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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Missile Defense Agency **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>
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COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	881.939	342.695	366.302	274.323	-	274.323	298.390	345.333	330.404	350.747	Continuing	Continuing
MT04: <i>BMDS Test Program</i>	854.402	325.325	344.850	259.808	-	259.808	281.787	325.103	310.206	329.099	Continuing	Continuing
MC04: <i>Cyber Operations</i>	-	1.040	1.670	2.450	-	2.450	2.496	2.545	2.596	2.648	Continuing	Continuing
MD40: <i>Program Wide Support</i>	27.537	16.330	19.782	12.065	-	12.065	14.107	17.685	17.602	19.000	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

FY 2016 decrease reflects a transfer of Target Launch Operations from PE BMD Test (0603914C) to PE BMD Targets (0603915C).

A. Mission Description and Budget Item Justification

The Missile Defense Agency (MDA) utilizes a disciplined system engineering process to develop and integrate the BMDS into an effective, layered defense against ballistic missiles of all ranges during all phases of flight. This process consists of the following steps: Plan, Define, Design, Build, Test and Verify, Assess, and Deliver BMDS Capability, followed by transfer of selected capabilities. The BMDS Test Program Element (PE) is responsible for testing that provides critical data to: (1) determine validity of models and simulations used to verify and assess BMDS capabilities, (2) determine whether Elements and Components are properly designed, built, and integrated, (3) provide confidence that the BMDS will perform as designed, and (4) support system performance assessment for incremental capability delivery decisions. Results from the Test and Verify step provide feedback into the Plan, Define, and Design steps to identify areas for system improvements. Key to the systems engineering process is Modeling and Simulation (M&S), which reflects the integrated operational system's performance. Confidence in M&S is based on a comprehensive Verification, Validation, and Accreditation (VV&A) process. The BMDS Test Program, as documented in the Integrated Master Test Plan (IMTP), has a primary emphasis of increasing confidence in M&S, as well as providing the Operational Test Agency (OTA) with data to verify and assess BMDS capabilities and Critical Operational Issues. Lastly, as models are validated and accredited, MDA and the OTA will utilize these models to assess BMDS capabilities through a campaign of ground testing and digital performance assessments.

BMDS Test Program Functions:

- Develop and implement MDA test policy, standards, tools, products, and processes to enable effective tests while balancing MDA and element programmatic needs
- Develop an IMTP that compiles all MDA test objectives, test schedules, and funding requirements from the year of execution through the Future Years Defense Program time period
- Provide, maintain, and develop common test resources and infrastructure required to execute tests in the MDA Test Program by leveraging element laboratories, ranges, executing agents, and functional expertise, as applicable.
- Act as the single point of contact in MDA for all external ranges and common test resources
- Collect, archive, and distribute all MDA test data/information
- Certify that test personnel are trained and equipped to conduct safe and effective tests

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-Provide test personnel and support services to plan and execute tests
 -Represent MDA as the single test authority to the test and evaluation community, international cooperative program representatives, and other organization representatives on test matters

MD40 Program-Wide Support (PWS) consists of essential non-headquarters management efforts providing integrated and efficient support to the MDA functions and activities across the entire Ballistic Missile Defense System (BMDS).

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	337.993	386.482	340.811	-	340.811
Current President's Budget	342.695	366.302	274.323	-	274.323
Total Adjustments	4.702	-20.180	-66.488	-	-66.488
• Congressional General Reductions	-	-0.180			
• Congressional Directed Reductions	-	-20.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.998	-			
• SBIR/STTR Transfer	-5.296	-			
• Other Adjustment	-	-	-66.488	-	-66.488

Change Summary Explanation

FY 2015 changes reflect Public Law 113-235, FY2015 Omnibus; Consolidated and Further Continuing Appropriations Act.

The FY 2016 reduction of \$66.488 million reflects modified requirements of the Integrated Master Test Plan based on fact-of-life adjustments to Missile Defense Agency's test program, including test event schedule changes, transfer of Target Launch Operations to PE 0603915C and test personnel reductions.

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>				Project (Number/Name) MT04 / <i>BMDS Test Program</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MT04: <i>BMDS Test Program</i>	854.402	325.325	344.850	259.808	-	259.808	281.787	325.103	310.206	329.099	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2014 and FY 2015, test support costs are captured in the Program Planning and Operations accomplishment. This change ensures the Flight & Ground Test accomplishments reflect the actions and costs captured in the Integrated Master Test Plan.

A. Mission Description and Budget Item Justification

The Test Program provides consolidated Missile Defense Agency (MDA) capabilities and resources to support the management and execution of Ballistic Missile Defense System (BMDS) and Element-level testing.

The MDA Test Program is responsible for all BMDS testing and relies on BMDS Systems Engineering to provide the system test objectives that define the test architecture by developing, updating, coordinating, and assessing the Integrated Master Test Plan (IMTP). The MDA Test Program plans and executes BMDS test events and develops the necessary test policy, test plans, and test infrastructure to conduct an effective test program. The goals of this budget project are to sustain and improve a robust testing program and to enhance M&S efforts to provide, in conjunction with flight and ground testing, confidence to the Combatant Commanders that the missile defense system works.

Activities are grouped into five major areas: 1) Program Planning and Operations; 2) Flight Test; 3) Ground Test; 4) Test Resources; and 5) Engineering Test Analysis.

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

	FY 2014	FY 2015	FY 2016
Title: Program Planning and Operations	130.491	108.898	98.160
Articles:	-	-	-
Description: N/A			
FY 2014 Accomplishments:			
-Delivered the Integrated Master Test Plan (IMTP), which is coordinated with Missile Defense Agency (MDA) and External stakeholders, and provides an affordable and executable test plan to meet Warfighter needs and National Security commitments.			
-Conducted a bottoms-up review of the test program with special focus on reducing both fixed and variable costs.			
-Managed the approved test plan by assessing all proposed changes to the Ballistic Missile Defense System (BMDS) Test Schedule and Test Configurations for each BMDS test event identified in the IMTP.			
-Maintained configuration control of the test baseline via the Test Baseline Working Group.			

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MT04 / <i>BMDs Test Program</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Served as the MDA Test Interface/Liaison with the Director, Operational Test & Evaluation (DOT&E), the Ballistic Missile Defense System (BMDS) Operational Test Agency (OTA), and the MDA Engineering Directorate (MDA/DE) to identify and resolve issues impacting the OTA's ability to assess the Operational Readiness of the BMDS. -Supported the Integration Synchronization Group (ISG), Program Change Board (PCB) and other baseline working groups to be responsive to MDA corporate governance. -Provided strategic technical planning support for the Test and Evaluation Standing Committee (TESC). -Developed and implemented test policy, standards, directives, and procedures for creating unified BMD test processes. -Conducted flight and ground planning, design and analysis efforts; test design feasibility assessments; software development required to support Flight and Ground test design/analysis; and Signatures Working Group activities. -Developed, maintained, and integrated test tools to support Truth Data Requirements Documents, Truth Data Packages, on-site Truth Quick-Look product development, and pre- and post-test analysis. -Coordinated budget planning and execution activities as well as manpower activities. -Inspired professional excellence and a diverse and professional workforce. -Updated and maintained the classified TRMP-T database. -Capitalized on the creativity and innovation of the Nation's universities --Continued University outreach with the United States Air Force Academy. ---The Test Directorate (DT) completed installation of a Test and Evaluation Data Acquisition and Communications (TEDAC) system node at the United States Air Force Academy (USAFA). During MDA tests, TEDAC acquires, packages, and distributes data to the missile defense community. MDA uses TEDAC to provide detailed displays of critical test data to test participants and situational awareness to leadership and other interested parties. The TEDAC node at the USAFA focuses on educating cadets in missile defense test planning and execution and allows them to view actual test events. With the assistance of MDA, the USAFA will develop courses on Ballistic Missile Defense test planning and execution using TEDAC and other assets. -Developed, maintained, and integrated test tools to support Truth Data Requirements Documents, Truth Data Packages, Integrate Data Management Plans (IDMPs), Data Handling Plans (DHPs), Information Assurance (IA) documentation, on-site truth-quick-look product development, and data planning and management; library operations; test planning and resource de-confliction; test operations support; and pre- and post-test analysis. -Managed the MDA Data Center Program and its library, operations, and test labs analysis infrastructure providing centralized data management, archival, and distribution services. -Utilized the Program Integration Center for analytical needs in support of Flight and Ground Test Activities. FY 2015 Plans: The decrease of \$21.6 million from FY 2014 to FY 2015 reflects execution costs for Flight Test Operational (FTO-02).			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Develop, update, and coordinate the Integrated Master Test Plan (IMTP), including MDA Test Baseline development, management and affordability. -Serve as the MDA Test Interface/Liaison with the Director, Operational Test and Evaluation (DOT&E); the Deputy Assistant Secretary of Defense for Developmental Test and Evaluation (DASD(DT&E)); the Joint Functional Component Command for Integrated Missile Defense (JFCC-IMD); and the Operational Test Agency (OTA). -Provide strategic technical planning support for the Test and Evaluation Standing Committee (TESC). -Provide the Director of Test(DT) analytical capability for Flight and Ground test planning to include: test design feasibility assessments; Truth analysis; flight safety, telemetry link margin, collision avoidance, pre- and post-test trajectory and truth sensor analysis; Truth data requirements documents and data packages, and Signatures Working Group activities. -Support Integration Synchronization Group (ISG) and the Program Change Board (PCB), establish authority and maintain configuration control of the test baseline via the Test Baseline Working Group. -Update and maintain the classified Test Resources Mission Planning Tool (TRMP-T) data base. -Develop, maintain, and integrate test tools to support Truth Data Requirements Documents, Truth Data Packages, Integrated Data Management Plans (IDMPs), Data Handling Plans (DHPs), Information Assurance (IA) documentation, on-site truth-quick-look product development, and data planning and management; library operations; test planning and resource de-confliction; deployment process; infrastructure requirements process; test operations support; and pre- and post-test analysis. -Support pre and post-flight test mission communications to include fulfillment of Government Furnished Equipment/Government Furnished Services requirements and data analysis. -Provide System Test Lab support to the engineering, accreditation, operations and maintenance of Flight Test Programs. -Provide end-to-end test cost oversight on flight tests. -Provide System Test Lab support to the engineering, accreditation, operations and maintenance of Flight and Ground Test Programs. -Manage the MDA Data Center Program and its library, operations, and infrastructure providing centralized data management, archival, and distribution services. -Develop and implement test policy, standards, directives, and procedures for creating unified BMD test processes. -Coordinate budget planning and execution activities as well as manpower activities. -Conduct flight and ground planning, design and analysis efforts; test design feasibility assessments; software development required to support flight and ground test design/analysis; and Signatures Working Group activities. -Inspire professional excellence and a diverse and professional workforce. FY 2016 Plans: The decrease of \$10.8 million from FY 2015 to FY 2016 due to Target Launch personnel moving to BMD Targets Program Element (0603915C).			

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test	Project (Number/Name) MT04 / BMDS Test Program		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
-Develop, update, and coordinate the Integrated Master Test Plan (IMTP), including MDA Test Baseline development, management and affordability. -Serve as the MDA Test Interface/Liaison with the Director, Operational Test and Evaluation (DOT&E); the Deputy Assistant Secretary of Defense for Developmental Test and Evaluation (DASD(DT&E)); the Joint Functional Component Command for Integrated Missile Defense (JFCC-IMD); and the Operational Test Agency (OTA). -Provide strategic technical planning support for the Test and Evaluation Standing Committee (TESC). -Provide the Director of Test(DT) analytical capability for Flight and Ground test planning to include: test design feasibility assessments; Truth analysis; flight safety, telemetry link margin, collision avoidance, pre- and post-test trajectory and truth sensor analysis; Truth data requirements documents and data packages, and Signatures Working Group activities. -Support Integration Synchronization Group (ISG) and the Program Change Board (PCB), establish authority and maintain configuration control of the test baseline via the Test Baseline Working Group. -Update and maintain the classified Test Resources Mission Planning Tool (TRMP-T) data base. -Develop, maintain, and integrate test tools to support Truth Data Requirements Documents, Truth Data Packages, on-site Truth Quick-Look product development, pre- and post-test analysis test planning, and resource de-confliction; Integrated Data Management Plans (IDMPs), Data Handling Plans (DHPs), Information Assurance (IA) documentation, data planning and management, library operations, deployment process; infrastructure requirements process; and test operations support. -Manage the MDA Data Center Program and its library, operations, and infrastructure providing centralized data management, archival, and distribution services. -Utilize the Program Integration Center for analytical needs in support of Flight and Ground Test Activities.				
Title: Flight Test Articles: Description: The Flight Test Execution program solely reflects the Integrated Master Test Plan (IMTP) cost model. FY 2014 Accomplishments: -Successfully conducted Flight Test Standard Missile (FTM)-22 (3 October 2013), engaging and destroying an Aegis Readiness Assessment Vehicle (ARAV) Terrier-Terrier-Oriel Medium Range Ballistic Missile (MRBM) target using Aegis Ballistic Missile Defense (BMD) 4.0.2 and a Standard Missile (SM)-3 Block IB guided missile. This test event exercised the latest version of the second-generation Aegis BMD weapon system, capable of engaging longer-range and more sophisticated ballistic missiles, and supported follow-on production decisions for the SM-3 Block IB guided missile. -Successfully conducted SM-3 Cooperative Development Propulsion Test Vehicle - 1 (SCD PTV-1) test (October 2013): The PTV test conducted at the White Sands Missile Range demonstrated the SM-3 Block IIA missile can be safely launched from its MK 29 Mod 0 canister and the MK 41 vertical launch support .		8.891 -	54.665 -	2.697 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Successfully conducted David's Sling Test (DST)-2 (20 November 2013): DST-2 was a joint flight test conducted with Israel Missile Defense Organization (IMD) at a test range in southern Israel. A target missile was launched and tracked by the David's Sling Weapon System's multi-mission radar. A Stunner interceptor successfully performed its planned trajectory and destroyed the target. -Successfully conducted Missile Defense Agency (MDA) associated operations using Glory Trip (GT) 210 (17 December 2013) as a target of opportunity: This test event was an Air Force Global Strike Command (AFGSC) operational test flight of a Minute Man III (MM III) Intercontinental Ballistic Missile (ICBM) launched from Vandenberg Air Force Base (VAFB), CA, with impact at Kwajalein Atoll. The Space Tracking and Surveillance System (STSS) and External Systems Laboratory participated in the test event as associated operations. -Successfully conducted Arrow 3 Fly Out (A3FO)-2 (3 January, 2014): A3FO-2 was a joint flight test of the Israeli Upper Tier Arrow-3 interceptor conducted with IMDO at a test range in southern Israel. A3FO-2 was a major milestone in the Joint U.S.-Israel Upper Tier development program that demonstrated and verified Arrow-3's key functional capabilities in-flight. -Successfully conducted Flight Test Other (FTX)-18 (15 January 2014): FTX-18 involved the simulated engagements of a raid of three short-range ARAV-A targets using the Aegis BMD 4.0.2 Weapons System and simulated SM-3 Block IB missiles as part of the Commander, Operational Test and Evaluation Force evaluation of Aegis BMD and SM-3 Block (Blk) IB effectiveness and suitability. -Successfully conducted Aegis Ashore Controlled Test Vehicle (AA CTV)-01 (20 May 2014): This test was the first SM-3 Blk IB flyout test using the new Aegis Ashore Missile Defense Test Center located at the Pacific Missile Range Facility on Kauai, HI. This was the first live fire event with the Aegis Weapon System Baseline 9.B.0 software upgrade planned for deployment to the Romania Aegis Ashore facility. -Successfully conducted Operation Polar Bear (24 May 2014), a collaborative MDA and Program Executive Office - Integrated Warfare System tracking exercise with an experimental Terrier-Terrier-Oriole -B sounding rocket. -Successfully conducted Flight Test Ground-Based Interceptor (FTG)-06b (22 June 2014): This test successfully demonstrated a long interceptor time-of-flight and medium closing velocity engagement of an Intermediate Range Ballistic Missile (IRBM) class target by a Capability Enhancement (CE)-II-configured Ground Based Interceptor (GBI) while performing all Exoatmospheric Kill Vehicle (EKV) functions necessary to discriminate and intercept the lethal object from a representative ICBM target scene with countermeasures. Other participants in this test included an Aegis BMD ship providing a cue to the Sea-based X-Band Radar (SBX) and track data to the Groundbased Midcourse Defense (GMD) Fire Control (GFC) via the Command, Control, Battle Management and Communications (C2BMC). -Successfully conducted Arrow System Test (AST-14) (9 September 2014): The IMDO and MDA conducted an intercept test of the Arrow-2 interceptor missile. -Successfully conducted MDA associated operations using GT-211 (23 September, 2014) as a target of opportunity: This was an AFGSC operational test flight of a MM III ICBM. Participating BMDs elements, including SBX, Army/Navy Transportable			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
Radar Surveillance (AN/TPY-2) and one STSS satellite, used GT 211 as a target of opportunity to conduct risk reduction and data collection, assess future capabilities, and exercise BMDs communications links. -MDA also conducted detailed test planning and readiness activities for the following FY 2015 and 1st Quarter FY 2016 Flight Tests: FTX-20; FTM-25; FTM-26; FTX-19; Flight Test Operational (FTO)-02 Event 1; SM-3 Cooperative Development (SCD) CTV-01; FTO-02 Event 2; Flight Test Terminal High Altitude Area Defense (THAAD) (FTT)-18; FTX-21; FTM-24; GM CTV-02+; SCD CTV-02, GT 214; GT 215; GT 212; GT 216; AST-15; DST-3; and DST-4. <i>FY 2015 Plans:</i> The \$45.8 million increase from FY 2014 to FY 2015 is due to execution requirements for FTO-02. Given the new appropriated baseline, the following flight test adjustments were made to the Test baseline: --Deleted FTM 24 --Deleted FTM-26 --Deleted SFTM-01 E1 --Deferred FTX-21 until 3Q FY 2016 --Deferred FTM-27 until 1Q FY 2017 --Deferred FTX-24 and FTM-28 until 4Q FY 2017, and campaign these two events. -Increase from FY 2014 to FY 2015 due to execution requirements for FTO-02. --Conduct FTO-02, a campaign of operational flight tests, a demonstration of MDA's European Phased Adaptive Approach (EPAA) for Missile Defense Phase 2 architecture. FTO-02 will demonstrate system functionality of Aegis Ashore, AN/TPY-2 in the forward based mode supported by a command and control architecture consisting of Space Based Infrared System/Defense Support Program (SBIRS/DSP) and C2BMC. Additionally, uniformed personnel will operate the system under operationally realistic conditions. --Conduct FTO-02 Event 1 (E1), a demonstration the of Agency's integrated regional/theater ballistic missile defense using an operationally realistic scenario where uniformed personnel normally assigned to the Aegis BMD systems in a real-world situation will execute the test. FTO-02 E1 will demonstrate system functionality of Aegis BMD (Aegis-at-Sea) and will be supported by a sensor command and control architecture consisting of SBIRS and a C2BMC suite. FTO-02 E1 execution will support the EPAA Phase 2 and will be the first operational test of Aegis Ashore with Aegis Baseline (BL) 9.B1 (BMD) 5.0 Capability Upgrade (CU)) and SM-3 Blk IB Threat Upgrade (TU) engagement of an air-launched MRBM target. --Conduct FTO-02 Event 2 (E2), a demonstration of the Agency's integrated regional missile defenses using an operationally realistic scenario where uniformed personnel normally assigned to the Aegis BMD and THAAD systems in a real-world situation will execute the test. FTO-02 E2 will demonstrate system functionality of Aegis BMD (Aegis-at-Sea), THAAD, and Patriot supported by a sensor command and control architecture consisting of SBIRS/DSP and a C2BMC suite.			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Complete planning and successful execution of FTX-19, an Aegis BMD 4.0 SM-3 Blk IB simulated engagement of short range ballistic missile (SRBM) targets in a raid scenario by two ships using digital engagement coordination. -Complete planning and successful execution of FTT-18, a THAAD operationally representative intercept of a separating IRBM target. -Complete planning and successful execution of Aegis Multi-Mission Warfare test, a series of events testing Aegis BMD BL 9.C1 (5.0) SM-6 Dual I (Air Warfare Mode) missile and SM-2 Block IV missile against AW and SRBM targets. -Conduct target test engineering, mission logistics, and launch operations with consistent test expertise to support operational and developmental flight testing across the BMDs Test Program in accordance with the Integrated Test Master Plan (IMTP) in various test Major Range and Test Facilities. -Develop flight test training requirements for Test Directors and other console operators. -Coordinate and maintain execution support requirements with all stakeholders. -Identify mission risks, and implement mitigation practices as required to ensure safe & successful test outcomes. -Provide Failure Response Team and ensures implementation of response plan. Captures lessons learned for process improvement. -Train test personnel and track/maintain training records for all test personnel. -Complete test planning for BMDs Flight Test events as shown in Exhibit R-4 Schedule. -Identify and execute focused investments in the BMDs test infrastructure. -Conduct mission planning and range coordination activities, perform final target system integration and execute target missions, provided communications security equipment and management for BMDs Flight Test events as shown in Exhibit R-4 Schedule. -Train and resource System Mission Managers to lead Integrated Event Test Team mission management and readiness activities across all five test event phases for System and Element flight test and contingency operations. -Identify, monitor and develop burn down plans for target system mission risks for all FY2015 BMDs missions as defined in the IMTP. FY 2016 Plans: The decrease of \$51.9 million from FY 2015 to FY 2016 due to funding transferred to the BMD Targets Program Element 06038915C, for Target Launch Operations. -Complete planning and successful execution of GM CTV-02+ (Formerly FTG-09), a Ground-Based Midcourse Defense (GMD) 3-stage CE-II interceptor characterization test with an air-launched Intermediate Range Ballistic Missile (IRBM). -Complete planning and successful execution of FTG-15, a Ground-Based Midcourse Defense (GMD) 3-stage Consolidated Booster Avionics Upgrade/Capability 2 Enhancement -II CBAU/C2 CE-II Blk I EKV Ground-Based Interceptor engagement of an InterContinental Ballistic Missile (ICBM).			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
-Complete planning and successful execution of SFTM-01 Event 2, an Aegis BMD BL 9.C2 (5.1) SM-3 Blk IIA missile engagement of a Medium Range Ballistic Missile (MRBM). -Complete planning and successful execution of SCDCTV-02, an Aegis BMD BL 9.C2 (5.1) SM-3 Blk IIA missile controlled test vehicle (CTV) performance test (Missile Only). -Complete planning and defer execution of FTM-27 until 1Q FY 2017, an Aegis BMD BL 9.C1 (5.0 CU) SM-6 salvo (2) missile engagement of a Medium Range Ballistic Missile (MRBM). -Complete planning and successful execution of FTX-21, an Aegis BMD BL 9.C1 (5.0 CU) SM-6 Dual I missile simulated engagement of an MRBM. -Develop flight test training requirements for Test Directors and other console operators. -Identify mission risks, and implement mitigation practices as required to ensure safe & successful test outcomes. -Provide Failure Response Team and ensures implementation of response plan. Captures lessons learned for process improvement. -Train test personnel and track/maintain training records for all test personnel. -Complete test planning for BMDS Flight Test events as shown in Exhibit R-4 Schedule. -Identify and execute focused investments in the BMDS test infrastructure. -Conduct mission planning and range coordination activities; provide communications security equipment and management for BMDS Flight Test events as shown in Exhibit R-4 Schedule. -Train and resource System Mission Managers to lead Integrated Event Test Team mission management and readiness activities across all four test event phases for System and Element flight test and contingency operations. -Identify, monitor and develop burn down plans for target system mission risks for all FY2016 BMDS missions as defined in the IMTP.				
Title: Ground Test Articles: Description: The Ground Test Execution program solely reflects the Integrated Master Test Plan (IMTP)cost model. FY 2014 Accomplishments: -Completed first operational test (OT) series of tests in Ground Test Campaign 04e delivering both Operational Testing of United States Pacific Command (USPACOM) regional defense and Operational Assessments of United States Northern Command (USNORTHCOM) and USPACOM Ballistic Missile Defense System (BMDS) Homeland Defense. -Conducted target test engineering, mission logistics, and launch operations with consistent test expertise to support operational and developmental flight testing. -Procured, maintained, and managed test resource infrastructure, and provided trained personnel to integrate test resources into each test event for the BMDS Test Program.		16.156 -	4.821 -	4.035 -

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MT04 / <i>BMDS Test Program</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Executed data management, test labs analysis infrastructure management and sustainment, and test tools management and integration. -Began detailed test planning for GTI-06 (BMDS Integrated Ground Test). -Completed planning and successful execution of FTG-06b System Pre-Mission Test in support of risk reduction for FTG-06b. -Began planning of Ground-Based Midcourse Defense Controlled Test Vehicle (CTV) 02+ System Pre-Mission Test in support of risk reduction for CTV-02+ flight test event. -Completed detailed planning and test execution involving hardware and software testing, truth drivers and framework integration, formal execution runs and official data collection of Fast Phoenix, GTI-04e Part 2 (BMDS Integrated Ground Test), and Fast Exchange Hardware-in-the-Loop (HWIL) and Distributed (including Fast Falcon and Fast Osprey test requirements). -Coordinated emerging ground test requirements for ground test event design and execution. Completed re-plan of ground test campaigns to incorporate PBR/PB 2015 decision. FY 2015 Plans: The decrease of \$11.3 million from FY 2014 to FY 2015 due to deployment of revised Ground Test (GT) CONOPs which result in more efficient GT programs. -Continue efforts as listed under FY 2014 plans. -Execute Ballistic Missile Defense System (BMDS) Ground Test events. -Facilitate strategic planning of ground test campaigns in support of IMTP. -Complete hardware and software testing, truth drivers and framework integration, formal execution runs and/or official data collection in support of GTD-04e Part 2 (BMDS Distributed Ground Test), GTI-06 Part 1 (BMDS Integrated Ground Test), GTI-06 Part 3, GTD-06 Part 1, and any rapid response test events. -Support execution of the BMDS Ground Test campaign to assess BMDS capabilities, to include the integration of additional BMDS sensors. -Maintain and resource a Ground Test Mission Director (MD) and System Mission Manager (SMM) manpower pool to lead Integrated Event Test Teams IAW BMDS Test CONOPs. -Develop training requirements for ground test MDs and SMMs. -Ensure capabilities are tested within respective test venues. -Provide input to MDA modeling and simulation development. FY 2016 Plans: The decrease of \$786 thousand from FY 2015 to FY 2016 due to more efficient and stable Integrated Master Test Plan (IMTP) schedule.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test	Project (Number/Name) MT04 / BMDS Test Program		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
-Complete the GT-06 campaign in support of the Technical Capability Declaration (TCD) of European Phased Adaptive Approach (EPAA) Phase II. -Incorporate new cybersecurity testing requirements into the Ballistic Missile Defense System (BMDS) ground tests. -Start to conduct cybersecurity red team testing in GTI-07a (BMDS Integrated Ground Test) event. -Coordinate emerging requirements for ground test event planning, design, and execution. -Support ground test strategic planning in development of the Integrated Master Test Plan. -Work with international partners (to include NATO, Israel, etc.) to incorporate their testing requirements into the Department of Defense BMDS ground testing. -Complete hardware and software testing, truth drivers and framework integration, formal execution runs and/or official data collection in support of GTI-06 Part 2, GTI-ISR (Israeli) (16), GTD-06 Part 2 (BMDS Distributed Ground Test) and planning activities for GTI-07a and GTD-07a Part 1. -Maintain and resource a Ground Test Mission Director and System Mission Manager manpower pool to lead Integrated Event Test Teams IAW BMDS Test CONOPs. -Execute BMDS Ground Tests as shown in Exhibit R-4 schedule. -Ensure capabilities are tested within respective test venues.				
Title: Test Resources Articles: Description: N/A FY 2014 Accomplishments: -Procured, maintained, and managed test resource infrastructure and provided trained Test Resource Managers to integrate test resources into each test event for the Ballistic Missile Defense System (BMDS) Test Program. -Established and maintained Agency test policies and test functional area organizational accountability, contracts, and budgets. -Ground Test Resource Managers (TRMs) continued to complement test execution teams by managing the scheduling, funding, and management of ground test resource assets. -Supported all MDA-sponsored BMDS ground testing conducted in FY 2014 with the full complement of hardware-in-the-loop (HWIL) and communication test assets. -Maintained and upgraded MDA unique ground test facilities to support Ballistic Missile Defense System (BMDS) level ground tests, including basic ground test control as well as some element representations. -Added hardware and digital element representations to support expansion of the existing HWIL (Hardware-in-the-Loop) capability as the BMDS evolves, such as the new Group 8 Aegis 5.0/Aegis Ashore Labs built to support the GT-06 Ground test campaign. -Developed the Directorate of Test Support System (DTSS) classified Computer Network Defense Service Provider (CNDSP) to support network cyber security defense for Test Directorate's (DT) ground test network systems.		144.110 -	148.434 -	128.079 -

Articles:

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015	
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MT04 / <i>BMDs Test Program</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Developed, maintained, and upgraded as needed Missile Defense Agency (MDA) unique range facilities and mobile sensors, communication, data processing and dissemination infrastructure to support a broad spectrum of test requirements including metric tracking, target characterization, and multi-spectral imagery of BMDs phenomena. -Continued sustainment of the flight test infrastructure at the Missile Defense Integrated Operations Center (MDIOC). -Obtained accreditation for the Transportable Telemetry Systems (TTS), Pacific Collector Range Safety System (PCRSS), and the Flight Test Communications Network (FTCN). -Continued implementation of a dedicated cybersecurity program to maintain accreditation of the DTR flight test instrumentation -Early Launch Tracking System (ELTS) completed Government Acceptance Testing in third quarter FY 2014 as a critical component of Range upgrades required to support SM-3 Block IB launches from PMRF. -Early Launch Tracking System (ELTS) radars participated in Flight Safety Certification and Aegis Ashore flight testing at PMRF in third quarter FY 2014. -Sea Based Systems (SBS) continued sustainment of test instrumentation ships, Pacific Collector and Pacific Tracker, and associated telemetry and radar systems -Moved TTS-1 control room from two shelters on the deck of Pacific Collector to a dedicated space inside the ship, a major safety improvement. -Successfully installed C-band receiving capability on TTS-4 and achieved Initial Operational Capability (IOC). This upgrade allows for simultaneous tracking in L/S/C-bands to better prepare MDA for the transition to C-band as L & S-band spectrum is sold off for commercial use. -Airborne Sensor (ABS) (HALO-I, HALO-II and HALO-IV) successfully supported FTM-22, AA CTV-01, Operation Polar Bear, FTG-06b and Advanced Hypersonic Weapon (AHW) FT-2. -Integrated a communications infrastructure at Kodiak Island to support Space and Missile Defense Command (SMDC) deployment requirements for the AHW FT-2 Test. -Deferred non-essential overhauls, upgrades and maintenance for flight test instrumentation, hardware-in-the-loop (HWIL) equipment, and communication test assets. FY 2015 Plans: The increase of \$4.3 million from FY 2014 to FY 2015 due to execution of FTO-02 upgrades and JRDC Ground Test (GT) Infrastructure asset moved to Test Resources. -Continue efforts as listed under FY 2014 accomplishments. -Initiate study for migration of Airborne Sensors airframes to newer platforms. -Continue deferral of upgrades to the flight test instrumentation. -Continue deferral of development of hardware-in-the-loop (HWIL) equipment. -Continue deferral of tech refresh and upgrades to hardware-in-the-loop (HWIL) Labs and communication test assets.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015	
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MT04 / <i>BMDs Test Program</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Continue deferral of non-critical maintenance and spares for hardware-in-the-loop (HWIL) Labs and communication test assets. -Develop a BMDs SBIRS INC2 Test Support Capability (TSC) Lab at the MDIOC to support flight and distributed ground tests (GTDs/Fast Events) required for EPAA Phase II and deployment of 44 GBIs for homeland defense. -Develop a 2nd String BMDs SBIRS INC2 HWIL Lab at the Azusa, CA to support intergraded ground (GTI) test and System Per-Mission Tests (SPMT) required for EPAA Phase II and deployment of 44 GBIs for homeland defense. -Initiate Advanced Research Center (ARC) strategy for operational improvements and potential relocation onto Redstone Arsenal. -Initiate a Ground Test Working Group (GTWG) strategy for improvements and potential new assets required to support the GT-07 and GT-08 Campaigns to address EPAA Phase 3. -Continue to support BMDs cybersecurity testing utilizing HWIL labs. -Construct Communications Facility & lay communications network at Wake Island to support FTO-02 E2 -Perform Meck upgrades to support ICBM IMTP testing -Sea Based Systems (SBS) continuing sustainment of test instrumentation ships, PACIFIC COLLECTOR and PACIFIC TRACKER, and associated telemetry and radar systems -SBS completion of the Mobile Launch Platform program termination and disposal of associated property to include ex-USS TRIPOLI and NARRAGANSETT -Perform On-Condition Cyclic Maintenance. FY 2016 Plans: The decrease of \$20.3 million from FY 2015 to FY 2016 is due to full transfer of Target Launch Operations to BMD Targets Program Element 0603915C beginning in FY 2015 as well as continued realization of test efficiencies. -Procure, maintain, and manage test resource infrastructure and provide trained Test Resource Managers to integrate test resources into each test event for the Ballistic Missile Defense System (BMDs) Test Program. -Establish and maintain Agency test policies and test functional area organizational accountability, contracts, and budgets. -Ground Test Resource Managers (TRMs) continue to complement test execution teams by managing the scheduling, funding, and management of ground test resource assets. -Support all MDA-sponsored BMDs ground testing conducted in FY 2016 with the full complement of hardware-in-the-loop (HWIL) and communication test assets. -Maintain MDA-unique ground test facilities to support Ballistic Missile Defense System (BMDs) level ground tests, including basic ground test control as well as some element representations. -Maintain the Directorate of Test Support System (DTSS) classified Computer Network Defense Service Provider (CNDSP) to support network cyber security defense for Test Directorate's (DT) ground test network systems. -Maintain the Missile Defense Agency (MDA) unique range facilities and mobile sensors, communication, data processing and dissemination infrastructure to support a broad spectrum of test requirements including metric tracking, target characterization, and multi-spectral imagery of BMDs phenomena.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test	Project (Number/Name) MT04 / BMDS Test Program		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016
-Continue sustainment of the flight test infrastructure at the Missile Defense Integrated Operations Center (MDIOC). -Maintain accreditation for the Transportable Telemetry Systems (TTS), Pacific Collector Range Safety System (PCRSS), and the Flight Test Communications Network (FTCN). -Maintain a dedicated cybersecurity program to maintain accreditation of the DTR flight test instrumentation -Maintain Sea Based Systems (SBS), including test instrumentation ships, Pacific Collector and Pacific Tracker, and associated telemetry and radar systems -Finalize Advanced Research Center (ARC) study for operational improvements and potential relocation onto Redstone Arsenal. -Implement findings from the Ground Test Working Group (GTWG) strategy for improvements and potential new assets required to support the GT-07 and GT-08 Campaigns to address EPAA Phase 3. -Discontinued MLP & Narragansett use in FY 2015 but decommissioning/disposal costs may continue into FY 2016. -MLP & Narragansett have been in the previous Integrated Master Test Plan (IMTP) for one mission during the Five-Year Defense Plan (FYDP): however, that requirement was removed in a previous IMTP schedule. -Initiate the Sea Based Systems X-Band Transportable Radar-1(XTR-1) Cooling System Upgrade. -Replace obsolete International Marine/Maritime Satellite (INMARSAT) with Swift Broadband solution on Pacific Collector. -Replace Catamaran vessels that are required for Meck Island Operations and Maintenance (O&M) and mission support. -Continue deferral of Transportable Telemetry System (TTS) receiver upgrades. -Continue deferral of TTS mission control room replacement on Pacific Tracker. -Continue deferral of C-band upgrade for TTS 1, 2, 3 and 5. -Continue study for migration of Airborne Sensors airframes to newer platforms. -Continue deferral of required maintenance of airborne sensor platforms. -Continue deferral of required maintenance and upgrades of flight test ranges and facilities.				
Title: Engineering and Test Analysis Articles: Description: N/A FY 2014 Accomplishments: -Defined test objectives and evaluation criteria for all System level test events. -Provided engineering support for test events listed in the Integrated Master Test Plan (IMTP): -- Performed System-level and interoperability analysis. -- Developed, delivered, and briefed Quick Look Brief (QLB), Executive QLB (EQLB), Mission Data Review (MDR), and Executive MDR (EMDR). -- Used models and simulations (M&S) for pre-test assessment and post-test review.		25.677 -	28.032 -	26.837 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
-Provided Systems Engineering and Integration (SE&I) test configuration management; risk assessment; and anomaly/deficiency review, assessment and closure to enable execution of the ground and flight test program and support data gathering for BMDS hardware/software reliability improvements. -Designed and certified scenarios for ground test events to meet required data collection. -Incorporated software changes to Modular Analysis and Reporting Suite (MARS) to enhance analyst efficiency and capability. -Requirement decrease is a result of approved Integrated Master Test Plan (IMTP) changes. FY 2015 Plans: Provide engineering support for planning, execution, and analysis of the test events listed in the Integrated Master Test Plan (IMTP): - Design test architecture, defines target requirements, and generate appropriate scenarios for ground and flight tests. - Define test objectives and assessment criteria for all System level test events to anchor Modeling and Simulation (M&S) and address data collection requirements. - Perform System-level and interoperability analysis. - Participate in major test reviews. - Generate BMDS test observations and coordinate associated BMDS Discrepancy Reports (BDR) within the Failure Reporting, Analysis, and Corrective Action System (FRACAS). - Produce the threat data required to enable BMDS ground tests, flight tests and performance assessment. - Utilize models and simulations (M&S) for pre-test assessment and post-test review, as well as M&S updates. - Provide Systems Engineering and Integration (SE&I) test configuration management; risk assessment; and anomaly/deficiency review, assessment and closure to support data gathering for BMDS hardware/software reliability improvements. - Analyze test results to identify shortfalls so that objectives can be reassigned to future events to provide required verification and model validation data. - Develop and document long-range BMDS IMTP planning and integration strategies related to overarching BMDS analysis product integration - 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. - Populate the MARS database with data from the most recently completed tests to support as-built analysis and capability assessments. - 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) - Develop and provide infrastructure, software, and associated MDA/IA compliance for the Rapid Scenario Prototype (RASP) capability - Develop and optimize candidate ground test scenarios and produce the associated scenario data packages			

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MT04 / <i>BMDS Test Program</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
- Develop and establish hardware-in-the-loop (HWIL) M&S integration test cases for ground and flight tests (pre-post mission). - Provide modeling and technical analysis support during Combatant Command (COCOM) wargames and exercises. - Develop, deliver, and present the Quick Look Brief (QLB), Executive Quick Look Brief (EQLB), Mission Data Review (MDR), and Executive MDR (EMDR). - Develop and establish Hardware-in-the-loop (HWIL) M&S Integration Test Cases for flight and ground tests. - Conduct M&S HWIL Integration Bench Mark testing for ground tests by integrating the BMDS HWIL M&S framework with MDA and non-MDA Elements into the test event BMDS architecture. - Integrate, test, functionally qualify, and deliver end-to-end BMDS simulations supporting ground test missions. FY 2016 Plans: Provide engineering support for planning, execution, and analysis of the test events listed in the Integrated Master Test Plan (IMTP): - Design test architecture, define target requirements, and generate appropriate scenarios for ground and flight tests. - Define test objectives and evaluation criteria via the Integrated Master Assessment Plans and Flight Test Strategic Plan for all System level test events to anchor Modeling and Simulation (M&S) and address data collection requirements. - Perform System-level and interoperability analysis. - Develop inputs to the Test Analysis Report. - Participate in major test reviews, analysis team meetings, and mission planning events. - Generate BMDS test observations and coordinate associated BMDS Discrepancy Reports (BDR) within the Failure Reporting, Analysis, and Corrective Action System (FRACAS). - Produce the threat data required to enable BMDS ground tests, flight tests and performance assessment. - Utilize models and simulations (M&S) for pre-test assessment and post-test review, as well as M&S updates. - Provide Systems Engineering and Integration (SE&I) test configuration management; risk assessment; and anomaly/deficiency review, assessment and closure to support data gathering for BMDS hardware/software reliability improvements. - Analyze test results to identify shortfalls so that objectives can be reassigned to future events to provide required verification and model validation data. - Develop and document long-range BMDS IMTP planning and integration strategies related to overarching BMDS analysis product integration. - Develop and provide capability upgrades to test analysis tools in concert with the BMDS evolution (e.g., Modular Analysis and Reporting Suite (MARS)) to enhance analysis capability and efficiency. - Populate the MARS database with data from the most recently completed tests to support as-built analysis and capability assessments.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015	
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>				Project (Number/Name) MT04 / <i>BMDS Test Program</i>			

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016
- 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). - Develop and provide infrastructure, software, and associated MDA/IA compliance for the RApid Scenario Prototype (RASP) capability. - Develop and optimize candidate ground test scenarios and produce the associated scenario data packages. - Develop and establish hardware-in-the-loop (HWIL) M&S integration test cases for ground and flight tests (pre-post mission). - Provide modeling and technical analysis support during Combatant Command (COCOM) wargames and exercises. - Develop, deliver, and present the Quick Look Brief (QLB), Mission Data Review (MDR), and Executive MDR (EMDR). - Conduct M&S HWIL Integration Bench Mark testing for ground tests by integrating the BMDS HWIL M&S framework with MDA and non-MDA Elements into the test event BMDS architecture. - Integrate, test, functionally qualify, and deliver end-to-end BMDS simulations supporting ground test missions. FY 2016 reduction reflects partial workload transfer to Enabling PE 0603890C, Budget Project MT23 (Enabling Test).			
Accomplishments/Planned Programs Subtotals	325.325	344.850	259.808

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0603890C: <i>BMD Enabling Programs</i>	368.965	401.971	409.088	-	409.088	423.092	417.831	420.104	433.604	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Ballistic Missile Defense System (BMDS) Test Program acquisition strategy is consistent with the Missile Defense Agency (MDA) capabilities-based acquisition strategy that emphasizes testing, evolutionary acquisition, and knowledge-based funding. Test directs a team of various internal staff (government and scientific, engineering and technical assistance support), executing agents (including DoD agencies, Service Organizations, Laboratories and Program Offices, Federally Funded Research and Development Center (FFRDC), and other MDA programs to execute the various diverse efforts within the Ballistic Missile Defense System (BMDS) test program through competition. When a specific effort/activity being conducted, acquired, or maintained requires the use of an executing agent, respective headquarter regulations are used to conform the acquisition strategy.

The MDA Integrated Master Test Plan (IMTP) establishes and documents the test requirements for the BMDS with the specific focus on collecting the data needed for the Verification, Validation, and Accreditation (VV&A) of the BMDS Models and Simulations (M&S). This paradigm uses critical factor analysis to drive test design, planning, and execution for accrediting M&S, which is used to validate and assess system performance. With this test approach, MDA will establish confidence that the M&S used to evaluate the BMDS represent real world behavior, thereby enabling simulation-based performance assessment to verify system functionality.

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E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test				Project (Number/Name) MT04 / BMDS Test Program					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Subtotal			-	-		-		-		-		-	-	-	-
Remarks N/A															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Subtotal			-	-		-		-		-		-	-	-	-
Remarks N/A															
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Planning and Operations - IMTP Planning and Data Management Tools	C/FP	None : AL	25.487	32.912		29.813		21.012		-		21.012	Continuing	Continuing	Continuing
Program Planning and Operations - Lab Analysis Infrastructure	MIPR	MIT-LL/Aerospace : AL/CA/MA	34.108	6.926		4.926		8.071		-		8.071	Continuing	Continuing	Continuing
Program Planning and Operations - Operational Test Agency	MIPR	ATEC/Aberdeen Proving Grounds : MD	29.548	12.562		12.876		12.498		-		12.498	Continuing	Continuing	Continuing
Program Planning and Operations - Support to Flight Testing	C/CPAF	Northrop Grumman/ Lockheed Martin : AL/CO	0.000	15.576		13.595		12.116		-		12.116	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>				Project (Number/Name) MT04 / <i>BMDs Test Program</i>					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Planning and Operations - Support to Ground Testing	C/CPAF	MDIOC/JRDC/ Northrop Grumman : AL/CO/VA/DC	0.000	4.889		5.189		5.039		-		5.039	Continuing	Continuing	Continuing
Program Planning and Operations - Support to Test Resources	MIPR	None : MiDAESS/AL	0.000	11.121		4.833		4.066		-		4.066	Continuing	Continuing	Continuing
Program Planning and Operations - Test Functional Management Office	Various	None : MDA/ MiDAESS/AL/VA/ CO/MA	162.571	46.505		37.666		35.358		-		35.358	Continuing	Continuing	Continuing
Flight Test - IMTP Flight Testing	MIPR	Air & Missile Def Command/AFGSC/ H'ville Operations Support Center/ NAWC/NRL/Ronald Reagan Test Site /SPAWAR/ Vandenberg AFB/ White Sands Missile Range/AMRDEC/ NSWC/PMRF/611th CES/611th ASUS/ AEDC : AL/CA/CO/ HI	146.150	8.891		54.665	Oct 2014	2.697		-		2.697	Continuing	Continuing	Continuing
Flight Test - Support to Flight Testing	C/CPAF	None : AL	47.542	-		-		-		-		-	Continuing	Continuing	Continuing
Flight Test - Target ILS	MIPR	National Security Agency/Navy Special Warfare Command/ Pacific Missile Range Facility/RTC/Sandia National Laboratory/ Yuma Proving Ground : AL/CA/HI/ NM	32.200	-		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>				Project (Number/Name) MT04 / <i>BMDs Test Program</i>					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Ground Test - IMTP Ground Testing	MIPR	Aviation & Missile Research & Development/LTPO/Space & Naval Warfare Command : AL/CO/CA	19.608	16.156		4.821	Oct 2014	4.035	Oct 2015	-		4.035	Continuing	Continuing	Continuing
Ground Test - Support to Ground Testing	C/CPAF	None : AL/CO	18.298	-		-		-		-		-	Continuing	Continuing	Continuing
Test Resources - Airborne Optics Mobile Assets	C/IDIQ	None : L3/JHU/APL/TX/MD/AZ/TN	40.887	15.026		15.496		14.900		-		14.900	Continuing	Continuing	Continuing
Test Resources - Core Ground Test Communication Support	MIPR	Space and Naval Warfare Command : AL/CA	9.026	3.619		3.127		3.127		-		3.127	-	18.899	-
Test Resources - Core Ground Test Labs and HWILS	C/IDIQ	None : Colsa/AMRDEC/AL/MD/FL/CA/OH/CO	58.581	28.168		28.032		26.444		-		26.444	Continuing	Continuing	Continuing
Test Resources - Current String	MIPR	None : SPAWAR/AMRDEC/AL/CA/NM/TN	6.500	-		-		-		-		-	-	6.500	-
Test Resources - Enhanced GT Capability Assets	C/IDIQ	None : Colsa/Boeing/NG/AL/CO/FL/MD/HI	3.243	9.152		7.353		7.280		-		7.280	Continuing	Continuing	Continuing
Test Resources - Facilities Sustainment, Restoration & Modernization	MIPR	SMDC/Northrup Grumman/Colsa : AL/CO/NM	0.000	3.798		3.800		4.186		-		4.186	Continuing	Continuing	Continuing
Test Resources - Flight Test Improvements	MIPR	None : WSMR	9.668	-		-		-		-		-	-	9.668	-
Test Resources - Flight Test Instrumentation	C/IDIQ	ASI/WSMR : Gray Research/NRL/NAWC/CA/MD/NCR/NM/AL/MA	36.580	17.254		16.637		12.013		-		12.013	Continuing	Continuing	Continuing
Test Resources - Flight Test Ranges	C/IDIQ	SMDC/SNL/PMRF : NAWC/WSMR/	32.439	13.548		12.287		8.557		-		8.557	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test				Project (Number/Name) MT04 / BMDS Test Program					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
		AMRDEC/NG/AK/AL/CA/HI/NM/CO													
Test Resources - Sea Based Mobile Assets	MIPR	None : MARAD/NAWC/Hanscom AFB/AL/CA/MD/NCR/NM/MA	33.225	11.255		11.536		12.065		-		12.065	Continuing	Continuing	Continuing
Test Resources - Second String	MIPR	None : Colsa/Boeing/NG/AL/CO	9.400	-		-		-		-		-	-	9.400	-
Test Resources - Support to Test Resources	MIPR	None : MiDAESS/AL	22.118	36.790		44.566		33.534		-		33.534	Continuing	Continuing	Continuing
Test Resources - Target ILS	MIPR	None : NSA/NAVSPECWARCOM/PMRF/RTC/SNL/YPG AL/CA/HI/NM	0.000	5.500		5.600	Oct 2014	5.973		-		5.973	Continuing	Continuing	Continuing
Engineering and Test Analysis - CSS Support	C/CPFF	Torch Technologies : AL	0.000	6.311		6.120		6.000		-		6.000	Continuing	Continuing	Continuing
Engineering and Test Analysis - EADSIM	MIPR	None : SMDC/AL	11.660	-		-		-		-		-	Continuing	Continuing	Continuing
Engineering and Test Analysis - FFRDA/UARC 2	MIPR	Aerospace : CA	0.000	-		-		0.755		-		0.755	Continuing	Continuing	Continuing
Engineering and Test Analysis - FFRDC/UARC	MIPR	MITRE : VA	2.214	0.973		1.596	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Engineering and Test Analysis - Industry Support	C/CPAF	Boeing : AL	10.438	4.100		4.019	Oct 2014	2.569		-		2.569	Continuing	Continuing	Continuing
Engineering and Test Analysis - Joint Analysis Team IMTP	MIPR	None : AL/VA	36.859	5.846		-		-		-		-	Continuing	Continuing	Continuing
Engineering and Test Analysis - OGA Support	MIPR	AMRDEC : AL	13.830	7.747		16.297	Oct 2014	17.513		-		17.513	Continuing	Continuing	Continuing
Engineering and Test Analysis - Threat Engineering	MIPR	FFRDC : NJ/CO/MD/VA	2.222	0.700		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			854.402	325.325		344.850		259.808		-		259.808	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Missile Defense Agency												Date: February 2015		
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>				Project (Number/Name) MT04 / <i>BMDs Test Program</i>				

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks In FY 2014 and FY 2015, Flight Support, Ground Support and Test Resources Support accomplishments are captured under Program Planning and Operations.																	

Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-		-	-	-	-
Remarks N/A																	

			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			854.402	325.325		344.850		259.808		-		259.808	-	-	-
Remarks N/A															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency

Date: February 2015

Appropriation/Budget Activity

0400 / 4

R-1 Program Element (Number/Name)

PE 0603914C / Ballistic Missile Defense Test

Project (Number/Name)

MT04 / BMDS Test Program

Significant Event Complete ▲
Significant Event Planned △

Milestone Decision Complete ★
Milestone Decision Planned ☆

Element Test Complete ◆
Element Test Planned ◇

System Level Test Complete ●
System Level Test Planned ○

Complete Activity ✦
Planned Activity ✧

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FTM-22 (IOT&E) (AEGIS 4.0.2 Intercept Flight Test)	▲																											
Fast Phoenix (BMDS Ground Test)	✦																											
SCD PTV-01 (AEGIS SCD Intercept Only Flight Test)	▲																											
GTI-04e Part 1a (BMDS Ground Test)	✦																											
FT-2 (Patriot Flight Test)	✦																											
AST-14	✦																											
GTI-04e Part 2 (BMDS Ground Test)	✦	✦	✦																									
Israeli Cooperative Intercept Flight Test - FY 2014	✦	✦	✦	✦																								
FTX-18 (AEGIS 4.0.2 Target Only Flight Test)		▲																										
Fast Exchange HWIL (BMDS Ground Test)			✦																									
FTG-06b (GM Intercept Flight Test)																												
AA CTV-01 (AEGIS AA Intercept Only Flight Test)			▲																									
Fast Exchange Dist (BMDS Ground Test)				✦																								
FTM-25 (AEGIS 5.0 Intercept Flight Test)					✦																							
FTX-20 (AEGIS 5.0 Target Only Flight Test)					△																							
GTD-04e Part 2 (BMDS Ground Test)					✦	✦																						
Israeli Cooperative Intercept Flight Test - FY 2015					✦	✦	✦	✦																				
FTP-09 (LTPO Intercept Flight Test)						△																						
FTX-19 (AEGIS 4.0.2 Target Only Flight Test)						△																						
Warfighter TP 04e (BMDS Ground Test)						✦																						
GTI-06 Part 1 (BMDS Ground Test)							✦																					
SCD CTV-01 (AEGIS SCD Intercept Only Flight Test)								△																				
FTO-02 E1 (OTA Intercept Flight Test)								△																				
FTP-10 (LTPO Intercept Flight Test)								△																				
GTI-06 Part 3 (BMDS Ground Test)								✦																				
GTI-06 Part 1 (BMDS Ground Test)								✦																				
FTT-18 (TH Intercept Flight Test)									△																			

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency

Date: February 2015

Appropriation/Budget Activity

0400 / 4

R-1 Program Element (Number/Name)

PE 0603914C / *Ballistic Missile Defense Test*

Project (Number/Name)

MT04 / *BMDS Test Program*

Significant Event Complete 
Significant Event Planned 

Milestone Decision Complete 
Milestone Decision Planned 

Element Test Complete 
Element Test Planned 

System Level Test Complete 
System Level Test Planned 

Complete Activity 
Planned Activity 

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
FTO-02 E2 (OTA Intercept Flight Test)																												
MMW E1 (AEGIS 5.0 Intercept Flight Test)																												
MMW E2 (AEGIS 5.0 Intercept Flight Test)																												
MMW E3 (AEGIS 5.0 Intercept Flight Test)																												
MMW E4 (AEGIS 5.0 Intercept Flight Test)																												
FTP-11 (LTPO Intercept Flight Test)																												
FTP-12 (LTPO Intercept Flight Test)																												
FTP-13 (LTPO Intercept Flight Test)																												
GTD-06 Part 1a (BMDS Ground Test)																												
GM CTV-02+ (GM Flight Test)																												
SCD CTV-02 (AEGIS SCD Intercept Only Flight Test)																												
Israeli Cooperative Intercept Flight Test - FY 2016																												
FTX-21 (AEGIS SBT Target Only Flight Test)																												
SFTM-01 E2 (AEGIS 5.1 Intercept Flight Test)																												
Warfighter TP 06 (BMDS Ground Test)																												
GTI-06 Part 2 (BMDS Ground Test)																												
GTI-ISR (BMDS Ground Test)																												
GTD-06 Part 2 (BMDS Ground Test)																												
FTG-15 (GM Intercept Flight Test)																												
FTM-27 (AEGIS SBT Intercept Flight Test)																												
SFTM-02 (AEGIS 5.1 Intercept Flight Test)																												
FTM-DST 1 (DST FT) (Flight Test)																												
Israeli Cooperative Intercept Flight Test - FY 2017																												
GTI-07a (BMDS Ground Test)																												
FTT-15 (TH Intercept Flight Test)																												
FTX-22 (SN Target Only Flight Test)																												
GTD-07a Part 1 (BMDS Ground Test)																												
Warfighter TP 07a (BMDS Ground Test)																												
GTD-07a Part 2 (BMDS Ground Test)																												
FTX-24 (AEGIS SBT Target Only Flight Test)																												
FTM-28 (AEGIS SBT Intercept Flight Test)																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency

Date: February 2015

Appropriation/Budget Activity

0400 / 4

R-1 Program Element (Number/Name)

PE 0603914C / Ballistic Missile Defense Test

Project (Number/Name)

MT04 / BMDS Test Program

Significant Event Complete ▲
Significant Event Planned △

Milestone Decision Complete ★
Milestone Decision Planned ☆

Element Test Complete ◆
Element Test Planned ◇

System Level Test Complete ●
System Level Test Planned ○

Complete Activity +
Planned Activity ☆

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
FTG-11 (GM Salvo Intercept Flight Test)																												
FTM-29 (AEGIS 5.1 Intercept Flight Test)																												
GTX-07b (BMDS Ground Test)																												
Israeli Cooperative Intercept Flight Test - FY 2018																												
FTM-31 (AEGIS SBT Intercept Flight Test)																												
FTM-33 (AEGIS SBT Intercept Flight Test)																												
GM CTV-03 (GM Flight Test)																												
FTO-03 E1 (OTA Intercept Flight Test)																												
PA-07b (BMDS Ground Test)																												
FTM-DST 2 (DST FT) (Flight Test)																												
GTI-07b (BMDS Ground Test)																												
FTM-32 (AEGIS SBT Intercept Flight Test)																												
GTD-07b Part 2 (BMDS Ground Test)																												
FTO-03 E2 (OTA Intercept Flight Test)																												
GTD-07b Part 1 (BMDS Ground Test)																												
Warfighter TP 07b (BMDS Ground Test)																												
FTG-17 (GM Intercept Flight Test)																												
GTX-08 Part 1 (BMDS Ground Test)																												
FTM-35 (AEGIS 5.1 Intercept Flight Test)																												
FTT-19 (TH Intercept Flight Test)																												
FTX-23 (AEGIS 5.1 Target Only Flight Test)																												
GTX-08 Part 2 (BMDS Ground Test)																												
FTM-37 (FTM-34) (Rev 1) (Flight Test)																												
GTI-08 (BMDS Ground Test)																												
FTG-13 (GM Intercept Flight Test)																												
FTO-04 (OTA Intercept Flight Test)																												
FTX-26 (SN Target Only Flight Test)																												
FTM-30 (AEGIS 5.1 Intercept Flight Test)																												
FTT-16 (TH Intercept Flight Test)																												
GTD-08 Part 1 (BMDS Ground Test)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MT04 / <i>BMDS Test Program</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FTM-22 (IOT&E) (AEGIS 4.0.2 Intercept Flight Test)	1	2014	1	2014
Fast Phoenix (BMDS Ground Test)	1	2014	1	2014
SCD PTV-01 (AEGIS SCD Intercept Only Flight Test)	1	2014	1	2014
GTI-04e Part 1a (BMDS Ground Test)	1	2014	1	2014
FT-2 (Patriot Flight Test)	1	2014	1	2014
AST-14	1	2014	1	2014
GTI-04e Part 2 (BMDS Ground Test)	1	2014	3	2014
Israeli Cooperative Intercept Flight Test - FY 2014	1	2014	4	2014
FTX-18 (AEGIS 4.0.2 Target Only Flight Test)	2	2014	2	2014
Fast Exchange HWIL (BMDS Ground Test)	3	2014	3	2014
FTG-06b (GM Intercept Flight Test)	3	2014	3	2014
AA CTV-01 (AEGIS AA Intercept Only Flight Test)	3	2014	3	2014
Fast Exchange Dist (BMDS Ground Test)	4	2014	4	2014
FTM-25 (AEGIS 5.0 Intercept Flight Test)	1	2015	1	2015
FTX-20 (AEGIS 5.0 Target Only Flight Test)	1	2015	1	2015
GTD-04e Part 2 (BMDS Ground Test)	1	2015	2	2015
Israeli Cooperative Intercept Flight Test - FY 2015	1	2015	4	2015
FTP-09 (LTPO Intercept Flight Test)	2	2015	2	2015
FTX-19 (AEGIS 4.0.2 Target Only Flight Test)	2	2015	2	2015
Warfighter TP 04e (BMDS Ground Test)	2	2015	2	2015
GTI-06 Part 1 (BMDS Ground Test)	3	2015	3	2015
SCD CTV-01 (AEGIS SCD Intercept Only Flight Test)	3	2015	3	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency				Date: February 2015	
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>		Project (Number/Name) MT04 / <i>BMDS Test Program</i>	
		Start		End	
Events	Quarter	Year	Quarter	Year	
FTO-02 E1 (OTA Intercept Flight Test)	3	2015	3	2015	
FTP-10 (LTPO Intercept Flight Test)	3	2015	3	2015	
GTI-06 Part 3 (BMDS Ground Test)	3	2015	3	2015	
GTI-06 Part 1 (BMDS Ground Test)	3	2015	3	2015	
FTT-18 (TH Intercept Flight Test)	4	2015	4	2015	
FTO-02 E2 (OTA Intercept Flight Test)	4	2015	4	2015	
MMW E1 (AEGIS 5.0 Intercept Flight Test)	4	2015	4	2015	
MMW E2 (AEGIS 5.0 Intercept Flight Test)	4	2015	4	2015	
MMW E3 (AEGIS 5.0 Intercept Flight Test)	4	2015	4	2015	
MMW E4 (AEGIS 5.0 Intercept Flight Test)	4	2015	4	2015	
FTP-11 (LTPO Intercept Flight Test)	1	2016	1	2016	
FTP-12 (LTPO Intercept Flight Test)	1	2016	1	2016	
FTP-13 (LTPO Intercept Flight Test)	1	2016	1	2016	
GTD-06 Part 1a (BMDS Ground Test)	1	2016	1	2016	
GM CTV-02+ (GM Flight Test)	1	2016	1	2016	
SCD CTV-02 (AEGIS SCD Intercept Only Flight Test)	1	2016	1	2016	
Israeli Cooperative Intercept Flight Test - FY 2016	1	2016	4	2016	
FTX-21 (AEGIS SBT Target Only Flight Test)	3	2016	3	2016	
SFTM-01 E2 (AEGIS 5.1 Intercept Flight Test)	3	2016	3	2016	
Warfighter TP 06 (BMDS Ground Test)	3	2016	3	2016	
GTI-06 Part 2 (BMDS Ground Test)	3	2016	3	2016	
GTI-ISR (BMDS Ground Test)	3	2016	3	2016	
GTD-06 Part 2 (BMDS Ground Test)	4	2016	4	2016	
FTG-15 (GM Intercept Flight Test)	4	2016	4	2016	
FTM-27 (AEGIS SBT Intercept Flight Test)	1	2017	1	2017	

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency				Date: February 2015	
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>		Project (Number/Name) MT04 / <i>BMDS Test Program</i>	
		Start		End	
Events	Quarter	Year	Quarter	Year	
SFTM-02 (AEGIS 5.1 Intercept Flight Test)	1	2017	1	2017	
FTM-DST 1 (DST FT) (Flight Test)	1	2017	1	2017	
Israeli Cooperative Intercept Flight Test - FY 2017	1	2017	4	2017	
GTI-07a (BMDS Ground Test)	2	2017	2	2017	
FTT-15 (TH Intercept Flight Test)	2	2017	2	2017	
FTX-22 (SN Target Only Flight Test)	3	2017	3	2017	
GTD-07a Part 1 (BMDS Ground Test)	3	2017	3	2017	
Warfighter TP 07a (BMDS Ground Test)	3	2017	3	2017	
GTD-07a Part 2 (BMDS Ground Test)	3	2017	4	2017	
FTX-24 (AEGIS SBT Target Only Flight Test)	4	2017	4	2017	
FTM-28 (AEGIS SBT Intercept Flight Test)	4	2017	4	2017	
FTG-11 (GM Salvo Intercept Flight Test)	4	2017	4	2017	
FTM-29 (AEGIS 5.1 Intercept Flight Test)	1	2018	1	2018	
GTX-07b (BMDS Ground Test)	1	2018	1	2018	
Israeli Cooperative Intercept Flight Test - FY 2018	1	2018	4	2018	
FTM-31 (AEGIS SBT Intercept Flight Test)	2	2018	2	2018	
FTM-33 (AEGIS SBT Intercept Flight Test)	2	2018	2	2018	
GM CTV-03 (GM Flight Test)	3	2018	3	2018	
FTO-03 E1 (OTA Intercept Flight Test)	3	2018	3	2018	
PA-07b (BMDS Ground Test)	3	2018	3	2018	
FTM-DST 2 (DST FT) (Flight Test)	3	2018	3	2018	
GTI-07b (BMDS Ground Test)	3	2018	4	2018	
FTM-32 (AEGIS SBT Intercept Flight Test)	4	2018	4	2018	
GTD-07b Part 2 (BMDS Ground Test)	4	2018	4	2018	
FTO-03 E2 (OTA Intercept Flight Test)	4	2018	4	2018	

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency **Date:** February 2015

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MT04 / <i>BMDS Test Program</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
GTD-07b Part 1 (BMDS Ground Test)	1	2019	1	2019
Warfighter TP 07b (BMDS Ground Test)	1	2019	2	2019
FTG-17 (GM Intercept Flight Test)	3	2019	3	2019
GTX-08 Part 1 (BMDS Ground Test)	3	2019	3	2019
FTM-35 (AEGIS 5.1 Intercept Flight Test)	4	2019	4	2019
FTT-19 (TH Intercept Flight Test)	4	2019	4	2019
FTX-23 (AEGIS 5.1 Target Only Flight Test)	4	2019	4	2019
GTX-08 Part 2(BMDS Ground Test)	4	2019	4	2019
FTM-37 (FTM-34) (Rev 1) (Flight Test)	4	2019	4	2019
GTI-08 (BMDS Ground Test)	2	2020	3	2020
FTG-13 (GM Intercept Flight Test)	3	2020	3	2020
FTO-04 (OTA Intercept Flight Test)	3	2020	3	2020
FTX-26 (SN Target Only Flight Test)	3	2020	3	2020
FTM-30 (AEGIS 5.1 Intercept Flight Test)	4	2020	4	2020
FTT-16 (TH Intercept Flight Test)	4	2020	4	2020
GTD-08 Part 1 (BMDS Ground Test)	4	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test				Project (Number/Name) MC04 / Cyber Operations			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MC04: Cyber Operations	-	1.040	1.670	2.450	-	2.450	2.496	2.545	2.596	2.648	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note Project MC04 is a new Defensive Cyber Operations Project established in this Program Element (PE) for PB 2014. Funds were previously reported in Project MT04 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 MDA Ballistic Missile Defense Test program. It maintains the Certification and 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. 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 2014	FY 2015	FY 2016	
Title: Network / System Certification and Accreditation (C&A) Articles: Description: N/A FY 2014 Accomplishments: -Funded Ballistic Missile Defense Test Program Information Assurance Manager (IAM) civilian salaries. -Conducted cyber security/information assurance engineering and architecture planning for Test Directorate (DT) information technology systems. -Planned and tested the Information Assurance (IA) controls for Ballistic Missile Defense System. -Developed Test Directorate's (DT) Department of Defense Information Assurance Certification and Accreditation Process (DIACAP) certification and accreditation packages. FY 2015 Plans: The increase of \$630 Thousand is due to additional personnel and realignment of cyber duties from MT budget project.									1.040	1.670	2.450	
									-	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015	
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MC04 / <i>Cyber Operations</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
- Provide Cybersecurity Program oversight of all MDA Test Directorate (DT) information systems, networks, sponsored remote sites, ground and flight test infrastructure, and exercise/wargame infrastructures. This includes management of: cybersecurity compliance and authorization; cybersecurity training and awareness; information system secure configuration; assessment and incident management; and computer network defense. - Fund Ballistic Missile Defense Test Program Information Assurance Manager (IAM) civilian salaries. - Conduct cyber security/information assurance engineering and architecture planning for DT information technology systems. - Plan and test the Information Assurance controls for Ballistic Missile Defense System. - Develop DT DIACAP certification and accreditation packages. FY 2016 Plans: The Increase of \$780 Thousand is due to additional personnel and realignment of cyber duties from MT budget project. - Provide Cybersecurity Program oversight of all MDA Test Directorate (DT) information systems, networks, sponsored remote sites, ground and flight test infrastructure, and exercise/wargame infrastructures. This includes management of: cybersecurity compliance and authorization; cybersecurity training and awareness; information system secure configuration; assessment and incident management; and computer network defense. - Fund Ballistic Missile Defense Test Program Information Assurance Manager (IAM) civilian salaries. - Conduct cyber security/information assurance engineering and architecture planning for Test Directorate (DT) information technology systems. - Plan and test the Information Assurance controls for BMDS. - Develop DT NIST certification and accreditation packages.			
Accomplishments/Planned Programs Subtotals		1.040	1.670
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 2016 Missile Defense Agency												Date: February 2015			
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test				Project (Number/Name) MC04 / Cyber Operations					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Network / System Certification and Accreditation (C&A) - Information Assurance	C/IDIQ	Torch Technologies : Various	0.000	0.887		1.361		2.134		-		2.134	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - Information Assurance Civ	MIPR	MDA : Various	0.000	0.153		0.309		0.316		-		0.316	Continuing	Continuing	Continuing
Subtotal			0.000	1.040		1.670		2.450		-		2.450	-	-	-
Remarks N/A															
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	1.040		1.670		2.450		-		2.450	-	-	-
Remarks N/A															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency

Date: February 2015

Appropriation/Budget Activity
0400 / 4

R-1 Program Element (Number/Name)
PE 0603914C / *Ballistic Missile Defense Test*

Project (Number/Name)
MC04 / *Cyber Operations*

Significant Event Complete

Significant Event Planned

Milestone Decision Complete

Milestone Decision Planned

Element Test Complete

Element Test Planned

System Level Test Complete

System Level Test Planned

Complete Activity

Planned Activity

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
MC04 Cyber Operations																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MC04 / <i>Cyber Operations</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MC04 Cyber Operations	1	2016	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency										Date: February 2015		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test				Project (Number/Name) MD40 / Program Wide Support			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
MD40: Program Wide Support	27.537	16.330	19.782	12.065	-	12.065	14.107	17.685	17.602	19.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2015, Program Wide Support reflects a proportional change as a result of an increase and in FY 2016, reflects a proportional change as a result of a decrease to Ballistic Missile Defense Test.
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

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 Services, and Federally Funded Research and Development Center (FFRDC) support. This provides integrity and oversight of the BMDS as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes Global Deployment personnel and support performing deployment site preparation and activation and, provides facility capabilities for MDA Executing Agent locations. Other MDA wide costs includes: physical and technical security; civilian drug testing; audit readiness; the Science, Technology, Engineering, and Mathematics (STEM) program; legal services and settlements; 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. Program Wide Support is allocated on a pro-rata basis and therefore, fluctuates by year based on the total adjusted RDT&E profile (which excludes: 0305103C Cyber Security Initiative, 0603274C Special Program, 0603913C Israeli Cooperative Program and 0901598C Management Headquarters).

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

Title: Program Wide Support		FY 2014	FY 2015	FY 2016
Articles:		16.330	19.782	12.065
		-	-	-
Description: N/A				
FY 2014 Accomplishments: See paragraph A: Mission Description and Budget Item Justification				
FY 2015 Plans: See paragraph A: Mission Description and Budget Item Justification				
FY 2016 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Missile Defense Agency		Date: February 2015	
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / Ballistic Missile Defense Test	Project (Number/Name) MD40 / Program Wide Support	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015
See paragraph A: Mission Description and Budget Item Justification			
Accomplishments/Planned Programs Subtotals		16.330	12.065
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 2016 Missile Defense Agency													Date: February 2015		
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>				Project (Number/Name) MD40 / <i>Program Wide Support</i>					

Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Program Wide Support - Agency Operations Management	Allot	Various : Multi: AL, CA, CO, VA	0.100	0.090		1.759		-		-		-	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi: AL, CA, CO, VA	27.437	15.240		18.023	Dec 2014	12.065	Dec 2015	-		12.065	Continuing	Continuing	Continuing
Program Wide Support - Facilities and Maintenance - SRM	MIPR	Various : Multi: AK,AL,CA,VA	0.000	1.000		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			27.537	16.330		19.782		12.065		-		12.065	-	-	-

Remarks N/A															
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	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	27.537	16.330		19.782		12.065		-		12.065	-	-	-

Remarks N/A															
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Missile Defense Agency

Date: February 2015

Appropriation/Budget Activity
0400 / 4

R-1 Program Element (Number/Name)
PE 0603914C / *Ballistic Missile Defense Test*

Project (Number/Name)
MD40 / *Program Wide Support*

Significant Event Complete▲
Significant Event Planned△

Milestone Decision Complete★
Milestone Decision Planned☆

Element Test Complete◆
Element Test Planned◇

System Level Test Complete●
System Level Test Planned○

Complete Activity✦
Planned Activity✧

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
MD40 Program-Wide Support									✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧	✧

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Missile Defense Agency			Date: February 2015
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603914C / <i>Ballistic Missile Defense Test</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD40 Program-Wide Support	1	2016	4	2020