DIHD Near-Term which will allocate discrimination performance requirements across BMDS elements. For DIHD Mid-Term, SE&I will establish performance goals for the technology development phase, and develop functional, performance, and interface requirements to address the DIHD Mid-Term threat set. SE&I will establish ground test, and flight test target requirements for Near and Mid-Term phases, and generate threat data to support analysis and testing activities.

The System Engineering and Integration (SE&I) Major Program Goals are:

- Develop, design, test and integrate a layered BMDS that provides the required Ballistic Missile Defense performance
- Provide system-level support to the Elements, and lead collaborative cross-Element, cross-Component engineering
- Develop the European Phased Adaptive Approach (EPAA) architecture and requirements to respond to the proliferation of short and medium range ballistic missiles, provide a more effective missile defense capability for U.S. deployed forces, allies, and partners in Europe, and enhance homeland defense
- Develop discrimination improvements for the Homeland Defense mission.
- As technical authority for Integrated Air and Missile Defense (IAMD), provide a consistent, disciplined systems engineering process using a multi-Service systems engineering team to support integration of Joint IAMD systems.
- Provide technical direction to Element and Component developers and provide System-level forums to track, assess, and improve hardware and software reliability
- Identify BMDS capabilities and limitations
- Verify and assess Ballistic Missile Defense System (BMDS) performance and capabilities through testing
- Develop BMDS Performance Assessment parameters
- Identify the Critical Engagement Conditions and data required to develop the test campaigns that will demonstrate regional defense performance, and verify and assess the capability of each Phased Adaptive Approach
- Define the test objectives necessary to anchor BMDS-level models and simulations, enable independent verification and validation, and identify System issues occurring in ground and flight tests
- Analyze architecture alternatives and new technologies to establish technical roadmaps for future capabilities and ensure the BMDS is complementary to and interoperable with NATO and other theater systems
- Provide detailed analysis to support MDA leadership and US policy decisions
- Develop anti-tamper approaches to enable international fielding of the BMDS.

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

	FY 2013	FY 2014	FY 2015
<p><b>Title:</b> Future Concepts and Planning</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This activity funds the Ballistic Missile Defense System (BMDS) architecture and future concept development. The BMDS Chief Architect develops and improves the integrated BMDS architecture by analyzing and proposing architecture alternatives and new technologies. The architecture and concepts team incorporates these alternatives and technologies into the BMDS future capabilities Systems Engineering effort to include Phased Adaptive Approach(PAA)Phase 3 by establishing and documenting initial system-level requirements.</p>	<p>14.781</p> <p>-</p>	<p>9.642</p> <p>-</p>	<p>12.451</p> <p>-</p>

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p><b><i>FY 2013 Accomplishments:</i></b></p> <ul style="list-style-type: none"> <li>- Completed concept capability documentation updates based on the results of the Phased Adaptive Approach (PAA) architectural trade studies and technology development experiments.</li> <li>- Refined the Capability Planning specifications for future Command and Control Battle Management and Communications (C2BMC).</li> <li>- Supported technology development reviews for Standard Missile-3 (SM-3) Block IIB in support of follow on development efforts.</li> <li>- Produced an updated BMDS Lethality Program Plan to encompass lethality assessment, collateral effects and consequences.</li> <li>- Assessed and added emerging threats to Missile Defense Agency lethality prediction models.</li> <li>- Supported Defense Threat Reduction Agency (DTRA)/Missile Defense Agency efforts to provide consequence model predictive capabilities.</li> <li>- Maintained the System Engineering Plan ensuring synchronization of Element System Engineering Plans with the System document.</li> <li>- Countermeasures (CM)/Counter-countermeasures (CCM) Red Team:               <ul style="list-style-type: none"> <li>-- Updated independent adversary (Red Team) perspective on Phased Adaptive Approach (PAA)</li> <li>-- Completed independent adversary (Red Team) evaluation of three integrated countermeasure suites against PAA</li> <li>-- Completed independent adversary (Red Team) detailed evaluation of attack strategy against two selected PAA components</li> </ul> </li> </ul> <p><b><i>FY 2014 Plans:</i></b></p> <ul style="list-style-type: none"> <li>- Support technical evaluation activities for future programs (improvements to Command and Control Battle Management and Communications (C2BMC), Aegis 5.1).</li> <li>- Conduct BMDS Performance Analysis and Trade Studies to support technical reviews (C2BMC, Aegis 5.1).</li> <li>- Conduct BMDS Program of Record gap assessment and concept alternative assessment in support of budget development process.</li> <li>- Initiate Development of Capability Planning Specifications to document functional and performance requirements for Future BMDS Programs.</li> <li>- Analyze architecture alternatives and new technologies, including advanced weapon and sensor concepts (such as airborne infrared (IR) technologies, Directed Energy (laser) concepts, and rail gun applications).</li> <li>- Identify and evaluate architecture alternatives that are complementary to and interoperable with North Atlantic Treaty Organization (NATO) systems and theaters around the world and that improve the systems` performance.</li> <li>- Participate in CAPE-directed Analyses of Alternatives (AoAs) for Homeland Defense and Sensors.</li> <li>- Assess and add emerging threats to the Missile Defense Agency (MDA)`s lethality prediction models.</li> <li>- Produce and execute the BMDS Lethality Program Plan to encompass updates to lethality assessments, collateral effects and consequences.</li> </ul>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Assess emerging threats and develop countermeasure mitigation strategies and roadmaps.</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Identify architecture alternatives that improve the BMD System's performance and are complementary to and interoperable with NATO systems and theaters around the world.</li> <li>- Analyze architecture alternatives and new technologies, including new radar concepts.</li> <li>- Conduct BMDS Program of Record gap assessment and concept alternatives assessments in support of the budget development process.</li> <li>- Update concept capability documentation based on the results of the Phased Adaptive Approach (PAA) Phase 3 and future architectural trade studies and technology development experiments.</li> <li>- Develop and document integrated requirements for improvements to, or augmentations of, current system capabilities in the form of a Phased Implementation Plan.</li> <li>- Support Warfighter development of the Prioritized Capabilities List (PCL).</li> <li>- Develop the Achievable Capabilities List (ACL) to respond to the PCL.</li> <li>- Develop and refine Capability Planning Specifications for future BMDS Elements/Components.</li> <li>- Support technology development reviews for future/follow-on BMDS Element development efforts.</li> </ul> <p>FY 2015 increase due to additional efforts to develop and document efforts beyond PAA Phase 3.</p>				
<p><b>Title:</b> Requirements and Design</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The Requirements and Design effort develops the Ballistic Missile Defense (BMD) System level requirements and specifications for the Phased Adaptive Approach (PAA) Phases and drives the integration of the BMDS; adjudicates Element level specifications that underpin the BMDS, resulting in optimized capabilities for the Warfighter.</p> <p><b>FY 2013 Accomplishments:</b></p> <p>Conducted Engineering Reviews for MDA Engineering, which include new Phased Adaptive Approach capabilities:</p> <ul style="list-style-type: none"> <li>- Conducted BMD System/Subsystem Design Reviews following Element Requirement Reviews to assess the maturity of the technical baseline at both the System and Subsystem levels, as well as the plans for integration, test and verification prior to execution.</li> <li>- Ensured requirements for the new Phased Adaptive Approach capabilities are adequately addressed.</li> <li>- Continued technical evaluation of emerging adversary characteristics to be included within future Adversary Data Packages.</li> <li>- Developed updates to the BMD System Description Document, BMD System Specification, and BMD System Interface Control Documents to document integrated system build content approved for design, development and integration, including new Phased Adaptive Approach capabilities.</li> </ul>		31.083	24.486	27.546
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Conducted engineering analyses and perform trade studies for system design and development products, including the BMD System Specification and BMDS Interface Control Documents.</p> <p>- Provided updated requirements traceability and certification guidance and conducted detailed System/Element requirements reconciliation to resolve technical disconnects and ensure common System/Element requirements interpretation.</p> <p><b>FY 2014 Plans:</b></p> <p>- Conduct BMDS Engineering Reviews to address new capabilities:</p> <p>--Conduct BMD System/Subsystem Design Reviews following FY 2014 Element Requirement Reviews to assess maturity of the evolving technical baseline (System and Subsystem levels) and plans for integration, test and verification.</p> <p>-- Determine BMD system implications resulting from the Aegis BMD 5.1 Preliminary Design Review (PDR) and the Standard Missile-3 Block IIA (SM-3 Blk IIA) Critical Design Review (CDR).</p> <p>--Perform technical evaluations of emerging adversary characteristics.</p> <p>- Update BMDS Engineering Documentation to capture refinements to integrated system build content approved for design, development and integration, in accordance with BMDS Phased Implementation Plan:</p> <p>--BMD System Description Document (BMD SDD) and BMD System Specification (BMD SS) (e.g. incorporation of Robust IRBM Defense capabilities).</p> <p>--BMDS Interface Control Documents (ICDs).</p> <p>--Develop specification change notices for Discrimination Improvements for Homeland Defense (DIHD) Near term functional and performance requirements.</p> <p>- Conduct engineering analyses and perform trade studies for system design and development products.</p> <p>- Continue to provide updated requirements traceability and certification guidance and conduct detailed System/Element requirements reconciliation to resolve technical disconnects and ensure common requirements interpretation.</p> <p><b>FY 2015 Plans:</b></p> <p>- Develop functional performance, interface, and design suitability requirements in collaboration with BMDS element engineers to flow-down and allocate requirements to Programs.</p> <p>- Develop updates to the BMD System Description Document, BMD System Specification, and BMD System Interface Control Documents to document integrated system build content, such as discrimination, approved for design, development and integration.</p> <p>- Conduct System/Subsystem Requirements Reviews to ensure correct technical execution and understanding to realize the Phased Adaptive Approach (PAA) and increase the flexibility and capability of the BMDS.</p> <p>- Conduct engineering analyses and perform trade studies for system design and development products.</p> <p>- Complete the engineering work to finalize System Change Notices (SCNs) for PAA Phase 3 requirements changes, to include mitigation strategies to address BMDS Discrepancy Reports.</p> <p>- Develop requirements language for Discrimination Improvements for Homeland Defense (DIHD) Mid Term capabilities to executing elements, in collaboration with BMDS Program Elements.</p>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Develop requirements language for Common Kill Vehicle (CKV) Requests for Proposals (RFP).</li> <li>- Conduct CKV System Requirements Review (SRR).</li> <li>- Provide updated requirements traceability and certification guidance and conduct detailed System/Element requirements reconciliation to resolve technical disconnects and ensure common requirements interpretation.</li> </ul> <p>FY 2015 increases due to near- and mid-term capability refinements, such as discrimination and CKV analysis.</p>				
<p><b>Title:</b> Systems Engineering, Engineering Analysis and Quick Response Team</p> <p><b>Description:</b> The Systems Engineering, Engineering Analysis, and Quick Response Team task provides rapid response, high quality systems engineering analysis products and supporting technical data to address external and internal Agency inquiries and decisions; produces complex weapon system performance data; develops responses to Warfighter requests for information and analysis (RFI/RFA); supports Real World Events; and maintains the Effectiveness Metrics Standard to ensure consistent and accurate analyses.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Conducted overall Systems Engineering and Integration program operations and management.</li> <li>- Conducted system level performance analysis to support BMDS Architecture and Systems Engineering.</li> <li>- Developed expected performance for each PAA phase as input to System architecture and design effort.</li> <li>- Conducted technical analyses and provided engineering assessments of the Standard Missile 3 Block IIB.</li> <li>- Updated the Element/Component Characterizations for Analysis (E/CCA) with latest performance data to improve capability.</li> <li>- Maintained the Effective Metric Standard (EMS) necessary for systematic presentation of alternatives to MDA senior leaders and the Combatant Commanders.</li> <li>- Provided engineering technical assessments in BMDS and Element programs to examine critical areas as designated by the Director for Engineering.</li> <li>- Provided analysis and assessment support to the Combatant Commands to respond to Warfighter requests for analyses and requests for information.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Conduct system level performance analysis to support ongoing BMDS Architecture and Systems Engineering efforts:</li> <li>-- Conduct performance analysis to support the development Homeland Defense system architecture options.</li> <li>-- Develop expected performance for PAA phase 3 and beyond.</li> <li>-- Conduct technical analyses and provide performance predictions for future BMDS components, such additional radars, interceptor sites, and Common Kill Vehicle (CKV).</li> <li>-- Provide technical assessments in critical areas, such as technical performance measures.</li> <li>- Conduct analyses to support Aegis BMD 5.1 and Standard Missile-3 Block IIA (SM-3 Blk IIA) engineering reviews.</li> </ul>		<p>6.923</p> <p>-</p>	<p>6.401</p> <p>-</p>	<p>8.851</p> <p>-</p>

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<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs		<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Support VV&amp;A of primary BMDS performance model.</li> <li>- Respond to Warfighter, COCOM and Other requests for analyses and requests for information: provide analytical support for real-world events.</li> <li>- Provide updated Element/Component Characteristics for Analysis (E/CCA) with performance Element data changes to ensure consistent capability predictions and analyses.</li> <li>- Maintain the Effective Metric Standard (EMS) necessary for systematic presentation of alternatives to MDA senior leaders and the Combatant Commanders.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue performance analysis to support the development Homeland Defense system architecture options.</li> <li>- Conduct system level performance analyses to support ongoing BMDS Architecture and Systems Engineering efforts:                             <ul style="list-style-type: none"> <li>-- Analyze and predict the performance of future BMDS capabilities, such as new sensor concepts.</li> <li>-- Provide technical assessments in critical areas, such as technical performance measures.</li> </ul> </li> <li>- Respond to Warfighter, Combatant Command (COCOM) and other requests for analyses and requests for information; provide analytical support for real-world events.</li> <li>- Provide updated Element/Component Characteristics for Analysis (E/CCA) with Element data changes to ensure consistent capability predictions and analyses.</li> <li>- Maintain the Effective Metric Standard (EMS) necessary for systematic presentation of alternatives to MDA senior leaders and the Combatant Commanders.</li> </ul> <p>FY 2015 increase due to higher level of support required for COCOM, Warfighter, and Other analysis requests.</p>				
<p><b>Title:</b> Threat Engineering</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The Threat Systems Engineering effort provides consistent definitions of adversary capabilities required for Ballistic Missile Defense System (BMDS) development and design, and maintains and updates the Agency-wide threat documentation to ensure the threat parameters used for BMD System performance predictions, analyses, design, verification, and assessment are correct and consistent.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Maintained and updated the agency-wide common and consistent BMDS threat to provide data for future BMDS design, verification, and assessment.</li> <li>- Updated adversary missile capabilities and characterizations consistent with projected threat environment for the BMDS PAA.</li> </ul> <p><b>FY 2014 Plans:</b></p> <p>Develop and maintain the BMDS threat set to support BMDS design, verification, and assessment efforts.</p>		8.788 -	8.125 -	- -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs		<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>-- Update, verify, and validate threat models to include new threat representations, based on current intelligence reports.</li> <li>-- Provide high fidelity digital BMD threat descriptions that support Element defensive capability developments.</li> <li>-- Produce new or update existing models to support development of ground test and digital simulation related scenario data, in accordance with the Integrated Master Test Plan (IMTP).</li> <li>-- Update the parametrically defined threat space.</li> <li>-- Complete development of a threat library, including systems with countermeasures.</li> <li>-- Guide targets requirements development, planning, and certification for BMDS flight tests.</li> <li>-- Validate threat representation of targets and support development of target requirements.</li> <li>-- Publish FY 2014 Adversary Data Package.</li> </ul> <p><b>FY 2015 Plans:</b> This activity moves to project MD28, Intelligence &amp; Security, in FY 2015.</p>				
<p><b>Title:</b> Anti-Tamper and Engineering Manufacturing Readiness Levels Development</p> <p><b>Description:</b> Anti-Tamper &amp; Engineering Readiness Level Development develops anti-tamper approaches to enable international fielding of the Ballistic Missile Defense System (BMDS) by providing protection against reverse engineering of critical technologies, supporting coalition warfare, and extending the effective operational life of the BMDS. Engineering and Manufacturing Readiness Levels provide a means to evaluate the maturity of the BMDS elements, systems, and components by assessing the program or product against quantifiable criteria.</p> <p><b>FY 2013 Accomplishments:</b> Anti-Tamper: - Developed Anti-Tamper technologies to enable response and sensing capabilities for the BMDS.</p> <p>Engineering and Manufacturing Readiness Levels (EMRLs): - Applied EMRLs as a means of evaluating the engineering and manufacturing maturity of the BMDS elements, systems, and components, by assessing the program or product against quantifiable criteria. - Used EMRLs to assess the maturity of MDA development programs, and to report readiness for transition to production, in a standard format across all MDA Elements.</p> <p><b>FY 2014 Plans:</b> - Assist BMDS Programs in developing Anti-Tamper strategy, to facilitate horizontal protection of BMDS enabling technologies and obtain concurrence of Department of Defense Anti-Tamper Executive Agent on Anti-Tamper Plans for BMDS Programs. - Continue to develop Anti-Tamper detection and response technologies to mitigate risk.</p>		<p><b>Articles:</b></p> <p>5.011 -</p>	<p>4.549 -</p>	<p>5.683 -</p>

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Apply Engineering and Manufacturing Readiness Levels (EMRLs) to evaluate engineering and manufacturing maturity of BMDS elements, systems, and components.</li> <li>- Assess and report readiness of MDA development efforts for transition to production.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Develop anti-tamper approaches to enable international fielding, support coalition warfare, and extend the effective operational life of the BMDS.</li> <li>- Assist BMDS Programs in developing and implementing Anti-Tamper detection and response technologies to mitigate risk.</li> <li>- Apply Engineering and Manufacturing Readiness Levels (EMRLs) to evaluate engineering and manufacturing maturity of BMDS elements, systems, and components.</li> <li>- Assess and report readiness of MDA development efforts for transition to production.</li> </ul>				
<p><b>Title:</b> System-Level Verification and Assessment (was Independent Technical Assessment)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The activity uses data obtained during flight tests, ground tests, performance assessments and other analyses to verify and provide technical assessments of Ballistic Missile Defense System (BMDS) capabilities. Provides subject matter expertise to support high priority BMDS studies and reviews.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Conducted non-advocate assessments of the BMDS capabilities and limitations prior to capability delivery decisions to determine fielding readiness. These assessments included Defense of the Homeland, Phased Adaptive Approach (PAA), Defense of Israel, and Theater/Regional BMD configurations.</li> <li>- Performed independent analyses and assessments for the MDA Director and MDA Director for Engineering including investment prioritization, system architecture studies, design reviews, and failure investigations.</li> <li>- Monitored the development and recommended improvements to the digital simulation enterprise based on an evaluation of the validity of component-, Element- and System-level models (and frameworks) and participation in Performance Assessment and other digital Modeling and Simulation events.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Perform independent analyses and assessments for MDA Leadership, including investment prioritization, system architecture studies, design reviews, and failure investigations.</li> <li>- Conduct non-advocate assessments of the BMDS capabilities and limitations prior to capability delivery decisions to determine fielding readiness, including assessments of Defense of the Homeland, Phased Adaptive Approach (PAA), Defense of Israel and Theater/Regional BMD configurations.</li> </ul>		11.313	10.459	14.126
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs		<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Monitor development and recommend improvements to the digital simulation enterprise based on an evaluation of the validity of Component, Element and System-level models (and frameworks) and participation in Performance Assessment and other digital Modeling and Simulation events.</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Conduct non-advocate assessments of BMDS capabilities and limitations prior to capability delivery decisions to determine fielding readiness (including Defense of the Homeland, Defense of Israel and Theater/Regional BMD)</li> <li>- Conduct extensive analysis of data collected in BMD test events (digital, hardware-in-the-loop, and flight test), instrumental to understanding BMD operations and performance</li> <li>- Identify mitigation approaches for system performance issues uncovered during the course of analysis and assessment</li> <li>- Produce independent assessments of each Capability Delivery for THAAD, PATRIOT, Aegis BMD, AN/TPY-2 and C2BMC in support of fielding readiness for PAA Phases</li> <li>- Perform independent analyses and assessments for MDA Leadership, including investment prioritization, system architecture studies, design reviews, and failure investigations.</li> <li>- Monitor development and recommend improvements to the digital simulation enterprise based on an evaluation of the validity of Component, Element and System-level models (and frameworks) and participation in performance assessment activities and digital Modeling and Simulation events.</li> </ul> <p>FY 2015 increase due to re-categorization of assessment efforts previously reported in budget project MT23.</p>				
<p><b>Title:</b> Knowledge Centers</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Knowledge Centers serve as independent technical advisors to Ballistic Missile Defense System (BMDS) program offices in the C2BMC, Interceptor, Space, and Sensor areas to support development of technical approaches and improve reliability.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Identified and mitigated BMDS element (C2BMC, Interceptor, Space, and Sensor) technical risks, and served as independent technical advisors to BMDS program offices.</li> <li>- Provided independent review of BMDS Knowledge Point closure, and participated in Failure Review Boards.</li> <li>- Provided program managers with a mechanism to reach back to Federally Funded Research and Development Centers (FFRDCs) and University Affiliated Research Centers (UARCs) to support development of technical approaches to improve C2BMC, Interceptor, Space, and Sensor reliability.</li> </ul> <p><b>FY 2014 Plans:</b></p>		13.686	12.653	13.269
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>-Provide reach-back capability (Federally Funded Research and Development Centers and University Affiliated Research Centers) for Element program managers in the four key technical areas of C2BMC, Interceptors, Sensors, and Space:  -- Support BMDS and Element Independent Review Teams  -- Identify and provide recommendations to mitigate technical risks: incorporate out-of-the-box concepts for Risk Mitigation and Reduction  -- Provide independent technical analysis to support Knowledge Point definitions, system and element performance assessments, and risk management  -- Provide subject matter expertise for Failure Review Boards and Failure Investigation teams  -- Conduct assessments of emerging technologies, including focal plane array development, radiation-hardened components, and improvements to modeling and simulation</p> <p><b>FY 2015 Plans:</b>  -Provide reach-back capability (Federally Funded Research and Development Centers and University Affiliated Research Centers) for Element program managers:  -- Support BMDS and Element Independent Review Teams  -- Identify and provide recommendations to mitigate technical risks: incorporate out-of-the-box concepts for Risk Mitigation and Reduction  -- Provide independent technical analysis to support Knowledge Point definitions, system and element performance assessments, and risk management  -- Provide subject matter expertise for Mission Assurance assessments, Failure Review Boards and Failure Investigation teams  -- Conduct assessments of emerging technologies, including focal plane array development, radiation-hardened components, and improvements to modeling and simulation</p>				
<b>Title:</b> Risk Management		5.928	5.480	6.701
		<b>Articles:</b>	-	-
<p><b>Description:</b> The Risk Management task identifies Ballistic Missile Defense System (BMDS) Element and Component technical risks, and tracks status and risk mitigation progress.</p> <p><b>FY 2013 Accomplishments:</b>  - Reviewed, approved and maintained configuration for program risks across the BMDS.</p> <p><b>FY 2014 Plans:</b>  - Establish, manage, and configuration control the MDA Risk Management process.  - Review and approve program element risks, on quarterly basis.  - Convene and chair Risk Management Working Group.</p> <p><b>FY 2015 Plans:</b></p>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<ul style="list-style-type: none"> <li>- Convene and chair Risk Management Working Group.</li> <li>- Execute the risk management and mission readiness working group process.</li> <li>- Establish and maintain a risk database using the Failure Reporting and Corrective Action System (FRACAS).</li> <li>- Review and approve program element risks, on quarterly basis.</li> </ul>			
<p><b>Title:</b> Manufacturing and Producibility</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This activity supports a system-level reliability, producibility and manufacturing team to reduce risk of test failures and performance shortcomings and drive reliability into system and component designs. Manufacturing and Producibility will also address materials, key component, and subsystem design and development to reduce cycle time, part count, and risk.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Update MDA reliability standards and procure reliability tools.</li> <li>- Assess operationally deployed equipment failures for trends and corrective action</li> <li>- Establish MDA industrial capability base assessments tied to manufacturing technology.</li> <li>- Assess and identify plans to reduce critical manufacturing materials and technologies and materials in missile production</li> <li>- Integrate reliability and production improvements with SBIR research and development.</li> <li>- Support the development of a cost-effective and producible Common Kill Vehicle (CKV).</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Assess the effectiveness of reliability programs for each MDA Product (Radar, Launcher, Missile/Interceptor, etc.) to achieve/sustain required reliability.</li> <li>- Identify failure trends/modes</li> <li>-- Evaluate impact on the Probability of Mission Success</li> <li>-- Evaluate return on investment (ROI) from implementing corrective actions.</li> <li>- Review the Stockpile Reliability Programs for all MDA Missiles/Interceptors for effectiveness, and identify opportunities for efficiencies to be gained by sharing test resources or test results/analysis for common/comparable components.</li> <li>- Implement supply chain risk identification and mitigation tracking system across the BMDS.</li> <li>- Conduct deep dive into critical component supply base.</li> <li>- Utilize tracking system to mitigate manufacturing supply issues with critical components.</li> <li>- Support the development of a cost-effective and producible Common Kill Vehicle (CKV).</li> </ul>		-	2.500
		-	-
			4.126
			-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
FY 2015 increase due to increased support for supply chain risk management and CKV efforts.			
<p><b>Title:</b> Discrimination</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The Discrimination Improvements for Homeland Defense(DIHD)effort will develop and field integrated Element capabilities to improve BMD System ability to identify lethal and non-lethal objects. Systems Engineering and Integration (SE&amp;I) will perform BMDS performance analysis and requirements engineering activities to specify the BMDS requirements and interfaces to achieve the DIHD capability. SE&amp;I will develop a Specification Change Notice (SCN) for DIHD Near-Term which will allocate discrimination performance requirements across BMDS elements. For DIHD Mid-Term, SE&amp;I will establish performance goals for the technology development phase, and develop functional, performance, and interface requirements to address the DIHD Mid-Term threat set. SE&amp;I will establish ground test, and flight test target requirements for Near and Mid-Term phases, and generate threat data to support analysis and testing activities.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Develop software upgrades to specify data aggregation capability from multiple sensors to improve identification of lethal targets to fire control.</li> <li>- Develop TPY-2 sensor and interface requirements to pass sensor generated features to C2BMC needed for improving identification of lethal targets.</li> <li>- Complete DIHD Near-term threat requirements and development of threat data.</li> <li>- Complete DIHD Near-term functional and interface requirements development and allocation to BMDS elements.</li> <li>- Publish technical content definition and scoping of the DIHD Near- and Mid-term capability to executing elements.</li> <li>- Assess planned discrimination technologies candidates to support the DIHD Mid-term capability.</li> <li>- Complete development of ground test campaign requirements for DIHD Near-term improvements.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Complete integration phase for DIHD Near-term ground testing via GTI-06.</li> <li>- Conduct planning, assessment, and specification work to keep pace with emerging threat.</li> <li>- Continue development of software upgrades to C2BMC to aggregate information from multiple sensors to improve identification of lethal targets to fire control.</li> <li>- Continue development of TPY-2 sensor and interface upgrades required to pass sensor generated features to C2BMC needed for improving identification of lethal targets.</li> <li>- Conduct data collection and analysis for final assessment of discrimination technologies candidates planned for DIHD Mid-term.</li> <li>- Down select development ready technologies for the DIHD Mid-term phase content.</li> </ul>	-	16.600	31.972
	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>		<b>FY 2015</b>
- Complete BMDS functional and performance requirements for DIHD Mid-term capability.				
FY 2015 increase due to ramp-up of high priority effort to improve BMD System Discrimination for Homeland Defense.				

<b>Title:</b> Integrated Air and Missile Defense (IAMD)				14.100
<b>Articles:</b>	-	-		-
<b>Description:</b> The Integrated Air and Missile Defense (IAMD) effort provides a consistent, disciplined systems engineering process using a multi-Service systems engineering team to support integration of Joint IAMD systems to provide improved performance and capabilities to the Combatant Commands (COCOMs) and Warfighter. This effort includes systems engineering analysis; development of technical integration and interface control requirements and documents; and definition of candidate Joint IAMD build capability increments and configuration control across the joint systems. This effort was funded by the Air Force in FY 2013-2014, and transitions to MDA beginning in FY 2015.				
<b>FY 2013 Accomplishments:</b> N/A				
<b>FY 2014 Plans:</b> N/A				
<b>FY 2015 Plans:</b>				
<ul style="list-style-type: none"> <li>- Lead IAMD engineering and integration efforts, including interface definition and control and technical requirements allocation across the Joint IAMD Service systems.</li> <li>- Using Modeling and Simulations, analyze technical options under operationally stressing threat conditions to improve air picture of sufficient quality to support coordinated decision making across a joint warfighting environment.</li> <li>- Assess cost, schedule and risk impacts of implementing the options on selected air defense assets across the joint services.</li> <li>- Downselect to the preferred approach for a first increment of capability that will provide the Warfighter an improved air picture for coordinated decision making.</li> <li>- Continue to develop the IAMD joint system architecture to maintain consistency with JIAMDO operational architecture.</li> <li>- With JIAMDO, complete operational benefit assessment using Virtual Warfare Center (VWC).</li> </ul>				

<b>Accomplishments/Planned Programs Subtotals</b>	97.513	100.895		138.825
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603881C: Ballistic Missile	267.396	255.918	299.598	-	299.598	221.008	288.405	286.421	273.365	Continuing	Continuing
<i>Defense Terminal Defense Segment</i>											

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	923.506	910.852	1,003.768	-	1,003.768	1,131.060	937.998	690.524	628.342	Continuing	Continuing
• 0603892C: <i>AEGIS BMD</i>	958.506	909.928	929.208	-	929.208	955.825	911.095	866.678	721.426	Continuing	Continuing
• 0603914C: <i>Ballistic Missile Defense Test</i>	438.114	337.993	386.482	-	386.482	340.811	369.920	417.712	413.194	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

In order to optimize the performance of the BMDS, MDA leverages the nation's engineering Centers of Excellence at government agencies and Military Services, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution to the BMDS. Products and Services will be acquired by competitive means to the extent that is possible and practical.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Product Development (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Future Concepts and Planning - Future Concepts - Architecture CSS	C/CPFF	Sparta : AL	0.000	-		1.249	Oct 2013	2.733	Oct 2014	-		2.733	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - Architecture Support	Various	Various : VA, AL	0.000	-		-		1.614	Oct 2014	-		1.614	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - CSS	C/CPAF	CSC : AL	11.926	4.032		3.679	Oct 2013	3.984	Oct 2014	-		3.984	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - FFRDC / UARC 1	MIPR	SNL : CA	1.190	0.291		0.290	Oct 2013	0.622	Oct 2014	-		0.622	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - FFRDC / UARC 3	MIPR	MIT/LL : MA	0.000	-		0.328	Oct 2013	0.328	Oct 2014	-		0.328	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - FFRDC / UARC 4	MIPR	JHU/LL : VA	0.000	1.400		0.540	Oct 2013	0.544	Oct 2014	-		0.544	Continuing	Continuing	Continuing
Future Concepts and Planning - Future	MIPR	MITRE : VA	0.000	0.700		0.394	Oct 2013	-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Concepts - FFRDC / UARC 5															
Future Concepts and Planning - Future Concepts - FFRDC / UARC 6	MIPR	Aerospace : CA	0.000	0.833		0.333	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - FFRDC / UARC 7	MIPR	Univ AL Huntsville : AL	0.000	0.300		-		-		-		-	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - Industry	C/CPAF	Boeing : AL	16.659	3.453		1.693	Oct 2013	-		-		-	-	21.805	-
Future Concepts and Planning - Future Concepts - OGA	MIPR	AMRDEC : AL	0.000	1.800		-		-		-		-	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - Support	Various	MDA : VA / AL	0.000	1.972		1.136	Oct 2013	2.626	Oct 2014	-		2.626	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - FFRDC/UARC 4	MIPR	SNL : CA	0.000	-		0.350	Oct 2013	0.876	Oct 2014	-		0.876	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - CSS 1	C/CPFF	CSC : AL	16.153	6.510		6.019	Oct 2013	3.730	Oct 2014	-		3.730	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - CSS 3	C/CPFF	MEI : AL	0.000	-		0.275	Oct 2013	0.360	Oct 2014	-		0.360	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - FFRDC/UARC 1	MIPR	MIT/LL : MA	1.793	0.888		-		-		-		-	-	2.681	-
Requirements and Design - Reqts & Design - FFRDC/UARC 2	MIPR	LLNL : CA	0.289	0.216		0.095	Oct 2013	0.517	Oct 2014	-		0.517	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - HAENS Spt	Various	Various : Various	0.000	-		-		0.291	Oct 2014	-		0.291	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements and Design - Reqts & Design - Industry	C/CPAF	Boeing : AL	48.369	11.472		9.210	Oct 2013	9.740	Oct 2014	-		9.740	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - MDA	Various	MDA : AL, VA	0.000	9.931		8.537	Oct 2013	12.032	Oct 2014	-		12.032	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - OGA	MIPR	AMRDEC : AL	0.000	1.950		-		-		-		-	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - Other DoD	MIPR	NSWC : IN	3.816	0.116		-		-		-		-	-	3.932	-
Systems Engineering, Engineering Analysis and Quick Response Team - Sys Engrg, QRT - CSS	C/CPFF	CSC : AL	18.347	1.246		1.152	Oct 2013	-		-		-	-	20.745	-
Systems Engineering, Engineering Analysis and Quick Response Team - Sys Engrg, QRT - CSS 2	C/CPFF	SAIC : VA, AL	0.000	1.203		4.020	Oct 2013	4.917	Oct 2014	-		4.917	Continuing	Continuing	Continuing
Systems Engineering, Engineering Analysis and Quick Response Team - Sys Engrg, QRT - FFRDC/ UARC 2	MIPR	MITRE : VA	5.488	0.123		-		-		-		-	-	5.611	-
Systems Engineering, Engineering Analysis and Quick Response Team - Sys Engrg, QRT - Industry	C/CPAF	Boeing : AL	59.309	3.158		-		-		-		-	-	62.467	-
Systems Engineering, Engineering Analysis and Quick Response Team - Sys Engrg, QRT - MDA	Various	MDA : VA, AL	0.000	1.193		1.229	Oct 2013	3.934	Oct 2014	-		3.934	Continuing	Continuing	Continuing
Threat Engineering - Threat Engrg - CSS 1	C/CPFF	MEI - MiDAESS : AL	0.000	1.000		5.700	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Threat Engineering - Threat Engrg - CSS 2	C/CPFF	Torch Technologies : AL	6.966	3.344		-		-		-		-	-	10.310	-

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Threat Engineering - Threat Engrg - FFRDC/ UARC 1	FFRDC	JHU APL : VA	1.791	0.617		1.360	Oct 2013	-		-		-	-	3.768	-
Threat Engineering - Threat Engrg - FFRDC/ UARC 2	MIPR	MIT-LL : MA	5.385	1.097		0.584	Oct 2013	-		-		-	-	7.066	-
Threat Engineering - Threat Engrg - FFRDC/ UARC 3	MIPR	SNL : CA	4.130	0.511		0.308	Oct 2013	-		-		-	-	4.949	-
Threat Engineering - Threat Engrg - FFRDC/ UARC 4	MIPR	LLNL : CA	0.999	0.369		0.173	Oct 2013	-		-		-	-	1.541	-
Threat Engineering - Threat Engrg - OGA	MIPR	AMRDEC : AL	0.000	1.850		-		-		-		-	Continuing	Continuing	Continuing
Anti-Tamper and Engineering Manufacturing Readiness Levels Development - AT & EMRL - Anti-Tamper Support	MIPR	NSWC Crane : IN	4.954	0.200		0.700	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Anti-Tamper and Engineering Manufacturing Readiness Levels Development - AT & EMRL - CSS 2	C/CPAF	CSC - MiDAESS : AL	0.000	1.551		0.450	Oct 2013	0.213	Oct 2014	-		0.213	Continuing	Continuing	Continuing
Anti-Tamper and Engineering Manufacturing Readiness Levels Development - AT & EMRL - CSS/Travel	C/CPFF	DRC, Cobham : CA	2.890	-		-		-		-		-	Continuing	Continuing	Continuing
Anti-Tamper and Engineering Manufacturing Readiness Levels Development - AT & EMRL - Commonality and Standards	C/CPFF	DRAPER : MA	6.265	-		-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Anti-Tamper and Engineering Manufacturing Readiness Levels Development - AT & EMRL - MDA	Various	MDA : AL, VA	0.000	3.260		3.399	Oct 2013	5.470	Oct 2014	-		5.470	Continuing	Continuing	Continuing
System-Level Verification and Assessment (was Independent Technical Assessment) - Independ Tech Assess - FFRDC/ UARC 4	MIPR	GTRI : GA	6.736	0.385		-		-		-		-	Continuing	Continuing	Continuing
System-Level Verification and Assessment (was Independent Technical Assessment) - Sys V&A - CSS	C/CPAF	CSC - MiDAESS : AL	0.000	1.000		1.000	Oct 2013	1.000	Oct 2014	-		1.000	Continuing	Continuing	Continuing
System-Level Verification and Assessment (was Independent Technical Assessment) - Sys V&A - FFRDC/UARC 1	MIPR	Aerospace : CA	10.936	1.215		1.215	Oct 2013	1.500	Oct 2014	-		1.500	Continuing	Continuing	Continuing
System-Level Verification and Assessment (was Independent Technical Assessment) - Sys V&A - FFRDC/UARC 2	FFRDC	JHU APL : VA	5.051	1.471		1.464	Oct 2013	2.280	Oct 2014	-		2.280	Continuing	Continuing	Continuing
System-Level Verification and Assessment (was Independent Technical Assessment) - Sys V&A - FFRDC/UARC 6	MIPR	MIT/LL : MA	13.120	0.776		2.033	Oct 2013	1.875	Oct 2014	-		1.875	Continuing	Continuing	Continuing
System-Level Verification and Assessment (was Independent Technical Assessment) - Sys V&A - FFRDC/UARC 7	MIPR	MITRE : VA	7.705	2.278		1.778	Oct 2013	2.490	Oct 2014	-		2.490	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System-Level Verification and Assessment (was Independent Technical Assessment) - Sys V&A - MDA	Various	MDA : VA, AL	0.000	2.747		2.969	Oct 2013	4.981	Oct 2014	-		4.981	Continuing	Continuing	Continuing
System-Level Verification and Assessment (was Independent Technical Assessment) - Sys V&A - OGA	MIPR	AMRDEC : AL	0.000	1.441		-		-		-		-	Continuing	Continuing	Continuing
Knowledge Centers - KC - FFRDC/UARC 1	MIPR	Aerospace : CA	4.277	2.159		2.116	Oct 2013	1.095	Oct 2014	-		1.095	Continuing	Continuing	Continuing
Knowledge Centers - KC - FFRDC/UARC 2	MIPR	MIT/LL : MA	2.348	1.028		1.450	Oct 2013	1.114	Oct 2014	-		1.114	Continuing	Continuing	Continuing
Knowledge Centers - KC - FFRDC/UARC 3	FFRDC	MITRE : VA	1.816	1.054		1.343	Oct 2013	1.099	Oct 2014	-		1.099	Continuing	Continuing	Continuing
Knowledge Centers - KC - FFRDC/UARC 4	FFRDC	JHU/APL : VA	2.162	1.143		1.300	Oct 2013	0.751	Oct 2014	-		0.751	Continuing	Continuing	Continuing
Knowledge Centers - KC - FFRDC/UARC 5	FFRDC	SDL : MA	0.215	0.077		-		-		-		-	-	0.292	-
Knowledge Centers - KC - FFRDC/UARC 7	MIPR	GTRI : GA	2.256	0.583		1.100	Oct 2013	-		-		-	-	3.939	-
Knowledge Centers - KC - FFRDC/UARC 8	MIPR	JPL : CA	1.096	0.420		-		-		-		-	-	1.516	-
Knowledge Centers - KC - FFRDC/UARC 9	MIPR	ORNL : TN	0.854	0.325		-		-		-		-	-	1.179	-
Knowledge Centers - KC - MDA	Various	MDA : AL, VA	0.000	6.602		5.344		7.557	Oct 2014	-		7.557	Continuing	Continuing	Continuing
Knowledge Centers - KC - OGA	MIPR	AMRDEC : AL	0.056	0.159		-		-		-		-	-	0.215	-
Knowledge Centers - KC - Other	MIPR	Northrop Grumman : VA	0.170	0.136		-		-		-		-	-	0.306	-
Knowledge Centers - KC - Various	MIPR	Various : Various	0.000	-		-		1.653	Oct 2014	-		1.653	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Risk Management - Risk Mgt - Analysis	Various	MDA : VA, AL	0.044	0.231		3.451	Oct 2013	5.765	Oct 2014	-		5.765	Continuing	Continuing	Continuing
Risk Management - Risk Mgt - Analysis Spt	Various	Various : Various	0.000	-		1.129	Oct 2013	0.357	Oct 2014	-		0.357	Continuing	Continuing	Continuing
Risk Management - Risk Mgt - CSS	C/CPFF	MEI : AL	0.656	3.490		0.275	Oct 2013	-		-		-	-	4.421	-
Risk Management - Risk Mgt - FFRDC/UARC	MIPR	MITRE : VA	0.392	2.068		0.625	Oct 2013	0.579	Oct 2014	-		0.579	Continuing	Continuing	Continuing
Risk Management - Risk Mgt - Other 1	MIPR	DAU : VA	0.026	0.139		-		-		-		-	-	0.165	-
Manufacturing and Producibility - Mfg and Producibility	Various	Various : AL	0.000	-		0.632		0.636	Nov 2014	-		0.636	Continuing	Continuing	Continuing
Manufacturing and Producibility - Mfg and Producibility - CSS 1	C/CPFF	CSC : AL	0.000	-		0.351		0.537	Nov 2014	-		0.537	Continuing	Continuing	Continuing
Manufacturing and Producibility - Mfg and Producibility - OGA Support	MIPR	AMRDEC : AL	0.000	-		1.517		2.953	Nov 2014	-		2.953	Continuing	Continuing	Continuing
Discrimination - Discrimination - CSS	C/CPFF	CSC : AL	0.000	-		2.600	Oct 2013	8.731	Oct 2014	-		8.731	Continuing	Continuing	Continuing
Discrimination - Discrimination - OGA	MIPR	AMRDEC : AL	0.000	-		-		7.004	Oct 2014	-		7.004	Continuing	Continuing	Continuing
Discrimination - Discrimination - Support	Various	MDA : AL, VA	0.000	-		7.230	Oct 2013	10.046	Oct 2014	-		10.046	Continuing	Continuing	Continuing
Discrimination - Discrimination - Various	Various	Various : AL, VA	0.000	-		6.770	Oct 2013	6.191	Oct 2014	-		6.191	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - FFRDC	Various	Various : AL, VA, MD	0.000	-		-		1.410	Nov 2014	-		1.410	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - Support	Various	MiDAESS : AL, VA, CO	0.000	-		-		2.115	Nov 2014	-		2.115	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Air and Missile Defense (IAMD) - IAMD - Various	MIPR	DoD Activities : Various	0.000	-		-		10.575	Nov 2014	-		10.575	Continuing	Continuing	Continuing
<b>Subtotal</b>			276.635	97.513		100.895		138.825		-		138.825	-	-	-

**Remarks**

N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**

N/A

<b>Management Services (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**

N/A

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	276.635	97.513	100.895	138.825	-	138.825	-	-	-

**Remarks**

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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Significant Event Complete ▲    Milestone Decision Complete ★    Element Test Complete ◆    System Level Test Complete ●    Complete Activity ✦  
 Significant Event Planned △    Milestone Decision Planned ☆    Element Test Planned ◇    System Level Test Planned ○    Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Aegis BMD 5.1 System Design Review (SDR) #2	▲																											
System/Subsystem Requirements Review - FY 2013	▲																											
BMD System Requirements Review (SRR) Part 1	▲																											
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY 2013			▲																									
Ballistic Missile Defense System Specification (BMD SS) - FY 2013				▲																								
Integrated Master Assessment Plan (IMAP) v.13.2 / Update - FY 2013			▲																									
Element Preliminary Design Reviews - FY 2013		▲																										
System Engineering Plan (SEP) Update - FY 2014					▲																							
Element/Component Characterization for Analysis (E/CCA) - 1Q - FY 2013	▲																											
Aegis BMD 5.1 System Design Review (SDR) #3		▲																										
Update to Ballistic Missile Defense System Interface Control Document (SICD) FY 2013	▲																											
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2013				▲																								
Master Integration Plan (MIP) - FY 2013				▲																								
Provide Independent Assessments to MDA - FY 2013				▲																								

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Update Phased Adaptive Approach Capability Planning Specifications (CPS) - FY 2013	▲																											
Ballistic Missile Defense System Description Document (BMD SDD) - FY 2014					▲																							
Aegis BMD 5.1 Preliminary Design Review (PDR)					▲																							
Adversary Data Package (ADP) - FY 2014					▲																							
Element Preliminary Design Reviews - FY 2014						△																						
Ballistic Missile Defense System Interface Control Documents (SICD) - FY 2014							△																					
Ballistic Missile Defense System Design Review - FY 2014							△																					
Technical Objectives & Goals / Effectiveness Metrics Standard Updates - FY 2014								△																				
Provide Independent Assessments to MDA - FY 2014								△																				
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2014								△																				
Adversary Data Package (ADP) - FY 2015									△																			
System/Subsystem Requirements Review - FY 2015									△																			
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2015									△																			
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY2015									△																			
Element Design Reviews - FY 2015										△																		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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Significant Event Complete ▲    Milestone Decision Complete ★    Element Test Complete ◆    System Level Test Complete ●    Complete Activity ✦  
 Significant Event Planned △    Milestone Decision Planned ☆    Element Test Planned ◇    System Level Test Planned ○    Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Ballistic Missile Defense System Specification (BMD SS) - FY 2015											▲																	
Ballistic Missile Defense System Engineering Review - FY 2015											▲																	
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2015											▲																	
Provide Independent Assessments to MDA - FY 2015												▲																
Update Master Integration Plan (MIP) - FY 2015												▲																
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2015												▲																
Ballistic Missile Defense System Description Document (BMD SDD) - FY 2016																▲												
Adversary Data Package (ADP) - FY 2016																▲												
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2016																▲												
System Engineering Plan (SEP) Update - FY 2016																				▲								
Element Design Reviews - FY 2016																				▲								
Ballistic Missile Defense System Engineering Review - FY 2016																								▲				
Ballistic Missile Defense System Interface Control Documents (SICD) - FY 2016																												▲
Update Achievable Capabilities List - FY 2016																												▲
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2016																												▲
Update Master Integration Plan (MIP) - FY 2016																												▲

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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Significant Event Complete ▲    Milestone Decision Complete ★    Element Test Complete ◆    System Level Test Complete ●    Complete Activity ✦  
 Significant Event Planned △    Milestone Decision Planned ☆    Element Test Planned ◇    System Level Test Planned ○    Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2016															▲													
Provide Independent Assessments to MDA - FY 2016															▲													
Technical Objectives & Goals / Effectiveness Metrics Standard Updates - FY 2016															▲													
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY2017															▲													
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2017															▲													
Adversary Data Package (ADP) - FY 2017															▲													
System Engineering Plan (SEP) Update - FY 2017																▲												
Element Design Reviews - FY 2017																▲												
Ballistic Missile Defense System Specification (BMD SS) - FY 2017																▲												
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2017																	▲											
Ballistic Missile Defense System Engineering Review - FY 2017																	▲											
Provide Independent Assessments to MDA - FY 2017																		▲										
Update Master Integration Plan (MIP) - FY 2017																		▲										
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2017																			▲									
Ballistic Missile Defense System Description Document (BMD SDD) - FY 2018																				▲								

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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Significant Event Complete ▲    Milestone Decision Complete ★    Element Test Complete ◆    System Level Test Complete ●    Complete Activity ✦  
 Significant Event Planned △    Milestone Decision Planned ☆    Element Test Planned ◇    System Level Test Planned ○    Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Adversary Data Package (ADP) - FY 2018																				▲								
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2018																				▲								
Element Design Reviews - FY 2018																				▲								
Ballistic Missile Defense System Engineering Review - FY 2018																				▲								
Ballistic Missile Defense System Interface Control Documents (SICD) - FY 2018																				▲								
Update Achievable Capabilities List - FY 2018																				▲								
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2018																				▲								
Update Master Integration Plan (MIP) - FY 2018																					▲							
Technical Objectives & Goals / Effectiveness Metrics Standard Updates - FY 2018																				▲								
Provide Independent Assessments to MDA - FY 2018																				▲								
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2018																				▲								
Adversary Data Package (ADP) - FY 2019																						▲						
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2019																						▲						
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY2019																						▲						
System Engineering Plan (SEP) Update - FY 2019																							▲					
Ballistic Missile Defense System Specification (BMD SS) - FY 2019																								▲				



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Aegis BMD 5.1 System Design Review (SDR) #2	1	2013	1	2013
System/Subsystem Requirements Review - FY 2013	1	2013	1	2013
BMD System Requirements Review (SRR) Part 1	1	2013	1	2013
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY 2013	3	2013	3	2013
Ballistic Missile Defense System Specification (BMD SS) - FY 2013	4	2013	4	2013
Integrated Master Assessment Plan (IMAP) v.13.2 / Update - FY 2013	3	2013	3	2013
Element Preliminary Design Reviews - FY 2013	2	2013	2	2013
System Engineering Plan (SEP) Update - FY 2014	2	2014	2	2014
Element/Component Characterization for Analysis (E/CCA) - 1Q - FY 2013	1	2013	1	2013
Aegis BMD 5.1 System Design Review (SDR) #3	2	2013	2	2013
Update to Ballistic Missile Defense System Interface Control Document (SICD) FY 2013	1	2013	1	2013
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2013	4	2013	4	2013
Master Integration Plan (MIP) - FY 2013	4	2013	4	2013
Provide Independent Assessments to MDA - FY 2013	4	2013	4	2013
Update Phased Adaptive Approach Capability Planning Specifications (CPS) - FY 2013	1	2013	1	2013
Ballistic Missile Defense System Description Document (BMD SDD) - FY 2014	1	2014	1	2014
Aegis BMD 5.1 Preliminary Design Review (PDR)	1	2014	1	2014
Adversary Data Package (ADP) - FY 2014	1	2014	1	2014
Element Preliminary Design Reviews - FY 2014	2	2014	2	2014
Ballistic Missile Defense System Interface Control Documents (SICD) - FY 2014	3	2014	3	2014
Ballistic Missile Defense System Design Review - FY 2014	3	2014	3	2014
Technical Objectives & Goals / Effectiveness Metrics Standard Updates - FY 2014	4	2014	4	2014

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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Events	Start		End	
	Quarter	Year	Quarter	Year
Provide Independent Assessments to MDA - FY 2014	4	2014	4	2014
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2014	4	2014	4	2014
Adversary Data Package (ADP) - FY 2015	1	2015	1	2015
System/Subsystem Requirements Review - FY 2015	1	2015	1	2015
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2015	1	2015	1	2015
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY2015	1	2015	1	2015
Element Design Reviews - FY 2015	2	2015	2	2015
Ballistic Missile Defense System Specification (BMD SS) - FY 2015	2	2015	2	2015
Ballistic Missile Defense System Engineering Review - FY 2015	3	2015	3	2015
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2015	3	2015	3	2015
Provide Independent Assessments to MDA - FY 2015	4	2015	4	2015
Update Master Integration Plan (MIP) - FY 2015	4	2015	4	2015
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2015	4	2015	4	2015
Ballistic Missile Defense System Description Document (BMD SDD) - FY 2016	1	2016	1	2016
Adversary Data Package (ADP) - FY 2016	1	2016	1	2016
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2016	1	2016	1	2016
System Engineering Plan (SEP) Update - FY 2016	2	2016	2	2016
Element Design Reviews - FY 2016	2	2016	2	2016
Ballistic Missile Defense System Engineering Review - FY 2016	3	2016	3	2016
Ballistic Missile Defense System Interface Control Documents (SICD) - FY 2016	3	2016	3	2016
Update Achievable Capabilities List - FY 2016	3	2016	3	2016
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2016	3	2016	3	2016
Update Master Integration Plan (MIP) - FY 2016	4	2016	4	2016
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2016	4	2016	4	2016
Provide Independent Assessments to MDA - FY 2016	4	2016	4	2016
Technical Objectives & Goals / Effectiveness Metrics Standard Updates - FY 2016	4	2016	4	2016

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD24 / System Engineering & Integration
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Events	Start		End	
	Quarter	Year	Quarter	Year
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY2017	1	2017	1	2017
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2017	1	2017	1	2017
Adversary Data Package (ADP) - FY 2017	1	2017	1	2017
System Engineering Plan (SEP) Update - FY 2017	2	2017	2	2017
Element Design Reviews - FY 2017	2	2017	2	2017
Ballistic Missile Defense System Specification (BMD SS) - FY 2017	2	2017	2	2017
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2017	3	2017	3	2017
Ballistic Missile Defense System Engineering Review - FY 2017	3	2017	3	2017
Provide Independent Assessments to MDA - FY 2017	4	2017	4	2017
Update Master Integration Plan (MIP) - FY 2017	4	2017	4	2017
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2017	4	2017	4	2017
Ballistic Missile Defense System Description Document (BMD SDD) - FY 2018	1	2018	1	2018
Adversary Data Package (ADP) - FY 2018	1	2018	1	2018
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2018	1	2018	1	2018
Element Design Reviews - FY 2018	2	2018	2	2018
Ballistic Missile Defense System Engineering Review - FY 2018	3	2018	3	2018
Ballistic Missile Defense System Interface Control Documents (SICD) - FY 2018	3	2018	3	2018
Update Achievable Capabilities List - FY 2018	3	2018	3	2018
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2018	3	2018	3	2018
Update Master Integration Plan (MIP) - FY 2018	4	2018	4	2018
Technical Objectives & Goals / Effectiveness Metrics Standard Updates - FY 2018	4	2018	4	2018
Provide Independent Assessments to MDA - FY 2018	4	2018	4	2018
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2018	4	2018	4	2018
Adversary Data Package (ADP) - FY 2019	1	2019	1	2019
Update to Integrated Master Assessment Plan (IMAP) - 1Q FY 2019	1	2019	1	2019
Update to Ballistic Missile Defense System Description Document (BMD SDD) - FY2019	1	2019	1	2019

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD24 / <i>System Engineering &amp; Integration</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
System Engineering Plan (SEP) Update - FY 2019	2	2019	2	2019
Ballistic Missile Defense System Specification (BMD SS) - FY 2019	2	2019	2	2019
Element Design Reviews - FY 2019	2	2019	2	2019
Ballistic Missile Defense System Engineering Review - FY 2019	3	2019	3	2019
Update to Integrated Master Assessment Plan (IMAP) - 3Q FY 2019	3	2019	3	2019
Update Master Integration Plan (MIP) - FY 2019	4	2019	4	2019
Provide Independent Assessments to MDA - FY 2019	4	2019	4	2019
Element/Component Characterization for Analysis (E/CCA) - 4Q - FY 2019	4	2019	4	2019

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MT23 / Enabling - Test			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
MT23: <i>Enabling - Test</i>	-	29.288	42.814	22.661	-	22.661	18.897	19.637	19.216	17.299	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

N/A

**A. Mission Description and Budget Item Justification**

In the Enabling program's test project, Systems Engineering and Integration drives Ballistic Missile Defense System (BMDS) planning, execution, and post-test assessment, providing critical data to prove that missile defense works as designed.

System Engineering and Integration (SE&I) Major Program Goals for the Integrated Master Test Plan (IMTP):

- Develop BMDS Performance Assessment parameters
- Identify the Critical Engagement Conditions and data required to develop the test campaigns that will demonstrate regional defense performance, and verify and assess the capability of each Phased Adaptive Approach (PAA)
- Define the test objectives necessary to anchor BMDS-level models and simulations, enable independent verification and validation, and identify System issues occurring in ground and flight tests
- Develop, manage and use BMDS level Modeling and Simulation (M&S) to verify BMDS performance in system operational regions outside the live fire testing regions.

During test integration and model validation, engineering studies and analyses enable the allocation of test requirements to individual test events, design of test architectures, definition of target requirements, and generation of appropriate scenarios for ground and flight tests, in order to collect the required model validation data. With the support of the Director of Operational Test and Evaluation (DOT&E), SE&I works with the Services' Operational Test Agencies (OTA) to incorporate operational test requirements under development to ensure the incremental capability being transferred to the Warfighter will be operationally effective, suitable, and survivable. SE&I leads test failure review boards, identifies shortfalls in data collection, and reallocates objectives to future test events until all identified model validation data is collected. Reliability, Availability and Maintainability data is collected through the Joint Reliability and Maintainability Engineering Team (JRMET) and quarterly data scoring boards with the Elements, to Warfighter commanders and increases the confidence levels in the predicted performance of the BMDS. BMDS Test Incident Reports document abnormal system behavior that occurs during System-level tests and alert MDA to issues with test article reliability. The Failure Reporting, Analysis, and Corrective Action System (FRACAS) provides a framework to investigate System test failures and anomalies and to identify solutions that will ultimately improve BMDS performance and reliability.

SE&I identifies and coordinates test objectives that define the basic test design development and ensure BMDS requirements are being met by the BMD System under test. Systems Engineering plays a key role in Ballistic Missile Defense test design and development by defining, allocating to test events, and tracking Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs), as documented in the Integrated Master Test Plan (IMTP). The CECs and EMEs include

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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key test points allocated to test events to ensure that the design of the BMDS test includes data collection to show proper system operation; they also provide validation, verification, and assessment data for the digital models and simulations used to predict BMDS performance. These models and simulations, along with the rigorous test and verification process, will be used to demonstrate BMDS performance in areas where no live-fire-testing is performed and provide direct support to the fielding decisions and BMDS deployed operations.

SE&I supports System Pre-Mission predictions for system level flight tests using the test framework set up with the BMDS configuration for a particular flight test. This provides confidence readiness for Flight Test execution by predicting BMDS performance and exercising element interfaces. This work also ensures the flight test will collect the required data (including Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs)) and the data management plan will support System and Element Post-Flight Reconstruction (SPFR) objectives. System Post-Flight Reconstruction uses a hardware-in-the-loop (HWIL) and/or Digital Modeling and Simulation Environment to replicate the day of flight for the BMDS configuration, including the actual environmental conditions and target dynamics observed in the test. The results of this process increase confidence in the models and simulations by anchoring the results to the real world event, with emphasis on the CECs and EMEs. System and Element Post-Flight Reconstructions are used for validation (anchoring) of BMDS and Element models and simulations.

The distinct capabilities of MDA's Modeling and Simulation (M&S) systems and products are ingrained throughout the BMDS and provide the Warfighter and Operational Test Agency (OTA) with an evaluation capability for individual components as well as overall M&S system-of-systems. MDA validates and accredits system-level models and simulations by anchoring them to real-world events to support accurate and comprehensive assessments of the BMDS. Future M&S development activities will focus on the model and simulation frameworks, BMDS Element models, as well as core truth modeling (e.g., threat, phenomenology, lethality, and environment). The success of the missile defense program is enabled by quality M&S systems and products that help prove BMDS technologies work. In particular, MDA M&S System and Product testing is based on an integrated, comprehensive, and phased test program as outlined in MDA's IMTP. Within the construct of the IMTP, MDA Element unique M&S systems, subsystems, and components are tested as part of their respective development and integration, a necessary precursor to conducting BMD System-level M&S testing (e.g., integrated ground test, performance/technical assessment venues). Resources for the planning, design, execution and management of this testing are provided in accordance with the BMDS Test Policy, as listed in the most current version of the IMTP.

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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<b>Title:</b> Integrated Master Test Plan (IMTP) Engineering, Integration, Verification and Assessment - SE&I	15.038	31.773	-
<b>Articles:</b>	-	-	-
<b>Description:</b> The SE&I IMTP effort develops Ballistic Missile Defense System (BMDS) test objectives and scenarios, and participates in test planning, execution, and post-test assessment.			
<b>FY 2013 Accomplishments:</b>			
- Updated the Master Integration Plan (MIP) to incorporate changes in planned delivery of BMDS content.			
- Provided engineering inputs for Integrated Master Test Plan (IMTP) updates using the Planning Allocation Matrix (PAM) tool to identify integration, test, assessment, and verification activities.			
- Collected BMDS Suitability Data through the Joint Reliability and Maintainability Engineering Team (JRMET) Data Scoring Boards.			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs		<b>Project (Number/Name)</b> MT23 / Enabling - Test
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Provided pre- and post-test support for the Failure Reporting, Analysis, and Corrective Action System, which investigated BMDS test failures and identified solutions to enhance reliability.</li> <li>- Defined and executed required performance assessments to support incremental capability deliveries.</li> <li>- Provided monthly updates for BMDS verification status.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>-Provide engineering inputs for IMTP updates: identify integration, test, assessment, and verification activities.</li> <li>-Collect BMDS reliability and maintainability data and document requirements for successful completion of test events.</li> <li>-Provide pre- and post-test support for the Failure Reporting, Analysis, and Corrective Action System (FRACAS), which investigates BMDS test failures and anomalies and identifies solutions that enhance system performance and reliability.</li> <li>-Define, execute, and document results of required performance assessments supporting incremental capability deliveries.</li> <li>-Update the Integrated Master Assessment Plan (IMAP) semi-annually to address changes in planned delivery of Ballistic Missile Defense System content as reflected in the Ballistic Missile Defense System Description Document (BMD SDD), the Ballistic Missile Defense System Specification (BMD SS), Master Integration Plan, and detailed design and development documentation. Update also reflects changes to BMDS deployment and utilization.</li> </ul> <p><b>FY 2015 Plans:</b></p> <p>The FY 2015 plans for this activity are realigned within new MT23 Accomplishment/Planned Program: Engineering and Analysis.</p>				
<p><b>Title:</b> Modeling/Simulation (M/S) Verification, Validation and Accreditation (VV/A) and Test Operations</p> <p align="right"><b>Articles:</b></p>		14.250	11.041	-
<p><b>Description:</b> The M&amp;S Integrated Master Test Plan (IMTP) effort integrates Single Stimulation Framework (SSF), Digital Simulation Architecture (DSA) and Objective Simulation Framework (OSF) products with MDA and Non-MDA element models, core truth components and Hardware in the Loop (HWIL) assets to form Ballistic Missile Defense System (BMDS) architectures for the execution of IMTP events.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Event Support Operations</li> <li>- Collaborated with Elements, Test Community, System Engineering, and Operational Test Agencies (OTAs) to ensure Modeling and Simulation (M&amp;S) for each event met intended uses and objectives, and had proper Verification, Validation, and Accreditation (VV&amp;A) documentation and evidence, to include benchmarking/anchoring pedigree</li> <li>- Provided System-level education, Validation and Accreditation (VV&amp;A)</li> </ul>		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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<ul style="list-style-type: none"> <li>- Developed integrated Verification, Validation and Accreditation (VV&amp;A) event Plans and Reports for Focused Ground Tests, Integrated Ground Tests, Performance Assessments, Assured Response and Global Defender Exercises in accordance with events planned per the approved Integrated Master Test Plan (IMTP)</li> <li>- Provided Annual Accreditation Assessments, Reports and Briefings with recommendations for critical M&amp;S improvements to align with end of year BMDS Operational Test Agency (OTA) Accreditation reporting and MDA President's Budget (PB) investment strategy efforts.</li> <li>- Planned and specified system post-flight reconstructions events to optimize the body of evidence and analysis supporting system-level BMDS accreditation; performed all system-level VV&amp;A associated with Digital and Hardware-in-the-loop (HWIL) System Post Flight Reconstructions, in accordance with activities prioritized, funded and resourced per the approved Integrated Master Test Plan (IMTP)</li> <li>- Worked closely with Elements, the Test Community, and Operational Test Agency (OTA) to ensure M&amp;S for each event met intended uses and objectives, and had proper VV&amp;A documentation and evidence, to include benchmarking/anchoring pedigree</li> <li>- Conducted system-level verification and validation of threat trajectory and signature, end-to-end environmental implementation (consistent and correct), and modeled communications and architecture (behave properly); and ensured that M&amp;S interoperability was adequately addressed</li> <li>- Developed and updated M&amp;S Directives, Policies, Standards and Methodology Guides to support advancements in VV&amp;A process and methodology to maximize improvement to M&amp;S Accreditation.</li> <li>- Conducted annual review of BMDS Element VV&amp;A programs and provided recommendations for improvements in M&amp;S capabilities and planned Verification and Validation (V&amp;V) activities to accelerate and optimize M&amp;S Accreditation</li> <li>- Led BMDS VV&amp;A working group (VVAWG) and Verification, Validation and Accreditation Control Board (VVACB) to improve VV&amp;A operations and ultimately improve BMDS M&amp;S performance and accreditation</li> <li>- Ensured that individual BMDS elements and components properly VV&amp;A their own models</li> <li>- Developed and presented M&amp;S objectives, event requirements, Accreditation status and strategic VV&amp;A plans as part of MDA BMDS Integrated Master Test Plan (IMTP) development.</li> <li>- Developed and updated additions to the Integrated Master VV&amp;A Plan (IMVP) to align long-range VV&amp;A planning with MDA long-range planned events, assessments and fielding decisions.</li> <li>- Developed threat trajectories and integrated threat packages to support Modeling and Simulation (M&amp;S) frameworks and execute MDA Integrated Master Test Plan (IMTP) events to include Ground Tests, Operational Tests, Flight Tests and Combatant Command (COCOM) Exercises.</li> <li>- Completed integration of National Air and Space Intelligence Center (NASIC) missile model capability into Threat Modeling Simulation System (TMSS) to produce intelligence-credible threat products for IMTP events.</li> <li>- Supported accreditation for Kinetic Impact Debris Distribution (KIDD) as post-intercept debris modeling tool.</li> <li>- Supported accreditation for Parametric Endo/Exo-atmospheric Lethality Simulation (PEELS) as engagement lethality modeling tool for Patriot PAC-3, THAAD, and GM.</li> </ul>			
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<p>- Planned and produced re-entry vehicle (RV) and kill vehicle (KV) model products using M&amp;S lethality tools, KIDD and PEELS, for Flight Test, Ground Test, Performance Assessments/Technical Assessments (PATAs), wargames, and exercises.</p> <p>- Event Integration/Support Operations:</p> <ul style="list-style-type: none"> <li>- Performed product-level Verification, Validation &amp; Accreditation (VV&amp;A).</li> <li>- Conducted requirements management for product VV&amp;A (e.g., OSC, OPTISIG, KIDD, PEELS, PEGEM)</li> <li>- Conducted Independent Verification &amp; Validation (IV&amp;V) on product modifications for Core Lethality Models (such as PEELS, KIDD).</li> <li>- Developed missile model and integrated threat package Verification &amp; Validation (V&amp;V) reports to support Integrated Master Test Plan (IMTP) events.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>-Integrate, test, functionally qualify, and deliver end-to-end BMDS simulations supporting various uses.</li> <li>-Develop and establish Hardware-in-the-loop (HWIL) M&amp;S Integration Test Cases for Ground and Flight Tests (Pre-Post Mission).</li> <li>-Conduct M&amp;S HWIL Integration Bench Mark testing for Ground and Flight Tests (Pre-Post Mission), by integrating the BMDS HWIL M&amp;S framework with MDA and non-MDA Elements into the test event BMDS architecture.</li> <li>-Develop and present M&amp;S objectives, event requirements, Accreditation status and strategic VV&amp;A plans as part of MDA BMDS Integrated Master Test Plan (IMTP) development.</li> <li>-Conduct specified system post-flight reconstructions and pre-mission testing events so as to optimize the body of evidence and analysis supporting system-level BMDS accreditation; perform all system-level Verification, Validation &amp; Accreditation (VV&amp;A) associated with these events as reflected in the IMTP.</li> </ul> <p>FY 2014 decrease is consistent with the activities defined in the IMTP.</p> <p><b>FY 2015 Plans:</b></p> <p>The FY 2015 plans for this activity are realigned within new MT23 Accomplishment/Planned Program: Engineering and Analysis.</p>					
<b>Title:</b> Engineering and Analysis				22.661	
		<b>Articles:</b>	-	-	-
<b>Description:</b> N/A					
<b>FY 2013 Accomplishments:</b> N/A					
<b>FY 2014 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>N/A</p> <p><b>FY 2015 Plans:</b>                      Provide engineering support for planning, execution, and analysis of the test events listed in the Integrated Master Test Plan (IMTP):</p> <ul style="list-style-type: none"> <li>- Design test architecture, defines target requirements, and generate appropriate scenarios for ground and flight tests.</li> <li>- Define test objectives and assessment criteria for all System level test events to anchor Modeling and Simulation (M&amp;S) and address data collection requirements.</li> <li>- Allocate and track Critical Engagement Condition (CEC) and Empirical Measurement Events (EME) data requirements and sufficiency.</li> <li>- Perform System-level and interoperability analysis.</li> <li>- Participate in major test reviews.</li> <li>- Generate BMDS test observations and coordinate associated BMDS Discrepancy Reports (BDR) within the Failure Reporting, Analysis, and Corrective Action System (FRACAS)</li> <li>- Produce the threat data required to enable BMDS ground tests, flight tests and performance assessment.</li> <li>- Utilize models and simulations (M&amp;S) for pre-test assessment and post-test review, as well as M&amp;S updates.</li> <li>- Provide Systems Engineering and Integration (SE&amp;I) test configuration management; risk assessment; and anomaly/deficiency review, assessment and closure to support data gathering for BMDS hardware/software reliability improvements.</li> <li>- Analyze test results to identify shortfalls so that objectives can be reassigned to future events to provide required verification and model validation data.</li> <li>- Develop and document long-range BMDS IMTP planning and integration strategies related to overarching BMDS analysis product integration.</li> <li>- Develop and provide capability upgrades to test analysis tools in concert with the BMDS evolution (e.g., Modular Analysis and Reporting Suite (MARS), Assessment Parameter EXtraction (APEX) to enhance analysis capability and efficiency.</li> <li>- Populate the MARS database with data from the most recently completed tests to support as-built analysis and capability assessments.</li> <li>- Provide engineering analysis process software to include System Coordination and Observation Reporting Environment (SCORE), Software Change Analysis Review Environment (SCARE), File Manager (FileMan), ManPower Loading (MPL).</li> <li>- Develop and provide infrastructure, software, and associated MDA/IA compliance for the RApid Scenario Prototype (RASP) capability.</li> <li>- Develop and optimize candidate ground test scenarios and produce the associated scenario data packages.</li> <li>- Develop and establish hardware-in-the-loop (HWIL) M&amp;S integration test cases for ground and flight tests (pre-post mission).</li> <li>- Provide modeling and technical analysis support during Combatant Command (COCOM) wargames and exercises.</li> </ul>			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2013	FY 2014	FY 2015
<ul style="list-style-type: none"> <li>- Develop, deliver, and present the Quick Look Brief (QLB), Executive Quick Look Brief (EQLB), Mission Data Review (MDR), and Executive MDR (EMDR).</li> <li>- Develop and establish Hardware-in-the-loop (HWIL) M&amp;S Integration Test Cases for flight and ground tests.</li> <li>- Conduct M&amp;S HWIL Integration Bench Mark testing for ground tests by integrating the BMDS HWIL M&amp;S framework with MDA and non-MDA Elements into the test event BMDS architecture.</li> <li>- Integrate, test, functionally qualify, and deliver end-to-end BMDS simulations supporting ground test missions.</li> </ul>			
<b>Accomplishments/Planned Programs Subtotals</b>	29.288	42.814	22.661

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

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• 0603881C: <i>Ballistic Missile</i>	267.396	255.918	299.598	-	299.598	221.008	288.405	286.421	273.365	Continuing	Continuing
<i>Defense Terminal Defense Segment</i>											
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	923.506	910.852	1,003.768	-	1,003.768	1,131.060	937.998	690.524	628.342	Continuing	Continuing
• 0603892C: <i>AEGIS BMD</i>	958.506	909.928	929.208	-	929.208	955.825	911.095	866.678	721.426	Continuing	Continuing
• 0603914C: <i>Ballistic Missile Defense Test</i>	438.114	337.993	386.482	-	386.482	340.811	369.920	417.712	413.194	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

In order to optimize the performance of the BMDS, MDA leverages the nation's engineering Centers of Excellence at government agencies and Military Services, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution to the BMDS. Products and Services will be acquired by competitive means to the extent that is possible and practical.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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<b>Product Development (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Master Test Plan (IMTP) Engineering, Integration, Verification and Assessment - SE&I - IMTP SE&I - CSS	C/CPFF	Various - CSS : AL	0.000	0.654		5.714	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Integrated Master Test Plan (IMTP) Engineering, Integration, Verification and Assessment - SE&I - IMTP SE&I - FFRDC/ UARC 1	FFRDC	JHU APL : VA	0.000	-		2.862	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Integrated Master Test Plan (IMTP) Engineering, Integration, Verification and Assessment - SE&I - IMTP SE&I - FFRDC/ UARC 2	MIPR	GTRI : AL, VA	0.000	0.555		0.635	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Integrated Master Test Plan (IMTP) Engineering, Integration, Verification and Assessment - SE&I - IMTP SE&I - FFRDC/ UARC 3	MIPR	SNL : CA	0.000	0.110		0.637	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Integrated Master Test Plan (IMTP) Engineering, Integration, Verification	C/CPAF	Boeing : AL	0.000	8.524		21.925	Oct 2013	-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
and Assessment - SE&I - IMTP SE&I - Industry															
Integrated Master Test Plan (IMTP) Engineering, Integration, Verification and Assessment - SE&I - IMTP SE&I - OGA	MIPR	AMRDEC : AL	0.000	4.891		-		-		-		-	Continuing	Continuing	Continuing
Integrated Master Test Plan (IMTP) Engineering, Integration, Verification and Assessment - SE&I - IMTP SE&I - OGA 2	MIPR	NSWC : VA	0.000	0.304		-		-		-		-	Continuing	Continuing	Continuing
Modeling/Simulation (M/S) Verification, Validation and Accreditation (VV/A) and Test Operations - IMTP M&S - Ground Test VV&A	C/CPAF	Northrop Grumman : CO	0.000	-		2.355	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Modeling/Simulation (M/S) Verification, Validation and Accreditation (VV/A) and Test Operations - IMTP M&S - M&S Accreditation	C/CPAF	Northrop Grumman : CO	0.000	2.394		2.655	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Modeling/Simulation (M/S) Verification, Validation and Accreditation (VV/A) and Test Operations - IMTP M&S - OGA Support	MIPR	AMRDEC : AL	0.000	8.510		-		-		-		-	Continuing	Continuing	Continuing
Modeling/Simulation (M/S) Verification, Validation and Accreditation (VV/A) and Test Operations - IMTP M&S - Performance Assessment VV&A	MIPR	AMRDEC : AL, CO	0.000	3.346		6.031	Oct 2013	-		-		-	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - CSS Support	C/CPFF	Torch Technologies : AL	0.000	-		-		2.320	Oct 2014	-		2.320	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering and Analysis - Engineering & Analysis - CSS Support (2)	C/CPFF	CSC : AL	0.000	-		-		2.810	Oct 2014	-		2.810	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - Industry	C/CPAF	Boeing : VA, AL	0.000	-		-		4.604	Oct 2014	-		4.604	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - OGA Support	MIPR	AMRDEC : AL	0.000	-		-		10.120	Oct 2014	-		10.120	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - Technical Support	MIPR	Northrop Grumman : VA, AL	0.000	-		-		2.807	Oct 2014	-		2.807	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	29.288		42.814		22.661		-		22.661	-	-	-

**Remarks**

N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**

N/A

<b>Management Services (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	0.000	29.288	42.814	22.661	-	22.661	-	-	-

**Remarks**

N/A

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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 Engineering Assessment Report (SEAR) - FY 2013	▲																											
Update to Integrated Master Test Plan (IMTP) - 2Q - FY 2013		▲																										
Master Integration Plan (MIP) - FY 2013				▲																								
Update to Integrated Master Test Plan (IMTP) - 1Q - FY 2014					▲																							
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2014						△																						
Update to Integrated Master Assessment Plan (IMAP) - 2Q - FY 2014						△																						
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2014								△																				
Master Integration Plan (MIP) - FY 2014								△																				
Integrated Master Assessment Plan (IMAP) - 4Q - FY 2014								△																				
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2015										△																		
Flight Test, Operational (FTO) 02 - Event 1											○																	
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2015											△																	
Flight Test, Operational (FTO) 02 - Event 2											○																	
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2016												△																
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2016													△															
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2017														△														
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2017															△													

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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Significant Event Complete ▲    Milestone Decision Complete ★    Element Test Complete ◆    System Level Test Complete ●    Complete Activity ✦  
 Significant Event Planned △    Milestone Decision Planned ☆    Element Test Planned ◇    System Level Test Planned ○    Planned Activity ☆

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2018																												
Flight Test, Operational (FTO) 03 - Event 2																												
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2018																												
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2019																												
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2019																												

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MT23 / Enabling - Test
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**Schedule Details**

Events	Start		End	
	Quarter	Year	Quarter	Year
System Engineering Assessment Report (SEAR) - FY 2013	1	2013	1	2013
Update to Integrated Master Test Plan (IMTP) - 2Q - FY 2013	2	2013	2	2013
Master Integration Plan (MIP) - FY 2013	4	2013	4	2013
Update to Integrated Master Test Plan (IMTP) - 1Q - FY 2014	1	2014	1	2014
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2014	2	2014	2	2014
Update to Integrated Master Assessment Plan (IMAP) - 2Q - FY 2014	2	2014	2	2014
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2014	4	2014	4	2014
Master Integration Plan (MIP) - FY 2014	4	2014	4	2014
Integrated Master Assessment Plan (IMAP) - 4Q - FY 2014	4	2014	4	2014
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2015	2	2015	2	2015
Flight Test, Operational (FTO) 02 - Event 1	3	2015	3	2015
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2015	4	2015	4	2015
Flight Test, Operational (FTO) 02 - Event 2	4	2015	4	2015
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2016	2	2016	2	2016
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2016	4	2016	4	2016
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2017	2	2017	2	2017
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2017	4	2017	4	2017
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2018	2	2018	2	2018
Flight Test, Operational (FTO) 03 - Event 2	3	2018	3	2018
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2018	4	2018	4	2018
Integrated Master Test Plan (IMTP) Engineering Inputs - 2Q - FY 2019	2	2019	2	2019
Integrated Master Test Plan (IMTP) Engineering Inputs - 4Q - FY 2019	4	2019	4	2019
Flight Test, Operational (FTO) 03 - Event 1	3	2020	3	2020

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs				<b>Project (Number/Name)</b> MD28 / Intelligence & Security			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
MD28: <i>Intelligence &amp; Security</i>	33.687	28.627	32.134	40.231	-	40.231	41.283	42.075	43.569	44.690	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

The Threat Systems Engineering activity has transferred in FY 2015 from project MD24, System Engineering & Integration, to this project.

**A. Mission Description and Budget Item Justification**

Intelligence and Security Program Major Program Goals:

- Ensure the Intelligence Community understands and fulfills the Missile Defense Agency's (MDA's) current and future prioritized intelligence requirements in an accurate and timely manner; advocate Ballistic Missile Defense System (BMDS) test support collection requirements with the Intelligence Community; and ensure that MDA's intelligence needs and finished intelligence requirements are understood while ensuring the Intelligence Community is involved in technical interchange meetings.
- Continue the federated approach to supporting MDA by leveraging available National and Department of Defense (DoD) Counterintelligence resources to ensure counterintelligence products and services are fully integrated into all Research, Development, Test & Evaluation (RDT&E) programs and activities to protect classified information and critical technologies and to support and protect MDA and BMDS personnel, facilities, information and activities from criminal, terrorist and Foreign Intelligence and Security Service targeting/threats.
- Consistently and comprehensively define cybersecurity systems engineering requirements for Continental United States (CONUS) and non-CONUS based BMDS assets. Define cybersecurity systems engineering and cybersecurity infrastructure intelligence requirements to focus Intelligence Community collection, analysis and production to target MDA/BMDS cyber vulnerabilities, and incorporate cybersecurity engineering requirements into the systems engineering process.

The Security and Intelligence Project captures five specific areas:

- 1) Intelligence
- 2) Counterintelligence
- 3) Cybersecurity Engineering
- 4) Research, Development Acquisition (RDA) Security
- 5) Threat Systems Engineering

Collectively, these efforts provide critical information regarding threat ballistic missile system capabilities (via intelligence); protection of personnel, activities, and technology from espionage and terrorism through active and passive activities (via counterintelligence); and BMDS system vulnerabilities (via Cyber Security Engineering).

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD28 / <i>Intelligence &amp; Security</i>

1) The Intelligence Requirements Program furnishes highly classified intelligence on foreign threat ballistic missile systems to the missile defense community. This program provides a clearing house for MDA's requirements to be presented to the Intelligence Community for collection, analysis and production. The Intelligence Requirements Office gains an understanding of all MDA intelligence requirements, registers these requirements with the Intelligence Community, who in turn provides resulting data to be disseminated and archived in the MDA Intelligence Knowledge Base. Resulting intelligence and threat changes are provided to the BMDS System Engineer, who uses the threat data to reduce risk and improve BMDS performance against the evolving threat. It enables MDA Program Managers to achieve a sufficiently accurate understanding of the threat environment to respond to relevant capabilities of immediate importance, make informed decisions, and invest limited resources on countering the most significant aspects of potential adversary capabilities. Other aspects of Intelligence are designed to gain access to, and leverage unique Intelligence Community capabilities for the benefit and advocacy of the Missile Defense Community. Numerous Intelligence Community capabilities are highly classified and require both access and expertise to exploit.

2) Counterintelligence undertakes defensive Counterintelligence (CI) activities as part of an integrated DoD/National effort to detect and neutralize foreign intelligence collection efforts, espionage and terrorist activities directed against MDA personnel, information, facilities, and activities, or against U.S. National Security.

Pursuant to DoD Directive O-5240.02 (Counterintelligence) and other DoD CI policy issuances, Counterintelligence:

- Conducts CI Investigations: Initial inquiries into reported or suspected clandestine relationships between MDA personnel and agents of a foreign power or international terrorist organizations.
- Performs CI Collection: Systematically collects intelligence information via liaison relationships with U.S. and host-nation intelligence, CI and law enforcement organizations and debriefings of MDA foreign travelers.
- Performs CI Analysis and Production: Produces assessments, analytical reports, threat advisories and other products to keep MDA program elements and senior leadership informed on foreign intelligence, international terrorism and foreign entity cyber threat.
- Provides CI Functional Services: Conducts defensive CI activities in support of MDA programs (including Special Access Programs (SAP) and Research, Development, Acquisition (RDA) programs), test events, and fielding/deployment activities to protect Critical Program Information and sensitive technologies from foreign intelligence collection activities and international terrorism threats.

3) Cybersecurity Engineering Program provides coherent cybersecurity systems engineering policy and guidance to BMDS system design and acquisition enhancing BMDS resiliency against existing and emerging cyber threats. It develops and coordinates near-term and long-term engineering changes to the BMDS that advance the confidentiality, integrity, and availability and counter cyber threats posed by our adversaries. To fulfill this role, the BMDS Cybersecurity Engineering program works with Intelligence Requirements and Counterintelligence to obtain a comprehensive picture of the overall cyber threat for impacts to the BMDS design; identifies mitigation strategies and map to established National Security Systems (NSS) and DoD policy; and then influences the design by 1) identifying updates to the Core Standards and Requirements to implement Defense-in-Depth within planned development cycles (Builds); 2) providing oversight, coordination and management of cybersecurity technical requirements development and policy-mandated responsibilities; 3) coordinating evaluation of cybersecurity capability during BMDS tests, and; 4) assessing the validated cyber threat intelligence for impact to the BMDS design. To fulfill mission requirements, the program interfaces with relevant Cybersecurity Systems Engineering experts to assess requirements, documentation and cybersecurity system design and assessment criteria.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD28 / Intelligence & Security
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4) Research, Development Acquisition (RDA) Security manages the MDA Information, Industrial, Acquisition Operations Security programs to protect acquisition, test, development, and fielding of BMDS capabilities. RDA Security conducts security reviews for all Congressional, Government Accountability Office (GAO), budget, Freedom of Information Act (FOIA), and Public Release actions; develops and coordinates Security Classification Guides (SCGs) and resolves questions regarding security classification; manages the MDA Industrial Security program to develop Contract Security Classification Specifications (DD-254s) for all classified MDA contracts and to resolve Foreign Ownership, Control, and Influence (FOCI) issues; and conducts Information Security (INFOSEC) staff assistance and program reviews for all MDA offices and security inquiries as required to identify and resolve security deficiencies that would place BMDS information at risk. RDA Security also supports program offices in assessing acquisition programs, first to identify critical program information (CPI) and critical components, then to analyze risk and recommend security measures to protect CPI and the BMDS supply chain. Systems Protection provides planning support for BMDS deployments by coordinating security requirements for deploying BMDS assets with the Combatant Commanders (COCOMs) and Services and developing and coordinating site security infrastructure designs in accordance with direction from the Deputy Secretary of Defense to protect critical BMDS assets. RDA Security conducts the MDA Declassification Program in compliance with Executive Order 13526 (Classified National Security Information), which requires mandatory review of 25 year-old missile defense documents to ensure classified and sensitive but unclassified information is not inadvertently released into the public domain.

5) The Threat Systems Engineering effort provides consistent definitions of adversary capabilities required for BMDS development and design, and maintains and updates the Agency-wide threat documentation to ensure the threat parameters used for BMD System performance predictions, analyses, design, verification, and assessment are correct and consistent. Threat Systems Engineering also provides, develops, coordinates, and baselines targets and countermeasures requirements to define target capabilities that support BMDS flight test objectives. Threat Systems Engineering:

- Defines the BMDS threat space and support threat space allocation to specific BMDS capability increments.
- Guides missile requirements development, planning, and accreditation for BMDS ground and digital simulation tests
- Supports development of target system specifications; and guide targets requirements development, planning, and certification for BMDS flight tests
- Analyzes flight test target performance relative to threat intelligence assessments to support target system verification and certification
- Conducts threat model verification and validation to verify missile model meets specifications and is consistent with intelligence assessments at established Intel-Cut-Off Dates (ICOD).
- Produces threat models and scenario data for BMDS development events and establish threat consistency across the BMDS and Elements

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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<b>Title:</b> Intelligence	10.483	11.695	9.165
<b>Articles:</b>	-	-	-
<b>Description:</b> The Intelligence program provides expertise to develop intelligence products on threat ballistic missile system capabilities, and leverages unique intelligence-community developed, owned, and operated capabilities for the benefit and advocacy of the missile defense community.			
<b>FY 2013 Accomplishments:</b>			
- Continued to be the single intelligence requirements integration office within MDA and its designated intermediary with the Intelligence Community, and maintained a consistent dialog with the Intelligence Community to ensure they have a focused,			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD28 / <i>Intelligence &amp; Security</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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<p>prioritized, and complete understanding of the vast requirements for foreign intelligence necessary to build a comprehensive BMDS.</p> <ul style="list-style-type: none"> <li>- Continued to manage the intelligence collection requirements and engaged the Intelligence Community to ensure MDA requirements are documented, validated, collected, and understood. Intelligence tasks included planning intelligence collections support for missile defense tests and documenting requirements in Intelligence Community management systems, and maintaining and updating Measurement and Signature Intelligence (MASINT), Geospatial Intelligence (GEOINT), and Signal Intelligence (SIGINT) requirements on advances in foreign ballistic missile technology and for all MDA events.</li> <li>- Continued to maintain an ongoing, persistent, focused dialog with all members of the Intelligence Community to ensure MDA intelligence requirements are viewed in proper context, receive the proper priority level, and are explicitly understood by the Intelligence Community.</li> <li>- Continued to provide all levels of builders of missile defense intelligence requirements with the most up to-date and accurate intelligence, which required a detailed understanding of the BMDS developer`s and senior leadership`s particular requirements.</li> <li>- Continued to provide an encyclopedic, all-source, and all encompassing knowledge base of the foreign ballistic missile threat including development, enhancement, and population of the Secret and Top Secret/Sensitive Compartmented Information Missile Threat Portals with Intelligence Community produced intelligence documents.</li> <li>- Fully characterized all ballistic missile threat systems from high priority countries for use by the MDA Systems Engineer, Program Managers, and Director for Test to perform modeling, simulation, and testing of the BMDS. The MDA Director for Engineering used this intelligence to build the Adversary Data Package provided to all Program Elements and MDA Test community as the ballistic missile threat document utilized to build and test the BMDS. The Director, MDA has offered and authorized this two year resource augmentation to National Air and Space Intelligence Center (NASIC) as bridge funding while USAF/NASIC realign resources within the MIP to accommodate these requirements.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>-Serve as designated intelligence broker between MDA and the Intelligence Community:             <ul style="list-style-type: none"> <li>-- Maintain and communicate prioritized, specific BMDS intelligence requirements to the Intelligence Community</li> <li>-- Maintain a focused dialog with members of the Intelligence Community to ensure understanding, urgency and context of MDA intelligence requirements</li> <li>-- Manage intelligence collection requirements, including specific requirements supporting individual ground and flight test events</li> <li>-- Maintain Measurement and Signature Intelligence (MASINT), Geospatial Intelligence (GEOINT), and Signal Intelligence (SIGINT) requirements on advances in foreign ballistic missile technology and for all MDA events.</li> </ul> </li> <li>-Provide up-to-date and accurate intelligence to Missile Defense community.</li> <li>-Maintain and update MDA`s encyclopedic, all-source, and all encompassing knowledge base of foreign ballistic missile threats, including development, enhancement, and population of the Missile Threat Portals with Intelligence Community produced documents at the appropriate security classification levels.</li> </ul>			
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD28 / Intelligence & Security		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>-Fully characterize all ballistic missile threat systems from high priority countries for use by the MDA Systems Engineer, Program Managers, and Director for Test to perform modeling, simulation, and testing of the BMDS in FY 2014.</p> <p><b>FY 2015 Plans:</b></p> <p>-Serve as designated intelligence broker between MDA and the Intelligence Community:</p> <p>-- Maintain and communicate prioritized, specific BMDS intelligence requirements to the Intelligence Community.</p> <p>-- Maintain a focused dialog with members of the Intelligence Community to ensure understanding, urgency and context of MDA intelligence requirements.</p> <p>-Provide up-to-date and accurate intelligence to Missile Defense community.</p> <p>-Maintain and update MDA's encyclopedic, all-source, and all encompassing knowledge base of foreign ballistic missile threats, including development, enhancement, and population of the Missile Threat Portals with Intelligence Community produced documents at the appropriate security classification levels.</p> <p>-Fully characterize all ballistic missile threat systems from high priority countries for use by the MDA Systems Engineer, Program Managers, and Director for Test to perform modeling, simulation, and testing of the BMDS in FY 2015.</p> <p>FY 2015 decrease due to reprioritization of tasks and planned accomplishments constituting the Intelligence &amp; Security mission.</p>				
<p><b>Title:</b> Counterintelligence</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The Counterintelligence effort protects personnel, activities, information and technologies from espionage and terrorism through defensive operations and activities.</p> <p><b>FY 2013 Accomplishments:</b></p> <p>- Continued to serve as the single point of contact with Federal, State and Local Law Enforcement and Counterintelligence Organizations. Fostered collaborative partnerships targeting foreign intelligence collection activities directed against MDA personnel, facilities and activities to prevent the loss or compromise of critical program information or critical BMDS technologies.</p> <p>- Deployed organic counterintelligence teams to conduct defensive counterintelligence activities in support of BMDS fielding initiatives under the Phased Adaptive Approach and Foreign Military Sales Programs.</p> <p>- Procured and fielded updated secure voice and data communications systems in support of MDA flight tests, conferences and BMDS deployment initiatives under the Phased Adaptive Approach and Foreign Military Sales Program.</p> <p>- Supported all MDA flight tests to detect, deter, or neutralize criminal, terrorist and foreign intelligence collection threats targeting MDA and BMDS technologies, personnel, facilities and activities.</p> <p><b>FY 2014 Plans:</b></p>		4.814 -	5.423 -	5.253 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD28 / <i>Intelligence &amp; Security</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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<ul style="list-style-type: none"> <li>- Serve as MDA Office of Primary Responsibility with Federal, State and Local Law Enforcement and Counterintelligence (CI) Organizations for reporting and resolution of matters or incidents involving MDA personnel, information and technologies.</li> <li>-- Engage National, Combatant Command and DoD CI resources to share and obtain threat information impacting MDA personnel, facilities, information, technologies, programs and activities, worldwide.</li> <li>-- Deploy organic CI and technical teams to support of BMDS fielding and deployment activities under the Phased Adaptive Approach and other initiatives under Foreign Military Sales Programs.</li>   <li>- Conduct CI research and provide timely, relevant and accurate threat products to keep MDA program elements and senior leadership informed of criminal, terrorist and foreign intelligence threats to MDA personnel, facilities, programs, information, and activities.</li> <li>- Execute lifecycle replacement of outdated technical surveillance countermeasures and cyber forensics gear to employ the latest technologies during conferences, flight tests and other classified activities to detect, deter and prevent the loss or compromise of classified or sensitive but unclassified information to sophisticated foreign adversary collection activities.</li> <li>- Provide on-site CI and technical support for all MDA flight tests to detect, deter, or neutralize criminal, terrorist and foreign intelligence collection threats targeting MDA and BMDS technologies, personnel, facilities and activities.</li> <li>- Conduct CI in Cyberspace activities to detect malicious and insider threat activities targeting MDA administrative and fire control networks.</li>   <li><b><i>FY 2015 Plans:</i></b></li> <li>- Serve as MDA Office of Primary Responsibility with Federal, State and Local Law Enforcement and Counterintelligence (CI) Organizations for reporting and resolution of matters or incidents involving MDA personnel, information and technologies.</li> <li>-- Engage National, Combatant Command and DoD CI resources to share and obtain threat information impacting MDA personnel, facilities, information, technologies, programs and activities, worldwide.</li> <li>-- Deploy organic CI and technical teams to support of BMDS fielding and deployment activities under the Phased Adaptive Approach and other initiatives under Foreign Military Sales Programs.</li>   <li>- Conduct CI research and provide timely, relevant and accurate threat products to keep MDA program elements and senior leadership informed of criminal, terrorist and foreign intelligence threats to MDA personnel, facilities, programs, information, and activities.</li> <li>- Execute lifecycle replacement of outdated technical surveillance countermeasures and cyber forensics gear to employ the latest technologies during conferences, flight tests and other classified activities to detect, deter and prevent the loss or compromise of classified or sensitive but unclassified information to sophisticated foreign adversary collection activities.</li> <li>- Provide on-site CI and technical support for all MDA flight tests to detect, deter, or neutralize criminal, terrorist and foreign intelligence collection threats targeting MDA and BMDS technologies, personnel, facilities and activities.</li> </ul>			
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs		<b>Project (Number/Name)</b> MD28 / Intelligence & Security
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
- Conduct CI in Cyberspace activities to detect malicious and insider threat activities targeting MDA administrative and fire control networks.				
<p><b>Title:</b> Cybersecurity Engineering Program</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The Cybersecurity Engineering Program provides coherent cybersecurity systems engineering policy and guidance to BMDS system design and acquisition enhancing BMDS resiliency against existing and emerging cyber threats.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Fulfilled DoD Instruction 8500.2 and 8510.01 policy-mandated roles of the Information Assurance Manager and Information Assurance Officer for the overarching Ballistic Missile Defense System (BMDS).</li> <li>- Defined Information Assurance/Computer Network Defense (IA/CND) requirements for continental U.S. (CONUS) and non-CONUS based BMDS assets consistently, comprehensively and definitively.</li> <li>- Assessed the IA/CND security architecture to address gaps/disconnects, to enhance interoperability, and realize efficiencies across all mission systems. Define the ``As Built`` and ``To Be`` IA/CND Architectural Concepts to support technical assessments and IA/CND design solutions and implementation recommendations.</li> <li>- Developed and documented technical requirements and interfaces to execute an Integrated IA/CND Net-centric Architectural Concept.</li> <li>- Enhanced the information assurance posture of the BMDS by delivering expert, responsive, relevant IA/CND products and services supporting the Program Managers to meet BMDS and IA/CND needs and requirements.</li> <li>- Assisted in the sustainment of an acceptable IA/CND security posture for the MDA Director, through various initiatives at each stage of the program`s lifecycle.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Implement the Deputy Assistant Secretary of Defense (DASD) for Cyber, Identity, and Information Assurance (CIIA) Strategy by achieving Cyberspace resiliency (being flexible, adaptable, and successful in the face of cyber degradation, loss or attack) by understanding the battle space and engineering for survivability.</li> <li>- Ensure cybersecurity is integrated into the Acquisition Process in accordance with DoD Instruction 8580.1.</li> <li>- Develop and coordinate near-term and long-term engineering changes to the BMDS that advance the resilience to cyber threats.</li> <li>- Define Cybersecurity Engineering requirements for the BMD System Specification for continental U.S. (CONUS) and non-CONUS based BMDS assets. Develop requirements for building cybersecurity into incremental BMDS Hardware and Software builds, up front. Monitor allocation of these requirements to the Elements. Recommend updates to the BMDS Core Standards to include new Cyber-related requirements specified by the Agency, the Combatant Commanders (COCOMS), the DOD, and the Federal Government.</li> <li>- Assess the Cybersecurity Architecture to address gaps/disconnects, enhance interoperability, and realize efficiencies across all mission systems. Define the ``As Built`` and ``To Be`` Cybersecurity Systems Engineering concepts to support</li> </ul>		3.260 -	3.673 -	3.684 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD28 / <i>Intelligence &amp; Security</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2013	FY 2014	FY 2015
<p>technical assessments and cybersecurity design solutions and implementation of recommendations impacted by the change in requirements. Recommend updates to the BMDS System Description Document, System Security Concept (SSC), and other planning documents to ensure cybersecurity issues are fully considered through the BMDS and element programs.</p> <ul style="list-style-type: none"> <li>- Develop technical requirements and interface documentation to execute an Integrated Cybersecurity Engineering Net-centric Architectural Concept.</li> <li>- Implement the National Security Agency (NSA) Community Gold Standard to enhance the cybersecurity posture of the BMDS by delivering expert, responsive, Cybersecurity Systems Engineering products and services supporting the Program Managers to meet BMDS and Cybersecurity Systems Engineering needs and requirements for Enhanced Homeland Defense and Enhanced Medium Range Ballistic Missile (MRBM) Defense.</li> <li>- Implement mitigations to cyber threats as system requirements and specifications to the BMDS design and architecture, ensuring mitigations trace to necessary components and interfaces supporting the BMDS mission.</li> <li>- Coordinate evaluation of cybersecurity capability during BMDS tests; develop verification and assessment strategies for system requirements.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Implement the Deputy Assistant Secretary of Defense (DASD) for Cyber, Identity, and Information Assurance (CIIA) Strategy by achieving Cyberspace resiliency (being flexible, adaptable, and successful in the face of cyber degradation, loss or attack) by understanding the battle space; and engineering for survivability.</li> <li>- Ensure Cybersecurity is integrated into the Acquisition Process in accordance with DoD Instruction 8580.1.</li> <li>- Develop and coordinate near-term and long-term engineering changes to the BMDS that advance the resilience to cyber threats.</li> <li>- Define cybersecurity engineering requirements for the BMD System Specification for continental U.S. (CONUS) and non-CONUS based BMDS assets. Develop requirements for building cybersecurity into incremental BMDS Hardware and Software builds, up front. Monitor allocation of these requirements to the Elements. Recommend updates to the BMDS Core Standards to include new Cyber-related specifications specified by the Agency, the COCOMS, the DOD, and the Federal Government.</li> <li>- Assess the Cybersecurity Architecture to address gaps/disconnects, enhance interoperability, and realize efficiencies across all mission systems. Define the "As Built" and "To Be" Cybersecurity Systems Engineering concepts to support technical assessments and cybersecurity design solutions and implementation recommendations impacted by the change in requirements. Recommend updates to the BMDS System Description Document, System Security Concept (SSC), and other planning documents to ensure cybersecurity issues are fully considered through the BMDS and element programs.</li> <li>- Develop technical requirements and interface documentation to execute an Integrated Cybersecurity Engineering Net-centric Architectural Concept.</li> <li>- Implement the National Security Agency (NSA) Community Gold Standard to enhance the cybersecurity posture of the BMDS by delivering expert, responsive, Cybersecurity Systems Engineering products and services supporting the Program Managers to meet BMDS and Cybersecurity Systems Engineering needs and requirements for Enhanced Homeland Defense and Enhanced Medium Range Ballistic Missile (MRBM) Defense.</li> </ul>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD28 / Intelligence & Security		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Implement mitigations to cyber threats as system requirements and specifications to the BMDS design and architecture, ensuring mitigations trace to necessary components and interfaces supporting the BMDS mission.</li> <li>- Coordinate evaluation of cybersecurity capability during BMDS tests; develop verification and assessment strategies for system requirements.</li> </ul>				
<p><b>Title:</b> Research, Development Acquisition (RDA) Security</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Research, Development and Acquisition (RDA) Security protects Ballistic Missile Defense System (BMDS) information, Critical Program Information, technologies, and deploying systems, and develops/coordinates Security Classification Guides.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Performed all reviews supporting Agency public release, security classification, and required Freedom of Information Act (FOIA) and Mandatory Declassification Reviews (MDR). Performed Information Security staff assistance reviews and assessments of 90 MDA programs, and coordinated required security incident reviews to identify and fix security deficiencies impacting Agency operations. The Industrial Security program provided security oversight for the Agency's classified contracts, drafting and coordinating DD254 ``Contract Security Classification Specification`` documents to support contracting efforts.</li> <li>- Provided security support to Phased Adaptive Approach (PAA) and other directed BMDS systems deployments.</li> <li>- Focused program protection planning on the continuing assessment of candidate critical program information (CPI) for Advanced Technology programs, notably including High Power Directed Energy and Small Business Innovative Research (SBIRS) projects, to identify technologies that will transition into MDA programs. Continued to work with the Counterintelligence team on Supply Chain Risk Management (SCRM) issues that could degrade the performance of BMDS systems.</li> <li>- Provided dedicated on-site security and protection of BMDS resources and personnel at operational sites in Alaska, California and Colorado with the Test Directorate to ensure 100% security protection coverage of the BMDS mission operations and test assets. During this reporting period, funding for the maintenance and update of the Argus electronic security system for the Missile Defense Integrated Operations Center was transferred from Program Wide Support into the Intelligence &amp; Security budget.</li> <li>- The Declassification Program requirements continued to expand in FY 2013, as the Agency conducted declassification reviews of historical documents 25 years old and older in accordance with Executive Order 13526, Classified National Security Information. The MDA production target was projected to be in excess of 5.7 million page equivalent historical records. To support this increasing requirement, MDA funded a project for high volume scanning of volumes of legacy hard copy documents into digital format that could then be processed, using intelligent software, to assist in identifying missile defense equities.</li> </ul> <p><b>FY 2014 Plans:</b></p>		10.070	11.343	10.842
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Perform all reviews supporting Agency public release, security classification, and required Freedom of Information Act (FOIA) and Mandatory Declassification Reviews (MDR) to ensure sensitive BMDS information is not inadvertently released into the public domain.</p> <p>- Perform Information Security staff assistance reviews and assessments of 90 MDA programs and coordinate required security incident reviews to identify and fix security deficiencies impacting Agency operations; support continuing awareness and emphasis of security measures to protect critical BMDS technological information.</p> <p>- Provide security oversight for the Agency's classified contracts by drafting and coordinating DD254 "Contract Security Classification Specification" documents to support contracting efforts and ensure that appropriate protections for BMDS sensitive information are applied within the supporting industrial base.</p> <p>- Provide security support to Phased Adaptive Approach (PAA) and other directed BMDS systems deployments, to ensure effective physical protection is provided to extremely low density/high demand emerging warfighter capability.</p> <p>- Conduct program protection planning for the continuing assessment of candidate critical program information (CPI) for Advanced Technology programs and reassessment of other BMDS programs affected by technical baseline changes; ensure critical technologies embedded in Missile Defense systems are not vulnerable to compromise.</p> <p>- Execute an effective Supply Chain Risk Management (SCRM) program to prevent unmitigated risks from degrading the performance of components and systems across the BMDS supply chain.</p> <p>- Provide dedicated on-site security and protection of BMDS resources and personnel at operational sites in Alaska, California and Colorado to ensure 100% security protection coverage of the BMDS mission operations and test assets based in those regions.</p> <p>- Provide a combination of digitized material, automated search tools, and Declassification Specialists to identify sensitive BMDS material that qualifies for exemption from automatic declassification based on age. Declassification reviews identify equities that warrant continued protection to preserve the technological advantage of the BMDS.</p> <p><b>FY 2015 Plans:</b></p> <p>- Perform all reviews supporting Agency public release, security classification, and required Freedom of Information Act (FOIA) and Mandatory Declassification Reviews (MDR) to ensure sensitive BMDS information is not inadvertently released into the public domain.</p> <p>- Perform Information Security staff assistance reviews and assessments of 90 MDA programs and coordinate required security incident reviews to identify and fix security deficiencies impacting Agency operations; support continuing awareness and emphasis of security measures to protect critical BMDS technological information.</p> <p>- Provide security oversight for the Agency's classified contracts by drafting and coordinating DD254 "Contract Security Classification Specification" documents to support contracting efforts and ensure that appropriate protections for BMDS sensitive information are applied within the supporting industrial base.</p> <p>- Provide security support to Phased Adaptive Approach (PAA) and deployments of AN-TPY-2 radars to the CENTCOM and PACOM areas of responsibility to ensure effective physical protection is provided to extremely low density/high demand emerging warfighter capability.</p>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2013	FY 2014	FY 2015
<ul style="list-style-type: none"> <li>- Conduct program protection planning for the continuing assessment of candidate critical program information (CPI) for Advanced Technology programs and reassessment of other BMDS programs affected by technical baseline changes; ensure critical technologies embedded in Missile Defense systems are not vulnerable to compromise.</li> <li>- Execute an effective Supply Chain Risk Management (SCRM) program to prevent unmitigated risks from degrading the performance of components and systems across the BMDS supply chain.</li> <li>- Provide dedicated on-site security and protection of BMDS resources and personnel at operational sites in Alaska, California and Colorado to ensure 100% security protection coverage of the BMDS mission operations and test assets based in those regions.</li> <li>- Per Executive Order 13525, Classified National Security Program, provide a combination of digitized material, automated search tools, and Declassification specialists to identify sensitive BMDS material that qualifies for exemption from automatic declassification based on age. Declassification reviews identify equities that warrant continued protection to preserve the technological advantage of the BMDS.</li> </ul>			
<p><b>Title:</b> Threat Systems Engineering</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Directly support a collaborative MDA Engineering effort to develop, test, and field BMDS capabilities. Provide representations of adversary missile capabilities based on best available intelligence information and develop, coordinate, and baseline BMDS-level targets and countermeasures requirements to define target capabilities that support BMDS flight test objectives. This activity was previously included under project MD24, System Engineering &amp; Integration.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Define, develop, and maintain the Ballistic Missile Defense System (BMDS) threat.</li> <li>- Produce flight test targets and countermeasures requirements to support BMDS flight test testing.</li> <li>- Produce or update threat specifications, models, and scenario data to support BMDS development &amp; testing.</li> <li>- Support verification and validation of threat models.</li> <li>- Certify flight test targets meet the established requirements.</li> <li>- Analyze threat representation of flight test targets and ensure target requirements are based on intelligence assessments and the threat.</li> </ul>	<p>-</p> <p>-</p>	<p>-</p> <p>-</p>	<p>11.287</p> <p>-</p>
<b>Accomplishments/Planned Programs Subtotals</b>	28.627	32.134	40.231

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0305103C: <i>Cyber Security Initiative</i>	-	0.946	0.961	-	0.961	0.984	1.003	1.022	1.048	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

In support of acquiring an effective BMDS capability, this project directs various executing agents and leverages expertise in the intelligence community, counterintelligence community, and information assurance community, including the Military Services, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution to the BMDS. Products and Services will be acquired by competitive means to the extent that is possible and practical.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

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<b>Product Development (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-	-	-	-	-	-	-	-	-	-	-	-

**Remarks**  
N/A

<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Intelligence - Analysis and Support	C/FFP	Lockheed Martin : Gaithersburg, VA	25.917	-		-		-		-		-	Continuing	Continuing	Continuing
Intelligence - Intelligence Analysis & Support	Various	MDA : VA, AL, CO	0.000	5.920		7.280		4.734	Nov 2014	-		4.734	Continuing	Continuing	Continuing
Intelligence - Intelligence Applications	MIPR	SMDC : Huntsville, AL	6.470	-		-		-		-		-	Continuing	Continuing	Continuing
Intelligence - Intelligence Collections	MIPR	NASIC : Wright-Patterson AFB, OH	1.300	-		-		-		-		-	Continuing	Continuing	Continuing
Intelligence - Intelligence Support	C/CPFF	Booz Allen Hamilton : AL, VA, CO	0.000	4.051		3.900		3.861	Nov 2014	-		3.861	Continuing	Continuing	Continuing
Intelligence - Intelligence Support (2)	C/CPFF	Northrop Grumman : AL, CO	0.000	0.512		0.515		0.570	Nov 2014	-		0.570	Continuing	Continuing	Continuing
Counterintelligence - CI Analysis & Support	Various	MDA : AL, CO, VA	0.000	1.887		-		2.069	Nov 2014	-		2.069	Continuing	Continuing	Continuing
Counterintelligence - CI Analysis and Support 2	C/CPFF	Booz Allen Hamilton : McLean, VA	0.000	2.927		5.423	Apr 2014	3.184	Nov 2014	-		3.184	Continuing	Continuing	Continuing
Cybersecurity Engineering Program - Cyber Threat 1	C/CPFF	Mantech : VA	0.000	1.052		3.673	Jul 2014	1.355	Jan 2015	-		1.355	Continuing	Continuing	Continuing
Cybersecurity Engineering Program - Cybersecurity - FFRDC	FFRDC	Aerospace : CA	0.000	1.050		-		0.540	Nov 2014	-		0.540	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency												Date: March 2014			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
0400 / 4					PE 0603890C / BMD Enabling Programs					MD28 / Intelligence & Security					
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cybersecurity Engineering Program - Cybersecurity - FFRDC (2)	FFRDC	MITRE : VA	0.000	0.446		-		0.538	Nov 2014	-		0.538	Continuing	Continuing	Continuing
Cybersecurity Engineering Program - Cybersecurity Engineering	Various	MDA : VA, AL	0.000	0.712		-		1.251	Nov 2014	-		1.251	Continuing	Continuing	Continuing
Research, Development Acquisition (RDA) Security - RDA Analysis & Support	C/CPFF	Mantech : Falls Church, VA	0.000	3.101		5.243	Oct 2013	4.473	Nov 2014	-		4.473	Continuing	Continuing	Continuing
Research, Development Acquisition (RDA) Security - RDA Declass Analysis	C/CPFF	Booz-Allen Hamilton : McLean, VA	0.000	1.146		6.100	Oct 2013	1.476	Nov 2014	-		1.476	Continuing	Continuing	Continuing
Research, Development Acquisition (RDA) Security - RDA Security Analysis	Various	MDA : VA, AL	0.000	5.823		-		3.266	Nov 2014	-		3.266	Continuing	Continuing	Continuing
Research, Development Acquisition (RDA) Security - RDA Security Support	Various	Various : VA, AL, CO	0.000	-		-		1.627	Nov 2014	-		1.627	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering	Various	MDA : VA, AL, CO	0.000	-		-		2.458	Nov 2014	-		2.458	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - CSS	C/CPFF	MEI : AL	0.000	-		-		5.561	Nov 2014	-		5.561	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - CSS (2)	C/CPFF	CSC : AL, VA	0.000	-		-		0.901	Nov 2014	-		0.901	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - FFRDC	FFRDC	MIT/LL : MA	0.000	-		-		0.684	Nov 2014	-		0.684	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat	FFRDC	JHU/APL : MD	0.000	-		-		1.683	Nov 2014	-		1.683	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD28 / Intelligence & Security
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			33.687	28.627		32.134		40.231		-		40.231	-	-	-

**Remarks**  
MDIOC - Missile Defense Integration & Operations Center; SMDC - Space & Missiles Development Center; NASIC - National Air and Space Intelligence Center

<b>Test and Evaluation (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

<b>Management Services (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	33.687	28.627	32.134	40.231	-	40.231	-	-	-

**Remarks**  
Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs				<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
MD30: BMD Information Management Systems	-	97.258	92.411	97.097	-	97.097	95.087	104.976	91.876	93.524	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Beginning in FY 2014, Information Assurance/Computer Network Defense content in Budget Project MD30 of Enabling Programs Element 0603890C to a new Cyber Operations Budget Project MC30 in Program Element 0603890C.

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

**A. Mission Description and Budget Item Justification**

The Ballistic Missile Defense (BMD) Information Management Systems Project funds the Information Technology (IT), Cybersecurity, Information Assurance (IA), and telecommunications infrastructure of the Agency. Information management systems are critical to the day-to-day functions of MDA personnel to communicate (classified and unclassified) with each other, Congress, senior DoD and other U.S. government agency personnel, Combatant Commanders, North Atlantic Treaty Organization (NATO) partners, and other industry partners. Communication among these organizations facilitates the MDA mission of developing and fielding an integrated Ballistic Missile Defense System (BMDS) to defend the United States, our deployed forces, allies, and friends against all ranges of enemy ballistic missiles in all phases of flight. MDA information management systems capabilities support rigorous missile defense testing and facilitates. The development of technologies to guard against future missile threat growth. Communications are vital for missile defense to continue a viable homeland defense against rogue threats and to provide the integration required to defend deployed forces, allies, and friends against theater threats. The management systems consist of MDA secure communication networks, IT systems, data centers, operations and monitoring centers which are vital to support the strategic mission of the Agency and necessary to meet disaster recovery and continuity of operations requirements. This infrastructure is required to sustain access to the Secret Internet Protocol Router Network (SIPRNET), Non secure Internet Protocol Router Network (NIPRNET), MDA classified and unclassified networks, classified and unclassified video teleconferencing services, test and business knowledge data centers, the Defense Research Engineering Network (DREN). These mission critical functions provide for the efficient operation and safeguarding of all agency information in locations supporting MDA around the world.

This project funds IT, mission critical functions, providing for the efficient operation and safeguarding of Agency information in compliance with Department of Defense (DoD) policies and in keeping with the President's declaration on 29 May 2009, that "cyber threat is one of the most serious economic and national security challenges we face as a nation".

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD30 / <i>BMD Information Management Systems</i>
<p>Project MD30 was realigned into the following seven inter-agency mission critical IT services and the associated plans for FY 2013 and 2014 to align with the Federal Information Technology Shared Services Strategy.</p> <ol style="list-style-type: none"><li><b>1. End User Support</b> This service strategy supports end user office productivity needs and covers the licensing and sustainment of desktops, laptops, and associated hardware and software. The support also covers printing and copy services, file and directory services, user authentication, and help desk support for break-fix actions.</li><li><b>2. Unified Communications</b> This service strategy supports leased communications (classified and unclassified wide area networks, metropolitan area networks, and local area networks), telecommunications (local and long distance telephone services and secure and non secure mobile and desktop telephony devices), management, engineering, systems integration, operations, maintenance, and technical support services. Unified Communications also includes sustainment of Video Teleconferencing (VTC) hardware/software, VTC and conference room scheduler application, BlackBerrys and wireless services, instant messaging and collaboration, secure and non-secure telephone equipment, private branch exchange switches maintenance, unclassified desktop/laptop integrated audio/video collaboration services, secure Telepresence suites and secure mobile cell phones.</li><li><b>3. Information Assurance/Computer Network Defense (IA/CND)</b> This service strategy provides protection of classified and unclassified infrastructure necessary for planning and coordination of the Director's RDT&amp;E, operations and maintenance, and upgrade initiatives for the BMDS. This service strategy provides compliance with Federal Information Security Management Act (FISMA) and includes implementation of the DoD Information Assurance Certification and Accreditation Process (DIACAP) to manage risk, conduct security assessments, and monitor compliance with applicable security controls. This vital program of the BMDS and MDA Enterprise consists of cybersecurity, information assurance, computer network defense, network situational awareness, and certification and accreditation activities to comply with the Global Information Grid Information Assurance Strategic Plan and Goals, DoD information assurance directives, instructions and guidelines.</li><li><b>4. Business Automation Services</b> In accordance with the Clinger Cohen Act and Defense Business Systems Investment Management Process, the Business Automation Services strategy provides for the licensing and sustainment of DoD business enterprise architecture approved applications. This function ensures that MDA business applications meet the interoperable defense business solutions requirements for federal accounting, financial management, and reporting requirements</li><li><b>5. Portal and Data Services</b> The Portal and Data Services strategy enables knowledge and information sharing across MDA. This service includes operations and maintenance of the Unclassified and Classified MDA Knowledge Online portals and associated storage. This function is also responsible for records management solutions, and privacy and civil liberties compliance and reporting.</li><li><b>6. Network and Infrastructure Services</b></li></ol>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems
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This strategy includes operations and sustainment of MDA classified and unclassified networks and data centers. This service ensures DoD compliant delivery, oversight and performance monitoring of IT systems that enable, secures IT systems access, server and storage capacity management, and communications security (COMSEC) status. This service also supports Disaster Recovery and Continuity of Operations (DR/COOP) rehearsals and network hardware break/fix and end-of-life replacement.

7. Information Technology (IT) Planning and Solutions

This service strategy provides IT project planning and management, life-cycle asset management, enterprise architecture planning and documentation, architecture change and configuration management, Office of Management and Budget (OMB) and DoD IT compliance tracking and reporting.

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

	FY 2013	FY 2014	FY 2015
<p><b>Title:</b> End User Support</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for operations, maintenance and helpdesk support to each MDA IT user desktop capability.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>-Sustained End User core service support 18 hours a day, 6 days a week for administrative and business information systems for approximately 8,000 MDA unclassified users and approximately 3,500 classified users.</li> <li>-Monitored networks for user compliance and DoD policies, and report incidents.</li> <li>-Maintained Printing and Copy Services (386 multi-functional device printers and 12 print servers).</li> <li>-Sustained email services (24 Exchange servers, 4 BlackBerry Enterprise Services servers and 2 archiving storage area networks).</li> <li>-Sustained file services (8 file servers and 4 storage area networks).</li> <li>-Maintained Directory Services (24 Active Directory and domain controller servers).</li> <li>-Maintained Authentication services (Public Key Infrastructure/Common Area Card).</li> <li>-Maintained current hardware and software licenses for IT operational systems.</li> <li>-Maintained an Integrated Service Desk supporting 8,000 MDA users across all locations, resolving over 45,000 help desk tickets per quarter.</li> <li>-Maintained IT life-cycle asset management of over 15,000 end user devices (desktops, laptops, monitors, printers, thin clients, and BlackBerrys).</li> <li>-Funded MDA Chief Information Office (CIO) civilian salaries.</li> </ul> <p><b>FY 2014 Plans:</b> Continue efforts as listed under FY 2013 plans for End User Support.</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>-Sustain End User core service support 18 hours a day, 6 days a week for administrative and business information systems for approximately 8,000 MDA unclassified users and approximately 3,500 classified users.</li> </ul>	29.803	33.088	36.970
	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>-Monitor networks for user compliance and DoD policies, and report incidents.</li> <li>-Maintain Printing and Copy Services (386 multi-functional device printers and 12 print servers).</li> <li>-Sustain email services (24 Exchange servers, 4 BlackBerry Enterprise Services servers and 2 archiving storage area networks).</li> <li>-Sustain file services (8 file servers and 4 storage area networks) -Maintain Directory Services (24 Active Directory and domain controller servers).</li> <li>-Maintain Authentication services (Public Key Infrastructure/Common Area Card) -Maintain current hardware and software licenses for IT operational systems.</li> <li>-Maintain an Integrated Service Desk supporting 8,000 MDA users across all locations, resolving over 45,000 help desk tickets per quarter.</li> <li>-Maintain IT life-cycle asset management of over 15,000 end user devices (desktops, laptops, monitors, printers, thin clients, and BlackBerrys).</li> <li>-Fund MDA Chief Information Office (CIO) civilian salaries.</li> </ul>				
<p><b>Title:</b> Unified Communications</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for implementation, operations and maintenance of VTC, wireless and telephony services.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>-Funded recurring leased circuits (wide area, local area and metropolitan area networks), maintenance agreements and licenses for MDA Enterprise network and telecommunications equipment (classified and unclassified mobile and telephony devices).</li> <li>-Operated, monitored, and sustained recurring classified and unclassified telecommunications equipment to comply with DoD policies and Global Information Grid architecture plan.</li> <li>-Operated, monitored, and sustained recurring classified and unclassified wireless services.</li> <li>-Operated, monitored, and sustained recurring operations for agency wide video teleconference rooms and equipment.</li> <li>-Provided and implement engineering solutions for all unified communication services.</li> <li>-Sustained unclassified desktop instant messaging and collaboration capabilities to MDA users.</li> <li>-Funded Chief Information Office (CIO) civilian salaries.</li> </ul> <p><b>FY 2014 Plans:</b> Continue efforts as listed under FY 2013 plans for Unified Communications.</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>-Fund recurring leased circuits (wide area, local area and metropolitan area networks), maintenance agreements and licenses for MDA Enterprise network and telecommunications equipment (classified and unclassified mobile and telephony devices).</li> </ul>		11.517	13.415	14.437
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>-Operate, monitor, and sustain recurring classified and unclassified telecommunications equipment to comply with DoD policies and Global Information Grid architecture plan.</li> <li>-Operate, monitor, and sustain recurring classified and unclassified wireless services.</li> <li>-Operate, monitor, and sustain recurring operations for agency wide video teleconference rooms and equipment.</li> <li>-Provide and implement engineering solutions for all unified communication services.</li> <li>-Sustain unclassified desktop instant messaging and collaboration capabilities to MDA users.</li> <li>-Fund Chief Information Office (CIO) civilian salaries.</li> </ul>			
<p><b>Title:</b> Information Assurance/Computer Network Defense</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for the certification of IT networks and systems, monitoring and computer emergency response services, and Cybersecurity workforce training. Beginning in FY 2014, Cyber Operations content will move to Program Element 0603890C Enabling, Budget Project MC30. Cyber Operations content is reported in Program Element 0603890C Enabling Programs, Budget Project MD30 prior to FY 2014.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>-Monitored and defended MDA mission, test, and administrative information systems 24 hours a day, 7 days a week, 365 days a year.</li> <li>-Collected, analyzed, and reported vulnerability and cyber warfare attack metrics to the MDA Chief Information Officer (CIO), MDA leadership, and U.S. Cyber Command.</li> <li>-Ensured MDA mission, test, and administrative systems are operated securely in accordance with DoD Information Assurance Certification and Accreditation policies.</li> <li>-Implemented Information Assurance Vulnerability Assessments and Communication Tasking Orders remediation and patches.</li> <li>-Prepared and maintain current certification and accreditation documentation for general service networks reported to DoD and Office of Management and Budget.</li> <li>-Managed data-at-rest encryption to ensure compliance with Global Information Grid mandated policies.</li> <li>-Revised and updated Information Assurance certification and accreditation packages for system level Ballistic Missile Defense Systems reported to DoD and Office of Management and Budget.</li> <li>-Funded recurring hardware maintenance and software licenses for Information Assurance (IA) monitoring systems.</li> <li>-Managed the Information Assurance Workforce Improvement Program to certify Information Assurance professionals and report compliance in accordance with Federal Information Security Management Act (FISMA) and DoD Manual 8570.1, achieving the DoD certification goal.</li> <li>-Completed DoD mandated annual Information Assurance user training for the MDA workforce.</li> </ul>	14.581 -	- -	- -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>-Provided Information Assurance engineering and planning guidance and vulnerability assessment for all MDA Information Technology acquisition programs.</p> <p>-Funded MDA Chief Information Office (CIO) civilian salaries.</p> <p><b>FY 2014 Plans:</b> See PE 0603890C MC30 Cyber Operations for FY 2014 Base Plans</p> <p><b>FY 2015 Plans:</b> See PE 0603890C MC30 Cyber Operations for FY 2015 Base Plans</p>				
<p><b>Title:</b> Business Automation Services</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for the implementation, operations and maintenance of business specific applications.</p> <p><b>FY 2013 Accomplishments:</b></p> <p>-Sustained an MDA community cloud to host and sustain business applications, storage administration, hosting and operations and maintenance of the virtual environment.</p> <p>-Sustained portal-based Learning Management System.</p> <p>-Hosted and provided business applications support for Program Resource Internet Database Environment (PRIDE), Information Management Program Activity control Tool (IMPACT), Standard Procurement System (SPS), Personnel Tracking System (PTS), Human Resource Tracking System (HRTS), Computer-aided Facilities Management(CAFM).</p> <p>-Provided server administration hosting licensing and management.</p> <p>-Maintained Integrated Access Control System and Diamond II badge system.</p> <p>-Maintained hardware and licenses for Defense Enrollment Eligibility Reporting System (DEERS)/Real-time Automated Personnel Identification System (RAPIDS) stations for issuing DoD identification smart cards to MDA employees.</p> <p>-Funded MDA Chief Information Office (CIO) civilian salaries.</p> <p><b>FY 2014 Plans:</b> Continue efforts as listed under FY 2013 plans for Business Automation Services.</p> <p><b>FY 2015 Plans:</b></p> <p>-Sustain an MDA community cloud to host and sustain business applications, storage administration, hosting and operations and maintenance of the virtual environment.</p> <p>-Sustain portal-based Learning Management System</p>		5.486	5.876	6.732
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>-Host and provide business applications support for Program Resource Internet Database Environment (PRIDE), Information Management Program Activity control Tool (IMPACT), Standard Procurement System (SPS), Personnel Tracking System (PTS), Human Resource Tracking System (HRTS), Computer-aided Facilities Management(CAFM).</p> <p>-Provide server administration hosting licensing and management.</p> <p>-Maintain Integrated Access Control System and Diamond II badge system.</p> <p>-Maintain hardware and licenses for Defense Enrollment Eligibility Reporting System (DEERS)/Real-time Automated Personnel Identification System (RAPIDS) stations for issuing DoD identification smart cards to MDA employees.</p> <p>-Fund MDA Chief Information Office (CIO) civilian salaries.</p>				
<p><b>Title:</b> Portal and Data Services</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for the implementation, operations and maintenance of Portal, digital records and data archiving functions.</p> <p><b>FY 2013 Accomplishments:</b></p> <p>-Sustained the classified and unclassified MDA Knowledge On-line portal environment including data management, data storage, and data mining services providing access to over four hundred terabytes of Ballistic Missile Defense data available to 8,000 users.</p> <p>-Maintained a MDA Privacy Office, conducted privacy impact surveys and completed Civil Liberties compliance reporting.</p> <p>-Maintained compliance with Section 508 of the Rehabilitation Act to ensure electronic information technology is accessible to persons with disabilities.</p> <p>-Sustained the Ballistic Missile Defense System (BMDS) Integrated Master Schedule and the Ballistic Missile Defense (BMD) Asset Management Tool.</p> <p>-Managed a software assessment program and conducted reviews of proposed software applications for DoD compliance.</p> <p>-Sustained a DoD mandated Electronics Records Management system.</p> <p>-Provided MDA web-based training programs for information assurance, business applications, workforce certification, security, and ethics.</p> <p>-Funded MDA Chief Information Office (CIO) civilian salaries.</p> <p><b>FY 2014 Plans:</b></p> <p>Continue efforts as listed under FY 2013 plans for Portal and Data Services.</p> <p>The change between FY 2013 and FY 2014 is due to a reduction in software license costs and projected personnel cost savings from the award of the MDA Integrated Communications Services contract (MICS).</p> <p><b>FY 2015 Plans:</b></p>		8.155	5.313	5.778
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>-Sustain the classified and unclassified MDA Knowledge On-line portal environment including data management, data storage, and data mining services providing access to over four hundred terabytes of Ballistic Missile Defense data available to 8,000 users.</p> <p>-Maintain a MDA Privacy Office, conducted privacy impact surveys and completed Civil Liberties compliance reporting.</p> <p>-Maintain compliance with Section 508 of the Rehabilitation Act to ensure electronic information technology is accessible to persons with disabilities.</p> <p>-Sustain the Ballistic Missile Defense System (BMDS) Integrated Master Schedule and the Ballistic Missile Defense (BMD) Asset Management Tool.</p> <p>-Manage a software assessment program and conducted reviews of proposed software applications for DoD compliance.</p> <p>-Sustain a DoD mandated Electronics Records Management system.</p> <p>-Provide MDA web-based training programs for information assurance, business applications, workforce certification, security, and ethics.</p> <p>-Fund MDA Chief Information Office (CIO) civilian salaries.</p>				
<p><b>Title:</b> Network and Infrastructure Services</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for the implementation, operations, maintenance and Communications Security (COMSEC) for the MDA UNET/CNET. Real-world issues and the global demand for the Missile Defense Agency (MDA) BMDS capabilities is increasing the demand for more complex information technology products and highly specialized IT services.</p> <p><b>FY 2013 Accomplishments:</b></p> <p>-Sustained core communications distribution services across the MDA Enterprise consisting of two wide area networks, three metropolitan area networks, fourteen local area networks, one hundred eighty sub-networks and over five thousand network devices</p> <p>-Sustained two computing and data centers (Huntsville, Alabama and Colorado Springs, Colorado) across the MDA Enterprise including network operations and performance monitoring; Disaster Recovery and Continuity of Operations rehearsals; internet access management; and web filtering</p> <p>-Architected and developed plans to repair general IT service and business systems</p> <p>-Performed network tracking and analysis and reported metrics on equipment lifecycle and average time to repair</p> <p>-Planned, engineered and implemented sustainment projects for general IT service and business systems</p> <p>-Procured, received, inventoried, and managed IT equipment to include network devices and desktop and laptop computers</p> <p>-Provided Communications Security (COMSEC) operations and maintenance services for over 4,000 COMSEC items</p> <p>-Funded MDA Chief Information Office (CIO) civilian salaries</p> <p><b>FY 2014 Plans:</b></p>		19.029 -	24.544 -	21.458 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>Continue efforts as listed under FY 2013 plans for Network and Infrastructure Services. The change between FY 2013 and FY 2014 is due to an increase in IT Engineering required to maintain compliance with Federal Laws and DoD Directives and to ensure IT network equipment is updated and current.</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>-Sustain core communications distribution services across the MDA Enterprise consisting of two wide area networks, three metropolitan area networks, fourteen local area networks, one hundred eighty sub-networks and over five thousand network devices</li> <li>-Sustain two computing and data centers (Huntsville, Alabama and Colorado Springs, Colorado) across the MDA Enterprise including network operations and performance monitoring; Disaster Recovery and Continuity of Operations rehearsals; internet access management; and web filtering</li> <li>-Architect and develop plans to repair general IT service and business systems</li> <li>-Perform network tracking and analysis and reported metrics on equipment lifecycle and average time to repair</li> <li>-Plan, engineer and implement sustainment projects for general IT service and business systems</li> <li>-Procure, receive, inventory, and manage IT equipment to include network devices and desktop and laptop computers</li> <li>-Provide Communications Security (COMSEC) operations and maintenance services for over 4,000 COMSEC items</li> <li>-Fund MDA Chief Information Office (CIO) civilian salaries</li> </ul>				
<p><b>Title:</b> Information Technology (IT) Planning and Solutions</p> <p align="right"><b>Articles:</b></p>		8.687	10.175	11.722
<p><b>Description:</b> Provides IT engineering support for new requirements analysis, design, planning and implementation of IT solutions. Real-world issues and the global demand for the Missile Defense Agency (MDA) BMDS capabilities is increasing the demand for more complex information technology products and highly specialized IT services.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>-Supported the MDA CIO Enterprise Architecture Board, Program Management Integration Board, and Change Control Board.</li> <li>-Updated and maintained current Enterprise architecture documentation.</li> <li>-Provided engineering support for change management, configuration management, validation testing and quality assurance.</li> <li>-Managed MDA customer IT requirements planning, engineering and project management.</li> <li>-Supported MDA Command Group IT project planning and documentation.</li> <li>-Maintained asset management of IT equipment in accordance with DoD policies.</li> <li>-Provided planning, budgeting, and management oversight of IT projects.</li> <li>-Ensured compliance with Federal Laws and DoD policies, directives and regulations, including: Clinger-Cohen Act, the Federal Information Security Management Act, and Office of Management and Budget (OMB) IT budget reporting policies.</li> </ul>		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
-Funded MDA Chief Information Office (CIO) civilian and matrix civilian salaries.			
<b><i>FY 2014 Plans:</i></b> Continue efforts as listed under FY 2013 plans for Information Technology (IT) Planning and Solutions. The change between FY 2013 and FY 2014 is due to an increase in IT Engineers required to maintain Federal and DoD compliant systems and to engineer and ensure configuration control of IT network and projects.			
<b><i>FY 2015 Plans:</i></b> -Support the MDA CIO Enterprise Architecture Board, Program Management Integration Board, and Change Control Board. -Update and maintain current Enterprise architecture documentation. -Provide engineering support for change management, configuration management, validation testing and quality assurance. -Manage MDA customer IT requirements planning, engineering and project management. -Support MDA Command Group IT project planning and documentation. -Maintain asset management of IT equipment in accordance with DoD policies. -Provide planning, budgeting, and management oversight of IT projects. -Ensure compliance with Federal Laws and DoD policies, directives and regulations, including: Clinger-Cohen Act, the Federal Information Security Management Act, and Office of Management and Budget (OMB) IT budget reporting policies. -Fund MDA Chief Information Office (CIO) civilian and matrix civilian salaries.			
<b>Accomplishments/Planned Programs Subtotals</b>	97.258	92.411	97.097

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015 Base</u>	<u>FY 2015 OCO</u>	<u>FY 2015 Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603175C: <i>Ballistic Missile Defense Technology</i>	69.438	9.321	38.800	-	38.800	76.400	52.000	112.800	178.000	-	536.759
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	267.396	255.918	299.598	-	299.598	221.008	288.405	286.421	273.365	Continuing	Continuing
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	923.506	910.852	1,003.768	-	1,003.768	1,131.060	937.998	690.524	628.342	Continuing	Continuing
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	306.896	366.590	392.893	-	392.893	462.030	448.763	403.272	368.125	Continuing	Continuing
• 0603892C: <i>AEGIS BMD</i>	958.506	909.928	929.208	-	929.208	955.825	911.095	866.678	721.426	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems

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

Line Item	FY 2013	FY 2014	FY 2015	FY 2015	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Cost To	
			Base	OCO	Total					Complete	Total Cost
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management &amp; Communication</i>	344.431	405.319	443.484	-	443.484	456.182	462.525	452.937	465.638	Continuing	Continuing
• 0603898C: <i>Ballistic Missile Defense Joint Warfighter Support</i>	47.710	42.619	46.387	-	46.387	52.619	53.552	54.699	56.252	Continuing	Continuing
• 0603904C: <i>Missile Defense Integration and Operations Center (MDIOC)</i>	61.684	52.095	58.530	-	58.530	51.738	61.594	53.885	55.414	Continuing	Continuing
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	243.876	129.374	123.444	-	123.444	32.641	26.337	22.889	17.825	Continuing	Continuing
• 0901598C: <i>Management HQ - MDA</i>	31.674	34.712	36.998	-	36.998	36.343	35.441	34.675	33.650	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

In FY 2012, the Missile Defense Agency awarded a competitive contract for MDA Information Collaboration Services to be performed at all MDA locations.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems
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<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
End User Support - End User Assistance and Advisory Services	C/CPFF	Colsa : AL, AK, CA, CO, HI, NM, VA	0.000	1.650		1.143	Oct 2013	1.368	Oct 2014	-		1.368	Continuing	Continuing	Continuing
End User Support - End User Civilian Pay/Travel/PCS	Allot	MDA Civilian Pay : AL, CO, NM, VA	0.000	2.392		3.056	Oct 2013	3.087	Oct 2014	-		3.087	Continuing	Continuing	Continuing
End User Support - End User Civilian Travel	Allot	MDA Civilian Travel : AL, AK, CA, CO, HI, NM, VA	0.000	0.240		0.206	Oct 2013	0.206	Oct 2014	-		0.206	Continuing	Continuing	Continuing
End User Support - End User IT Hardware/Software Support	C/CPAF	Northrop Grumman : AL, AK, CA, CO, HI, NM, VA	0.000	5.405		6.030	Oct 2013	6.133	Oct 2014	-		6.133	Continuing	Continuing	Continuing
End User Support - End User IT Licenses	C/CPAF	Northrop Grumman : AL, AK, CA, CO, HI, NM, VA	0.000	5.195		5.748	Oct 2013	5.843	Oct 2014	-		5.843	Continuing	Continuing	Continuing
End User Support - End User Operational Support	C/CPAF	Northrop Grumman : AL, AK, CA, CO, HI, NM, VA	0.000	14.921		16.905	Oct 2013	20.333	Oct 2014	-		20.333	Continuing	Continuing	Continuing
Unified Communications - Leased Communications/Licenses	MIPR	DISA/DREN/IT2S : AL, AK, CA, CO, HI, NM, VA	0.000	4.259		4.648	Oct 2013	4.851	Oct 2014	-		4.851	Continuing	Continuing	Continuing
Unified Communications - Unified Communications	C/CPFF	Colsa : AL, CO, VA	0.000	0.299		0.207	Oct 2013	0.248	Oct 2014	-		0.248	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency												Date: March 2014			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
0400 / 4					PE 0603890C / BMD Enabling Programs					MD30 / BMD Information Management Systems					
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Advisory and Assistance Services															
Unified Communications - Unified Communications Civilian Pay/Travel/PCS	Allot	MDA Civilian Pay : AL, CO, VA	0.000	0.963		1.681	Oct 2013	1.081	Oct 2014	-		1.081	Continuing	Continuing	Continuing
Unified Communications - Unified Communications Operational Support	Allot	Northrop Grumman : AL, CO, VA	0.000	0.895		2.190	Oct 2013	2.623	Oct 2014	-		2.623	Continuing	Continuing	Continuing
Unified Communications - Unified Communications VTC Operations Support	C/CPIF	NMR : AL, AK, CO, NM, VA	0.000	5.101		4.689	Oct 2013	5.616	Oct 2014	-		5.616	Continuing	Continuing	Continuing
Unified Communications - Unified Communications WCF	MIPR	DISA : AL, CO, VA	0.000	-		-		0.018	Oct 2014	-		0.018	Continuing	Continuing	Continuing
Information Assurance/ Computer Network Defense - CND/IA Advisory and Assistance Services	C/CPFF	Torch Technologies : AL, CO, VA	0.000	3.146		-		-		-		-	-	3.146	-
Information Assurance/ Computer Network Defense - CND/IA Civilian Pay/Travel/PCS	Allot	MDA Civilian Pay : AL, CO, VA	0.000	2.739		-		-		-		-	-	2.739	-
Information Assurance/ Computer Network Defense - CND/IA Licenses	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	0.912		-		-		-		-	-	0.912	-
Information Assurance/ Computer Network Defense - CND/IA Operational Support	C/FFP	Northrop Grumman : AL, CO, VA	0.000	7.784		-		-		-		-	-	7.784	-
Business Automation Services - Business Automation Advisory and Assistance Services	C/CPFF	Colsa : AL, CO, VA	0.000	0.149		0.104	Oct 2013	0.124	Oct 2014	-		0.124	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency												Date: March 2014			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603890C / BMD Enabling Programs				MD30 / BMD Information Management Systems							
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Automation Services - Business Automation Civilian Pay/Travel/PCS	Allot	MDA Civilian Pay : AL, CO, VA	0.000	0.711		0.764	Oct 2013	0.772	Oct 2014	-		0.772	Continuing	Continuing	Continuing
Business Automation Services - Business Automation Licenses	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	0.867		0.882	Oct 2013	0.897	Oct 2014	-		0.897	Continuing	Continuing	Continuing
Business Automation Services - Business Automation Operational Support	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	3.759		4.106	Oct 2013	4.919	Oct 2014	-		4.919	Continuing	Continuing	Continuing
Business Automation Services - Business Automation Services (FY2013) Business Automation Support	MIPR	CACI : AL, CO, VA	0.000	-		0.020	Oct 2013	0.020	Oct 2014	-		0.020	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Advisory and Assistance Services	C/CPFF	Colsa : AL, CO, VA	0.000	0.454		0.207	Oct 2013	0.248	Oct 2014	-		0.248	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Civilian Pay/Travel/PCS	Allot	MDS Civilian Pay : AL, CO, VA	0.000	0.853		0.917	Oct 2013	0.926	Oct 2014	-		0.926	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Licenses and Maintenance	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	2.410		1.515	Oct 2013	1.472	Oct 2014	-		1.472	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Operational	C/CPAF	Online Subscriptions Services : AL, CO, VA	0.000	0.231		0.392	Oct 2013	0.399	Oct 2014	-		0.399	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Operational Support	C/FFP	NMR : AL, CO, VA	0.000	4.207		2.282	Oct 2013	2.733	Oct 2014	-		2.733	Continuing	Continuing	Continuing
Network and Infrastructure Services - Network and	Allot	MDA Civilian Pay : AL, CO, VA	0.000	0.987		1.223	Oct 2013	1.235	Oct 2014	-		1.235	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Infrastructure Services Civilian Pay/Travel/PCS															
Network and Infrastructure Services - Network and Infrastructure Services Advisory and Assistance Services	C/CPFF	Colsa : AL, CO, VA	0.000	0.897		0.621	Oct 2013	0.744	Oct 2014	-		0.744	Continuing	Continuing	Continuing
Network and Infrastructure Services - Network and Infrastructure Services Licenses	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	8.732		14.076	Oct 2013	9.151	Oct 2014	-		9.151	Continuing	Continuing	Continuing
Network and Infrastructure Services - Network and Infrastructure Services Operational Support	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	8.413		8.624	Oct 2013	10.328	Oct 2014	-		10.328	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions Advisory and Assistance Services	C/CPFF	Colsa : AL, CO, VA	0.000	0.905		0.621	Oct 2013	0.744	Oct 2014	-		0.744	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions Civilian Pay/Travel/PCS	Allot	MDA Civilian Pay : AL, CO, VA	0.000	0.853		0.917	Oct 2013	0.926	Oct 2014	-		0.926	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions IT Asset Management	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	2.551		2.552	Oct 2013	2.595	Oct 2014	-		2.595	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions OMB, OSD, and DOD Compliance Monitoring and Reporting/Contract Deliverable	C/CPFF	Colsa : AL, CO, VA	0.000	0.261		0.249	Oct 2013	0.293	Oct 2014	-		0.293	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Information Technology (IT) Planning and Solutions - IT Planning and Solutions Operational Support	C/CPAF	Northrop Grumman : AL, CO, VA	0.000	4.117		4.927	Oct 2013	5.902	Oct 2014	-		5.902	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - MDA Agency Business Operations	Allot	MDA Business Operations : AL, CO, VA	0.000	-		0.909	Oct 2013	1.262	Oct 2014	-		1.262	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	97.258		92.411		97.097		-		97.097	-	-	-

**Remarks**  
N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

<b>Management Services (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Missile Defense Agency								<b>Date:</b> March 2014					
<b>Appropriation/Budget Activity</b> 0400 / 4				<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs				<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems					
	<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	0.000	97.258		92.411		97.097		-		97.097	-	-	-

**Remarks**

N/A

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Missile Defense Agency</b>		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems

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

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Manage DoD Mandated Business Applications and Sustain MDA Financial and Contractual Support Systems	✦	✦	✦	✦	✦																							
Manage DoD Mandated Business Applications and Sustain MDA Financial and Contractual Support Systems - Follow-On									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Operate and Maintain General Information Technology Services 18 hours per day, 6 days per week	✦	✦	✦	✦	✦																							
Operate and Maintain General Information Technology Services 18 hours per day, 6 days per week - Follow-On									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Revise and Test Contingency Plans for Information Technology Systems	✦	✦	✦	✦	✦																							
Revise and Test Contingency Plans for Information Technology Systems - Follow-On									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Operate and Maintain Classified and Unclassified MDA Knowledge Online Services	✦	✦	✦	✦	✦																							
Operate and Maintain Classified and Unclassified MDA Knowledge Online Services - Follow-On									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Procure, Implement, and Asset Control for Information Technology Operational Systems	✦	✦	✦	✦	✦																							
Procure, Implement, and Asset Control for Information Technology Operational Systems -Follow-On									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Provide 18 hours per day, 6 days per week Network and Helpdesk Services for General Information Technology Services for MDA Workforce	✦	✦	✦	✦	✦																							
Provide 18 hours per day, 6 days per week Network and Helpdesk Services for General Information Technology Services for MDA Workforce - Follow-On									✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
Fund Recurring Leased Circuits, Maintenance Agreements and Licenses for MDA Enterprise	✦	✦	✦	✦	✦																							
Fund Recurring Leased Circuits, Maintenance Agreements and Licenses for MDA Enterprise - Follow-On									✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
Operate, Monitor and Sustain Recurring Classified and Unclassified Telecommunication Requirements for Unified Communications	✦	✦	✦	✦	✦																							
Operate, Monitor and Sustain Recurring Classified and Unclassified Telecommunication Requirements for Unified Communications - Follow-On									✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
Operate, Monitor and Sustain Recurring Operations for Video Teleconferencing for Unified Communications	✦	✦	✦	✦	✦																							
Operate, Monitor and Sustain Recurring Operations for Video Teleconferencing for Unified Communications Follow-On									✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
Sustain the BMDS Integrated Master Schedule and the Ballistic Missile Defense Asset Management Tool	✦	✦	✦	✦	✦																							

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Missile Defense Agency</b>		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems

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

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Sustain the BMDS Integrated Master Schedule and the Ballistic Missile Defense Asset Management Tool - Follow-On									✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
Sustain the Information Technology Infrastructure Across the MDA Enterprise	✦	✦	✦	✦																								
Sustain the Information Technology Infrastructure Across the MDA Enterprise - Follow-On									✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
Perform Analysis, Track, and Report Metrics on Equipment Lifecycle	✦	✦	✦	✦																								
Perform Analysis, Track, and Report Metrics on Equipment Lifecycle - Follow-On									✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
Monitor Networks and Systems to Defend Mission, Test, and Administrative Systems on a 24 hours per day, 7 days per week, 365 days per year basis for Information Assurance	✦	✦	✦	✦																								
Provide Information Assurance Engineering and Planning Guidance and Vulnerability Assessment for Information Technology Acquisition Programs	✦	✦	✦	✦																								
Procure, Implement, and Asset Control of Hardware Maintenance and Software Licenses for Monitoring Systems of Information Assurance	✦	✦	✦	✦																								
Conduct Information Assurance Certification Evaluation of Mission, Test, and Administrative Systems	✦	✦	✦	✦																								
Complete Annual Information Assurance User Training for MDA Workforce	✦	✦	✦	✦																								

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems

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

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Implement Information Assurance Vulnerability Alert Control Improvements for General Information Technology Services	✦	✦	✦	✦																								
Report Vulnerability and Cyber Warfare Attack Metrics to the MDA Chief Information Officer, MDA Leadership, and Cyber Command	✦	✦	✦	✦																								

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD30 / BMD Information Management Systems

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Manage DoD Mandated Business Applications and Sustain MDA Financial and Contractual Support Systems	1	2013	1	2014
Manage DoD Mandated Business Applications and Sustain MDA Financial and Contractual Support Systems - Follow-On	2	2014	4	2019
Operate and Maintain General Information Technology Services 18 hours per day, 6 days per week	1	2013	1	2014
Operate and Maintain General Information Technology Services 18 hours per day, 6 days per week - Follow-On	2	2014	4	2019
Revise and Test Contingency Plans for Information Technology Systems	1	2013	1	2014
Revise and Test Contingency Plans for Information Technology Systems - Follow-On	2	2014	4	2019
Operate and Maintain Classified and Unclassified MDA Knowledge Online Services	1	2013	1	2014
Operate and Maintain Classified and Unclassified MDA Knowledge Online Services - Follow-On	2	2014	4	2019
Procure, Implement, and Asset Control for Information Technology Operational Systems	1	2013	1	2014
Procure, Implement, and Asset Control for Information Technology Operational Systems -Follow-On	2	2014	4	2019
Provide 18 hours per day, 6 days per week Network and Helpdesk Services for General Information Technology Services for MDA Workforce	1	2013	1	2014
Provide 18 hours per day, 6 days per week Network and Helpdesk Services for General Information Technology Services for MDA Workforce - Follow-On	2	2014	4	2019
Fund Recurring Leased Circuits, Maintenance Agreements and Licenses for MDA Enterprise	1	2013	1	2014
Fund Recurring Leased Circuits, Maintenance Agreements and Licenses for MDA Enterprise - Follow-On	2	2014	4	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Missile Defense Agency			Date: March 2014	
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)		
0400 / 4	PE 0603890C / BMD Enabling Programs	MD30 / BMD Information Management Systems		
Events	Start		End	
	Quarter	Year	Quarter	Year
Operate, Monitor and Sustain Recurring Classified and Unclassified Telecommunication Requirements for Unified Communications	1	2013	1	2014
Operate, Monitor and Sustain Recurring Classified and Unclassified Telecommunication Requirements for Unified Communications - Follow-On	2	2014	4	2019
Operate, Monitor and Sustain Recurring Operations for Video Teleconferencing for Unified Communications	1	2013	1	2014
Operate, Monitor and Sustain Recurring Operations for Video Teleconferencing for Unified Communications Follow-On	2	2014	4	2019
Sustain the BMDS Integrated Master Schedule and the Ballistic Missile Defense Asset Management Tool	1	2013	1	2014
Sustain the BMDS Integrated Master Schedule and the Ballistic Missile Defense Asset Management Tool - Follow-On	2	2014	4	2019
Sustain the Information Technology Infrastructure Across the MDA Enterprise	1	2013	1	2014
Sustain the Information Technology Infrastructure Across the MDA Enterprise - Follow-On	2	2014	4	2019
Perform Analysis, Track, and Report Metrics on Equipment Lifecycle	1	2013	1	2014
Perform Analysis, Track, and Report Metrics on Equipment Lifecycle - Follow-On	2	2014	4	2019
Monitor Networks and Systems to Defend Mission, Test, and Administrative Systems on a 24 hours per day, 7 days per week, 365 days per year basis for Information Assurance	1	2013	4	2013
Provide Information Assurance Engineering and Planning Guidance and Vulnerability Assessment for Information Technology Acquisition Programs	1	2013	4	2013
Procure, Implement, and Asset Control of Hardware Maintenance and Software Licenses for Monitoring Systems of Information Assurance	1	2013	4	2013
Conduct Information Assurance Certification Evaluation of Mission, Test, and Administrative Systems	1	2013	4	2013
Complete Annual Information Assurance User Training for MDA Workforce	1	2013	4	2013
Implement Information Assurance Vulnerability Alert Control Improvements for General Information Technology Services	1	2013	4	2013

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD30 / <i>BMD Information Management Systems</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
Report Vulnerability and Cyber Warfare Attack Metrics to the MDA Chief Information Officer, MDA Leadership, and Cyber Command	1	2013	4	2013

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MC30 / Cyber Operations			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
MC30: <i>Cyber Operations</i>	-	-	14.431	15.452	-	15.452	15.208	17.762	16.322	16.941	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Beginning in FY 2014, Information Assurance/Computer Network Defense content in Budget Project MD30 of Enabling Programs Element 0603890C to a new Cyber Operations Budget Project MC30 in Program Element 0603890C.

The FY 2014 Appropriation implemented a \$3 million cut to Project MC30 Cyber Operations. MDA must continue to apply additional resources to respond to ever increasing cyber threats and to comply with an increasing number of cybersecurity-related Federal Laws, DoD mandates, Policies and Directives.

**A. Mission Description and Budget Item Justification**

The Cyber Operations budget project in the Enabling Program Element is executed by the MDA Chief Information Officer who is the Agency Designated Approving Authority (DAA) for MDA Administrative information technology systems. The project provides funds to sustain MDA DoD Information Assurance Certification and Accreditation Program (DIACAP) and Controls Validation Testing (CVT) activities, analysis of validation results, risk assessments and reviews of proposed Program Manager/Information Assurance Manager (PM/IAM) Plan of Action and Milestones (POA&Ms) for the MDA mission, test and administrative systems. It maintains the Certification & Accreditation (C&A) data repository, capturing the DIACAP documentation (artifacts, validation results, and Information Assurance Risk Assessment results, and Designated Approving Authority (DAA) accreditation decisions) and POA&M on all MDA information systems. It supports the monitoring and tracking of Cybersecurity mitigations detailed in IT security POA&Ms. Activities include preparation of C&A documentation and accreditation recommendations to the MDA Senior Information Assurance Officer (SIAO)/Certification Authority (CA) and DAA. Independent Verification and Validation (IV&V) team actions ensure the availability, integrity, authentication, confidentiality and non-repudiation of the MDA mission, test and administrative systems. Activities in the Project are necessary to comply with the Federal Information Security Management Act (FISMA).

This project funds the MDA Security Operations Center (SOC), responsible for monitoring, managing, patching, and maintaining MDA network and core IT services; issuing and tracking Technical Compliance Orders; and coordinating overarching Enterprise NetOps. The SOC provides the network security operations centers and supporting processes to protect and defend Ballistic Missile Defense System (BMDS) and the MDA Enterprise information and information systems.

The MDA Computer Emergency Response Team (CERT), funded in this project, monitors the classified and unclassified information technology MDA administrative IT networks and report vulnerabilities. The MDA CERT coordinates with U.S. Cyber Command to identify and implement network vulnerability updates and patches to comply with U.S. Cyber Command vulnerabilities identified for DoD networks.

The project funds IA governance management and administrative management support, annual Agency-wide computer-based IA training and metrics reporting, implementation of Public Key Infrastructure and Enabling and Communications Security (COMSEC) related activities.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC30 / Cyber Operations
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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<b>Title:</b> Information Assurance/Computer Network Defense (IA/CND)	-	14.431	15.452
<b>Articles:</b>	-	-	-

**Description:** Provides for the certification of Information Technology networks and systems, monitoring and computer emergency response services.

**FY 2013 Accomplishments:**  
See PE 0603890C Project MD30 for FY 2013 plans.

- FY 2014 Plans:**
- Monitor and defend MDA mission, test, and administrative information systems 24 hours a day, 7 days a week, 365 days a year.
  - Collect, analyze, and report vulnerability and cyber warfare attack metrics to the MDA Chief Information Officer (CIO), MDA leadership, and U.S. Cyber Command.
  - Ensure MDA mission, test, and administrative systems are operated securely in accordance with DoD Information Assurance Certification and Accreditation policies.
  - Implement Information Assurance Vulnerability Assessments and Communication Tasking Orders remediation and patches.
  - Prepare and maintain current certification and accreditation documentation for general service networks reported to DoD and Office of Management and Budget.
  - Manage data-at-rest encryption to ensure compliance with Global Information Grid mandated policies.
  - Revise and updated Information Assurance certification and accreditation packages for system level Ballistic Missile Defense Systems reported to DoD and Office of Management and Budget.
  - Manage the Information Assurance Workforce Improvement Program to certify Information Assurance professionals and report compliance in accordance with Federal Information Security Management Act (FISMA) and Information Assurance Workforce Improvement Program (DoD Manual 8570.1), achieving the DoD certification goal.
  - Complete DoD mandated annual Information Assurance user training for the MDA workforce.
  - Provide Information Assurance engineering and planning guidance and vulnerability assessment for all MDA Information Technology acquisition programs.
  - Fund MDA Chief Information Office (CIO) civilian salaries.

- FY 2015 Plans:**
- Monitor and defend MDA mission, test, and administrative information systems 24 hours a day, 7 days a week, 365 days a year.
  - Collect, analyze, and report vulnerability and cyber warfare attack metrics to the MDA Chief Information Officer (CIO), MDA leadership, and U.S. Cyber Command.
  - Ensure MDA mission, test, and administrative systems are operated securely in accordance with DoD Information Assurance Certification and Accreditation policies.
  - Implement Information Assurance Vulnerability Assessments and Communication Tasking Orders remediation and patches.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC30 / Cyber Operations
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2013	FY 2014	FY 2015
<ul style="list-style-type: none"> <li>-Prepare and maintain current certification and accreditation documentation for general service networks reported to DoD and Office of Management and Budget.</li> <li>-Manage data-at-rest encryption to ensure compliance with Global Information Grid mandated policies.</li> <li>-Revise and updated Information Assurance certification and accreditation packages for system level Ballistic Missile Defense Systems reported to DoD and Office of Management and Budget.</li> <li>-Manage the Information Assurance Workforce Improvement Program to certify Information Assurance professionals and report compliance in accordance with Federal Information Security Management Act (FISMA) and Information Assurance Workforce Improvement Program (DoD Manual 8570.1), achieving the DoD certification goal.</li> <li>-Complete DoD mandated annual Information Assurance user training for the MDA workforce.</li> <li>-Provide Information Assurance engineering and planning guidance and vulnerability assessment for all MDA Information Technology acquisition programs.</li> <li>-Fund MDA Chief Information Office (CIO) civilian salaries.</li> </ul>			
<b>Accomplishments/Planned Programs Subtotals</b>	-	14.431	15.452

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC30 / Cyber Operations
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Information Assurance/ Computer Network Defense (IA/CND) - BMDS IA Advisory and Assistance Services	C/CPFF	Booz Allen Hamilton : AL, CO, VA	0.000	-		0.630	Oct 2013	0.641	Oct 2014	-		0.641	Continuing	Continuing	Continuing
Information Assurance/ Computer Network Defense (IA/CND) - CND/IA Advisory and Assistance Services	C/CPFF	Torch Technologies : AL, CO, VA	0.000	-		2.737	Oct 2013	2.783	Oct 2014	-		2.783	Continuing	Continuing	Continuing
Information Assurance/ Computer Network Defense (IA/CND) - CND/ IA Civilian Travel	Allot	MDA Civilian Travel : AL, AK, CA, CO, HI, NM, VA	0.000	-		0.088	Oct 2013	0.105	Oct 2014	-		0.105	Continuing	Continuing	Continuing
Information Assurance/ Computer Network Defense (IA/CND) - CND/ IA Civilian pay/Travel/PCS	Allot	MDA Civilian Pay : AL, CO, VA	0.000	-		2.064	Oct 2013	2.778	Oct 2014	-		2.778	Continuing	Continuing	Continuing
Information Assurance/ Computer Network Defense (IA/CND) - CND/ IA Comsec	MIPR	NSA : AL, CO, VA	0.000	-		0.104	Oct 2013	0.105	Oct 2014	-		0.105	Continuing	Continuing	Continuing
Information Assurance/ Computer Network Defense (IA/CND) - CND/ IA Operational Support	C/FFP	Northrop Grumman : AL, CO, VA	0.000	-		8.733	Oct 2013	9.040	Oct 2014	-		9.040	Continuing	Continuing	Continuing
Information Assurance/ Computer Network Defense (IA/CND) - CND/ IA WCF	MIPR	DISA : AL, CO, VA	0.000	-		0.075		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	-		14.431		15.452		-		15.452	-	-	-

**Remarks**  
N/A

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC30 / Cyber Operations
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	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	0.000	-	14.431	15.452	-	15.452	-	-	-

**Remarks**  
N/A

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC30 / Cyber Operations
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Report Vulnerability and Cyber Warfare Attack Metrics to the MDA Chief Information Officer, MDA Leadership, and Cyber Command				✦																								
Report Vulnerability and Cyber Warfare Attack Metrics to the MDA Chief Information Officer, MDA Leadership, and Cyber Command - Follow-On					✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Monitor Networks and Systems to Defend Mission, Test, and Administrative Systems on a 24 hours per day, 7 days per week, 365 days per year basis for Information Assurance				✦																								
Monitor Networks and Systems to Defend Mission, Test, and Administrative Systems on a 24 hours per day, 7 days per week, 365 days per year basis for Information Assurance - Follow-On					✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Provide Information Assurance Engineering and Planning Guidance and Vulnerability Assessment for Information Technology Acquisition Programs				✦																								
Provide Information Assurance Engineering and Planning Guidance and Vulnerability Assessment for Information Technology Acquisition Programs - Follow-On					✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Procure, Implement, and Asset Control of Hardware maintenance and Software Licenses for Monitoring Systems of Information Assurance				✦																								

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC30 / Cyber Operations
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Procure, Implement, and Asset Control of Hardware maintenance and Software Licenses for Monitoring Systems of Information Assurance - Follow-On					✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Conduct Information Assurance Certification Evaluation of Mission, Test, and Administrative Systems					✦																							
Conduct Information Assurance Certification Evaluation of Mission, Test, and Administrative Systems - Follow-On					✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Complete Annual Information Assurance user Training for MDA Workforce					✦																							
Complete Annual Information Assurance user Training for MDA Workforce - Follow-On					✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧
Implement Information Assurance Vulnerability Alert Control Improvements for General Information Technology Services					✦																							
Implement Information Assurance Vulnerability Alert Control Improvements for General Information Technology Services - Follow-On					✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC30 / Cyber Operations

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Report Vulnerability and Cyber Warfare Attack Metrics to the MDA Chief Information Officer, MDA Leadership, and Cyber Command	1	2014	1	2014
Report Vulnerability and Cyber Warfare Attack Metrics to the MDA Chief Information Officer, MDA Leadership, and Cyber Command - Follow-On	2	2014	4	2019
Monitor Networks and Systems to Defend Mission, Test, and Administrative Systems on a 24 hours per day, 7 days per week, 365 days per year basis for Information Assurance	1	2014	1	2014
Monitor Networks and Systems to Defend Mission, Test, and Administrative Systems on a 24 hours per day, 7 days per week, 365 days per year basis for Information Assurance - Follow-On	2	2014	4	2019
Provide Information Assurance Engineering and Planning Guidance and Vulnerability Assessment for Information Technology Acquisition Programs	1	2014	1	2014
Provide Information Assurance Engineering and Planning Guidance and Vulnerability Assessment for Information Technology Acquisition Programs - Follow-On	2	2014	4	2019
Procure, Implement, and Asset Control of Hardware maintenance and Software Licenses for Monitoring Systems of Information Assurance	1	2014	1	2014
Procure, Implement, and Asset Control of Hardware maintenance and Software Licenses for Monitoring Systems of Information Assurance - Follow-On	2	2014	4	2019
Conduct Information Assurance Certification Evaluation of Mission, Test, and Administrative Systems	1	2014	1	2014
Conduct Information Assurance Certification Evaluation of Mission, Test, and Administrative Systems - Follow-On	2	2014	4	2019
Complete Annual Information Assurance user Training for MDA Workforce	1	2014	1	2014
Complete Annual Information Assurance user Training for MDA Workforce - Follow-On	2	2014	4	2019
Implement Information Assurance Vulnerability Alert Control Improvements for General Information Technology Services	1	2014	1	2014

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MC30 / <i>Cyber Operations</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
Implement Information Assurance Vulnerability Alert Control Improvements for General Information Technology Services - Follow-On	2	2014	4	2019

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs				<b>Project (Number/Name)</b> MD31 / Modeling & Simulation			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
MD31: <i>Modeling &amp; Simulation</i>	204.991	40.832	41.188	41.957	-	41.957	44.489	46.323	50.274	51.262	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

**A. Mission Description and Budget Item Justification**

The mission of MDA's Modeling and Simulation (M&S) Program is 1) to execute a single, integrated, and synchronized program to manage M&S development in support of MDA's Ballistic Missile Defense (BMDS) acquisition, 2) to support BMDS Flight and Ground Test execution, 3) to drive MDA test activities to collect data for use in anchoring M&S, and 4) support warfighter training and tactics validation.

M&S develops, sustains and delivers system-level models, frameworks, and simulations which are used to examine and evaluate BMDS performance and behaviors of the associated components and elements within a virtual and constructive simulation environment. MDA's M&S Program assists the development and acquisition of the BMDS by providing: M&S system and product planning, development, integration, and operation; threat model development, verification, and analysis; and integration and deployment of the agency's Distributed BMDS real-time Hardware-in-the-Loop (HWIL) and digital M&S simulation capabilities as a single, integrated, and synchronized program.

MDA's M&S program is essential to ensuring missile defense capabilities are affordable and effective. Through the use of verified and validated models and accredited simulation systems, MDA's M&S program provides a cost effective means to assess and explore the performance space of the BMDS beyond what can be physically tested under current test range conditions and within the Agency's fiscal constraints. Through conceptual simulation activities, M&S provides the capability to design and develop technologies to hedge against future missile threats. These efforts require close coordination with the DoD, Joint Staff, Military Services, Combatant Commands (COCOMS), Operational Test Agencies (OTAs), MDA Program Elements, and the Intelligence Community.

In response to a Director of Operational Test and Evaluation (DOT&E) BMDS Assessment Report, M&S has developed and is executing Corrective Action Plans. Key tasks include:

- Ensure that future M&S architectures are composable and flexible, and simplify the integration process to conserve resources and improve capabilities.
- Ensure that future M&S architectures incorporate and require the use of consistent "truth" representations (environmental factors, threat simulations, etc.).
- Improve cross-organizational system engineering processes to optimize requirements generation and ensure the inclusion of all stakeholders.
- Develop refined M&S accreditation criteria between MDA and Operational Test Agency (OTA).

The M&S objective is to evolve the various systems and products to incrementally improve the fidelity of the Agency's M&S representations to match, as appropriate, the real world performance of the BMDS and meet Warfighter and Agency needs. In particular, MDA's M&S systems and products provide analysis and decision-making and

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD31 / <i>Modeling &amp; Simulation</i>
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planning capabilities for Real-World Operations in support of the National Command Authority, Joint Staff, Military Services, North Atlantic Treaty Organization (NATO), Combatant Commands, OTAs, Director of Operational Test & Evaluation (DOT&E), and Allies. Models and simulations are tailored to the specific needs of the Agency's test events and to match BMDS components in their various stages of development, ranging from low-to-medium fidelity analyses supporting concept definitions studies, to high-fidelity models used to support engineering level activities.

Execution of the M&S mission requires reliance on and operation of two simulation frameworks which, when combined to meet specific M&S intended uses and user requirements with the appropriate fidelity, form a single Objective Simulation Framework (OSF) to enable the simulation of the BMDS performance in a virtual or constructive environment. The final integrated architecture system will merge the Single Stimulation Framework (SSF) and Digital Simulation Architecture (DSA) into one seamless M&S system that will meet both real-time and non-real time simulation needs. The OSF will host all simulated activities, events, scenarios, and Element and Threat models. MDA will use the end-to-end M&S system representation to conduct BMDS ground tests, Digital Performance Assessments, component training, Wargames, Flight Tests analysis (both pre-mission and post-mission), threat analysis, international event simulations, and to support COCOM exercises.

The Core Truth Modeling program provides consistent and common Phenomenology, Lethality, and Environment models, and Threat capabilities for Agency M&S venues. Phenomenology models address missile hard body optical and infrared signatures, as well as the plume produced by the missile engines. Lethality models represent the impact of the BMDS missile kill vehicle (KV) (i.e. Ground-Based Interceptor, Standard Missile-3 (SM-3), Terminal High Altitude Area Defense (THAAD)) on reentry vehicles (RVs). Lethality results include percentage of destruction and direction and speed of debris fragments. Environment modeling provides a representation of natural and man-made endo and exo-atmospheric conditions (e.g., rain, wind, sea state) for simulations.

The Threat Modeling Center (TMC) uses all-source intelligence products to produce credible, high resolution threat models and simulation media to support the defense of the United States, deployed forces, and allies against ballistic missile attacks. The threat models are used to produce accurate kinematic threat trajectories and signature data (radar cross-section (RCS), hardbody infrared (IR), and IR plume) of both ballistic missiles and air breathing threats to drive the M&S tools of the missile defense community, and enable design, verification, and assessment of the BMDS and associated Components concepts and requirements. Common threat data is used in various BMDS simulation events (e.g., flight, ground, Digital Performance Assessment, Warfighter training/exercises) to prove the performance of the BMDS. These threat representations are derived from information provided by the Intelligence Community, as well as MDA's Adversary Capability Documents (ACDs) and Adversary Data Packages (ADPs).

MDA's M&S capabilities, systems and products are in use throughout the BMDS and provide the Warfighter and Operational Test Agencies (OTAs) the capability to evaluate both the BMDS and individual components. MDA works to validate and accredit system-level models and simulations by anchoring them to ground and flight test events to support accurate and comprehensive assessments of the BMDS. The success of the missile defense program is enabled by quality M&S systems and products that help to demonstrate how BMDS technologies work. In particular, MDA M&S system and product testing is based on an integrated, comprehensive, and phased test program as outlined in MDA's Integrated Master Test Plan (IMTP). Within the construct of the IMTP, MDA Element-unique M&S systems, subsystems, and components are tested as part of their respective development and integration, a necessary precursor to conducting BMD System-level M&S testing (e.g., integrated ground test, performance/technical assessment venues). Resources for the planning, design, execution and management of this testing are provided in accordance with the BMDS Test Policy, as listed in the most current version of the IMTP.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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MDA's M&S program also supports various Allied/Coalition Partner cooperative activities, and various real-world pre- and post-flight launch analyses, and the Israel Cooperative Programs.

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

	FY 2013	FY 2014	FY 2015
<p><b>Title:</b> Modeling and Simulation (M&amp;S) Requirements, Design Spt, Scenario Optimization</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Modeling and Simulation (M&amp;S) capability development executes an integrated, synchronized program to manage M&amp;S development in support Ballistic Missile Defense System (BMDS) development, testing, and assessment.</p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Continued implementation of the final Transition Plan for retirement of the Digital Simulation Architecture (DSA) and Single Stimulation Framework (SSF) frameworks, and assessed readiness for a phased Objective Simulation Framework (OSF) introduction into M&amp;S venues.</li> <li>- Provided integrated Verification, Validation &amp; Accreditation (VV&amp;A) of MDA M&amp;S at the system level for Technical Assessments, Performance Assessments, Ground Tests that support BMDS fielding decisions, and tier one Combatant Command (COCOM) exercises in accordance with events planned per the approved Integrated Master Test Plan (IMTP).</li> <li>- Began OSF 1.0.1 capability assessment at the BMDS Integration and Development (BID) Lab to assess maturity of capabilities and ability to drive HWIL elements using GT-04 interfaces.</li> <li>- Supported Technical Interchange Meetings with the Department of Defense of Australia under the Ballistic Missile Defense Modeling, Simulation and Analysis Project Arrangement.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Update and expand the 170+ model capability descriptions in MDA's M&amp;S catalog.</li> <li>- Maintain traceability between the M&amp;S requirements database and M&amp;S product development.</li> <li>- Produce capability documents and specifications for M&amp;S product development to enable BMDS Ground Tests, Training events, Exercises, Wargames, performance assessments, and Element Integration.</li> <li>- Support requests to export M&amp;S software to nations or international organizations.</li> <li>- Support Technical Interchange Meetings (TIMs) and the Bilateral Activities via Secure Interactive Link (BASIL) Project Arrangement with the United Kingdom.</li> <li>- Support continued M&amp;S technical interchange with the Department of Defense of Australia under the Ballistic Missile Defense Modeling, Simulation and Analysis Project Arrangement.</li> <li>- Support system engineering capability trades which are essential in the assessment of all BMDS capability deliveries (including BMDS capability deliveries for Phased Adaptive Approach (PAA) Phase 2, Homeland Defense and Regional Phased Adaptive Approach).</li> </ul>	7.545	7.617	7.893
	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs		<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Implement the Transition Plan to replace the Digital Simulation Architecture (DSA) and Single Stimulation Framework (SSF) with an Objective Simulation Framework (OSF) to support M&amp;S Intended Uses.</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Maintain and update MDA's M&amp;S model capability descriptions catalog.</li> <li>- Maintain traceability between the M&amp;S requirements database and M&amp;S product development.</li> <li>- Produce capability documents and specifications for M&amp;S product development to enable BMDS Ground Tests, Training events, Exercises, Wargames, Digital simulations, and Element Integration.</li> <li>- Support requests to export M&amp;S software to nations or international organizations.</li> <li>- Support Technical Interchange Meetings (TIMs) and the Bilateral Activities via Secure Interactive Link (BASIL) Project Arrangement with the United Kingdom.</li> <li>- Support continued M&amp;S technical interchange with the Department of Defense of Australia under the Ballistic Missile Defense Modeling, Simulation and Analysis Project Arrangement.</li> <li>- Support system engineering capability trades which are essential in the assessment of all BMDS capability deliveries (including BMDS capability deliveries for Phased Adaptive Approach (PAA) and Homeland Defense).</li> <li>- Continue the transition to replace the Digital Simulation Architecture (DSA) and Single Stimulation Framework (SSF) with an Objective Simulation Framework (OSF) to support M&amp;S Intended Uses.</li> </ul>				
<p><b>Title:</b> M&amp;S Digital Framework, Simulation, Models</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> The Modeling and Simulation (M&amp;S) Digital Framework, simulation, and models effort includes: development and sustainment of digital products and the architecture framework, and delivery/maintenance of infrastructure for Ballistic Missile Defense System (BMDS) performance assessments, Warfighter events, and BMD International Simulation events.</p> <p><b>FY 2013 Accomplishments:</b></p> <p>Development:</p> <ul style="list-style-type: none"> <li>- Began migration of Single Stimulation Framework (SSF) into the Objective Simulation Framework (OSF).</li> <li>- Continued requirements management for product development activities (e.g., Element Model integration into OSF's standards-based open architecture).</li> <li>- Conducted the Preliminary Design Review and Critical Design Review for v3.1 of the PATRIOT System Effectiveness Model (PSEM).</li> </ul> <p>Sustainment:</p> <ul style="list-style-type: none"> <li>- Sustained the BMD International Simulation (I-SIM) in support of Combatant Command (COCOM) and International Wargames, conceptual planning, BMD visualizations, BMD training/orientation, and M&amp;S demonstrations. BMD I-SIM supported the BMD 2013 Wargame, Keen Sword Exercise, and the Nimble Titan Campaign.</li> </ul>		14.090	14.190	10.943
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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<p>- Sustained Discrete Event Simulation (DESIM) in support of COCOM events.</p> <p>- Sustained the Missile Defense Space Warning Tool (MDST) in support of Warfighter events. MDST supported 141 Warfighter exercises and training events simulating 59,287 missile launches with a 100% success rate.</p> <p>- Sustained and delivered major releases of M&amp;S digital products in support of MDA's Phased Adaptive Approach.</p> <p>Phase I/II Performance Assessment associated events:</p> <p>- Provided software support for PATRIOT System Effectiveness Model (PSEM) for use in MDA activities.</p> <p>- Maintained the BMDS Discrete Event Simulation (DESIM) supporting real-time venues including Warfighter exercises, Warfighter Training, Command and Control, Battle Management, and Communications (C2BMC) software Spiral Testing for MDA's release of C2BMC v8.2 development.</p> <p>- Provided software operations/maintenance support to the Extended Air Defense Simulation (EADSIM) code base for use in Warfighter exercises, training venues and COCOM planning tools.</p> <p>Event Integration/Support Operations:</p> <p>- Integrated, tested, functionally qualified, and delivered end to end BMDS simulations supporting various events (utilizing Missile Defense Space Tool and Element-provided medium/high-resolution models) to support full-envelope BMDS performance assessments:</p> <p>-- PSEM in support of GTI-04e Part 1, GTI-04e Part 1a, and FTI-01 SPFR.</p> <p>-- EADSIM in support of JPOW 13, UFG13, and GDEx-04e.</p> <p>- Initiated and continued integration and testing of end-to-end BMDS simulations supporting various events (utilizing Missile Defense Space Tool (MDST) and Element-provided medium/high-resolution models)</p> <p>-- Controlled and maintained Performance Assessment Simulation ensembles for Element M&amp;S development laboratory use in the Digital M&amp;S Integration Center (DMIC) in Huntsville, AL.</p> <p>-- Controlled and maintained Performance Assessment Simulation ensembles in support of M&amp;S development, Integration, and events in the Simulation Execution Center (SEC) in Colorado Springs, CO.</p> <p>- Planned, prepared and executed BMDS Model &amp; Simulation Events to include System Post Flight Reconstruction events to support Model Validation of the Hardware-in-the-Loop (HWIL).</p> <p>- Provided early warning support for a Joint Integrated Air and Missile Defense Organization sponsored Joint Distributed Engineering Plant Event and Warfighter event.</p> <p><b>FY 2014 Plans:</b> Development and Sustainment:</p>			
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD31 / <i>Modeling &amp; Simulation</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Develop and sustain MDA's BMD International Simulation (I-SIM) in support of Combatant Commander (COCOM) and International Wargames, conceptual planning, BMD visualizations, BMD training/orientation, and M&amp;S demonstrations.</p> <p>- Develop and sustain the Missile Defense Space Warning Tool (MDST) to keep pace with fielded BMDS OPIR architectures in support of Warfighter events.</p> <p>- Provide software operations/maintenance support to the Extended Air Defense Simulation (EADSIM) code base for use in Warfighter exercises, training venues, and COCOM planning tools.</p> <p>- Provide software development/sustainment for BMDS component models of PATRIOT weapons system for use in MDA test and validation events.</p> <p>Maintenance:</p> <p>- Maintain Discrete Event Simulation (DESIM) in support of COCOM events and initiate a study of replacement options with existing M&amp;S tools.</p> <p>Event Integration/Support Operations:</p> <p>- Integrate, test, functionally qualify and deliver legacy M&amp;S tools for use in MDA test events and exercises, to include models for PATRIOT, SBIRS, JTAGS, communications.</p> <p>- Begin the transition of real-time digital simulation capability to the Objective Simulation Framework (OSF) to support M&amp;S Intended Uses.</p> <p>- Control and maintain simulations for Element M&amp;S development laboratory use in the Digital M&amp;S Integration Center (DMIC) in Huntsville, AL.</p> <p>- Provide digital representations for use during International Simulations/Wargames, demonstrations, and Missile Defense Space Warning Tool Operations.</p> <p>- Provide threat representations (kinematic trajectories, RCS, and IR signature data) for use in Real World Events, simulations, exercises, Wargames, and test and evaluation activities across the DoD.</p> <p><b>FY 2015 Plans:</b></p> <p>Development and Sustainment:</p> <p>- Initiate the re-architecting of MDA's BMD International Simulation (I-SIM) to adapt to growing distributed event requirements in support of Combatant Command (COCOM) and International Wargames, conceptual planning, BMD visualizations, BMD training/orientation, and M&amp;S demonstrations.</p> <p>- Develop and sustain the Missile Defense Space Warning Tool (MDST) to keep pace with fielded BMDS OPIR Architectures in support of Warfighter events.</p> <p>- Provide software operations/maintenance support to the Extended Air Defense Simulation (EADSIM) code base for use in Warfighter exercises, training venues, and COCOM planning tools.</p> <p>- Provide Software development/sustainment for BMDS component models of PATRIOT weapon system for use in MDA test and validation events.</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2013	FY 2014	FY 2015
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Maintenance:  
- Replace Discrete Event Simulation (DESIM) with existing modernized M&S tools in support of COCOM events.

Event Integration/Support Operations:  
- Integrate, test, functionally qualify, and deliver legacy M&S tools for use in MDA test events, Wargames, and exercises (includes models for PATRIOT, SBIRS, JTAGS, communications).  
  
- Continue the transition of real-time digital simulation capability to the Objective Simulation Framework (OSF) to support Intended Uses.  
- Control and maintain simulations for Element M&S development laboratory use in the Digital M&S Integration Center (DMIC) in Huntsville, AL.  
- Provide digital representations for use during International Simulations/Wargames and demonstrations as well as Missile Defense Space Warning Tool operations  
- Provide threat representations (kinematic trajectories, RCS, and IR signature data) for use in real-world events, simulations, exercises, wargames, and test and evaluation activities across the DoD.  
- Perform operational planning for the FY2016 BMDS assessment events.

FY 2015 decrease reflects reprioritization of efforts to achieve M&S Hardware-in-the-Loop (HWIL) requirements, as described below.

<b>Title:</b> M&S HWIL Framework, Simulations, Models	9.341	9.431	12.633
<b>Articles:</b>	-	-	-

**Description:** The M&S Hardware-in-the-Loop (HWIL) Framework, Models and Simulations effort develops, maintains and deploys the HWIL framework hardware and software for use at element laboratories and Combatant Command (COCOM) locations to support IMTP test events, Ballistic Missile Defense System (BMDS) capability delivery assessments, Warfighter training, exercises, and wargames.

**FY 2013 Accomplishments:**  
Development:  
- Initiated migration of Hardware-in-the-Loop (HWIL) functionality into the Objective Simulation Framework (OSF).  
- Continued requirements management for product development activities (e.g., OSF).

Sustainment:

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2013	FY 2014	FY 2015
<p>- Provided sustainment, maintenance and product support of BMDS HWIL stimulation framework-- the Single Stimulation Framework (SSF) for Elements integration, BMDS ground, flight tests and training and supported MDA CONUS and host nation exercises.</p> <p>- Provided sustainment, maintenance and product support of BDMS HWIL SSF to support Ground Base Mid-Course and BMDS Sensors Directorates' stand-alone training and the Distributed Multi-Echelon Training System (DMETS) capability.</p> <p>- Sustained SSF framework capabilities for GM and SN element framework for Pre-Mission Test (PMT) test support, Countdown training and post flight reconstruction (PFR).</p> <p>- Sustained SSF support to BMDS PMT and PFR activities.</p> <p>- Provided concepts for initial SSF/OSF Open Architecture redesign capabilities.</p> <p>Event Integration/Support Operations:</p> <p>- Continued incremental deployment and integration of BMDS HWIL SSF Objective Hardware for MDA Elements and a Releasable configuration for Allies to modernize SSF Interface Unit (SIU) fleet and minimize obsolescence.</p> <p>- Continued integration of Optimistic Sensor Model (OSM), Extended Air Defense Simulation (EADSIM), and Missile Defense Space Warning Tool (MDST) with the SSF.</p> <p>- Integrated the BMDS HWIL SSF with additional MDA and non-MDA Elements as they were integrated into the BMDS architecture.</p> <p>- Implemented improved Instantaneous Object Processing capabilities in BMDS Ground tests.</p> <p>- Removed all support for the Missile Defense System Exerciser (MDSE) framework and integrated all MDSE mission requirements into SSF contracts and plans for future Objective Simulation Framework (OSF) integration.</p> <p>- Defined transition plan from SSF contracts to OSF contracts for BMDS ground test and Warfighter Intended Use.</p> <p>- Planned the integration of SSF with Upgraded Early Warning Radar (UEWR) Clear Air Force Station.</p> <p><b>FY 2014 Plans:</b></p> <p>- Deliver the Objective Simulation Framework (OSF) Version 2.0 to begin the transition of Hardware-in-the-loop (HWIL) capabilities.</p> <p>- Deliver improved debris and phenomenology modeling capabilities to support BMDS Phased Adaptive Approach (PAA) Phase 3 and beyond needs.</p> <p>- Incorporate advanced M&amp;S capabilities into the next version of the OSF for tracking, discrimination, engagement and associated upper tier debris mitigation, launch/engage on remote, as well as lower tier engagement coordination to satisfy PAA Phase 3 and beyond needs.</p> <p>- Control and maintain the HWIL Integration Laboratory for Element M&amp;S in Huntsville, AL.</p> <p>- Provide support for scheduled events Global Lightning 14, Terminal Fury 14, Vigilant Shield 14, Global Defender (GDEx06 Part 1), and the Distributed, Focused and Integrated Ground Test Events as presented in the Integrated Master Test Plan (IMTP).</p> <p><b>FY 2015 Plans:</b></p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs		<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Deliver the Objective Simulation Framework (OSF) to complete the transition of Hardware-in-the-loop (HWIL) capabilities.</li> <li>- Incorporate advanced M&amp;S capabilities into the next version of the OSF for tracking, discrimination, engagement and associated upper tier debris mitigation, launch/engage on remote, as well as lower tier engagement coordination to satisfy PAA needs.</li> <li>- Control and maintain the HWIL Integration Laboratory for Element M&amp;S in Huntsville, AL.</li> <li>- Provide support for scheduled events including Wargames and COCOM Exercises and the Distributed, Focused and Integrated Ground Test Events as presented in the Integrated Master Test Plan (IMTP).</li> <li>- Develop, maintain, test, field, and operate model representations for use in Ground Tests.</li> </ul> <p>FY 2015 increase reflects reprioritization of M&amp;S efforts to achieve M&amp;S Hardware-in-the-Loop (HWIL) requirements.</p>				
<p><b>Title:</b> M&amp;S Core Truth Modeling (formerly Phenomenology, Lethality, Environment, Threat-Communication)</p> <p align="right"><b>Articles:</b></p>		9.856	9.950	10.488
<p><b>Description:</b> The Core Truth Model program provides consistent and common Phenomenology, Lethality, Environment, Communications, and Threat models for Ballistic Missile Defense Systems (BMDS) M&amp;S venues and supports all Digital and Ground Test Events and Wargaming Exercises. The Core Truth Model efforts are critical in the assessment of all BMDS capability deliveries.</p> <p><b>FY 2013 Accomplishments:</b></p> <p>Development:</p> <ul style="list-style-type: none"> <li>- Conducted requirements management for product development activities (e.g., Objective Simulation Framework (OSF)).</li> <li>- Developed capabilities-based and intelligence-credible missile models based on the MDA Threat Systems Engineer specifications.</li> <li>- Initiated several Small Business Innovative Research (SBIR) Phase II Efforts to address Critical Engagement Conditions (CEC) and Empirical Measurement Events (EMEs) identified deficiencies related to Characterization and Incorporation of Vernier Engines within the Plume Modeling Process, Advanced Particle Treatment in Modeling Rocket Exhaust Plumes and Star Background Modeling.</li> <li>- Achieved accreditation of the Parametric Endo/Exo-atmospheric Lethality Simulation (PEELS) for OTA post-flight test assessment of FTO-01.</li> <li>- Generated and delivered KIDD target inputs and COD databases for FTO-01, GTI-04e Part 1, and GTI-04e Part 1a.</li> <li>- Utilized PEELS for assessment of FTG-06b, PDB-7 LUT, and FTO-01</li> <li>- Utilized PEELS for shotline selection analysis for PAC-3 MSE LFT&amp;E planning.</li> </ul> <p>Sustainment:</p>		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Conducted requirements management for product development activities (e.g., Optical Signatures Code (OSC), Optical Signatures In-Line Generator (OPTISIG), Kinetic Impact Debris Distribution (KIDD), Parametric Endo/Exo-atmospheric Lethality Simulation (PEELS), Post Engagement Ground Effects Model (PEGEM)).</p> <p>- Provided M&amp;S software development, sustainment and technical support for phenomenology and lethality model, development (e.g., Optical Signature Code (OSC), Optical Signatures In-Line Generator (OPTISIG), Kinetic Impact Debris Distribution (KIDD), Parametric Endo/Exo-atmospheric Lethality Simulation (PEELS), Post Engagement Ground Effects Model (PEGEM), Rocket Plume Flowfield Model (RPFM), Plume Simulation (PLUS), Standard Plume Ultraviolet Radiation Code (SPURC), and Fast Line-of-Sight Imagery for Target and Exhaust Plume Signatures (FLITES)).</p> <p>- Enhanced Core Lethality Models (KIDD, PEELS) capabilities to model post intercept debris and engagement lethality to ensure BMDS performance may be accurately modeled to Operational Test Agency (OTA) requirements.</p> <p>- Provided M&amp;S software maintenance and sustainment for the Threat Modeling Simulation System (TMSS) threat production architecture (e.g. integration of new/updated missile models and threat system capabilities) to support Integrated Master Test Plan (IMTP) threat production.</p> <p>- Provided M&amp;S software maintenance and sustainment for the TGx trajectory generator analyst/planner tool (e.g. integration of new/updated missile models and threat system capabilities) to support IMTP events.</p> <p>- Initiated Systems Engineering efforts to support integration of all applicable Core Truth Model functions into Objective Simulation Framework (OSF) framework.</p> <p>- Produced threat trajectory and signature data using the Threat Modeling Simulation System (TMSS). These data are used to create Integrated Threat Packages (ITP) which provide threat truth data for Ground Tests, Flight Tests, Wargames, exercises, Distributed Multi-Echelon Training System (DMETS) events, and MDA engineering studies.</p> <p>- Produced Threat Generator External (TGx), a desk tool designed for analysts to generate their own engineering trajectories, and provided this to over 150 users including OSD Cost Assessment and Program Evaluation (CAPE), Joint Integrated Air and Missile Defense Organization (JIAMDO), Ballistic Missile Defense System Operational Test Agency, Service Operational Test Agencies, and Warfighters.</p> <p><b>FY 2014 Plans:</b></p> <p>-Implement next generation truth representations for phenomenology and lethality to meet advanced BMDS capability needs for tracking, discrimination and engagement in support of Phased Adaptive Approach (PAA) Phase 3 and beyond.</p> <p>-Maintain legacy truth representations (e.g., Parametric Endoatmospheric-Exoatmospheric Lethality Simulation (PEELS), Kinetic Intercept Debris Distribution (KIDD), Optical Signatures Code/Optical Signature Inline Generator (OSC/OPTISIG)) until fully transitioned.</p> <p>-Provide M&amp;S software for the Threat Modeling Simulation System (TMSS) threat production architecture (e.g. integration of new/updated missile models and threat system capabilities) to enable threat production for real-world events; BMDS development, system-level events, and exercise; and Wargames.</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
-Provide M&S software for the Threat Generator External (TGx) analyst/planner tool (e.g. integration of new/updated missile models and threat system capabilities) for threat studies throughout the DoD. -Continue efforts to support integration of all applicable Core Truth Model functions into Objective Simulation Framework (OSF) framework. -Provide support for scheduled events Global Lightning 14, Terminal Fury 14, Vigilant Shield 14, Global Defender (GDEx06 Part 1), and the Distributed, Focused and Integrated Ground Test Events as presented in the IMTP.  <b>FY 2015 Plans:</b> -Implement next generation truth representations for phenomenology and lethality to meet advanced BMDS capability needs for tracking, discrimination and engagement in support of Phased Adaptive Approach (PAA). -Maintain legacy truth representations (e.g., Parametric Endoatmospheric-Exoatmospheric Lethality Simulation (PEELS), Kinetic Intercept Debris Distribution (KIDD) and Optical Signatures Code/Optical Signature Inline Generator (OSC/OPTISIG)) until fully transitioned. -Provide M&S software for the Threat Modeling Simulation System (TMSS) threat production architecture (e.g. integration of new/updated missile models and threat system capabilities) to enable threat production for real-world events; BMDS development, system-level events, and exercises; and Wargames. -Provide M&S software for the Threat Generator External (TGx) analyst/planner tool (e.g. integration of new/updated missile models and threat system capabilities) for threat studies throughout the DoD. -Continue efforts to support integration of all applicable Core Truth Model functions into Objective Simulation Framework (OSF) framework. -Provide support for scheduled events including Wargames, Exercises, and the Distributed, Focused and Integrated Ground Test Events as presented in the IMTP. - Deliver Core Truth Models (CTM) Toolkit for integrated truth representations across the M&S enterprise.			
<b>Accomplishments/Planned Programs Subtotals</b>	40.832	41.188	41.957

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 0603881C: Ballistic Missile	267.396	255.918	299.598	-	299.598	221.008	288.405	286.421	273.365	Continuing	Continuing
<i>Defense Terminal Defense Segment</i>											
• 0603882C: Ballistic Missile Defense Midcourse Defense Segment	923.506	910.852	1,003.768	-	1,003.768	1,131.060	937.998	690.524	628.342	Continuing	Continuing
• 0603892C: AEGIS BMD	958.506	909.928	929.208	-	929.208	955.825	911.095	866.678	721.426	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603914C: <i>Ballistic Missile Defense Test</i>	438.114	337.993	386.482	-	386.482	340.811	369.920	417.712	413.194	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

The Modeling & Simulation (M&S) acquisition strategy utilizes full and open competition to develop, acquire and deliver the integrated architectures/frameworks while the Elements, using the same open competition methods, develop and deliver models of their systems. The Digital and Hardware-in-the-Loop (HWIL) product centers integrate the suite of M&S into a composite simulation capability, all based on an open architecture. M&S achieves this end-state via close collaboration between its integrating contractor teams (Digital and HWIL) and those of the Element prime contractors, with additional technical standards and engineering oversight provided by Federally Funded Research and Development Centers (FFRDCs) and University Affiliated Research Centers (UARCs).

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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<b>Product Development (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Modeling and Simulation (M&S) Requirements, Design Spt, Scenario Optimization - M&S Reqts & Design- Configuration & Risk Management	C/FFP	ManTech : CO	6.009	-		-		-		-		-	Continuing	Continuing	Continuing
Modeling and Simulation (M&S) Requirements, Design Spt, Scenario Optimization - M&S Reqts & Design- Integrated Master Plan	C/FFP	ManTech : CO	3.879	-		-		-		-		-	Continuing	Continuing	Continuing
Modeling and Simulation (M&S) Requirements, Design Spt, Scenario Optimization - M&S Reqts & Design- Product Capability Documents	C/FFP	Boeing : AL	15.002	2.469		-		-		-		-	Continuing	Continuing	Continuing
Modeling and Simulation (M&S) Requirements, Design Spt, Scenario Optimization - Requirements & Design - CSS	C/CPAF	Northrop Grumman : CO	0.000	3.274		3.758	Oct 2013	3.000	Oct 2014	-		3.000	Continuing	Continuing	Continuing
Modeling and Simulation (M&S) Requirements, Design Spt, Scenario Optimization - Requirements & Design Support	Various	MDA : CO, AL	0.000	1.802		1.926	Oct 2013	1.259	Oct 2014	-		1.259	Continuing	Continuing	Continuing
Modeling and Simulation (M&S) Requirements, Design Spt, Scenario Optimization - Requirements & Scenario Design Support - OGA	MIPR	AMRDEC : AL	0.000	-		1.933	Oct 2013	3.634	Oct 2014	-		3.634	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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<b>Product Development (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
M&S Digital Framework, Simulation, Models - Digital Framework Development	C/CPAF	Northrop Grumman : CO	0.000	-		7.794	Oct 2013	4.957	Oct 2014	-		4.957	Continuing	Continuing	Continuing
M&S Digital Framework, Simulation, Models - Digital Simulation Development / Support	MIPR	SMDC : AL	0.000	-		1.750	Oct 2013	1.800	Oct 2014	-		1.800	Continuing	Continuing	Continuing
M&S Digital Framework, Simulation, Models - M&S / Digital Framework Support	Various	MDA : CO, AL	0.000	-		2.006	Nov 2013	0.258	Oct 2014	-		0.258	Continuing	Continuing	Continuing
M&S Digital Framework, Simulation, Models - M&S / Digital Framework Support - OGA	MIPR	AMRDEC : AL	0.000	-		2.640	Oct 2013	3.928	Oct 2014	-		3.928	Continuing	Continuing	Continuing
M&S Digital Framework, Simulation, Models - M&S Digital Framework - Integrated Capability for International Programs	C/CPAF	Northrop Grumman : CO	37.483	3.436		-		-		-		-	Continuing	Continuing	Continuing
M&S Digital Framework, Simulation, Models - M&S Digital Framework - Integrated Capability for Performance Assessment	C/CPAF	Northrop Grumman : CO	42.310	10.654		-		-		-		-	Continuing	Continuing	Continuing
M&S HWIL Framework, Simulations, Models - M&S HWIL - Industry	C/CPAF	Northrop : CO	0.000	2.608		-		-		-		-	Continuing	Continuing	Continuing
M&S HWIL Framework, Simulations, Models - M&S HWIL - Single Stimulation Framework & Objective Simulation Framework Product Development & Deployment	C/CPAF	Boeing : AL	53.419	-		-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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<b>Product Development (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
M&S HWIL Framework, Simulations, Models - M&S HWIL Framework Development and Support	C/CPFF	Teledyne Brown Engineering : AL, CO	0.000	-		6.315	Oct 2013	4.742	Oct 2014	-		4.742	Continuing	Continuing	Continuing
M&S HWIL Framework, Simulations, Models - M&S HWIL Simulations / Models Development	MIPR	AMRDEC : AL	0.000	6.733		2.316	Oct 2013	6.754	Oct 2014	-		6.754	Continuing	Continuing	Continuing
M&S HWIL Framework, Simulations, Models - M&S HWIL Support	Various	MDA : AL, CO	0.000	-		0.800	Oct 2013	1.137	Oct 2014	-		1.137	Continuing	Continuing	Continuing
M&S Core Truth Modeling (formerly Phenomenology, Lethality, Environment, Threat-Communication) - Core Truth Models Validation	Various	Various : CO, AL	0.000	2.635		1.154	Oct 2013	1.281	Oct 2014	-		1.281	Continuing	Continuing	Continuing
M&S Core Truth Modeling (formerly Phenomenology, Lethality, Environment, Threat-Communication) - M&S Core Truth Modeling - Communication Network Model Development	C/CPAF	Northrop Grumman : CO	2.415	0.310		-		-		-		-	Continuing	Continuing	Continuing
M&S Core Truth Modeling (formerly Phenomenology, Lethality, Environment, Threat-Communication) - M&S Core Truth Modeling - Lethality/Phenomenology Modeling	MIPR	AMRDEC : AL	21.472	3.025		1.759	Oct 2013	2.504	Oct 2014	-		2.504	Continuing	Continuing	Continuing
M&S Core Truth Modeling (formerly Phenomenology, Lethality, Environment, Threat-Communication) - M&S Core Truth Modeling - PLET-C Integration,	C/CPAF	Northrop Grumman : CO	3.376	0.432		-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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<b>Product Development (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Assembly, Test & Checkout															
M&S Core Truth Modeling (formerly Phenomenology, Lethality, Environment, Threat-Communication) - M&S Core Truth Modeling - Threat Modeling Simulation System	C/CPAF	Northrop Grumman : CO	12.602	1.736		7.037	Oct 2013	6.703	Oct 2014	-		6.703	Continuing	Continuing	Continuing
M&S Core Truth Modeling (formerly Phenomenology, Lethality, Environment, Threat-Communication) - M&S Core Truth Modeling - Trajectory Generator External	C/CPAF	Northrop Grumman : CO	7.024	1.718		-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			204.991	40.832		41.188		41.957		-		41.957	-	-	-

**Remarks**  
N/A

<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

**Remarks**  
N/A

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

**Remarks**  
N/A

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	204.991	40.832	41.188	41.957	-	41.957	-	-	-

**Remarks**  
Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Ground Test, Integrated O4e (GTI-04e) Verification, Validation, and Accreditation 1Q-FY 2013	▲																											
Combatant Command Exercise (Vigilant Shield 13) 1Q-FY 2013	▲																											
Combatant Command Exercise (Global Thunder 13) 2Q-FY 2013			▲																									
Combatant Command Exercise (Terminal Fury 13) 3Q-FY 2013				▲																								
Ground Test, Integrated O4e (GTI-04e) Developmental Test 3Q-FY 2013				▲																								
Combatant Command Exercise (Global Lightning 13) 3Q-FY 2013				▲																								
Ground Test, Integrated O4 (GTI-04) Operational Test 3Q-FY 2013				▲																								
Ground Test, Distributed O4e (GTD-04e) Part 2 1Q-FY2015												△																
Objective Simulation Framework (OSF) v1.0.1 4Q-FY 2013																												
Global Defender (GDEx) 4Q-FY 2013																												
Single Stimulation Framework (SSF) v1.1.7 4Q-FY 2014																												
Combatant Command Exercise (Vigilant Shield 14) 1Q-FY 2014																												
Missile Defense Space warning Tool (MDST) v15 System Reqs Review 1Q-FY 2014																												
Combatant Command Exercise (Global Thunder 14) 1Q-FY 2014																												
National Missile Defense Conference Wargame 2Q-FY 2014																												

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Warfighter Trial Period -04e (WFTP-04e) 2Q-FY 2014							▲																					
Congressional Wargame 2Q-FY 2014							▲																					
Ground Test, Focused 06 (GTX-06) 3Q-FY 2014								▲																				
International Simulation v8.1 3Q-FY 2014								▲																				
Combatant Command Exercise (Global Lightning 14) 3Q-FY 2014								▲																				
Fast Event 2												▲																
Fast Event 1												▲																
Ground Test, Distributed 04e (GTD-04e Part 2) DT/OT 1Q-FY 2015												▲																
Combatant Command Exercise (Terminal Fury 14) 3Q-FY 2014								▲																				
Objective Simulation Framework (OSF) v1.0.2 4Q-FY 2014												▲																
Multi-National Missile Defense Conference Wargame 4Q-FY 2014								▲																				
Combatant Command Exercise (Global Thunder 15) 1Q-FY 2015												▲																
International Simulation v.8.2 – 1Q-FY 2015												▲																
Combatant Command Exercise (Vigilant Shield 15) 1Q-FY 2015												▲																
Ground Test, Distributed 04e Part 2 (GTD-04e Part 2) BMDS Distributed Ground Test 1Q-FY 2015												▲																
Missile Defense Space warning Tool (MDST) v15.2 – 1Q-FY 2015												▲																

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Ground Test, Integrated 06 Part 1 (GTI-06 Part 1) BMDS Integrated HWIL Ground Test 2Q-FY 2015									▲																			
National Missile Defense Conference Wargame 2Q-FY 2015									▲																			
Objective Simulation Framework (OSF) v1.0.3 - 2Q-FY 2015									▲																			
BMDS Wargame 2015 2Q-FY 2015									▲																			
Missile Defense Conference 2015 WG 3Q-FY 2015									▲																			
Global Defender (GDEx06 Part 2) 3Q-FY 2015									▲																			
Combatant Command Exercise (Global Lightning 15) 3Q-FY 2015									▲																			
Combatant Command Exercise (Terminal Fury 15) 3Q-FY 2015									▲																			
Ground Test, Integrated 06 Part 2 (GTI-06 Part 2) Operational Test 4Q-FY 2015												▲																
Multi-National Missile Defense Conference Wargame 4Q-FY 2015												▲																
Ground Test, Integrated 06 Part 2 (GTI-06 Part 2) BMDS Integrated HWIL Ground Test 4Q-FY 2015												▲																
Ground Test, Distributed 06 Part 1a (GTD-06 Part 1a) 1Q-FY 2016													▲															
Combatant Command Exercise (Vigilant Shield 16) 1Q-FY 2016													▲															
Missile Defense Space warning Tool (MDST) 15.3 - 1Q-FY 2016													▲															
Ground Test, Integrated 06 Part 2 (GTI-06 Part 2) Operational Test 1Q-FY 2016													▲															

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦  
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Combatant Command Exercise (Global Thunder 16) 1Q-FY 2016													△															
Ground Test, Distributed 06 Part 2 (GTD-06 Part 2 ) Operational Test 1Q-FY 2016													△															
Objective Simulation Framework (OSF) v1.0.4 - 1Q-FY 2016													△															
International Simulation v.8.3 – 1Q-FY 2016													△															
Warfighter Trial Period -06 Part 2(WFTP-06 Part 2) 2Q-FY 2016														△														
Combatant Command Exercise (Global Lightning 16) 3Q-FY 2016																												
Ground Test, Focused 07a (N/P/E/C) (GTX-07a (N/P/E/C)) 3Q-FY 2016																												
Combatant Command Exercise (Terminal Fury 16) 3Q-FY 2016																												
Objective Simulation Framework (OSF) v1.x - 3Q-FY 2016																												
GDEx 07a 4Q-FY 2016																												
Ground Test, Distributed 07a Part 1 (P) (GTD-7a Part 1 P) Developmental Test 4Q-FY 2016																												
Ground Test, Integrated 07a (GTI-07a) Developmental Test 4Q-FY 2016																												
Ground Test, Distributed 07a Part 1 (P) (GTD-7a Part 1 P) Operational Test 4Q-FY 2016																												
Ground Test, Integrated 07a (GTI-07a) Operational Test 4Q-FY 2016																												





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**Exhibit R-4, RDT&E Schedule Profile:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Significant Event Complete ▲    Milestone Decision Complete ★    Element Test Complete ◆    System Level Test Complete ●    Complete Activity ✦  
 Significant Event Planned △    Milestone Decision Planned ☆    Element Test Planned ◇    System Level Test Planned ○    Planned Activity ✧

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019							
	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				
Combatant Command Exercise (Global Lightning 19) 3Q-FY 2019																																▲
Combatant Command Exercise (Terminal Fury 19) 3Q-FY 2019																																▲
GDEx 08 Part 1 3Q-FY 2019																																▲

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Ground Test, Integrated 04e (GTI-04e) Verification, Validation, and Accreditation 1Q-FY 2013	1	2013	1	2013
Combatant Command Exercise (Vigilant Shield 13) 1Q-FY 2013	1	2013	1	2013
Combatant Command Exercise (Global Thunder 13) 2Q-FY 2013	2	2013	2	2013
Combatant Command Exercise (Terminal Fury 13) 3Q-FY 2013	3	2013	3	2013
Ground Test, Integrated 04e (GTI-04e) Developmental Test 3Q-FY 2013	3	2013	3	2013
Combatant Command Exercise (Global Lightning 13) 3Q-FY 2013	3	2013	3	2013
Ground Test, Integrated 04 (GTI-04) Operational Test 3Q-FY 2013	3	2013	3	2013
Ground Test, Distributed 04e (GTD-04e) Part 2 1Q-FY2015	1	2015	1	2015
Objective Simulation Framework (OSF) v1.0.1 4Q-FY 2013	4	2013	4	2013
Global Defender (GDEx) 4Q-FY 2013	4	2013	4	2013
Single Stimulation Framework (SSF) v1.1.7 4Q-FY 2014	4	2014	4	2014
Combatant Command Exercise (Vigilant Shield 14) 1Q-FY 2014	1	2014	1	2014
Missile Defense Space warning Tool (MDST) v15 System Repts Review 1Q-FY 2014	1	2014	1	2014
Combatant Command Exercise (Global Thunder 14) 1Q-FY 2014	1	2014	1	2014
National Missile Defense Conference Wargame 2Q-FY 2014	2	2014	2	2014
Warfighter Trial Period -04e (WFTP-04e) 2Q-FY 2014	2	2014	2	2014
Congressional Wargame 2Q-FY 2014	2	2014	2	2014
Ground Test, Focused 06 (GTX-06) 3Q-FY 2014	3	2014	3	2014
International Simulation v8.1 3Q-FY 2014	3	2014	3	2014
Combatant Command Exercise (Global Lightning 14) 3Q-FY 2014	3	2014	3	2014
Fast Event 2	4	2014	4	2014
Fast Event 1	4	2014	4	2014

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Events	Start		End	
	Quarter	Year	Quarter	Year
Ground Test, Distributed 04e (GTD-04e Part 2) DT/OT 1Q-FY 2015	1	2015	1	2015
Combatant Command Exercise (Terminal Fury 14) 3Q-FY 2014	3	2014	3	2014
Objective Simulation Framework (OSF) v1.0.2 4Q-FY 2014	4	2014	4	2014
Multi-National Missile Defense Conference Wargame 4Q-FY 2014	4	2014	4	2014
Combatant Command Exercise (Global Thunder 15) 1Q-FY 2015	1	2015	1	2015
International Simulation v.8.2 – 1Q-FY 2015	1	2015	1	2015
Combatant Command Exercise (Vigilant Shield 15) 1Q-FY 2015	1	2015	1	2015
Ground Test, Distributed 04e Part 2 (GTD-04e Part 2) BMDS Distributed Ground Test 1Q-FY 2015	1	2015	1	2015
Missile Defense Space warning Tool (MDST) v15.2 - 1Q-FY 2015	1	2015	1	2015
Ground Test, Integrated 06 Part 1 (GTI-06 Part 1) BMDS Integrated HWIL Ground Test 2Q-FY 2015	2	2015	2	2015
National Missile Defense Conference Wargame 2Q-FY 2015	2	2015	2	2015
Objective Simulation Framework (OSF) v1.0.3 - 2Q-FY 2015	2	2015	2	2015
BMDS Wargame 2015 2Q-FY 2015	2	2015	2	2015
Missile Defense Conference 2015 WG 3Q-FY 2015	3	2015	3	2015
Global Defender (GDEx06 Part 2) 3Q-FY 2015	3	2015	3	2015
Combatant Command Exercise (Global Lightning 15) 3Q-FY 2015	3	2015	3	2015
Combatant Command Exercise (Terminal Fury 15) 3Q-FY 2015	3	2015	3	2015
Ground Test, Integrated 06 Part 2 (GTI-06 Part 2) Operational Test 4Q-FY 2015	4	2015	4	2015
Multi-National Missile Defense Conference Wargame 4Q-FY 2015	4	2015	4	2015
Ground Test, Integrated 06 Part 2 (GTI-06 Part 2) BMDS Integrated HWIL Ground Test 4Q-FY 2015	4	2015	4	2015
Ground Test, Distributed 06 Part 1a (GTD-06 Part 1a) 1Q-FY 2016	1	2016	1	2016
Combatant Command Exercise (Vigilant Shield 16) 1Q-FY 2016	1	2016	1	2016
Missile Defense Space warning Tool (MDST) 15.3 - 1Q-FY 2016	1	2016	1	2016
Ground Test, Integrated 06 Part 2 (GTI-06 Part 2) Operational Test 1Q-FY 2016	1	2016	1	2016

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Events	Start		End	
	Quarter	Year	Quarter	Year
Combatant Command Exercise (Global Thunder 16) 1Q-FY 2016	1	2016	1	2016
Ground Test, Distributed 06 Part 2 (GTD-06 Part 2 ) Operational Test 1Q-FY 2016	1	2016	1	2016
Objective Simulation Framework (OSF) v1.0.4 - 1Q-FY 2016	1	2016	1	2016
International Simulation v.8.3 – 1Q-FY 2016	1	2016	1	2016
Warfighter Trial Period -06 Part 2(WFTP-06 Part 2) 2Q-FY 2016	2	2016	2	2016
Combatant Command Exercise (Global Lightning 16) 3Q-FY 2016	3	2016	3	2016
Ground Test, Focused 07a (N/P/E/C) (GTX-07a (N/P/E/C)) 3Q-FY 2016	3	2016	3	2016
Combatant Command Exercise (Terminal Fury 16) 3Q-FY 2016	3	2016	3	2016
Objective Simulation Framework (OSF) v1.x - 3Q-FY 2016	3	2016	3	2016
GDEx 07a 4Q-FY 2016	4	2016	4	2016
Ground Test, Distributed 07a Part 1 (P) (GTD-7a Part 1 P) Developmental Test 4Q-FY 2016	4	2016	4	2016
Ground Test, Integrated 07a (GTI-07a) Developmental Test 4Q-FY 2016	4	2016	4	2016
Ground Test, Distributed 07a Part 1 (P) (GTD-7a Part 1 P) Operational Test 4Q-FY 2016	4	2016	4	2016
Ground Test, Integrated 07a (GTI-07a) Operational Test 4Q-FY 2016	4	2016	4	2016
Ground Test, Distributed 07a Part 1 (N/P) (GTD-07a Part 1 (N/P)) Operational Test 1Q-FY 2017	1	2017	1	2017
Combatant Command Exercise (Global Thunder 17) 1Q-FY 2017	1	2017	1	2017
Ground Test, Distributed 07a Part 1 (N/E) (GTD-07a Part 1 N/E) Developmental Test 1Q-FY 2017	1	2017	1	2017
Ground Test, Distributed 07a Part 1 (N/E) (GTD-07a Part 1 N/E) Operational Test 1Q-FY 2017	1	2017	1	2017
Combatant Command Exercise (Vigilant Shield 17) 1Q-FY 2017	1	2017	1	2017
International Simulation v 8.4 – 1Q-FY 2017	1	2017	1	2017
Missile Defense Space warning Tool (MDST) 15.4 - 1Q-FY 2017	1	2017	1	2017
Ground Test, Distributed 07a Part 1 (N/P) (GTD-07a Part 1 (N/P)) Developmental Test 1Q-FY 2017	1	2017	1	2017

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD31 / Modeling & Simulation
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Events	Start		End	
	Quarter	Year	Quarter	Year
Ground Test, Distributed 07a Part 2 (E) (GTD-07a Part 2 E) Developmental Test 2Q-FY 2017	2	2017	2	2017
Ground Test, Distributed 07a Part 2 (E) (GTD-07a Part 2 E) Operational Test 2Q-FY 2017	2	2017	2	2017
Ground Test, Distributed 07a Part 2 (C) (GTD-07a Part 2 C) Developmental Test 2Q-FY 2017	2	2017	2	2017
Ground test, Distributed 07a Part 2 (C) (GTD-07a Part 2 C) Operational Test 2Q-FY 2017	2	2017	2	2017
Combatant Command Exercise (Global Lightning 17) 3Q-FY 2017	3	2017	3	2017
Combatant Command Exercise (Terminal Fury 17) 3Q-FY 2017	3	2017	3	2017
GDEx 07b Part 1 3Q-FY 2017	3	2017	3	2017
Combatant Command Exercise (Vigilant Shield 18) 1Q-FY 2018	1	2018	1	2018
Combatant Command Exercise (Global Thunder 18) 1Q-FY 2018	1	2018	1	2018
Ground Test, Integrated 07b (GTI-07b) 2Q-FY 2018	2	2018	2	2018
GDEx 07b Part 2 3Q-FY 2018	3	2018	3	2018
Performance Assessment (PA07b DT) 3Q-FY 2018	3	2018	3	2018
Combatant Command Exercise (Terminal Fury 18) 3Q-FY 2018	3	2018	3	2018
Combatant Command Exercise (Global Lightning 18) 3Q-FY 2018	3	2018	3	2018
Ground Test, Distributed 07b Part 2 (GTD-07b Part 2) 4Q-FY 2018	4	2018	4	2018
Ground Test, Distributed 07b Part 1 (GTD-07b Part 1) 4Q-FY 2018	4	2018	4	2018
Performance Assessment (PA07b OT) 4Q-FY 2018	4	2018	4	2018
Combatant Command Exercise (Global Thunder 19) 1Q-FY 2019	1	2019	1	2019
Combatant Command Exercise (Vigilant Shield 19) 1Q-FY 2019	1	2019	1	2019
Combatant Command Exercise (Global Lightning 19) 3Q-FY 2019	3	2019	3	2019
Combatant Command Exercise (Terminal Fury 19) 3Q-FY 2019	3	2019	3	2019
GDEx 08 Part 1 3Q-FY 2019	3	2019	3	2019

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MC31 / M&S Cyber Operations			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
MC31: M&S Cyber Operations	-	-	-	0.223	-	0.223	0.229	0.234	0.240	0.246	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Project MC31 is a new Defensive Cyber Operations Project established in this Program Element (PE) for PB 2015. Funds were previously reported in Project MD31 of this PE.

**A. Mission Description and Budget Item Justification**

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

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

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

	FY 2013	FY 2014	FY 2015
<b>Title:</b> Network / System Certification and Accreditation (C&A) for Modeling & Simulation (M&S)	-	-	0.223
<b>Articles:</b>	-	-	-
<b>Description:</b> See Mission Description Above.			
<b>FY 2013 Accomplishments:</b> N/A			
<b>FY 2014 Plans:</b> N/A			
<b>FY 2015 Plans:</b> - Conduct Cybersecurity/information assurance engineering and architecture planning for Enabling M&S information technology systems.			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MC31 / <i>M&amp;S Cyber Operations</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
- Plan and test the information assurance controls for Enabling M&S systems.			
- Develop Enabling M&S DoD Information Assurance Certification and Accreditation Program (DIACAP) certification and accreditation packages.			
- Conduct Controls Validation Testing (CVT) of Enabling M&S systems and provide Plan of Action and Milestones to mitigate information assurance deficiencies.			
- Conduct annual information assurance reviews to assess compliance in implementing and maintaining information assurance controls.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	0.223

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2015 Missile Defense Agency **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MC31 / M&S Cyber Operations
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Network / System Certification and Accreditation (C&A) for Modeling & Simulation (M&S) - CSS	C/CPFF	Torch Technologies : CO, AL	0.000	-		-		0.223	Nov 2014	-		0.223	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	-		-		0.223		-		0.223	-	-	-

**Remarks**  
N/A

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	0.000	-	-	0.223	-	0.223	-	-	-

**Remarks**  
N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs				<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
MD32: <i>Quality, Safety, and Mission Assurance</i>	93.537	28.505	30.115	30.637	-	30.637	31.621	31.541	31.674	32.343	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

**A. Mission Description and Budget Item Justification**

**Quality:**

Provides on-site Quality Assurance (QA) inspection for all ground and flight tests to ensure that all processes and procedures are adhered to and no short cuts or deviations occur. Quality management system audits are performed on the sub tier supply chain to determine adequacy of contractor requirement flow down and sub tier supplier compliance to industry standards. Quality Subject Matter Experts (SMEs) attend BMDS configuration control boards to ensure quality is implemented across all Programs. Provide quality on-site formal inspection and resolution when troubled suppliers are identified. Initiate and lead on-site Joint Government and Industry Team field support and expertise to assist when critical sole source suppliers are failing. Team conducts initiatives to revamp sole source suppliers by assisting them to get healthy and perform at world class levels. Establishes consistent acquisition and award fee contractual requirements to ensure that a strategic approach is applied to all mission critical systems. Maintains MDA Assurance Provisions for the Agency.

**Safety:**

Responsible for system safety of the Ballistic Missile Defense System (BMDS) and for the Safety and Occupational Health of personnel located in the National Capital Region (NCR); Huntsville, Alabama; Fort Greely, Alaska; Vandenberg Air Force Base (VAFB), California; and, Dahlgren, VA. Also responsible for ensuring the overall safety of the civilian, contractor and military workforce. BMDS Safety Officers (BSO) provides on-site support 24 hours a day, 7 days a week, 365 days a year to ensure operational safety of systems. Quality, Safety, and Mission Assurance verifies that all systems are functioning and tracking against actual verified targets and that all associated processes and procedures are strictly followed.

**Mission Assurance:**

Provides in-plant MDA Assurance Representatives (MARs) for the Missile Defense Agency (MDA) at government and contractor facilities. MARs are Government Mission Assurance and Quality experts who provide quality and technical oversight of contractor manufacturing. Mission Assurance Audits are conducted which focus on design margin, the effectiveness of acceptance testing and the sufficiency of manufacturing processes. Audits are performed for contractual requirements, internal requirements, and industry best practices. These audits are one of MDA's most effective methods of enabling change among the MDA contractors and suppliers. Quality, Safety, and Assurance provides Subject Matter Experts (SMEs) who attend all technical reviews (i.e. Design, Test, Mission Readiness Reviews, and Failure

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance		
Review Boards) to ensure mission assurance principles are consistently implemented across the Ballistic Missile Defense System (BMDS). Quality, Safety, and Mission Assurance develops overarching design and quality standards such as the MDA Assurance Provisions (MAP) for MDA which enhances BMDS reliability. Hardware acceptance reviews and pedigree documentation reviews are performed to ensure all manufacturing rework and repair is performed within approved processes.				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Quality, Safety & Mission Assurance		28.505	30.115	30.637
<b>Description:</b> N/A		<b>Articles:</b> -	-	-
<b>FY 2013 Accomplishments:</b> Quality:  Provided Government inspection and process control for flight test operations Performed non-conformance reporting, tracking, and mitigation for all major flight and ground tests Provided non-advocate independent quality oversight/support to Agency operations such as configuration control boards, engineering forums, and material release activities Performed configuration management verification and reconciliation for all major flight and ground test assets  Safety:  Maintained on-site safety oversight at key suppliers and Government facilities Conducted safety risk assessments per Department of Defense Standards on all test and operational systems to ensure catastrophic risks remain improbable Conducted system analysis/assessments such as safety risk assessments, failure modes and effects criticality analysis, safety hazards analysis etc., to minimize flight and operational system risks  Mission Assurance:  Provided the Missile Defense Agency Director non-advocate, independent technical assessments on system, subsystem and component design, manufacturing and test activities in support of operational deployment and flight test activities Provided non-advocate technical support to Missile Defense Agency and Program risk boards, configuration control boards, technical interchange meetings and failure review boards Conducted Mission Assurance audits throughout the Missile Defense Agency's supply chain				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>Provided in-plant Mission Assurance and Quality Representatives at 23 Mission Critical Suppliers</p> <p>BMDS Safety Officers (BSOs):</p> <p>Provided 24 hours a day, 7 days a week, 365 days a year safety monitoring of operational and test systems to ensure safe transition between test and operations</p> <p>Monitored and track non-conformance behavior of the operational and flight test systems</p> <p>Performed software and hardware configuration verification along with supporting the Warfighter to asset management</p> <p>Provided safety support for Eastern, Western and Pacific Range activities such as safety training and certification</p> <p>MDA Parts and Materials Program:</p> <p>Enhanced BMDS reliability through the following activities:</p> <p>Enforced Program compliance to the Missile Defense Agency Part, Material and Processes Assurance Provisions (PMAP)</p> <p>Provided a Part and Material knowledge center to address Program and Supplier part and material issues arising from development or fielded systems</p> <p>Updated the Agency's preferred parts and materials list database to facilitate new system design and to identify part obsolescence issues</p> <p>Pursued remedies against counterfeit parts</p> <p>Acquisition Support:</p> <p>Ensured all new acquisitions are in compliance with the MDA Assurance Provisions (MAP), the MDA Parts, Materials and Processes Assurance Provisions and all applicable Defense Federal Acquisition Regulation (DFAR), Federal Acquisition Regulation (FAR), and clauses regarding quality, safety and mission assurance</p> <p>Updated the Missile Defense Agency Assurance Provisions (MAP) and the MDA Parts Materials and Processes Mission Assurance Plan (PMAP) to incorporate design, test, manufacturing, quality, safety, and mission assurance methods to further improve future product reliability.</p> <p>Improved MDA's acquisition strategy through participation in the definition and determination of all award fees</p>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>Technical Assistance to MDA Elements:</p> <p>Performed independent/non-advocate reviews, such as design certification, pedigree, failure, preliminary design, critical design and technical interchange reviews to ensure compliance with industry best practices                      Provided mission assurance support to major failure review boards to ensure comprehensive mitigation strategies for operational assets are employed                      Provided propulsion, solid rocket motor, avionics, mechanical structures, guidance, navigation and control, and parts, materials, and processes expertise to enhance reliability.</p> <p>Intra-Agency &amp; Industry Activities:</p> <p>Performed major stakeholder quality initiatives to improve quality of products, improve onsite processes, and internal requirements at critical sole source suppliers                      Participated in the Defense Standardization Board to ensure that MDA has an equal voice in the specification and standard requirements used across the DoD                      Initiated and led quality, safety, and mission assurance forums to obtain lessons learned and understand/promote new requirements or methods</p> <p>Safety and Occupational Health:</p> <p>Ensured compliance with DoD Safety and Occupational Health regulations and requirements                      Performed all required Occupational Safety and Health inspections of MDA facilities including those in the National Capital Region, Huntsville, AL, Colorado, Vandenberg Air Force Base and Dahlgren, VA.                      Monitored/responded to reports of incidents affecting the health and safety of MDA employees.</p> <p><b>FY 2014 Plans:</b>                      Continuation of FY 2013 plans.</p> <p>-Decrease from FY 2013 to FY 2014 reflects consolidation of like efforts.</p> <p><b>FY 2015 Plans:</b>                      Quality:</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>Provide Government inspection and process control for flight test operations                      Perform non-conformance reporting, tracking, and mitigation for all major flight and ground tests Provide non-advocate independent quality oversight/support to Agency operations such as configuration control boards, engineering forums, and material release activities                      Perform configuration management verification and reconciliation for all major flight and ground test assets</p> <p>Safety:</p> <p>Maintain on-site safety oversight at key suppliers and Government facilities                      Conduct safety risk assessments per Department of Defense Standards on all test and operational systems to ensure catastrophic risks remain improbable                      Conduct system analysis/assessments such as safety risk assessments, failure modes and effects criticality analysis, safety hazards analysis etc., to minimize flight and operational system risks</p> <p>Mission Assurance:</p> <p>Provide the Missile Defense Agency Director non-advocate, independent technical assessments on system, subsystem and component design, manufacturing and test activities in support of operational deployment and flight test activities Provide non-advocate technical support to Missile Defense Agency and Program risk boards, configuration control boards, technical interchange meetings and failure review boards                      Conduct Mission Assurance audits throughout the Missile Defense Agency's supply chain Provide in-plant Mission Assurance and Quality Representatives at 23 Mission Critical Suppliers</p> <p>BMDS Safety Officers (BSOs):</p> <p>Provide 24 hours a day, 7 days a week, 365 days a year safety monitoring of operational and test systems to ensure safe transition between test and operations                      Monitor and track non-conformance behavior of the operational and flight test systems                      Perform software and hardware configuration verification along with supporting the Warfighter to asset management                      Provide safety support for Eastern, Western and Pacific Range activities such as safety training and certification</p> <p>MDA Parts and Materials Program:</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD32 / <i>Quality, Safety, and Mission Assurance</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>Enhance BMDS reliability through the following activities:</p> <p>Enforce Program compliance to the Missile Defense Agency Part, Material and Processes Assurance Provisions (PMAP)                      Provide a Part and Material knowledge center to address Program and Supplier part and material issues arising from development or fielded systems                      Update the Agency's preferred parts and materials list database to facilitate new system design and to identify part obsolescence issues                      Pursue remedies against counterfeit parts</p> <p>Acquisition Support:</p> <p>Ensure all new acquisitions are in compliance with the MDA Assurance Provisions (MAP), the MDA Parts, Materials and Processes Assurance Provisions and all applicable Defense Federal Acquisition Regulation (DFAR), Federal Acquisition Regulation (FAR), and clauses regarding quality, safety and mission assurance                      Update the Missile Defense Agency Assurance Provisions (MAP) and the MDA Parts Materials and Processes Mission Assurance Plan (PMAP) to incorporate design, test, manufacturing, quality, safety, and mission assurance methods to further improve future product reliability                      Improve MDA's acquisition strategy through participation in the definition and determination of all award fees</p> <p>Technical Assistance to MDA Elements:</p> <p>Perform independent/non-advocate reviews, such as design certification, pedigree, failure, preliminary design, critical design and technical interchange reviews to ensure compliance with industry best practices</p> <p>Provide mission assurance support to major failure review boards to ensure comprehensive mitigation strategies for operational assets are employed                      Provide propulsion, solid rocket motor, avionics, mechanical structures, guidance, navigation and control, and parts, materials, and processes expertise to enhance reliability</p> <p>Intra-Agency &amp; Industry Activities:</p> <p>Perform major stakeholder quality initiatives to improve quality of products, improve onsite processes, and internal requirements at critical sole source suppliers</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency		<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Participate in the Defense Standardization Board to ensure that MDA has an equal voice in the specification and standard requirements used across the DoD Initiate and lead quality, safety, and mission assurance forums to obtain lessons learned and understand/promote new requirements or methods  Safety and Occupational Health:  Ensure compliance with DoD Safety and Occupational Health regulations and requirements Perform all required Occupational Safety and Health inspections of MDA facilities including those in the National Capital Region, Huntsville, AL, Colorado, Vandenberg Air Force Base and Dahlgren, VA. Monitor/respond to reports of incidents affecting the health and safety of MDA employees.				
<b>Accomplishments/Planned Programs Subtotals</b>		28.505	30.115	30.637
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
The execution of an effective Quality, Safety and Mission Assurance program is carried out in collaboration with subject matter expertise found in the Government, Federally Funded Research and Development Centers (FFRDC), University Affiliated Research Centers (UARC), Contract Support Services (CSS), and Industry.				
<b>E. Performance Metrics</b>				
N/A				

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance
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<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
<b>Subtotal</b>			-	-	-	-	-	-	-	-	-	-	-	-	

**Remarks**  
N/A

<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Quality, Safety & Mission Assurance - Agency Safety & Occupational Health	C/CPFF	Various Multi : AL, CO, AK, DC	1.179	0.309		0.291	Oct 2013	0.288	Oct 2014	-		0.288	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Audits & Quality On-site Support	MIPR	NSWC Corona : AL, CA	7.846	3.196		2.500	Oct 2013	3.297	Oct 2014	-		3.297	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - BMDS Mission Assurance Agency Operations	C/CPFF	AI Solutions : AL	3.745	0.900		0.800	Oct 2013	1.102	Oct 2014	-		1.102	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - BMDS Quality Support	C/CPFF	AI Solutions : AL	4.004	1.000		1.000	Oct 2013	0.593	Oct 2014	-		0.593	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - BMDS Safety	C/CPFF	APT, INC : AL	5.268	1.000		1.000	Oct 2013	1.180	Oct 2014	-		1.180	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - BMDS Safety Officers	MIPR	AMRDEC : AL	2.649	0.400		0.319	Oct 2013	0.330	Oct 2014	-		0.330	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - HQ & Core Management	MIPR	AMRDEC : AL	1.250	0.300		0.300	Oct 2013	0.300	Oct 2014	-		0.300	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - In-Plant Quality Support (MARS)	C/CPFF	Various Multi : AL, AK, AZ, CA, CO, FL,	5.476	1.742		1.815	Oct 2013	1.802	Oct 2014	-		1.802	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance
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<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
		HI, NJ, MA, MO, MD, UT													
Quality, Safety & Mission Assurance - Independent Readiness Review Team	C/CPFF	AI Solutions : AL	2.537	0.430		0.773	Oct 2013	0.529	Oct 2014	-		0.529	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance Subject Matter Experts	C/CPFF	APT, INC. : AL	4.093	0.812		0.846	Oct 2013	0.839	Oct 2014	-		0.839	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Operations Support	MIPR	Various Multi : AL, CA	2.149	1.327		0.900	Oct 2013	0.233	Oct 2014	-		0.233	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Parts, Materials and Processes (PMP) Program	MIPR	Various Multi : AL, CA, IN	4.737	1.528		1.500	Oct 2013	2.400	Oct 2014	-		2.400	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Parts, Materials and Processes - PMP - Program	C/CPFF	APT, INC : AL	2.041	0.300		0.545	Oct 2013	0.559	Oct 2014	-		0.559	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Pedigree & Design Certification - FFRDC	MIPR	Aerospace : AL, CA	9.167	3.200		2.023	Oct 2013	3.239	Oct 2014	-		3.239	Continuing	Continuing	Continuing
<b>Subtotal</b>			56.141	16.444		14.612		16.691		-		16.691	-	-	-

**Remarks**  
N/A

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			-	-		-		-		-		-	-	-	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

**Remarks**  
N/A

<b>Management Services (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Quality, Safety & Mission Assurance - Quality, Safety & Mission Assurance HQ & Core Management (MDA CIV)	Allot	MDA QS : AL, VA, MD, CA, AZ, HI, AK, MA, NJ, FL, AR, UT	22.274	9.978		11.877	Oct 2013	11.203	Oct 2014	-		11.203	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Quality, Safety & Mission Assurance Operations Support	C/CPFF	MDA QS : AL, DC, VA	4.275	1.034		1.898	Oct 2013	1.500	Oct 2014	-		1.500	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Quality, Safety & Mission Assurance Operations Support (Travel/PCS)	Allot	MDA QS : AL, CO, AK, DC, VA	10.847	1.049		1.728	Oct 2013	1.243	Oct 2014	-		1.243	Continuing	Continuing	Continuing
<b>Subtotal</b>			37.396	12.061		15.503		13.946		-		13.946	-	-	-

**Remarks**  
N/A

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	93.537	28.505	30.115	30.637	-	30.637	-	-	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Missile Defense Agency							<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 0400 / 4			<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs			<b>Project (Number/Name)</b> MD32 / Quality, Safety, and Mission Assurance				
	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	

**Remarks**  
 Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2015 Missile Defense Agency **Date:** March 2014

Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD40 / Program-Wide Support			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
MD40: <i>Program-Wide Support</i>	51.532	14.740	18.321	23.780	-	23.780	24.221	25.118	34.911	44.312	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

N/A

**A. Mission Description and Budget Item Justification**

Program-Wide Support (PWS) contains non-headquarters management costs in support of Missile Defense Agency (MDA) functions and activities across the entire Ballistic Missile Defense System (BMDS). It includes Government Civilians, Contract Support Service, and Federally Funded Research and Development Center (FFRDC) providing integrity and oversight of the BMDS as well as, supporting MDA in enabling the development and evaluation of technologies that will respond to the changing threat. In addition, includes Global Deployment personnel and support performing deployment site preparation and activation. Other costs included provide facility capabilities for MDA Executing Agent locations, such as physical and technical security, legal services, travel and agency training, office and equipment leases, utilities, data and unified communications support, supplies and maintenance, materiel and readiness and central property management of equipment, and similar operating expenses. Also includes legal settlements. In keeping with congressional intent, Program Wide Support is allocated on a pro-rata basis and therefore, fluctuates by year based on the total MDA budget.

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

	FY 2013	FY 2014	FY 2015
<b>Title:</b> Program Wide Support	14.740	18.321	23.780
<b>Articles:</b>	-	-	-
<b>Description:</b> N/A			
<b>FY 2013 Accomplishments:</b> See paragraph A: Mission Description and Budget Item Justification			
<b>FY 2014 Plans:</b> See paragraph A: Mission Description and Budget Item Justification			
<b>FY 2015 Plans:</b> See paragraph A: Mission Description and Budget Item Justification			
<b>Accomplishments/Planned Programs Subtotals</b>	14.740	18.321	23.780

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

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD40 / <i>Program-Wide Support</i>
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**C. Other Program Funding Summary (\$ in Millions)**

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Missile Defense Agency** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / BMD Enabling Programs	<b>Project (Number/Name)</b> MD40 / Program-Wide Support
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<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Wide Support - Agency Operations Management	C/CPAF	Various : Multi: AL, CA, CO, VA	4.154	0.076		0.644	Mar 2014	0.025	Mar 2015	-		0.025	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations User Services	C/CPAF	Various : Multi: AL, CO, NM, VA, various	0.000	-		-		5.602		-		5.602	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Civilian Salaries, Travel, Training	Allot	MDA : AK, AL, CA, CO, VA	32.378	-		-		-		-		-	32.378	64.756	-
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi: AL, CO, CA, VA	15.000	13.661		17.677	Oct 2013	15.290	Nov 2014	-		15.290	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services MIPRs	MIPR	Various : Multi: AK, AL, CO, CA, HI, MD, VA, NJ, NY, OCONUS	0.000	-		-		0.234		-		0.234	Continuing	Continuing	Continuing
Program Wide Support - FFRDC	C/CPFF	JHU : CA	0.000	-		-		1.067		-		1.067	Continuing	Continuing	Continuing
Program Wide Support - Facilities and Maintenance SRM	MIPR	Various : Multi: AL, CA, AL, AK	0.000	-		-		1.562		-		1.562	Continuing	Continuing	Continuing
Program Wide Support - Facilities and maintenance	MIPR	Various; Multi : AK,AL,CA, CO, VA	0.000	1.003		-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			51.532	14.740		18.321		23.780		-		23.780	-	-	-

**Remarks**  
N/A

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	51.532	14.740	18.321	23.780	-	23.780	-	-	-

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Missile Defense Agency	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603890C / <i>BMD Enabling Programs</i>	<b>Project (Number/Name)</b> MD40 / <i>Program-Wide Support</i>
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	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
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<b>Remarks</b> N/A									
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