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Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Justification					Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets						
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	612,333	718,049	617,456	676,388	600,273	634,868	652,773	661,152
0304 Test & Evaluation	334,564	239,064	187,919	188,451	181,662	198,485	204,416	210,774
0704 Test & Evaluation Block 2004	41,328	143,375	0	0	0	0	0	0
0804 Test & Evaluation Block 2006	2,201	20,557	169,996	139,392	2,600	0	0	0
0904 Test & Evaluation Block 2008	0	0	686	71,918	203,831	140,389	3,225	0
0004 Test & Evaluation Block 2010	0	0	0	0	0	68,981	208,628	144,351
R104 Test & Evaluation Block 2012	0	0	0	0	0	0	100	69,899
0305 Targets & Countermeasures Core	17,393	19,423	19,825	20,478	20,354	20,714	20,955	21,464
0705 Targets & Countermeasures Block 2004	182,708	176,407	0	0	0	0	0	0
0805 Targets & Countermeasures Block 2006	0	112,984	222,194	208,246	0	0	0	0
0905 Targets & Countermeasures Block 2008	0	0	10,293	37,991	177,463	163,430	0	0
0005 Targets & Countermeasures Block 2010	0	0	0	0	4,188	32,379	200,479	204,974
0602 Program-Wide Support	34,139	6,239	6,543	9,912	10,175	10,490	14,970	9,690
<i>Note:</i> The decrease in Project 0304 funding between FY 2004 and FY 2005 is primarily due to the transfer of Critical Measurements and Countermeasures (CMCM) funds to the Projects 0704, 0804, 0904, 0004, and R104 in FY05 and beyond.								
<u>A. Mission Description and Budget Item Justification</u>								
The mission of the Missile Defense Agency (MDA) is to develop an integrated layered Ballistic Missile Defense System (BMDS) to defend the United States, its deployed forces, friends and allies from ballistic missiles of all ranges and in all phases of flight. In late 2004 the United States fielded a limited capability to defeat a ballistic missile threat. Continuing through the Future Years Defense Plan (FYDP), the breadth and depth of this initial capability will be expanded by adding and networking forward-deployed sensors, interceptors at sea and on land, and layers of increasingly capable weapons and sensors. Today’s MDA activities are focused on five objectives: 1) complete development, initial fielding, and verification of Block 2004; 2) provide BMDS sustainment and Warfighter (Combatant Commanders) support; 3) develop a totally integrated capability for Block 2006 and beyond based on a strong core research and development program and improving the BMDS incrementally over time to meet future challenges; 4) execute an increasingly complex test program; and 5) establish a robust international foundation for missile defense.								
MDA identifies BMDS capabilities, architectures and element contributions to counter the threat and organizes them by Engagement Sequence Groups (ESGs). These ESGs describe a combination of weapons, sensors and C2BMC capabilities that must work together to detect, track and intercept an enemy missile - the complete kill chain from the time the threat missile is first detected through the intercept of the target. ESGs also provide the management framework to be able to identify and engineer the necessary interfaces required to deliver a usable configuration of the BMDS, help the operator plan and train for operation of that capability, and provide a means to track and test future improvements to the system.								
As part of the total BMDS, the Test and Targets Program Element (PE) provides the resources, including targets and countermeasures development, for an integrated system-level test approach, bringing together the capabilities of the BMDS elements. This PE consists of twelve projects: Test & Evaluation (T&E); T&E Block 2004; T&E Block 2006; T&E Block 2008; T&E Block 2010; T&E Block 2012; Targets & Countermeasures Core; Targets & Countermeasures Block 2004; Targets & Countermeasures Block 2006; Targets & Countermeasures Block 2008; Targets & Countermeasures Block 2010, and Program-Wide Support that includes personnel, related support costs and fiscal requirements.								

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<p>Test and Evaluation and Targets and Countermeasures Core (Projects 0304 and 0305, respectively) provide for the implementation of test and target functions that span multiple Blocks. These projects also assist in expanding the capabilities of the BMDS in future Blocks, and develop capabilities not yet foreseen as part of a current or future Block. Block functions (e.g., Project 0704 - T&E Block 2004 and Project 0705 - Targets and Countermeasures Block 2004) include all efforts (e.g., detailed planning, hardware procurement, test execution, analysis, and reporting) necessary to test and assess a specific BMDS Block. Element participation in system-level testing, including test article procurement and test conduct, is captured in the respective PE.</p> <p>The T&E projects provide consolidated MDA-wide capabilities and resources to support the management and execution of BMDS System and Element-level testing. With the evolution of the BMDS, testing needs have expanded beyond those of the individual elements to include testing of BMDS engagement sequences that rely on multiple BMDS elements. MDA's Responsible Test Organization (RTO) structure centralizes all authority and responsibility for all BMDS testing. The BMDS Responsible Engineering Organization (REO) provides the system test objectives to the RTO to test and assess BMDS capability. The RTO makes use of a BMDS Combined Test Force to plan and execute BMD system testing. The RTO also develops the necessary test policy, test plans, and test infrastructure to conduct an effective test program. RTO activities are grouped into four functional areas; Test Policy and Integration, BMDS Combined Test Force (CTF), Test Resources, and Facilities, Siting, and Environmental management. The Test Policy and Integration program supports the development and implementation of test policy, standards, and procedures for creating a unified BMD test process. This program also includes funding for the BMDS On-alert Capability Assessment (BOCA) and funding for the Service Operational Test Agencies (OTAs) to conduct a BMDS Operational Assessment (OA). The BMDS CTF consolidates the personnel, processes, and resources across MDA, including the BMDS elements, into a unified, cohesive team to execute the BMDS test program. The BMDS CTF provides for core support that spans multiple Blocks as well as the individual efforts required for the test and assessment of specific Blocks. The Test Resources program supports the development, operation, maintenance, and modernization of the T&E infrastructure supporting both BMDS System and Element-level testing. The MDA test program provides data and information to anchor the models and simulations used to verify BMDS capabilities and to support BMDS characterization and assessment.</p> <p>The BMDS RTO uses a top-down approach to develop BMDS test plans based on engagement sequence groups, system test objectives, and the overall system design provided by the BMDS REO. The BMDS CTF uses these inputs to create an integrated system-level test approach, bringing together the contributions of the various BMDS elements into combined system test events. These system test events are comprised of two or more elements interacting to verify the capability of the system in one or more of the engagement sequences; these events are documented in the Integrated Master Test Plan (IMTP). The IMTP is the foundation for developing the element Developmental Master Test Plans that detail the element contributions to the overall test program. Elements design their component test programs to support the IMTP and participate in the overall BMD system level test program. The development and acquisition of new test facilities and instrumentation are integrated into a Test Resources Master Plan that supports the overall test approach.</p> <p>The Targets and Countermeasures Program is a supporting BMDS program that provides targets to test the integrated, layered BMDS, including targets to support testing prior to initial defensive operational capability. This program funds new target and countermeasure development, risk reduction flights (tests of target prototypes), subsystem characterization, and the acquisition and maintenance of long lead target material items. Specifically, the Targets and Countermeasures program provides capability-based ballistic missile target systems to include missile subsystems and common target components, such as boosters, re-entry vehicles (RVs), countermeasures, guidance and control components, data and instrumentation packages, and launch support systems. Additionally, the Targets and Countermeasure program supports aging surveillance, refurbishment, and reuse of existing government furnished equipment such as Minuteman II and Lance missile hardware. Utilizing existing government inventories and the development of common target components, a BMDS target system is integrated and tested, thus reducing the cost and cycle time of developing and acquiring new target system hardware. To assist the government in this endeavor, a ten year prime contract was awarded in FY04 to design, develop, and test all BMDS targets.</p> <p>Program-Wide Support provides funding for common support functions across the entire program such as strategic planning, program integration, cost estimating, contracting, financial management to include preparation of financial statements, reimbursement of financial services provided by DFAS, internal review and audit, earned-value management, and program assessment. Includes costs for both government civilians performing these functions as well as support contractors providing government staff augmentation in these areas. Applies to costs at the MDA HQ as well as its Executing Agents in the Services: Army Space and Missile Defense Command, Army PEO Space and Missile Defense, Office of Naval Research, and various Air Force laboratory and acquisition activities. Other costs include physical and technical security, legal services, travel and training, office and equipment leases, utilities and communications, supplies and maintenance, and similar operating expenses at the various MDA Executing Agent locations, which at the MDA HQ are generally funded from the Management Headquarters Program Element (0901598C). Also includes funding for charges on canceled appropriations in accordance with Public Law 101-510, legal settlements, and foreign currency fluctuation on a limited number of foreign contracts.</p>		

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets	

B. Program Change Summary	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2005 PB)	633,782	713,658	665,854	648,563
Current President's Budget (FY 2006 PB)	612,333	718,049	617,456	676,388
Total Adjustments	-21,449	4,391	-48,398	27,825
Congressional Specific Program Adjustments	0	3,000	0	0
Congressional Undistributed Adjustments	0	1,391	0	0
Reprogrammings	-17,480	0	0	0
SBIR/STTR Transfer	-3,969	0	0	0
Adjustments to Budget Years	0	0	-48,398	27,825

Funding changes in FY 2004 - FY2007 from the Previous President's Budget (FY 2005 PB) to the Current President's Budget (FY 2006 PB) are due to changes in the Missile Defense Agency's (MDA) priorities required to develop, field, and sustain an integrated layered Ballistic Missile Defense System (BMDS) to defend the United States, its deployed forces, friends and allies from ballistic missiles of all ranges and in all phases of flight.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0304 Test & Evaluation	334,564	239,064	187,919	188,451	181,662	198,485	204,416	210,774
RDT&E Articles Qty	4	2	0	0	0	0	0	0
<i>Note:</i> The decrease in Project 0304 funding between FY 2004 and FY 2005 is primarily due to the transfer of Critical Measurements and Countermeasures (CMCM) funds to the Projects 0704, 0804, 0904, 0004, and R104 in FY05 and beyond.								
FY04 RDT&E Articles: Two (2) Castor IVB Boosters with threat-like R-Vs for CMP-4. Purchase and delivery of HALO-I and HALO-II platforms.								
FY05 RDT&E Articles: Delivery of Two (2) Transportable Telemetry Systems								
<u>A. Mission Description and Budget Item Justification</u>								
<p>The T&E projects provide consolidated MDA-wide capabilities and resources to support the management and execution of BMDS System and Element-level testing. With the evolution of the BMDS, testing needs have expanded beyond those of the individual elements to include testing of BMDS engagement sequences that rely on multiple BMDS elements. MDA's Responsible Test Organization (RTO) structure centralizes all authority and responsibility for all BMDS testing. The RTO relies on the Responsible Engineering Organization (REO) to provide the system test objectives to test and assess BMDS capability. The RTO makes use of a BMDS Combined Test Force to plan and execute BMD system testing. The RTO also develops the necessary test policy, test plans, and test infrastructure to conduct an effective test program. RTO activities are grouped into four functional areas; Test Policy and Integration, BMDS Combined Test Force (CTF), Test Resources, and Facilities, Siting, and Environmental management.</p> <p>The Test Policy and Integration program supports the development and implementation of test policy, standards and procedures for creating unified BMD test processes which reflect the best practices of existing element processes. Mission Assurance is integrated into the entire MDA test program through the identification and application of T&E best practices into test processes and procedures for flight, software and ground testing. Target certification reports are also developed to ensure that targets are suitable to meet test objectives. The Test Policy and Integration program provides policy and guidance on Knowledge Management (KM) practices, establishing standardized documentation for test planning, test reporting, and data archiving. The program also develops, coordinates, and manages RTO inputs into the overall BMDS Program Plans. The Test Policy and Integration program supports two major assessments of the BMDS: The BMDS On-Alert Capability Assessment (BOCA) and System-Level Operational Assessments. The BOCA will provide a non-advocate, independent assessment of the BMDS throughout its life-cycle. Where possible, BOCA team-members will recommend changes to the current test program and mitigation efforts to reduce performance degradation, implementation, and integration risks. Operational Test Agencies (OTAs) will perform operational assessments of the BMDS. The OTAs will maintain their assessments in the OTA database which will reflect a living document of the BMDS assessment. Element-level assessments will continue to be supported by the respective element budgets.</p> <p>BMDS CTF Core funding supports the implementation and execution of the Measurements Program and the Applied Data Analysis Center (ADAC). (Funding associated with Critical Measurements and Counter Measures (CMCM) flight tests are captured in projects 0704, 0804, 0904, 0004 and R104 but is managed as part of the Measurements Program.) The Measurements Program is an integrated test program established to ensure a coherent, complete, cost effective, and disciplined approach to collecting data/measurements to support characterization of the BMDS mission space. Measurements requirements are collected, prioritized and validated by the Measurements Program Assessment Team (MPAT) to support Block Characterization, M&S Validation, Phenomenology, Advanced Concepts, and Lethality. Requirements are then allocated to specific tests. Target Characterization and Lethality Tests (also known as the Intercept Debris Measurements Program (IDMP)) are also planned and executed under the Measurements Program. Under the Target Characterization Program, the CTF is responsible for collecting target signature data for new target performance characterization analysis, and to support Element algorithm development. The Applied Data Analysis Center (ADAC) represents the primary measurements analysis effort and supports development of the BMDS Measurements test program. The ADAC encompasses mission sensor planning, data collection, analysis, and exploitation activities of the Optical Data Analysis (ODA) and Radar Data Analysis (RDA) efforts. In addition, the ADAC exploits Measurements and Systems Test data to improve future BMD Systems. This project funds the Kill Assessment Program and support for data collection and analysis of International & Special Programs. This also includes participation by the Kill Assessment (KA) Program in most MDA flight test events. To support the BMDS Test</p>								

Project: 0304 Test & Evaluation

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RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets	
<p>Program development, program objectives, and performance characterization, MDA Test and Evaluation provides resources to support the activities of the Radar Data Exploitation (RDE) and Test Planning. This activity supports data planning, collection and analysis of radar for missions supported by Observation Island and Gray Star.</p> <p>The Test Resources Program develops, sustains, and modernizes the core T&E facilities of the BMDS test bed to support system and element-level testing and assessment. This also includes development, maintenance and modernization of the sensors, instrumentation, BMD-unique ground test facilities, and MDA data centers. All of these assets provide program risk reduction and test implementation capability in support of BMDS test activities. Because this core test capability is corporately sustained, the individual BMDS elements pay only the direct costs associated with their specific test efforts. The Test Resources Program uses the engagement sequences to evaluate how the BMDS might test in future Blocks. A continuous analysis pitting collection requirements and test scenarios versus existing and planned test assets is used to identify the test infrastructure needed to test the BMDS, BMDS elements, and element components as part of the engagement sequences. The Test Resources Program also includes the Pacific Range Support Team (PRST) to support the BMDS CTF with test mission planning and execution, development of common standards and mission assurance, and to recommend development or modification of mobile instrumentation to support MDA testing.</p> <p>The Facilities, Siting and Environmental program provides guidance, environmental impact analysis and documentation, real property facility siting, acquisition, and facility operational support for the BMD systems. This program oversees facility acquisition of the Military Construction (MILCON) and RDT&E construction programs. This program also provides guidance and supports the Environmental Assessment and Environmental Impact Statement process, environmental compliance, pollution prevention, and other environmental efforts. This program ensures environmental compliance of all BMDS activities with federal, state, local, DOD and international law, treaties and regulations.</p>			
<u>B. Accomplishments/Planned Program</u>			
	FY 2004	FY 2005	FY 2006
Test Resources	165,731	165,643	116,542
RDT&E Articles (Quantity)	2	2	0
<p>FY 2004 Accomplishments</p> <p>RDT&E Articles: Purchase and Delivery of HALO-I and HALO-II</p> <ul style="list-style-type: none"> Provided for operations, sustainment, and modernization of the core corporate test and evaluation infrastructure components of the BMDS Test Bed. This included ranges and instrumentation, airborne sensors, mobile launch platform and ground test facilities to support element and system-level testing. Continued to improve test infrastructure in terms of capability and quantity, as recommended from continuing MDA studies. These improvements build on the existing core test infrastructure to support element and system-level testing. Provided level-of-effort funding to ranges (White Sands Missile Range (WSMR), Kauai Test Facility (KTF), Wake Island, Pacific Missile Range Facility (PMRF), Reagan Test Site (RTS), Western Range / Vandenberg Air Force Base (VAFB), Naval Air Warfare Center (NAWC), Kodiak Launch Complex (KLC)) to maintain MDA-unique test facilities and instrumentation for MDA tests. Procured airborne sensor platforms High Altitude Observatory I & II (HALO-I) and (HALO-II). Continued to operate, maintain and improve airborne sensors instrumentation platforms HALO-I, HALO-II and WASP to support BMDS testing and development activities. Maintained the MDA-unique ground test facilities, including wind tunnels, space-environment chambers, light gas gun, ladar performance lab, hardware-in-the-loop simulation facility, rocket-plume sensor capabilities and the hover test facility. Supported BMDS test ranges transition to a common test management and execution process as well as provided upgrades and improvements to test range hardware and software based planning and execution tools. Used the Pacific Range Support Team (PRST) to provide efficient planning, coordination and management of range resources and infrastructure in support of BMDS Flight Testing throughout the Pacific Test bed. 			

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RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets
<ul style="list-style-type: none"> Coordinated with OSD test resources community/programs (DTRMC, CTEIP, etc.). Standardized flight safety procedures, analysis tools, flight hardware, and safety officer training through a three-phase program. Maintained the MDA Data Centers Program to provide efficient data archiving, access, distribution and furnish relevant expertise for MDA Mission oriented data. Developed and awarded contract with Alaska Aerospace Development Corporation (AADC) to provide for operation and sustainment of the Kodiak Launch Complex (KLC) to support MDA target launches. Participated in DOT&E's six-month Defense Science Board study to assess national needs for nuclear-weapon-effect simulation facilities. Developed the Transportable Telemetry System (TTS) to provide ultra high band width telemetry collection, processing, and real time test data transmission capability thereby supporting the data collection requirements of future BMDS missions. Continued Upgrades to PMRF Sensors, Command and Control Systems, Data Analysis Tools, and Range Safety Systems to support BMDS testing. (Congressional Adds) Maintained and operated the Kauai Test Facility (KTF) to enable the launch of target systems supporting BMD Test Activities. (Congressional Earmark) Characterized advanced technology in the terrestrial neutron environments which allows simulation of unique BMD Environments at the Indiana University Cyclotron Facility. (Congressional Add) <p>FY 2005 Planned Program:</p> <p>RDT&E Articles: Delivery of Two (2) Transportable Telemetry Systems</p> <p>The Test Resources program will provide for operations, sustainment, and modernization of the core corporate test and evaluation infrastructure components of the BMDS Test Bed. This includes ranges and instrumentation, airborne sensors, mobile launch platform and ground test facilities to support element- and system-level testing. This program will continue to improve test infrastructure in terms of capability and quantity, as recommended from continuing MDA studies. These improvements build on the existing core test infrastructure to support element and system-level testing.</p> <p>The Test Resources Program will:</p> <ul style="list-style-type: none"> Develop, maintain, integrate and upgrade MDA unique range facilities and instrumentation at the following ranges: White Sands Missile Range (WSMR), Kauai Test Facility (KTF), Wake Island, Pacific Missile Range Facility (PMRF), Reagan Test Site (RTS), Western Range / Vandenberg Air Force Base (VAFB), Naval Air Warfare Center (NAWC), and the Kodiak Launch Complex (KLC). Use the Pacific Range Support Team (PRST) to provide efficient planning, coordination and management of range resources and infrastructure in support of BMDS Flight Testing throughout the Pacific Test bed. Coordinate with OSD test resources community/programs (DTRMC, CTEIP, etc.). Perform major maintenance of the Mobile Launch Platform (MLP). Complete Development and delivery of two Transportable Telemetry Systems (TTS) which provides long range missile telemetry acquisition, processing and archiving capability. Upgrade the Kwajalein Mobile Range Safety System (KMRSS). Sustain the Mobile Range Safety System (MRSS). Maintain and upgrade MDA unique Ground Test Facilities to support all the BMDS developmental program hardware and software testing. These facilities include: Kinetic Kill Vehicle Hardware in the Loop Simulators, Hypervelocity Wind Tunnel Number 9, Infrared And Blackbody Standards at the National Institute of Standards and Technology (NIST), Hypervelocity Ballistic Range G Light Gas Gun, Von Karman Facilities (VKF) at AEDC, 7V/10V Space Chambers, Army Missile Optical Range (AMOR), Aero-Optic and Aero-Thermal Evaluation Center, Holloman High Speed Test Track, and Innovative Science And Technology Experimentations Facility. Provide centralized data management, archival and distribution services to reduce the risks and cost of BMDS Block Development and Operational Deployment. The Data Centers comprise MDA's official archive for all MDA mission related scientific and technical data. These centers include: Advanced Missile Signature Center, Ballistic Missile Defense System Integration Data Center, Missile Defense Data Center, and Navy Surface Warfare Center. 		

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RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets
<ul style="list-style-type: none"> • Complete Wide Body Airborne Sensor Platform (WASP) Development. • Operate High Altitude Observatory II (HALO-II), WASP, High Altitude Observatory (HALO-I) for data collection services and services of BMD Flight Test. • Develop and Upgrade PMRF Sensors, Command and Control Systems, Data Analysis Tools, and Range Safety Systems. (Congressional Adds) • Maintain and operate the Kauai Test Facility (KTF) to enable the launch of target systems supporting BMD Test Activities. (Congressional Earmark) • Characterize advanced technology in the terrestrial neutron environments which allows simulation of unique BMD Environments at the Indiana University Cyclotron Facility. (Congressional Add) <p>FY 2006 Planned Program:</p> <p>The Test Resources program will provide for operations, sustainment, and modernization of the core corporate test and evaluation infrastructure components of the BMDS Test Bed. This included ranges and instrumentation, airborne sensors, mobile launch platform and ground test facilities to support element- and system-level testing. This program will continue to improve test infrastructure in terms of capability and quantity, as recommended from continuing MDA studies. These improvements build on the existing core test infrastructure to support element- and system-level testing.</p> <p>The Test Resources Program will:</p> <ul style="list-style-type: none"> • Develop, maintain, integrate and upgrade MDA unique range facilities and instrumentation at the following ranges: White Sands Missile Range (WSMR), Kauai Test Facility (KTF), Wake Island, Pacific Missile Range Facility (PMRF), Reagan Test Site (RTS), Western Range / Vandenberg Air Force Base (VAFB), and the Kodiak Launch Complex (KLC). • Use the Pacific Range Support Team (PRST) to provide efficient planning, coordination and management of range resources and infrastructure in support of BMDS Flight Testing throughout the Pacific Test bed. • Coordinate with OSD test resources community/programs (DTRMC, CTEIP, etc.). • Maintain and upgrade MDA unique Ground Test Facilities to support all the BMDS developmental program hardware and software testing. These facilities include: Kinetic Kill Vehicle Hardware in the Loop Simulators, Hypervelocity Wind Tunnel Number 9, Infrared And Blackbody Standards at the National Institute of Standards and Technology (NIST), Hypervelocity Ballistic Range G Light Gas Gun, Von Karman Facilities (VKF) at AEDC, 7V/10V Space Chambers, Army Missile Optical Range (AMOR), Holloman High Speed Test Track, and Innovative Science And Technology Experimentations Facility. • Provide centralized data management, archival and distribution services to reduce the risks and cost of BMDS Block Development and Operational Deployment. The Data Centers comprise MDA's official archive for all MDA mission related scientific and technical data. These centers include: Advanced Missile Signature Center, Ballistic Missile Defense System Integration Data Center, Missile Defense Data Center, and Navy Surface Warfare Center. • Operate High Altitude Observatory II (HALO-II), Wide Body Airborne Sensor Platform (WASP), High Altitude Observatory (HALO-I) for data collection services and services of BMD Flight Test. • Maintain and operate the Kauai Test Facility (KTF) to enable the launch of target systems supporting BMD Test Activities. • Upgrade the Kwajalein Mobile Range Safety System (KMRSS). • Sustain the Mobile Range Safety System (MRSS). <p>FY 2007 Planned Program:</p> <p>The Test Resources Program will continue to provide the resources for the development, sustainment, and modernization of core corporate T&E infrastructure facilities of the BMDS test bed to support system and element-level testing. This includes support at BMD-unique ground test facilities and MDA Data Centers. The Test Resources Program will continue to use the engagement sequences and the Pacific Range Support Team (PRST) to evaluate how the BMDS elements and components might test in future Blocks. This analysis will be used to identify the test infrastructure needed to test the BMDS elements and components as part of the engagement sequences. The Test Resources Program will conduct annual reviews to ensure infrastructure is ready to support changing block requirements.</p>		

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	FY 2004	FY 2005	FY 2006	FY 2007
BMDS CTF Core	146,822	43,975	40,021	42,005
RDT&E Articles (Quantity)	2	0	0	0
<p>FY 2004 Accomplishments</p> <p>RDT&E Articles: Two (2) Castor IVB Boosters with threat-like RVs for CMP-4.</p> <ul style="list-style-type: none"> • Organized Combined Test Force (CTF) to conduct BMD System Flight Testing to verify BMDS element and component interoperability. • Collect, prioritize, validate, and document requirements for MDA Measurements Program. Allocate requirements to test. • Conducted test planning for CMP-4a&b and execution of CMP-4a. • Conducted test planning, sensor planning, range integration, and design reviews in support of FT 04-2 (CMCM-1) and FT 04-4 (CMCM-2). • Conducted test planning, test execution, and post test analysis for Long Range Air Launched Target (LRALT) Characterization for LRALT Risk Reduction Flight. • Conducted test planning, test execution, and post test analysis for Short Range Air Launched Target (SRALT) Characterization for SRALT Risk Reduction Flight. • Conducted test planning, sensor planning, range integration efforts, and design reviews in support of FT 04-2 (CMCM-1) and FT 04-4 (CMCM-2). • Conducted test & sensor planning, range integration efforts, and design reviews in support of Medium Range Target (MRT) Characterization for MRT Risk Reduction Flight (FT 04-3). • Continued the Advanced Data Analysis Center (Optical Data Analysis (ODA) and Radar Data Analysis (RDA) groups) effort to support BMDS data collection objectives, conduct mission planning for LRALT, SRALT, FT 04-3, FT04-02, and FT04-04, perform sensor execution for CMP-4, LRALT, and SRALT, perform data analysis for CMP-4, LRALT, SRALT, and BMD System Tests, explored phenomenology to improve future BMD systems and new mission areas, and provided characterization and assessment for Measurements and BMDS flight test programs. • Drafted the Measurements Master Test Plan (MMTP). • Continued Radar Data Exploitation (RDE) analysis efforts of all source data collection during foreign flight tests. • RDE effort conducted Observation Island test participation planning for 8 domestic tests. • Drafted and coordinated the BMDS Integrated Master Test Plan (IMTP). • The Lethality Test Program: <ul style="list-style-type: none"> • Coordinated DOT&E approval of LFT&E strategy for GMD. • Supported a successful collaborative Flight Test (USFT-1) with the Israeli Arrow Program; and hardware development and planning for a collaborative Flight Test with the Army's PAC-3 program. • The Kill Assessment Program: <ul style="list-style-type: none"> • Analyzed data collected from BMDS test events to develop decision tools in order to insert Kill Assessment (KA) decision capabilities into the BMDS Block 2006 C2BMC suite. • The International Program: <ul style="list-style-type: none"> • Conducted test planning, test execution, sensor planning & data collection, range integration efforts, and post test analysis for Arrow Caravan #1 Flight Tests in cooperation with the Arrow Program Office and the Israeli Missile Defense Organization. • Leveraged the unique skills and tools of our international partners for benefits that can be applied to the US BMDS. Examples of unique tools were the measurement systems fielded by the Canadians (imaging hyper-spectral instruments) and Australians (active and passive HF detection systems). 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets
<p>FY 2005 Planned Program/Accomplishments:</p> <ul style="list-style-type: none"> Executed CMP-4b and conducted post test analysis on CMP-4 data. (Completed CMP-4 60-Day Data Review) Continue to collect, prioritize, validate, and document requirements for MDA Measurements Program. Allocate requirements to test. Continue the Advanced Data Analysis Center (ODA, RDA, and RDE) effort to support BMDS data collection objectives, conduct mission planning for FT 04-3, FT04-02, and FT04-04, perform sensor execution for FT 04-3, FT04-02, and FT04-04, perform data analysis for CMP-4, LRALT, SRALT, MRT, FT04-02, and BMD System Tests, explore phenomenology to improve future BMD systems and new mission areas, and provide characterization and assessment for Measurements and BMDS flight test programs. Update the Measurements Master Test Plan (MMTP). Continue RDE analysis efforts of all source data collection during foreign flight tests. Conduct test planning, test execution, and post test analysis for Medium Range Target (FT 04-3) Characterization of FT 04-3 Risk Reduction Flight. Collect target signature data for new target performance, characterization analysis, and for algorithm development. Coordinate requirements, sensor planning, data collection, data analysis, and reporting for approximately 4 Tests of Opportunity (TOOs). Continue implementation of the Combined Test Force (CTF) to conduct BMD System Flight Testing to verify BMDS element and component interoperability. Continue to coordinate and revise the BMDS Integrated Master Test Plan (IMTP). The Lethality Test Program: <ul style="list-style-type: none"> Conducted an Intercept Debris Measurements Program (IDMP) payload experiment on PAC-3 DT/OT-12a The Lethality Test Program plans to: <ul style="list-style-type: none"> Develop the first BMD system level lethality LFT&E strategy and execute lethality cooperative flight tests with PAC-3 as well as develop test plans and target fabrication for out-year THAAD tests, ABL and Arrow events. Resolve key questions pertaining to bulk chemical target payloads after BMD engagements. The Kill Assessment (KA) Test Program will develop, test and validate techniques that are designed to declare the Degree of Kill on BMDS Engagements. This includes developing engineering models and decision tools to support KA decision capability insertion into the BMDS Block 2006 C2BMC suite which include: <ul style="list-style-type: none"> Developing a C2BMC schema with architecture for the BMDS that will identify potential Kill Assessment sensors, identifying kill assessment algorithms, incorporating near-real time Kill Assessment information in the C2BMC system, and displaying real-time information to decision makers. Providing sensor support that develops and fields specially designed Kill Assessment sensors including the Kill Assessment Fireball Sensor (KAFS), high speed spectrometers (HSS), and high speed imagers (HSI) that can capture the necessary Kill Assessment data. Conducting RV Intercept Signature Kill Assessment (RISK) Model Development to predict optical signatures resulting from target intercepts. Performing Hydrocode Model Assessment to determine the utility of hydrocodes to support Kill Assessment. International Program plans to: <ul style="list-style-type: none"> Participate in the US-RF proposed APEX II experiment. Conduct US-UK cooperative passive radar analysis. Perform analysis on US-IS DEA joint data. Conduct US-CA spectral data collections and US-AU OTH radar investigations. <p>FY 2006 Planned Program:</p> <ul style="list-style-type: none"> Continue the Advanced Data Analysis Center (ODA, RDA, and RDE groups) effort to support BMDS data collection objectives, conduct mission planning for FT 06-4, perform data analysis for MRT, FT04-02, FT04-04 and BMD System Tests, explore phenomenology to improve future BMD systems and new mission areas, and provide characterization and assessment for Measurements and BMDS flight test programs. Revise and update the Measurements Master Test Plan (MMTP). 		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets
<ul style="list-style-type: none"> Continue to collect, prioritize, validate, and document requirements for MDA Measurements Program. Allocate requirements to test. Continue to coordinate and revise the BMDS Integrated Master Test Plan (IMTP). Continue implementation of the Combined Test Force (CTF) to conduct BMD System Flight Testing to verify BMDS element and component interoperability. The Lethality Test Program plans to: <ul style="list-style-type: none"> Continue interface with BMDS element and corporate lethality programs, but with increased authority and responsibility for assuring BMDS lethality testing and assessments are accomplished in accordance with the BMDS Combined Test Force Concept of Operations. Execute the first THAAD System level lethality Flight Test (FT-3) as well as develop test plans and target fabrication for out-year THAAD test (FT-4) and ABL. Continue phenomenology; instrumentation and test methodology development; flight test planning and qualification; and component, element and system capability demonstrations. Collect data required by the MDA System Engineer pertaining to post-engagement effects and consequence management analysis efforts. Perform post test analysis and exploitation of data from multiple tests to identify potential phenomenologies and features that might not be apparent from individual test results. The Kill Assessment (KA) Test Program will develop, test and validate techniques that are designed to declare the Degree of Kill on BMDS Engagements. This includes developing engineering models and decision tools to support KA decision capability insertion into the BMDS Block 2006 C2BMC suite which include: <ul style="list-style-type: none"> Developing a C2BMC schema with architecture for the BMDS that will identify potential Kill Assessment sensors, identifying kill assessment algorithms, incorporating near-real time Kill Assessment information in the C2BMC system, and displaying real-time information to decision makers. Providing sensor support that develops and fields specially designed Kill Assessment sensors including the Kill Assessment Fireball Sensor (KAFS), high speed spectrometers (HSS), and high speed imagers (HSI) that can capture the necessary Kill Assessment data. Conducting RV Intercept Signature Kill Assessment (RISK) Model Development to predict optical signatures resulting from target intercepts. Performing Hydrocode Model Assessment to determine the utility of hydrocodes to support Kill Assessment. International Program plans to: <ul style="list-style-type: none"> Participate in the US-RF proposed APEX II experiment. Conduct US-UK cooperative passive radar analysis. Perform analysis on US-IS DEA joint data. Conduct US-CA spectral data collections and US-AU OTH radar investigations. <p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> The Lethality Test Program to interface with BMDS element and corporate lethality programs, but with increased authority and responsibility for assuring BMDS lethality testing and assessments are accomplished in accordance with the BMDS Combined Test Force Concept of Operations. The Lethality Test Program will execute the second THAAD System level lethality Flight Test (FT-4) as well as develop test plans and target fabrication for out-year tests. The Kill Assessment (KA) Test Program will develop, test and validate techniques that are designed to declare the Degree of Kill on BMDS Engagements. This includes developing engineering models and decision tools to support KA decision capability insertion into the BMDS Block 2006 C2BMC suite. The Advanced Data Analysis Center (ODA, RDA, and RDE) effort will continue to support BMDS data collection objectives, conduct mission planning for FT 06-4 and FT 08-2, perform sensor execution for FT 06-4, perform data analysis for FT 06-4 and BMD System Tests, explore phenomenology to improve future BMD systems and new mission areas, and provide characterization and assessment for Measurements and BMDS flight test programs. Update the Measurements Master Test Plan (MMTP). Continue to collect, prioritize, validate, and document requirements for MDA Measurements Program. Allocate requirements to test. International Program plans to: <ul style="list-style-type: none"> Participate in the US-UK cooperative passive radar analysis. Perform analysis on US-IS DEA joint data. Conduct US-CA spectral data collections and US-AU OTH radar investigations. Continue to coordinate and revise the BMDS Integrated Master Test Plan (IMTP). 		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY			R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			0603888C Ballistic Missile Defense Test and Targets	
	FY 2004	FY 2005	FY 2006	FY 2007
Facilities, Siting & Environmental	4,875	4,514	5,668	6,155
RDT&E Articles (Quantity)	0	0	0	0
<p>FY 2004 Accomplishments:</p> <p>The Facilities, Siting and Environmental program provided guidance, environmental impact analysis and documentation, facility siting, acquisition, and facility operational support for the BMD systems. This program provided oversight of facility acquisition of the Military Construction (MILCON) and RDT&E construction programs. This program also provided guidance and supported the Environmental Assessment and Environmental Impact Statement process, environmental compliance, pollution prevention, and other environmental efforts. The Civil Engineering and Environmental Management Program ensured environmental compliance of all BMDS testing activities for compliance with federal, state, local, DOD and international law, treaties and regulations.</p> <ul style="list-style-type: none"> • Completed 23 NEPA analyses to support MDA BMDS construction, testing, and fielding activities. • Completed Six Environmental Assessments (EAs) and Findings of No Significant Impact (FONSIs) to support Arrow System Improvement Program testing at Vandenberg AFB (VAFB) and San Nicolas Island; Ground-based Midcourse Defense (GMD) Initial Defensive Operations Capability at VAFB; GMD Northeast Remote IDT at Ft Drum; Intercept Debris Measurement Program experiments at White Sands Missile Range (WSMR); Vertical Gun Testing at New Mexico Institute of Mining and Technology; and use of the Mobile Launch Platform in the Pacific Ocean Region. • Completed Seventeen Records of Environmental Consideration (RECs) supporting various MDA construction and testing activities. Specific RECs include the following: <ul style="list-style-type: none"> • Terminal High Altitude Air Defense (THAAD) Flight Test at WSMR • THAAD Radar Integration at WSMR • Joint National Integration Center (JNIC) Warehouse at Schriever AFB • GMD Integrated Flight Test 13C (IFT-13c) at Kodiak Launch Complex (KLC) and Reagan Test Site (RTS) • Transportable Telemetry System (TTS) CATEX at Naval Air Station Whidbey Island (NASWI) • Pacific Explorer III Memorandum for Record (MFR) • Arrow System Improvement Program (ASIP) Modified Flight Tests at Pt Mugu • ABL Clean Room at Edwards AFB • Air Force Form 813 for Ground Testing of the ABL ARS Laser at Cape Canaveral • Air Force Form 813 for Beddown of BMDS Radars at Vandenberg AFB (VAFB) • Air Force Form 813 for ABL Proteus Beddown • Integrated Flight Test 14 (IFT-14) from VAFB • Medium Range Target System (MRT) testing at PMRF • Critical Measurements and Countermeasures FT 04-2 Flight Tests at PMRF • THAAD Ancillary Radar Site at PMRF • Fort Greely Construction Access • Fort Greely Communication Cable • Updated the environmental compliance awareness training class for MDA-wide distribution; and held MDA's Environmental Integrated Program Team (IPT) Meeting to discuss ongoing compliance issues and potential compliance issues likely to affect MDA's mission. • Prepared the draft BMDS Programmatic Environmental Impact Statement and distributed for public comment. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets
<p>FY 2005 Planned Program</p> <p>The Facilities, Siting and Environmental program will provide guidance, environmental impact analysis and documentation, facility siting, acquisition, and facility operational support for the BMD systems. This program will oversee facility acquisition of the Military Construction (MILCON) and RDT&E construction programs. This program will also provide guidance and supports the Environmental Assessment and Environmental Impact Statement process, environmental compliance, pollution prevention, and other environmental efforts. The Civil Engineering and Environmental Management Program will ensure environmental compliance of all BMDS testing activities for compliance with federal, state, local, DOD and international law, treaties and regulations.</p> <ul style="list-style-type: none"> • Complete the BMDS Programmatic Environmental Impact Statement (PEIS) including public hearings to address/incorporate appropriate public comments. • List of NEPA/Executive Order 12114 analyses that should be conducted/processed this year: <ul style="list-style-type: none"> • MDA Ballistic Missile Defense System Programmatic Environmental Impact Statement (BMDS PEIS) • SBX Mooring in Adak, Alaska, EA • Small Targets Launch Pad at VAFB EA • Orbital/Suborbital Program (OSP) EA • Mobile Sensors EA • HELSTF Enhanced Laser and Range Operations EA • High Altitude Airship (HAA) EA • E.O. 12114/NEPA analysis for the FBX-T (Forward Based Radar-Transportable) • THAAD Intercept Debris Measurement Program REC • MUDPACK II EA • FT 04-4 REC • MFR for FTM 04-2 • Arrow System Improvement Program REC • ISTEf at Niihau, HI REC • E.O. 12114 Analysis for JCTV-1 • E.O. 12114 Analysis for FT 04-5 (Cobra Dane LRALT) Flight Test <p>FY 2006 Planned Program:</p> <p>The Facilities, Siting and Environmental program will provide guidance, environmental impact analyses and documentation, real property facility siting, acquisition, and facility operational support for the BMD systems. This program will oversee facility acquisition of the Military Construction (MILCON) and RDT&E construction programs. This program will also provided guidance and supports the Environmental Assessment and Environmental Impact Statement process, environmental compliance, pollution prevention, and other environmental efforts. This program will ensure environmental compliance of all BMDS activities with federal, state, local, DOD and international law, treaties and regulations.</p> <p>FY2007 Planned Program</p> <p>The Facilities, Siting and Environmental program will provide guidance, environmental impact analyses and documentation, real property facility siting, acquisition, and facility operational support for the BMD systems. This program will oversee facility acquisition of the Military Construction (MILCON) and RDT&E construction programs. This program will also provided guidance and supports the Environmental Assessment and Environmental Impact Statement process, environmental compliance, pollution prevention, and other environmental efforts. This program will ensure environmental compliance of all BMDS activities with federal, state, local, DOD and international law, treaties and regulations.</p>		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY			R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			0603888C Ballistic Missile Defense Test and Targets	
	FY 2004	FY 2005	FY 2006	FY 2007
Test Policy and Integration	17,136	24,932	25,688	27,084
RDT&E Articles (Quantity)	0	0	0	0

FY 2004 Accomplishments:

- BMDS On-Alert Capability Assessment (BOCA) team was formed in February 2004 and initiated a non-advocate assessment of the BMDS readiness, based on analysis of test data. The BOCA team investigated BMDS performance issues and proposed mitigation plans.
- Completed Target Accreditation Reports for the USFT-1, USFT-2, PAC-3 CRI-2, IFT-13C, IFT-14, and FT 04-1 test events.
- Drafted Test Policy for the implementation and conduct of Executive Flight Test Review guidelines.
- Developed guidance and direction for the implementation of the Responsible Test Organization.
- Initiated Memorandum of Agreement (MOA) with OTAs to establish an OTA Liaison Group (OLG) to facilitate communications and interaction between the BMDS development community and Service operational test communities.

FY 2005 Planned Program/Accomplishments:

- BMDS On-Alert Capability Assessment (BOCA) team will provide a non-advocate assessment of the BMDS readiness based on an analysis of test data. The BOCA team will continue investigation of BMDS performance issues and propose mitigation plans.
- Complete Target Accreditation Reports for the FTM 04-1, FT 04-2a, FT 04-2b, FTM 04-2, THAAD FT-3, FTG 04-2, and FTG 04-3 test events.
- Initiate Target Accreditation Report for FTG 04-4a, FTG 04-4b, FTM 04-3, JCTV-1 and THAAD FT-4 test events.
- Continue to integrate mission assurance, best practices and lessons learned into test policy and procedures.
- Complete guidance and direction for RTO implementation.
- Finalize MOA with OTAs to establish the OLG.

FY 2006 Planned Program:

- BMDS On-Alert Capability Assessment (BOCA) team will continue to update the non-advocate assessment of the BMDS readiness and investigate BMDS performance issues and propose mitigation plans.
- Develop Target Accreditation Reports for the FTG 06-1a/b, FTM 06-1, JFM-1, FTT 06-1, FTT 06-2 and FT 06-1 test events.
- Continue to integrate mission assurance and best practices and lessons learned into test policy, process, and procedures.
- Continue communications and interaction between the BMDS development community and Service operational test communities as established by the MOA.

FY 2007 Planned Program:

- BMDS On-Alert Capability Assessment (BOCA) team will continue to update the non-advocate assessment of the BMDS readiness and investigate BMDS performance issues and propose mitigation plans.
- Develop Target Accreditation Reports for the FT 06-4, FTM 06-3, TMDD-1, TMDD-2, SMDD-1, SMDD-2, FTM 06-4, FTG-06-5, FTT 06-3, and FTG 06-4 test events.
- Continue to integrate mission assurance and best practices and lessons learned into test policy, processes and procedures.
- Continue communications and interaction between the BMDS development community and Service operational test communities as established by the MOA.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets
<p><u>D. Acquisition Strategy</u></p> <p>The RTO directs various executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDCs and other MDA programs to execute the various diverse efforts within the BMDS test program. Based on the specific effort / activity being conducted, acquired, or maintained, these executing agents use various acquisition strategies that conform to their respective headquarters regulations. The executing agents strive to use contracting strategies that provide the flexibility needed to test and assess to BMDS in a capabilities-based environment.</p>		

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Product Development										
Remarks										
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs										
Remarks										
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Test Resources										
Ground Test Facilities	Various	Army, Air Force/ NY, AL, FL, MD, TN, CA, NM	17,774	15,687	1Q	21,735	1Q	22,116	1Q	77,312
Ranges and Instrumentation	Various	Various/ CA, HI, NM, Marshall Is, Alaska	53,559	62,170	1Q	46,168	1Q	44,105	1Q	206,002
Airborne Sensors	C/Various	Raytheon, L3 (Aeromet)/ CA, OK	45,798	31,972	1/3Q	26,950	1Q	24,901	1Q	129,621
PMRF Upgrades (Congressional Adds)	Various	Various / HI	26,924	33,879	1Q	0	N/A	0	N/A	60,803

Project: 0304 Test & Evaluation

MDA Exhibit R-3 (PE 0603888C)

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Environmental Radiation Effects Simulation (Congressional Add)	Various	Indiana U, Bloomington, IN	937	1,450	1Q	0	N/A	0	N/A	2,387
Data Centers	Various	Various, TN, CO, AL, CA	6,263	13,165	1Q	13,612	1Q	13,869	1Q	46,909
BMDS CTF Core										
Optical Data Analysis	Various	USASMDC / Huntsville, AL	3,925	5,158	1Q	3,507	1Q	3,950	1Q	16,540
Radar Data Analysis	Various	USASMDC / Huntsville, AL	4,527	4,456	1Q	4,600	1Q	4,800	1Q	18,383
Lethality	Various	USASMDC / Huntsville, AL	3,205	5,000	1Q	2,841	1Q	2,830	1Q	13,876
Kill Assessment	Various	USASMDC / Huntsville, AL	3,089	3,501	1Q	3,639	1Q	3,792	1Q	14,021
International Programs	Various	Various including USASMDC / Huntsville, AL	979	1,070	1Q	1,124	1Q	1,178	1Q	4,351
Target Characterization	Various	USASMDC / Huntsville, AL	4,797	4,000	1Q	0	N/A	0	N/A	8,797
Special Programs	Various	MARCORSYSC OM/WSMR	212	0	N/A	2,473	1Q	1,502	1Q	4,187
CMP-4	Various	USASMDC / Huntsville, AL	16,505	0	1Q	0	N/A	0	N/A	16,505
Corporate Data Collection	Various	Various including Sandia/APL-JHU/MITLL/US AMCOM	3,920	0	1/2Q	0	N/A	0	N/A	3,920

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
TPS-X	Various	Various including NSWC-DD/SPAWAR/NSWC-PHD/PMRF	2,125	300	1Q	0	N/A	0	N/A	2,425
Radar Exploitation	Various	USASMDC / Huntsville, AL	2,572	2,793	1Q	2,892	1Q	2,993	1Q	11,250
FT 04-2 & FT 04-4	Various	USASMDC / Huntsville, AL	84,549	0	1Q	0	1Q	0	1Q	84,549
Facilities, Siting & Environmental										
Facilities & Siting	Various	Various	33	150	1Q	153	1Q	305	1Q	641
Environmental Compliance	Various	Various	79	150	1Q	153	1Q	156	1Q	538
Test Policy and Integration										
BOCA	Various	Various/ NJ, CA, MD, MA	6,000	8,622	1Q	9,315	1Q	9,741	1Q	33,678
Operational Test Agency Participation in System Test	Various	OTAs/ Various	0	5,556	1Q	6,003	1Q	6,313	1Q	17,872
Target Certification	Various	USASMDC/ Huntsville, AL	490	491	1Q	500	1Q	500	1Q	1,981
Subtotal Test and Evaluation			288,262	199,570		145,665		143,051		776,548
Remarks <ul style="list-style-type: none">FY04 Funding for OTA Participation in System Test is reflected in Budget Project 0704PMRF Upgrades and Environmental Radiation Effects Simulation are Congressional Adds										

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Test Resources										
SMDC Support	TM	USASMDC/ Huntsville, AL	2,099	1,265	1Q	2,744	1Q	2,756	1Q	8,864
Support Contracts	C/FFP	Various/ Arlington, VA	6,039	6,055	1Q	5,333	1Q	5,460	1Q	22,887
BMDS CTF Core										
SMDC Government Salaries	TM	USASMDC/ Huntsville, AL	3,795	3,890	1Q	3,446	1Q	3,493	1Q	14,624
Support Contracts	C/FFP	Various/ TASC, SPARTA, RNB Arling, VA	12,622	13,807	1Q	15,499	1Q	17,467	1Q	59,395
Facilities, Siting & Environmental										
Support Contracts	C/FFP	Various/ VA & MD	4,763	4,214	1Q	5,362	1Q	5,694	1Q	20,033
Test Policy and Integration										
TE Government Salaries	TM	Wash, DC	6,534	5,288	1Q	5,394	1Q	5,602	1Q	22,818
Support Contracts	C/FFP	TASC, SPARTA/ Arlington, VA	3,389	4,211	1Q	3,710	1Q	3,956	1Q	15,266
TE Travel	TM		521	531	1Q	530	1Q	631	1Q	2,213
SMDC Government Salaries	TM	USASMDC/ Huntsville, AL	220	233	1Q	236	1Q	341	1Q	1,030
Subtotal Management Services			39,982	39,494		42,254		45,400		167,130
Remarks										
Project Total Cost			328,244	239,064		187,919		188,451		943,678
Remarks The Test & Evaluation program distributes the majority of its funding to Executing Agents (i.e. the Air Force, Army, Navy, Joint National Integration Center (JNIC), and DTRA) for further dissemination. These Executing Agents will use Military Interdepartmental Purchase Requests (MIPRs) and/or in-house vehicles to accomplish the tasks specified.										

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MDA Exhibit R-3 (PE 0603888C)

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APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
Aegis BMD Cooperative Research Program																																
JCTV-1									▽																							
JFM-1										▽																						
ARROW System Improvement Program																																
USFT-2				▼																												
AST-10							▽																									
AST-11										▽																						
AST-12													▽																			
AST-13																▽																
Test Asset Upgrades																																
WASP Upgrade							△△																									
TTS IOC							△△																									
ABS Contract Award								△△																								
Major Maint. MLP								△△																								
NP3 Upgrades													△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	
Environmental Planning																																
PEIS Completion							△△																									
ABL																																
First Light					▼																											
First Flight					▼																											

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)															R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																	
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Ground Tests																																
IGT-4a				▼																												
MDIE 04b				▼																												
C2BMC Sp 4.3				▼																												
IGT-2				▼																												
IGT-4b					▼																											
IGT-3					▼																											
C2BMC Sp 4.4						▽																										
WG 04-1 (IMD-04.5)						▽																										
GT 04-5 (MDIE 05a)							▽																									
WG 04-3 (IMD-5.2)							▽																									
GT 04-1 (IGT-5)								▽																								
WG 04-4 (IMD-5.3)								▽																								
C2BMC Sp 4.5								▽																								
WG 04-5 (IMD-5.4)									▽																							
WG 04-6 (IMD 6.1 Planex)									▽																							
GT 04-6 (MDIE 05b)									▽																							
GT 06-9 (BMDS IDT)										▽																						
GT 06-5 (BMDS GT)											▽																					
GT 04-2 (DGT-1)												▽																				
C2BMC Sp 6.1													▽																			

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APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Ground Tests																																
GT 06-1 (MDIE 06a)												▽																				
C2BMC Sp 6.2												▽																				
WG 06-2 (SE Sim)												▽																				
GT 06-2 (MDIE 06b)												▽																				
GT 06-6 (BMDS GT)													▽																			
GT 04-3 (IGT-6)													▽																			
WG 06-3 (PLANEX)													▽																			
GT 04-4 (DGT-2)														▽																		
WG 06-4 (IMD-7.2)														▽																		
C2BMC Sp 6.3														▽																		
GT 06-10 (BMDS IDT)														▽																		
GT 06-7 (BMDS IGT)														▽																		
GT 06-3 (MDIE 07a)														▽																		
C2BMC Sp 6.4																▽																
GT 06-4 (MDIE 07b)																▽																
GT 06-8 (BMDS IGT)																▽																
System Flight Tests																																
PAC-3 CRI-1 (DT/OT-11)				▽																												
PAC-3 CRI-2 (DT/OT-12)					▽																											
IFT-13c					▽																											

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R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Flight Tests																																
FT 04-3 (MRT)						▽																										
THAAD FT-1						▽																										
PAC-2 GEM: 2-1						▽																										
FTM 04-1 (FM-7)						▽																										
IFT-14						▽																										
FT 04-2 (CMCM-1)						▽																										
At Sea Demo (ASD) 3.0						▽																										
FT 04-1 (IFT-16a)							▽																									
PAC-3: 2-3							▽																									
PAC-3: 2-2							▽																									
FTM 04-2 (FM-8)							▽																									
FTG 04-1 (IFT-1b)								▽																								
FT 04-5 (Cobra Dane LRALT)								▽																								
FTM 04-3 (FM-9)								▽																								
THAAD FT-2								▽																								
FT 04-4 (CMCM-2)								▽																								
FT 06-1 (GMD RCF3)									▽																							
FTG 04-2 (IFT-1c)									▽																							
PAC-3: P6-4									▽																							
PAC-2 GEM: P6-2									▽																							
THAAD FT-3									▽																							
THAAD FT-4										▽																						

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APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Flight Tests																																
At Sea Demo (ASD) 3.1											▽																					
PAC-3: P6L-3											▽																					
PAC-2 GEM: P6L-2											▽																					
FTM 06-1 (FM-10)											▽																					
FTT 04-1 (TH FT5)												▽																				
FTM 06-2 (FM-11)												▽																				
FTG 06-1a/b (IFT 20/21)												▽																				
FTG 06-2 (IFT 22)													▽																			
PAC-3: 16-2													▽																			
FT 06-6 (GMD RCF-4)													▽																			
FTT 06-1 (TH FT6)													▽																			
FTG 06-3a/b (IFT-23/24)														▽																		
PAC-3: 16-3														▽																		
FTT 06-2 (TH FT7)														▽																		
FTT 06-3 (TH FT8)															▽																	
FTM 06-3 (FM-12)															▽																	
FT 06-4 (CMCM-4)															▽																	
Strategic Missile Demo (SMDD-1)																▽																
FTM 06-4 (FM-13)																▽																
FTT 06-4 (TH FT9)																▽																
FTG 06-4 (IFT-25)																▽																
Tactical Missile Demo (TMDD-1)																▽																
FTT 06-6																	▽															

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APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Flight Tests																																
Strategic Missile Demo (SMDD-2)																	▽															
Tactical Missile Demo (TMDD-2)																	▽															
PAC-2 GEM: P6X-2																	▽															
PAC-3: P6X-4																	▽															
FTT 06-5 (TH FT10)																	▽															
FTG 06-5 (BV+RRF/16b)																	▽															
FTG 08-1																		△			△											
FTG 08-2																			△			△										
FTT 08-2																			▽													
FTT 08-1																			▽													
FTM 08-1																			▽													
FTM 08-2																				▽												
FTG 08-3a																				△			△									
FTG 08-3b																				△			△									
FTG 08-4																					△			△								
FTT 08-3																				▽												
FTT 08-4																				▽												
FTM 08-3																					▽											
FTT 08-5																					▽											
FTG 08-5																						△			△							
FTT 08-6																						▽										

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R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Flight Tests																																
FTG 08-6																									△	△	△					
FTM 08-4																									▽							
FTG 10-1																									△	△	△					
FTM 10-1																									▽							
FTG 10-2																										△	△	△				
FTM 10-2																									▽							
FTG 10-3 a/b (Salvo Mission)																										△	△	△				
FTG 10-3																										△	△	△				
FTG 10-6 a/b (Salvo Mission)																										△	△	△				
FTG 10-5																										△	△	△				
FTM 10-3																										▽						
FTG 10-4																										△	△	△				
FTM 10-4																																▽
Measurement Tests																																
Long Range Air Launch Target (LRALT)	△	△	△																													
Short Range Air Launch Target (SRALT)				△																												
CMP-4b				△																												
CMP-4a				△																												

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																				Date February 2005												
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)												R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																				
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
Glory Trips (USAF Operational)																																
GT-186				▼																												
GT-188						▼																										
GT-34							▼																									
GT-187							▼																									
GT-189								▼																								
GT-190										▼																						
GT-191											▼																					
GT-192												▼																				
GT-193														▼																		
GT-195															▼																	
GT-194															▼																	
GT-196																▼																

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Aegis BMD Cooperative Research Program								
JCTV-1			1Q					
JFM-1			2Q					
ARROW System Improvement Program								
AST-10		3Q						
AST-11			2Q					
AST-12				1Q				
AST-13				4Q				
USFT-2	4Q							
Test Asset Upgrades								
ABS Contract Award		3Q-4Q						
Airborne Sensors	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Data Center O&M	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Ground Test Facilities O&M	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
MRSS O&M	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Major Maint. MLP		3Q-4Q						
NP3 Upgrades				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Ranges O&M	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
TTS IOC		2Q-3Q						
WASP Upgrade		2Q-3Q						
Environmental Planning								
PEIS Completion		2Q-3Q						
ABL								
First Flight		1Q						
First Light		1Q						
System Ground Tests								
C2BMC Sp 4.3	4Q							
C2BMC Sp 4.4		2Q						
C2BMC Sp 4.5		4Q						
C2BMC Sp 6.1			2Q					
C2BMC Sp 6.2			3Q					
C2BMC Sp 6.3				1Q				

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
C2BMC Sp 6.4				4Q				
GT 04-1 (IGT-5)		4Q						
GT 04-2 (DGT-1)			2Q					
GT 04-3 (IGT-6)			4Q					
GT 04-4 (DGT-2)				1Q				
GT 04-5 (MDIE 05a)		3Q						
GT 04-6 (MDIE 05b)			1Q					
GT 06-1 (MDIE 06a)			3Q					
GT 06-10 (BMDS IDT)				2Q				
GT 06-2 (MDIE 06b)			3Q					
GT 06-3 (MDIE 07a)				2Q				
GT 06-4 (MDIE 07b)				4Q				
GT 06-5 (BMDS GT)			2Q					
GT 06-6 (BMDS GT)			4Q					
GT 06-7 (BMDS IGT)				2Q				
GT 06-8 (BMDS IGT)				4Q				
GT 06-9 (BMDS IDT)			2Q					
IGT-2	4Q							
IGT-3		1Q						
IGT-4a	4Q							
IGT-4b		1Q						
MDIE 04b	4Q							
WG 04-1 (IMD-04.5)		2Q						
WG 04-3 (IMD-5.2)		3Q						
WG 04-4 (IMD-5.3)		4Q						
WG 04-5 (IMD-5.4)			1Q					
WG 04-6 (IMD 6.1 Planex)			1Q					
WG 06-2 (SE Sim)			3Q					
WG 06-3 (PLANEX)			4Q					
WG 06-4 (IMD-7.2)				1Q				
System Flight Tests								
At Sea Demo (ASD) 3.0		2Q						

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail					Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
At Sea Demo (ASD) 3.1			2Q					
FT 04-1 (IFT-16a)		3Q						
FT 04-2 (CMCM-1)		2Q						
FT 04-3 (MRT)		2Q						
FT 04-4 (CMCM-2)		4Q						
FT 04-5 (Cobra Dane LRALT)		4Q						
FT 06-1 (GMD RCF3)			1Q					
FT 06-4 (CMCM-4)				3Q				
FT 06-6 (GMD RCF-4)				1Q				
FTG 04-1 (IFT-1b)		4Q						
FTG 04-2 (IFT-1c)			1Q					
FTG 06-1a/b (IFT 20/21)			4Q					
FTG 06-2 (IFT 22)				1Q				
FTG 06-3a/b (IFT-23/24)				2Q				
FTG 06-4 (IFT-25)				4Q				
FTG 06-5 (BV+RRF/16b)					1Q			
FTG 08-1					2Q-4Q	1Q		
FTG 08-2					3Q-4Q	1Q-2Q		
FTG 08-3a					4Q	1Q-3Q		
FTG 08-3b					4Q	1Q-3Q		
FTG 08-4						1Q-4Q		
FTG 08-5						3Q-4Q	1Q-2Q	
FTG 08-6						4Q	1Q-3Q	
FTG 10-1							1Q-4Q	
FTG 10-2							3Q-4Q	1Q-2Q
FTG 10-3							4Q	1Q-3Q
FTG 10-3 a/b (Salvo Mission)							4Q	1Q-3Q
FTG 10-4								1Q-4Q
FTG 10-5								1Q-4Q
FTG 10-6 a/b (Salvo Mission)								1Q-4Q
FTM 04-1 (FM-7)		2Q						
FTM 04-2 (FM-8)		3Q						

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
FTM 04-3 (FM-9)		4Q						
FTM 06-1 (FM-10)			3Q					
FTM 06-2 (FM-11)			4Q					
FTM 06-3 (FM-12)				3Q				
FTM 06-4 (FM-13)				4Q				
FTM 08-1					3Q			
FTM 08-2					4Q			
FTM 08-3						2Q		
FTM 08-4						4Q		
FTM 10-1							1Q	
FTM 10-2							3Q	
FTM 10-3								1Q
FTM 10-4								3Q
FTT 04-1 (TH FT5)			4Q					
FTT 06-1 (TH FT6)				1Q				
FTT 06-2 (TH FT7)				2Q				
FTT 06-3 (TH FT8)				3Q				
FTT 06-4 (TH FT9)				4Q				
FTT 06-5 (TH FT10)					1Q			
FTT 06-6					1Q			
FTT 08-1					3Q			
FTT 08-2					3Q			
FTT 08-3						1Q		
FTT 08-4						1Q		
FTT 08-5						2Q		
FTT 08-6						3Q		
IFT-13c		1Q						
IFT-14		2Q						
PAC-2 GEM: 2-1		2Q						
PAC-2 GEM: P6-2			1Q					
PAC-2 GEM: P6L-2			3Q					
PAC-2 GEM: P6X-2					1Q			

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
PAC-3 CRI-1 (DT/OT-11)	4Q							
PAC-3 CRI-2 (DT/OT-12)		1Q						
PAC-3: 16-2				1Q				
PAC-3: 16-3				2Q				
PAC-3: 2-2		3Q						
PAC-3: 2-3		3Q						
PAC-3: P6-4			1Q					
PAC-3: P6L-3			3Q					
PAC-3: P6X-4					1Q			
Strategic Missile Demo (SMDD-1)				4Q				
Strategic Missile Demo (SMDD-2)					1Q			
THAAD FT-1		2Q						
THAAD FT-2		4Q						
THAAD FT-3			1Q					
THAAD FT-4			2Q					
Tactical Missile Demo (TMDD-1)				4Q				
Tactical Missile Demo (TMDD-2)					1Q			
Measurement Tests								
CMP-4a	4Q							
CMP-4b	4Q							
Long Range Air Launch Target (LRALT)	1Q-3Q							
Short Range Air Launch Target (SRALT)	4Q							
Glory Trips (USAF Operational)								
GT-186	4Q							
GT-187		3Q						
GT-188		2Q						
GT-189		4Q						
GT-190			2Q					
GT-191			3Q					
GT-192			4Q					
GT-193				2Q				
GT-194				3Q				

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RD&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
GT-195				3Q				
GT-196				4Q				
GT-34		3Q						

Element participation in system test events is funded within the respective element budget.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005																	
APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE																			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603888C Ballistic Missile Defense Test and Targets																			
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011															
0704 Test & Evaluation Block 2004	41,328	143,375	0	0	0	0	0	0															
RDT&E Articles Qty	0	4	0	0	0	0	0	0															
<p><i>Note:</i> FY 2005 RDT&E Test Articles: Integrate Launch Vehicles and Payloads to produce two (2) test articles for FT 04-2 & two (2) for FT 04-4.</p>																							
<p><u>A. Mission Description and Budget Item Justification</u></p> <p>The BMDS CTF Block 04 Test and Evaluation Program funds system-level flight tests (BMDS FTs), Ground Tests (BMDS GTs) and Missile Defense Integration Exercises (MDIEs), and Integrated Missile Defense (IMD) Wargames that are being executed from Jan 04 through Dec 05. This project will conduct BMD System Tests to support verification of achieved BMDS block capability and to support the verification and anchoring of Models and Simulations. These System Tests will examine the capability of the BMDS to detect, track, and engage targets. BMDS Ground Tests will demonstrate integration, functionality, and operations of the BMDS in environments that are repeatable and provide a significant number of data points to augment flight test results. Twelve major ground test events will be conducted to support characterization and verification of the Block 04 capability. This project will also provide analysis of each System Test event through the Joint Analysis Team (JAT). Critical Measurements and Countermeasure (CMCM) flight tests are also funded under this project (FY05 only), but are managed as part of the Measurements Program. CMCMs are dedicated flight tests which provide a venue for risk reduction for BMDS Block Testing, addressing phenomenology, countermeasures, and counter-countermeasures requirements, and providing critical measurements to support development and validation of algorithms, modeling and simulation, discrimination, and new technology demonstrations. CMCMs provide test venues and augment various MDA & Element test capabilities. FY05 includes FT-04-2 and FT-04-4. Both missions provide critical data for validation of the Forward Based X-Band-T Radar algorithms, and characterization of advanced countermeasures.</p>																							
<p><u>B. Accomplishments/Planned Program</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 2004</td> <td style="text-align: center;">FY 2005</td> <td style="text-align: center;">FY 2006</td> <td style="text-align: center;">FY 2007</td> </tr> <tr> <td>Flight Tests</td> <td style="text-align: center;">16,155</td> <td style="text-align: center;">27,299</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td>RDT&E Articles (Quantity)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table>										FY 2004	FY 2005	FY 2006	FY 2007	Flight Tests	16,155	27,299	0	0	RDT&E Articles (Quantity)	0	0	0	0
	FY 2004	FY 2005	FY 2006	FY 2007																			
Flight Tests	16,155	27,299	0	0																			
RDT&E Articles (Quantity)	0	0	0	0																			
<p>FY 2004 Accomplishments:</p> <ul style="list-style-type: none"> Supported execution of FM-6, Patriot DT/OT-11, GT-185 to support BMD System Verification and Assessment and Modeling and Simulation Anchoring. Conducted PACEX III and PACEXIV to support BMD System Verification and Assessment and Modeling and Simulation Anchoring. Conducted test planning for IFT-13C, IFT-14, FT 04-1, FT 04-3, GT-188, SERV-1, PATRIOT 2-3, FTG 04-1, FT 04-5, FTM 04-1, FTM 04-2, FTM 04-3 to provide increasing realism in BMD System Testing and to meet BMD System test objectives. Constructed scenario designs for BMDS Flight Tests to support Engagement Sequence Groups (ESGs) identified in the BMDS IMTP. Produced the BMDS Characterization Reports in July and September to support the CVAR-04 and provide input to JTAMDO/STRATCOMMS Military Utility Assessment (MUA) and operational assessment. Created the BMDS Characterization Data Base to support assessments by Systems Engineering, JTAMDO/STRATCOMMS and OTAs. 																							

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE		
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets		
FY 2005 Accomplishments / Planned Program				
<ul style="list-style-type: none"> Plan and support execution of BMD System Tests; IFT-13C, IFT-14, FT04-1, FT 04-3, GT-188, SERV-1, PATRIOT 2-3, FTG04-1, FT04-5, FTM04-1, FTM04-2, and FTM04-3 to support BMD Capability Verification and Assessment. Conduct post test data analysis on FM-6, Patriot DT/OT-11, GT-185, IFT-13C, IFT-14, FT04-1, FT 04-3, GT-188, SERV-1, PATRIOT 2-3, FTG04-1, FT04-5, FTM04-1, FTM04-2, and FTM04-3. Continue to populate the BMDS Characterization Data Base with the latest test data inputs to support assessments by Systems Engineering, JTAMDO/STRATCOMMS and OTAs. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Ground Tests	20,004	15,656	0	0
RDT&E Articles (Quantity)	0	0	0	0
FY2004 Accomplishments:				
<ul style="list-style-type: none"> Planned and executed MDIE 04a & 04b, IGT-2, IGT-4a, and IGT-4b which provided data for both characterization and verification efforts primarily in the areas of interoperability, validity and related system behavior. Performed post test data analysis of MDIE 04a and IGT-2. Conducted test planning of Ground Tests IGT-3, GT 04-1, GT 04-2, GT 04-5 and GT 04-6. Conducted test planning of Wargames IMD 04.2, IMD 04.3, IMD 4.4a, IMD 4.4b, WG 04-1, WG 04-2, WG 04-3, WG 04-4, and WG 04-5. Executed BMDS Wargames IMD 04.2, IMD 04.3, IMD 4.4a and IMD 4.4b. Performed post test data analysis of IMD 04.2 and IMD 04.3. 				
FY 2005 Planned Program				
<ul style="list-style-type: none"> Support a BMDS Ground Test with an operationally representative software and hardware version of the GMD Element and expand element participation in BMDS Ground Tests as the BMDS Block 04 elements mature and become available. Conduct test planning and execution of Ground Tests GT 04-1, GT 04-2, GT 04-5 and GT 04-6. Perform post test data analysis of MDIE 04b, IGT-4a, IGT-4b, IGT-3, GT 04-1, GT 04-2, GT 04-5 and GT 04-6. Conduct test planning and execution of WG 04-1, WG 04-2, WG 04-3, WG 04-4, and WG 04-5. Perform post test data analysis of IMD 4.4a, IMD 4.4b, WG 04-1, WG 04-2, WG 04-3, WG 04-4, and WG 04-5. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets	
	FY 2004	FY 2005	FY 2006	FY 2007
Measurements Tests	0	100,420	0	0
RDT&E Articles (Quantity)	0	4	0	0
<p>Note: FY 2004 CMCM funding is located in Budget Project 0304.</p> <p>FY 2005 Accomplishments / Planned Program</p> <p>RDT&E Articles: Integrate and deliver two (2) test articles for FT 04-2 (CMCM-1) & two (2) for FT 04-4 (CMCM-2).</p> <ul style="list-style-type: none"> Designed FT 04-2 & FT 04-4 to support: Countermeasures/Counter-Countermeasures (CM/CCM) characterization, M&S validation, algorithm development & testing, technologies, CONOPS, and to address other MDA System Engineering CM/CCM focus areas. Continue to do test planning, sensor planning, range integration efforts, and design reviews in support of FT 04-2 and FT 04-4. Deliver two launch vehicles/payloads for FT 04-2 and two launch vehicles/payloads for FT 04-4. Flight Test Qualify 2 payloads for FT 04-2 and 2 for FT 04-4. Integrate Launch Vehicles and Payloads to produce two (2) Test Articles for FT 04-2 and two (2) for FT 04-4. Execute dedicated flight tests FT 04-2 and FT 04-4. Perform post-test data analysis for FT 04-2 and FT 04-4. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Test Policy & Integration	5,169	0	0	0
RDT&E Articles (Quantity)	0	0	0	0
<p>Note: Funding for Operational Test Agency (OTA) Participation in System Test is contained in Budget Project 0304 in FY05 and beyond.</p> <p>FY04 Accomplishments:</p> <ul style="list-style-type: none"> Initiated a Memorandum of Agreement (MOA) with Operational Test Agencies (OTAs) to establish an OTA Liaison Group (OLG) to facilitate communications and interaction between the BMDS development community and Service operational test communities. Provided LOE funding in support of OTA Operational Assessment (OA). 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets
<p><u>D. Acquisition Strategy</u></p> <p>The RTO directs various executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDCs and other MDA programs to execute the various diverse efforts within the BMDS test program. Based on the specific effort / activity being conducted, acquired, or maintained, these executing agents use various acquisition strategies that conform to their respective headquarters regulations. The executing agents strive to use contracting strategies that provide the flexibility needed to test and assess to BMDS in a capabilities-based environment.</p>		

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Product Development										
Remarks										
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs										
Remarks										
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Flight Tests										
BMDs FT	Various	Various including USASMD C	16,155	8,563	1Q	0	N/A	0	N/A	24,718
Test Planning & Operations	Various	Various APL-JHU/MITLL/Sandia/WSMR/NSWC	0	11,836	1Q	0	N/A	0	N/A	11,836
TA&R/JAT	Various	Various including USASMD C/USAMCOM	0	6,900	1Q	0	N/A	0	N/A	6,900
Ground Tests										
MDIE	Various	JNIC, Colorado Springs, CO	11,270	11,356	1Q	0	N/A	0	N/A	22,626

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
IMD Wargames	Various	JNIC, Colorado Springs, CO	8,734	4,300	1Q	0	N/A	0	N/A	13,034
Measurements Tests										
FT 04-2 & FT 04-4	Various	Various/ including USASMDC	0	100,420	1Q	0	N/A	0	N/A	100,420
Test Policy & Integration										
OTA Participation	Various	Various/ CSTE- OTC/SMC-ISP	5,169	0	N/A	0	N/A	0	N/A	5,169
Subtotal Test and Evaluation			41,328	143,375		0		0		184,703
Remarks										
Funding for OTA Participation beyond FY04 is reflected in Budget Project 0304.										
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services										
Remarks										
Project Total Cost			41,328	143,375		0		0		184,703
Remarks										
The Test & Evaluation program distributes the majority of its funding to Executing Agents (i.e. the Air Force, Army, Navy, Joint National Integration Center (JNIC), and DTRA) for further dissemination. These Executing Agents will use Military Interdepartmental Purchase Requests (MIPRs) and/or in-house vehicles to accomplish the tasks specified.										

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Flight Tests																																
PAC-3 CRI-1 (DT/OT-11)				▼																												
PAC-3 CRI-2 (DT/OT-12)					▼																											
IFT-13c					▼																											
IFT-14						▽																										
THAAD FT-1						▽																										
PAC-2 GEM: 2-1						▽																										
FTM 04-1 (FM-7)						▽																										
FT 04-2 (CMCM-1)						▽																										
FT 04-3 (MRT)						▽																										
At Sea Demo (ASD) 3.0						▽																										
PAC-3: 2-3							▽																									
PAC-3: 2-2							▽																									
FT 04-1 (IFT-16a)							▽																									
FTM 04-2 (FM-8)							▽																									
FT 04-5 (Cobra Dane LRALT)								▽																								
THAAD FT-2								▽																								
FT 04-4 (CMCM-2)								▽																								
FTG 04-1 (IFT-1b)								▽																								
FTM 04-3 (FM-9)								▽																								
THAAD FT-3									▽																							
PAC-3: P6-4									▽																							

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Flight Tests																																
PAC-2 GEM: P6-2									□																							
FT 06-1 (GMD RCF3)									□																							
FTG 04-2 (IFT-1c)									□																							
THAAD FT-4										□																						
ARROW System Improvement Program																																
USFT-2				▼																												
AST-10						□																										
Aegis BMD Cooperative Research Program																																
JCVT-1									□																							
Glory Trips (USAF Operational)																																
GT-186				▼																												
GT-188						□																										
GT-34							□																									
GT-187							□																									
GT-189								□																								
ABL																																
First Light					▼																											
First Flight					▼																											
System Ground Tests																																
MDIE 04b				▼																												
IGT-2				▼																												
C2BMC Sp 4.3				▼																												
IGT-4a				▼																												

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																				Date February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)															R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																					
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011							
	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	1	2	3	4				
System Ground Tests																																				
IGT-3					▼																															
IGT-4b					▼																															
C2BMC Sp 4.4						▽																														
WG 04-1 (IMD-04.5)					▼																															
GT 04-5 (MDIE 05a)							▽																													
WG 04-3 (IMD-5.2)							▽																													
WG 04-4 (IMD-5.3)								▽																												
C2BMC Sp 4.5									▽																											
GT 04-1 (IGT-5)									▽																											
WG 04-5 (IMD-5.4)										▽																										
GT 04-6 (MDIE 05b)										▽																										
WG 04-6 (IMD 6.1 Planex)										▽																										
GT 04-2 (DGT-1)											▽																									
GT 04-3 (IGT-6)													▽																							
GT 04-4 (DGT-2)														▽																						

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail					Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
System Flight Tests								
At Sea Demo (ASD) 3.0		2Q						
FT 04-1 (IFT-16a)		3Q						
FT 04-2 (CMCM-1)		2Q						
FT 04-3 (MRT)		2Q						
FT 04-4 (CMCM-2)		4Q						
FT 04-5 (Cobra Dane LRALT)		4Q						
FT 06-1 (GMD RCF3)			1Q					
FTG 04-1 (IFT-1b)		4Q						
FTG 04-2 (IFT-1c)			1Q					
FTM 04-1 (FM-7)		2Q						
FTM 04-2 (FM-8)		3Q						
FTM 04-3 (FM-9)		4Q						
IFT-13c		1Q						
IFT-14		2Q						
PAC-2 GEM: 2-1		2Q						
PAC-2 GEM: P6-2			1Q					
PAC-3 CRI-1 (DT/OT-11)	4Q							
PAC-3 CRI-2 (DT/OT-12)		1Q						
PAC-3: 2-2		3Q						
PAC-3: 2-3		3Q						
PAC-3: P6-4			1Q					
THAAD FT-1		2Q						
THAAD FT-2		4Q						
THAAD FT-3			1Q					
THAAD FT-4			2Q					
ARROW System Improvement Program								
AST-10		2Q						
USFT-2	4Q							
Aegis BMD Cooperative Research Program								
JCVT-1			1Q					
Glory Trips (USAF Operational)								

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
GT-186	4Q							
GT-187		3Q						
GT-188		2Q						
GT-189		4Q						
GT-34		3Q						
ABL								
First Flight		1Q						
First Light		1Q						
System Ground Tests								
C2BMC Sp 4.3	4Q							
C2BMC Sp 4.4		2Q						
C2BMC Sp 4.5		4Q						
GT 04-1 (IGT-5)		4Q						
GT 04-2 (DGT-1)			2Q					
GT 04-3 (IGT-6)			4Q					
GT 04-4 (DGT-2)				1Q				
GT 04-5 (MDIE 05a)		3Q						
GT 04-6 (MDIE 05b)			1Q					
IGT-2	4Q							
IGT-3		1Q						
IGT-4a	4Q							
IGT-4b		1Q						
MDIE 04b	4Q							
WG 04-1 (IMD-04.5)		2Q						
WG 04-3 (IMD-5.2)		3Q						
WG 04-4 (IMD-5.3)		4Q						
WG 04-5 (IMD-5.4)			1Q					
WG 04-6 (IMD 6.1 Planex)			1Q					
Element participation in system test events is funded within the respective element budget.								

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005																	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																			
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011															
0804 Test & Evaluation Block 2006	2,201	20,557	169,996	139,392	2,600	0	0	0															
RDT&E Articles Qty	0	0	0	2	0	0	0	0															
<p><i>Note:</i> FY 2007 RDT&E Test Articles: Integrate Launch Vehicles and Payloads to produce two test articles for FT 06-4 (CMCM-4).</p> <p><u>A. Mission Description and Budget Item Justification</u></p> <p>The BMDS CTF Block 06 Test and Evaluation funds system-level flight tests (BMDS FTs), Ground Tests (BMDS GTs) and Integrated Missile Defense (IMD) Wargames that are being executed from Jan 06 through Dec 07. This project will conduct BMD System Tests to support verification of achieved BMDS block capability. System Flight Tests will examine the capability of the BMDS to detect, track, and engage targets. In Block 06, more advanced tests are planned which will provide data to support verification of Block 06 Engagement Sequence Groups (ESGs). Test scenario highlights during this period include: multiple target engagements by Aegis BMD (FTM 06-3 & FTM 06-4); a THAAD engagement on an Aegis BMD cue (FTT 06-4); GMD launching on a Forward Based X-Band -T (FBX-T) Radar (FTG 06-4) cue; and multiple simultaneous target engagements by Aegis BMD (FTM 06-4). This project will also provide analysis of each System Test event through the Joint Analysis Team (JAT). Critical Measurements and Countermeasure (CMCM) flight tests are also funded under this project, but are managed as part of the Measurements Program. CMCMs are dedicated flight tests which provide a venue for risk reduction for BMDS Block Testing, addressing phenomenology, countermeasures, and counter-countermeasures requirements, and providing critical measurements to support development and validation of algorithms, modeling and simulation, discrimination, and new technology demonstrations. CMCMs provide test venues and augment various MDA and Elements test programs. FY06s include preliminary planning for FT 06-4* which will provide risk reduction for the Miniature Kill Vehicle Program, continue to characterize advanced countermeasures, and demonstrate new technologies. This test is scheduled for 3QFY07.</p> <p>*Note: FT 06-4 was originally funded under Project 0904 (Block 2008), however, in an effort to better align the CMCMs with the block of execution, FT 06-4 has been moved to Project 0804 (Block 2006).</p> <p><u>B. Accomplishments/Planned Program</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 2004</td> <td style="text-align: center;">FY 2005</td> <td style="text-align: center;">FY 2006</td> <td style="text-align: center;">FY 2007</td> </tr> <tr> <td>Flight Tests</td> <td style="text-align: center;">2,201</td> <td style="text-align: center;">3,713</td> <td style="text-align: center;">73,566</td> <td style="text-align: center;">42,577</td> </tr> <tr> <td>RDT&E Articles (Quantity)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table> <p>FY 2004 Accomplishments:</p> <ul style="list-style-type: none"> • Completed preliminary planning for Block 06 BMDS Flight Test Program. • Coordinated integration of multiple elements and components. Refined scenario designs for BMDS Flight Tests to support Engagement Sequence Groups (ESGs) identified in the BMDS IMTP. • Populate the BMDS Characterization Data Base with the latest test data inputs to support capability assessments by Systems Engineering, JTAMDO/STRATCOMMS and OTAs, and provide validation data for models and simulations. 										FY 2004	FY 2005	FY 2006	FY 2007	Flight Tests	2,201	3,713	73,566	42,577	RDT&E Articles (Quantity)	0	0	0	0
	FY 2004	FY 2005	FY 2006	FY 2007																			
Flight Tests	2,201	3,713	73,566	42,577																			
RDT&E Articles (Quantity)	0	0	0	0																			

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets
<p>FY 2005 Planned Program:</p> <ul style="list-style-type: none"> • Support and coordinate target development including target systems requirements, integration and component testing. • Initiate multi-element integration into the design of BMD System Fight Test scenarios. • Conduct test planning for FT-4, FTT 04-1, FTT 06-1, FTT 06-2, FTM 06-1, FTM 06-2, FTG 06-1a, FTG 06-1b, FTG 06-2, FT 06-1, FT 06-2, and FT 06-3. • Continue to coordinate integration of multiple elements and components. Refine scenario designs for BMDS Flight Tests to support Engagement Sequence Groups (ESGs) identified in the BMDS IMTP. • Continue to populate the BMDS Characterization Data Base with the latest test data inputs to support capability assessments by Systems Engineering, JTAMDO/STRATCOMMS and OTAs, and provide validation data for models and simulations. <p>FY 2006 Planned Program:</p> <ul style="list-style-type: none"> • Plan and support executing system flight tests FT-4, FTT 04-1, FTT 06-1, FTT 06-2, FTM 06-1, FTM 06-2, FTG 06-1a, FTG 06-1b, FTG 06-2, FT 06-1, FT 06-2, and FT 06-3. • Conduct test planning for PATRIOT 16-2 and 16-3, FTG 06-3, FTG 06-4, FTG 06-5, FTT 06-3, FTT 06-4, FTT 06-5, FTM 06-3, FTM 06-4, SMDD-1, SMDD-2, TMDD-1, and FT 06-6. • Plan and support FT 06-6. • Continue to coordinate target development including target systems requirements, integration and component test. • Plan and acquire long lead items for systems test and plan system execution and reporting. • Continue to coordinate integration of multiple elements and components. Refine scenario designs for BMDS Flight Tests to support Engagement Sequence Groups (ESGs) identified in the BMDS IMTP. • Continue to populate the BMDS Characterization Data Base with the latest test data inputs to support capability assessments by Systems Engineering, JTAMDO/STRATCOMMS and OTAs, and provide validation data for models and simulations. <p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> • Plan and support test execution and conduct post test analysis for PATRIOT 16-2 and 16-3, FTG 06-3, FTG 06-4, FTG 06-5, FTT 06-3, FTT 06-4, FTT 06-5, FTM 06-3, FTM 06-4, SMDD-1, SMDD-2, TMDD-1, and FT 06-6. • Conduct post test analysis of system flight tests FT-4, FTT 04-1, FTT 06-1, FTT 06-2, FTM 06-1, FTM 06-2, FTG 06-1a, FTG 06-1b, FTG 06-2, FT 06-1, FT 06-2 and FT 06-3. • Continue to support and coordinate target development including target systems requirements, integration and component test. • Continue to coordinate integration of multiple elements and components. Refined scenario designs for BMDS Flight Tests to support Engagement Sequence Groups (ESGs) identified in the BMDS IMTP. • Continue to populate the BMDS Characterization Data Base with the latest test data inputs to support capability assessments by Systems Engineering, JTAMDO/STRATCOMMS and OTAs, and provide validation data for models and simulations. 		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY			R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			0603888C Ballistic Missile Defense Test and Targets	
	FY 2004	FY 2005	FY 2006	FY 2007
Ground Tests	0	7,350	26,877	21,190
RDT&E Articles (Quantity)	0	0	0	0
<p>FY 2005 Planned Program/Accomplishments:</p> <ul style="list-style-type: none"> • Support a BMDS Ground Test with an operationally representative software and hardware version of the GMD Element and expand element participation in BMDS Ground Tests as the BMDS Block 06 elements mature and become available. • Conduct test planning for Ground Tests GT 06-9, GT 06-1, GT 06-2, GT 06-5. • Conduct test planning for BMDS Wargames WG 06-1, WG 06-2, and WG 06-3. <p>FY 2006 Planned Program:</p> <ul style="list-style-type: none"> • Continue to expand element participation in BMDS Ground Test Program. • Plan and support execution of Ground Tests GT 06-9, GT 06-1, GT 06-2, and GT 06-5. • Conduct test planning for GT 06-3, GT 06-4, GT 06-7, GT 06-8, and GT 06-10. • Perform post test data analysis of Ground Tests GT 06-9, GT 06-1, GT 06-5 and GT 06-2. • Plan and support execution of BMDS Wargames WG 06-1, WG 06-2, and WG 06-3. • Conduct post-test data analysis on Wargames WG 06-1 and WG 06-2. • Conduct test planning for BMDS Wargame WG 06-4. <p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> • Continue to expand element participation in BMDS Ground Test Program • Plan and support execution of Ground Tests GT 06-3, GT 06-4, GT 06-7, GT 06-8, and GT 06-10. • Perform post-test data analysis for BMDS Ground Tests GT 06-3, GT 06-4, GT 06-7, GT 06-8 and GT 06-10. • Plan and support execution of Wargame WG 06-4. • Perform post-test data analysis for BMDS Wargames WG 06-3 and WG 06-4. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Measurements Tests	0	9,494	69,553	75,625
RDT&E Articles (Quantity)	0	0	0	2
<p>FY 2005 Planned Program/Accomplishments:</p> <ul style="list-style-type: none"> • Determine Target and Interceptor requirements for FT 06-4 (CMCM-4). • Initiate test planning, sensor planning and range integration for FT 06-4. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
FY 2006 Planned Program:									
<ul style="list-style-type: none">Purchase 2 Booster stack-ups for FT 06-4 campaign.Conduct test planning, sensor planning, range integration efforts, and design reviews in support of FT 06-4.									
FY 2007 Planned Program:									
RDT&E Articles: Integrate and deliver two (2) test articles for FT 06-4.									
<ul style="list-style-type: none">Conduct sensor planning, test planning, execution and post-test analysis for dedicated flight test FT 06-4.Deliver two Launch Vehicles/payloads for FT 06-4. Flight Test Qualify 2 payloads for FT 06-4.Integrate Launch Vehicles and Payloads to produce 2 Test Articles for FT 06-4.									
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754
<p><u>D. Acquisition Strategy</u></p> <p>The RTO directs various executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDCs and other MDA programs to execute the various diverse efforts within the BMDS test program. Based on the specific effort / activity being conducted, acquired, or maintained, these executing agents use various acquisition strategies that conform to their respective headquarters regulations. The executing agents strive to use contracting strategies that provide the flexibility needed to test and assess to BMDS in a capabilities-based environment.</p>									

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Product Development										
Remarks										
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs										
Remarks										
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Flight Tests										
BMDs FT	Various	Various including USASMDC	2,201	3,413	1Q	57,600	1Q	29,375	1Q	92,589
TA&R/JAT	Various	USASMDC	0	300	1Q	8,701	1Q	5,758	1Q	14,759
Test Planning & Operations	Various	Various	0	0	N/A	7,265	1Q	7,444	1Q	14,709
Ground Tests										
BMDs GT/MDIE	Various	JNIC, Colorado Springs, CO	0	6,623	1Q	19,152	1Q	12,283	1Q	38,058
IMD Wargames	Various	JNIC, Colorado Springs, CO	0	727	1Q	7,725	1Q	8,907	1Q	17,359

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Measurements Tests										
FT 06-4	Various	USASMDC, Huntsville, AL	0	9,494	1Q	69,553	1Q	75,625	1Q	154,672
Subtotal Test and Evaluation			2,201	20,557		169,996		139,392		332,146
Remarks										
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services										
Remarks										
Project Total Cost			2,201	20,557		169,996		139,392		332,146
Remarks										
The Test & Evaluation program distributes the majority of its funding to Executing Agents (i.e. the Air Force, Army, Navy, Joint National Integration Center (JNIC), and DTRA) for further dissemination. These Executing Agents will use Military Interdepartmental Purchase Requests (MIPRs) and/or in-house vehicles to accomplish the tasks specified.										

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

R-1 NOMENCLATURE

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Flight Tests																																
At Sea Demo (ASD) 3.1											▽																					
FTM 06-1 (FM-10)											▽																					
PAC-3: P6L-3											▽																					
PAC-2 GEM: P6L-2											▽																					
FTM 06-2 (FM-11)												▽																				
FTG 06-1a/b (IFT 20/21)												▽																				
FTT 04-1 (TH FT5)												▽																				
FTG 06-2 (IFT 22)													▽																			
PAC-3: 16-2													▽																			
FT 06-6 (GMD RCF-4)													▽																			
FTT 06-1 (TH FT6)													▽																			
FTG 06-3a/b (IFT-23/24)														▽																		
PAC-3: 16-3														▽																		
FTT 06-2 (TH FT7)														▽																		
FT 06-4 (CMCM-4)															▽																	
FTT 06-3 (TH FT8)															▽																	
FTM 06-3 (FM-12)															▽																	
Strategic Missile Demo (SMDD-1)																▽																
FTM 06-4 (FM-13)																▽																
FTT 06-4 (TH FT9)																▽																
FTG 06-4 (IFT-25)																▽																

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																		Date February 2005																	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)																		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																	
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	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	1	2	3	4			
System Flight Tests																																			
Tactical Missile Demo (TMDD-1)																▽																			
FTT 06-6																	▽																		
Tactical Missile Demo (TMDD-2)																	▽																		
FTG 06-5 (BV+RRF/16b)																	▽																		
PAC-3: P6X-4																	▽																		
PAC-2 GEM: P6X-2																	▽																		
FTT 06-5 (TH FT10)																	▽																		
Strategic Missile Demo (SMDD-2)																	▽																		
ARROW System Improvement Program																																			
AST-11										▽																									
AST-12											▽																								
AST-13														▽																					
Aegis BMD Cooperative Research Program																																			
JFM-1											▽																								
Glory Trips (USAF Operational)																																			
GT-190											▽																								
GT-191												▽																							
GT-192													▽																						
GT-193														▽																					
GT-194															▽																				
GT-195																▽																			
GT-196																	▽																		

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

R-1 NOMENCLATURE

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
System Ground Tests																																
C2BMC Sp 6.1									▽																							
GT 06-9 (BMDS IDT)										▽																						
GT 06-5 (BMDS GT)										▽																						
WG 06-2 (SE Sim)											▽																					
GT 06-2 (MDIE 06b)											▽																					
GT 06-1 (MDIE 06a)											▽																					
C2BMC Sp 6.2											▽																					
WG 06-3 (PLANEX)												▽																				
GT 06-6 (BMDS GT)												▽																				
C2BMC Sp 6.3													▽																			
Aegis BMD Block 6													▽																			
GT 06-3 (MDIE 07a)														▽																		
GT 06-10 (BMDS IDT)														▽																		
GT 06-7 (BMDS IGT)														▽																		
WG 06-4 (IMD-7.2)																▽																
GT 06-4 (MDIE 07b)																▽																
C2BMC Sp 6.4																▽																
Aegis BMD Block 6																	▽															
GT 06-8 (BMDS IGT)																▽																

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
System Flight Tests								
At Sea Demo (ASD) 3.1			2Q					
FT 06-4 (CMCM-4)				3Q				
FT 06-6 (GMD RCF-4)				1Q				
FTG 06-1a/b (IFT 20/21)			4Q					
FTG 06-2 (IFT 22)				1Q				
FTG 06-3a/b (IFT-23/24)				2Q				
FTG 06-4 (IFT-25)				4Q				
FTG 06-5 (BV+RRF/16b)					1Q			
FTM 06-1 (FM-10)			3Q					
FTM 06-2 (FM-11)			4Q					
FTM 06-3 (FM-12)				3Q				
FTM 06-4 (FM-13)				4Q				
FTT 04-1 (TH FT5)			4Q					
FTT 06-1 (TH FT6)				1Q				
FTT 06-2 (TH FT7)				2Q				
FTT 06-3 (TH FT8)				3Q				
FTT 06-4 (TH FT9)				4Q				
FTT 06-5 (TH FT10)					1Q			
FTT 06-6					1Q			
PAC-2 GEM: P6L-2			3Q					
PAC-2 GEM: P6X-2					1Q			
PAC-3: 16-2				1Q				
PAC-3: 16-3				2Q				
PAC-3: P6L-3			3Q					
PAC-3: P6X-4					1Q			
Strategic Missile Demo (SMDD-1)				4Q				
Strategic Missile Demo (SMDD-2)					1Q			
Tactical Missile Demo (TMDD-1)				4Q				
Tactical Missile Demo (TMDD-2)					1Q			
ARROW System Improvement Program								
AST-11			1Q					

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail					Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
AST-12			2Q					
AST-13				1Q				
Aegis BMD Cooperative Research Program								
JFM-1			2Q					
Glory Trips (USAF Operational)								
GT-190			2Q					
GT-191			3Q					
GT-192			4Q					
GT-193				2Q				
GT-194				3Q				
GT-195				3Q				
GT-196				4Q				
System Ground Tests								
Aegis BMD Block 6				1Q,4Q				
C2BMC Sp 6.1			1Q					
C2BMC Sp 6.2			3Q					
C2BMC Sp 6.3				1Q				
C2BMC Sp 6.4				4Q				
GT 06-1 (MDIE 06a)			3Q					
GT 06-10 (BMDS IDT)				2Q				
GT 06-2 (MDIE 06b)			3Q					
GT 06-3 (MDIE 07a)				2Q				
GT 06-4 (MDIE 07b)				4Q				
GT 06-5 (BMDS GT)			2Q					
GT 06-6 (BMDS GT)			4Q					
GT 06-7 (BMDS IGT)				2Q				
GT 06-8 (BMDS IGT)				4Q				
GT 06-9 (BMDS IDT)			2Q					
WG 06-2 (SE Sim)			3Q					
WG 06-3 (PLANEX)			4Q					
WG 06-4 (IMD-7.2)				4Q				
Element participation in system test events is funded within the respective element budget.								

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005																	
APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE																			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603888C Ballistic Missile Defense Test and Targets																			
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011															
0904 Test & Evaluation Block 2008	0	0	686	71,918	203,831	140,389	3,225	0															
RDT&E Articles Qty	0	0	0	0	2	2	0	0															
<p><i>Note:</i> FY 2008 RDT&E Test Articles: Integrate Launch Vehicles and Payloads to produce two test articles for FT 08-2 (CMCM-6). FY 2009 RDT&E Test Articles: Integrate Launch Vehicles and Payloads to produce two test articles for FT 08-4 (CMCM-8).</p> <p><u>A. Mission Description and Budget Item Justification</u></p> <p>The BMDS CTF Block 08 Test and Evaluation funds system-level flight tests (BMDS FTs), BMDS Ground Tests (GTs) and Integrated Missile Defense (IMD) Wargames that are being executed from Jan 08 through Dec 09. This project will conduct BMD System Tests to support verification of achieved BMDS block capability. These System Flight Tests will examine the capability of the BMDS to detect, track, and engage targets. This project will also provide analysis of each System Test event through the Joint Analysis Team (JAT). To support the BMDS Test Program development, program objectives, and performance characterization, MDA Test and Evaluation provides resources to support the activities of the Radar Data Exploitation (RDE) and Test Planning. This activity supports data planning, collection and analysis of radar for missions supported by Observation Island and Gray Star. Critical Measurements and Countermeasure (CMCM) flight tests are also funded under the Block 08 Project, but are managed as part of the Measurements Program. CMCMs are dedicated flight tests which provide a venue for risk reduction for BMDS Block Testing, addressing phenomenology, countermeasures, and counter-countermeasures requirements, and providing critical measurements to support development and validation of algorithms, modeling and simulation, discrimination, and new technology demonstrations. CMCMs provide test venues for MDA Organizations that do not possess dedicated test agents, and augment MDA Element test programs. FT 08-2* is scheduled for 3QFY08 and FT 08-4* is scheduled for 3QFY09.</p> <p>*Note: FT 06-4 was originally funded under Project 0904 (Block 8) However, in an effort to better align the CMCMs with the current Block development requirements, FT 06-4 has been moved to Project 0804 (Block 6) and FT 08-2 and FT 08-4 are now in Project 0904 (Block 8). CMCM-5, CMCM-7 and CMCM-9 have been cancelled.</p> <p><u>B. Accomplishments/Planned Program</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 2004</td> <td style="text-align: center;">FY 2005</td> <td style="text-align: center;">FY 2006</td> <td style="text-align: center;">FY 2007</td> </tr> <tr> <td>Ground Tests</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">3,975</td> </tr> <tr> <td>RDT&E Articles (Quantity)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table> <p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> • Support a BMDS Ground Test with an operationally representative software and hardware version of the GMD Element and expand element participation in BMDS Ground Tests as the BMDS Block 08 elements mature and become available. • Conduct test planning for BMDS Block 08 Ground Tests. • Conduct test planning for BMDS Block 08 Wargames. 										FY 2004	FY 2005	FY 2006	FY 2007	Ground Tests	0	0	0	3,975	RDT&E Articles (Quantity)	0	0	0	0
	FY 2004	FY 2005	FY 2006	FY 2007																			
Ground Tests	0	0	0	3,975																			
RDT&E Articles (Quantity)	0	0	0	0																			

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY			R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			0603888C Ballistic Missile Defense Test and Targets	
	FY 2004	FY 2005	FY 2006	FY 2007
Flight Tests	0	0	686	12,638
RDT&E Articles (Quantity)	0	0	0	0
<p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> • Conduct test planning for Block 2008 System Flight Tests. • Continue to coordinate target development including target systems requirements, integration and component test. • Acquire long lead items for systems test and plan system execution and reporting. Continue to coordinate integration of multiple elements and components. Refine scenario designs for BMDS Flight Tests to support Engagement Sequence Groups (ESGs) identified in the BMDS IMTP. • Continue to populate the BMDS Characterization Data Base with the latest test data inputs to support capability assessments by Systems Engineering, JTAMDO/STRATCOMMS and OTAs, and provide validation data for models and simulations. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Measurements Test	0	0	0	55,305
RDT&E Articles (Quantity)	0	0	0	0
<p>FY 2006 Planned Program:</p> <ul style="list-style-type: none"> • Initiate identification of Target and Interceptor requirements for FT 08-2 (CMCM-6) and FT 08-4 (CMCM-8). • Begin test planning, sensor planning, range integration efforts, and design reviews for FT 08-2. <p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> • Continue to determine Target and Interceptor requirements for FT 08-2 and FT 08-4. • Continue to conduct test planning, sensor planning, range integration efforts, and design reviews for FT 08-2. • Complete purchase of 2 Launch Vehicles for FT 08-2. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets
<p><u>D. Acquisition Strategy</u></p> <p>The RTO directs various executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDCs and other MDA programs to execute the various diverse efforts within the BMDS test program. Based on the specific effort / activity being conducted, acquired, or maintained, these executing agents use various acquisition strategies that conform to their respective headquarters regulations. The executing agents strive to use contracting strategies that provide the flexibility needed to test and assess to BMDS in a capabilities-based environment.</p>		

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Product Development										
Remarks										
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs										
Remarks										
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Ground Tests										
BMDS GT/MDIE		JNIC, Colorado Springs, CO	0	0	N/A	0	N/A	3,294	1Q	3,294
IMD Wargames		JNIC, Colorado Springs, CO	0	0	N/A	0	N/A	681	1Q	681
Flight Tests										
BMDS FT			0	0	N/A	686	1Q	10,425	1Q	11,111
TA&R/JAT			0	0	N/A	0	N/A	384	1Q	384
BMDS Risk/ECPs			0	0	N/A	0	N/A	1,829	1Q	1,829
Measurements Test										
FT 08-2 & FT 08-4	Various	Various, USASMDC	0	0	N/A	0	1Q	55,305	1Q	55,305
Subtotal Test and Evaluation			0	0		686		71,918		72,604
Remarks										

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services										
Remarks										
Project Total Cost			0	0		686		71,918		72,604
Remarks										
<p>The Test & Evaluation program distributes the majority of its funding to Executing Agents (i.e. the Air Force, Army, Navy, Joint National Integration Center (JNIC), and DTRA) for further dissemination. These Executing Agents will use Military Interdepartmental Purchase Requests (MIPRs) and/or in-house vehicles to accomplish the tasks specified.</p>										

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011				
	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	1	2	3	4	
System Flight Tests																																	
FTG 08-1																		Δ	=====	Δ													
FTM 08-1																			▽														
FTG 08-2																			Δ	=====	Δ												
FTT 08-1																			▽														
FTT 08-2																			▽														
FTG 08-3b																				Δ	=====	Δ											
FTG 08-3a																				Δ	=====	Δ											
FTM 08-2																				▽													
FTG 08-4																					Δ	=====	Δ										
FTT 08-4																					▽												
FTT 08-3																					▽												
FTM 08-3																						▽											
FTT 08-5																						▽											
FTG 08-5																							Δ	=====	Δ								
FTM 08-4																								▽									
FTG 08-6																									Δ	=====	Δ						
Measurement Tests																																	
FT 08-2 (CMCM6)																			Δ														
FT 08-4 (CMCM8)																							Δ										

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
System Flight Tests								
FTG 08-1					2Q-4Q	1Q		
FTG 08-2					3Q-4Q	1Q-2Q		
FTG 08-3a					4Q	1Q-3Q		
FTG 08-3b					4Q	1Q-3Q		
FTG 08-4						1Q-4Q		
FTG 08-5						3Q-4Q	1Q-2Q	
FTG 08-6						4Q	1Q-3Q	
FTM 08-1					3Q			
FTM 08-2					4Q			
FTM 08-3						2Q		
FTM 08-4						4Q		
FTT 08-1					3Q			
FTT 08-2					3Q			
FTT 08-3						1Q		
FTT 08-4						1Q		
FTT 08-5						2Q		
Measurement Tests								
FT 08-2 (CMCM6)					2Q			
FT 08-4 (CMCM8)						2Q		
Element participation in system test events is funded within the respective element budget.								

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets				
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
0004 Test & Evaluation Block 2010	0	0	0	0	0	68,981	208,628	144,351	
RDT&E Articles Qty	0	0	0	0	0	0	2	2	
<p><i>Note:</i> FY 2010 RDT&E Test Articles: Integrate Launch Vehicles and Payloads to produce two test articles for FT 10-2.</p> <p>FY 2011 RDT&E Test Articles: Integrate Launch Vehicles and Payloads to produce two test articles for FT 10-4.</p>									
<u>A. Mission Description and Budget Item Justification</u>									
<p>The BMDS CTF Block 10 Test and Evaluation funds system-level flight tests (BMDS FTs), Ground Tests (BMDS GTs) and Integrated Missile Defense (IMD) Wargames that are being executed from Jan 2010 through Dec 2011. This project will conduct BMD System Tests to support verification of achieved BMDS block capability. These System Flight Tests will examine the capability of the BMDS to detect, track, and engage targets. This project will also provide analysis of each System Test event through the Joint Analysis Team (JAT). Critical Measurements and Countermeasure (CMCM) flight tests are also funded under the Block 10 Project, but are managed as part of the Measurements Program. CMCMs are dedicated flight tests which provide a venue for risk reduction for BMDS Block Testing, addressing phenomenology, countermeasures, and counter-countermeasures requirements, and providing critical measurements to support development and validation of algorithms, modeling and simulation, discrimination, and new technology demonstrations. CMCMs provide test venues for MDA organizations that do not possess dedicated test agents, and augment MDA Element test programs.</p>									
<u>B. Accomplishments/Planned Program</u>									
	FY 2004	FY 2005	FY 2006	FY 2007					
Funding in this Project is not programmed until FY 2009.	0	0	0	0					
RDT&E Articles (Quantity)	0	0	0	0					
<u>C. Other Program Funding Summary</u>									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255

Project: 0004 Test & Evaluation Block 2010

MDA Exhibit R-2A (PE 0603888C)

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
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PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754
<u>D. Acquisition Strategy</u>									
The RTO directs various executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDCs and other MDA programs to execute the various diverse efforts within the BMDS test program. Based on the specific effort / activity being conducted, acquired, or maintained, these executing agents use various acquisition strategies that conform to their respective headquarters regulations. The executing agents strive to use contracting strategies that provide the flexibility needed to test and assess to BMDS in a capabilities-based environment.									

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																								Date February 2005								
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)												R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																				
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
System Flight Tests																																
FTM 10-1																								▽								
FTG 10-1																								△	△	△						
FTG 10-2																									△	△	△	△				
FTM 10-2																									▽							
FTG 10-3																										△	△	△	△			
FTG 10-3 a/b (Salvo Mission)																										△	△	△	△			
FTG 10-5																											△	△	△	△		
FTM 10-3																										▽						
FTG 10-6 a/b (Salvo Mission)																											△	△	△	△		
FTG 10-4																											△	△	△	△		
FTM 10-4																													▽			

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
System Flight Tests								
FTG 10-1							1Q-4Q	
FTG 10-2							3Q-4Q	1Q-2Q
FTG 10-3							4Q	1Q-3Q
FTG 10-3 a/b (Salvo Mission)							4Q	1Q-3Q
FTG 10-4								1Q-4Q
FTG 10-5								1Q-4Q
FTG 10-6 a/b (Salvo Mission)								1Q-4Q
FTM 10-1							1Q	
FTM 10-2							3Q	
FTM 10-3								1Q
FTM 10-4								3Q

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005																																																																																												
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE																																																																																													
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets																																																																																													
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011																																																																																										
R104 Test & Evaluation Block 2012	0	0	0	0	0	0	100	69,899																																																																																										
RDT&E Articles Qty	0	0	0	0	0	0	0	0																																																																																										
<p><u>A. Mission Description and Budget Item Justification</u></p> <p>The BMDS CTF Block 12 Test and Evaluation funds system-level flight tests (BMDS FTs), Ground Tests (BMDS GTs) and Integrated Missile Defense (IMD) Wargames that are being executed from Jan 2012 through Dec 2013. This project will conduct BMD System Tests to support verification of achieved BMDS block capability. These System Flight Tests will examine the capability of the BMDS to detect, track, and engage targets. This project will also provide analysis of each System Test event through the Joint Analysis Team (JAT). Critical Measurements and Countermeasure (CMCM) flight tests are also funded under the Block 10 Project, but are managed as part of the Measurements Program. CMCMs are dedicated flight tests which provide a venue for risk reduction for BMDS Block Testing, addressing phenomenology, countermeasures, and counter-countermeasures requirements, and providing critical measurements to support development and validation of algorithms, modeling and simulation, discrimination, and new technology demonstrations. CMCMs provide test venues for MDA organizations that do not possess dedicated test agents, and augment MDA Element test programs.</p>																																																																																																		
<p><u>B. Accomplishments/Planned Program</u></p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 2004</td> <td style="text-align: center;">FY 2005</td> <td style="text-align: center;">FY 2006</td> <td style="text-align: center;">FY 2007</td> </tr> <tr> <td>Funding in this Project is not programmed until FY 2010.</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td>RDT&E Articles (Quantity)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table>										FY 2004	FY 2005	FY 2006	FY 2007	Funding in this Project is not programmed until FY 2010.	0	0	0	0	RDT&E Articles (Quantity)	0	0	0	0																																																																											
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Segment</td> <td style="text-align: right;">3,731,708</td> <td style="text-align: right;">4,521,019</td> <td style="text-align: right;">3,266,196</td> <td style="text-align: right;">3,945,991</td> <td style="text-align: right;">3,650,848</td> <td style="text-align: right;">3,315,513</td> <td style="text-align: right;">3,183,622</td> <td style="text-align: right;">2,545,882</td> <td style="text-align: right;">28,160,779</td> </tr> <tr> <td>PE 0603883C Ballistic Missile Defense Boost Defense Segment</td> <td style="text-align: right;">475,911</td> <td style="text-align: right;">476,179</td> <td style="text-align: right;">483,863</td> <td style="text-align: right;">648,728</td> <td style="text-align: right;">620,793</td> <td style="text-align: right;">690,807</td> <td style="text-align: right;">811,430</td> <td style="text-align: right;">1,183,182</td> <td style="text-align: right;">5,390,893</td> </tr> <tr> <td>PE 0603884C Ballistic Missile Defense Sensors</td> <td style="text-align: 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Project: R104 Test & Evaluation Block 2012

MDA Exhibit R-2A (PE 0603888C)

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

D. Acquisition Strategy

The RTO directs various executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDCs and other MDA programs to execute the various diverse efforts within the BMDS test program. Based on the specific effort / activity being conducted, acquired, or maintained, these executing agents use various acquisition strategies that conform to their respective headquarters regulations. The executing agents strive to use contracting strategies that provide the flexibility needed to test and assess to BMDS in a capabilities-based environment.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets			
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0305 Targets & Countermeasures Core	17,393	19,423	19,825	20,478	20,354	20,714	20,955	21,464
RDT&E Articles Qty	0	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification

Targets & Countermeasures Core Support includes program office and field activity support. This includes the management of design, prototyping, development, product improvement, and qualification testing of BMDS targets in order to complete, verify, and test targets for the Initial Defensive Capability, and enhance the targets to test the BMDS capability. Since this project is comprised of entirely Program Management costs associated with Targets and Countermeasures Block development, no article quantities are reported.

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
Targets Support	11,005	12,288	12,519	13,027
RDT&E Articles (Quantity)	0	0	0	0

FY 2004 Accomplishments:

- Supported activities for on-site Targets and Countermeasures field activity personnel, such as rent, office equipment, travel, security, and base infrastructure necessary to conduct daily operations and execute missions.

FY 2005 Planned Accomplishments:

- Continues to support activities for on-site Targets and Countermeasures field activity personnel, such as rent, office equipment, travel, security, and base infrastructure necessary to conduct daily operations. SETA support costs are included for mission assurance to support missions.

FY 2006 Planned Program:

- Continues to support activities for on-site Targets and Countermeasures field activity personnel, such as rent, office equipment, travel, security, and base infrastructure necessary to conduct daily operations. SETA support costs are included for mission assurance to support missions.

FY 2007 Planned Program:

- Continues to support activities for on-site Targets and Countermeasures field activity personnel, such as rent, office equipment, travel, security, and base infrastructure necessary to conduct daily operations. SETA support costs are included for mission assurance to support missions.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
	FY 2004		FY 2005		FY 2006		FY 2007		
Personnel Support	6,388		7,135		7,306		7,451		
RDT&E Articles (Quantity)	0		0		0		0		
FY 2004 Accomplishments:									
<ul style="list-style-type: none">This effort funds government personnel salaries for program management, project support, project costs, and travel.									
FY 2005 Planned Accomplishments:									
<ul style="list-style-type: none">Continues to fund government personnel salaries for program management, project support, project costs, and travel.									
FY 2006 Planned Program:									
<ul style="list-style-type: none">Continues to fund government personnel salaries for program management, project support, project costs, and travel.									
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<ul style="list-style-type: none">Continues to fund government personnel salaries for program management, project support, project costs, and travel.									
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
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PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
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PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419

Project: 0305 Targets & Countermeasures Core

MDA Exhibit R-2A (PE 0603888C)

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
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PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
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Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754
<u>D. Acquisition Strategy</u>									
Because the majority of the activities funded in this Project 0305 are considered direct government costs necessary to maintain and sustain Targets and Countermeasures personnel in the field, a particular acquisition strategy is not applicable. Funds are sent directly to government Targets and Countermeasures activities receiving entities in the field and executed accordingly. A minimal amount of Firm Fixed Price and Cost Plus Award Fee contracts are in place for administrative, computer, logistics, program management, and systems engineering support activities.									

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)						R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Product Development										
Remarks										
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Targets Support										
Field Activity Support	C/Various	Various/ Kirtland, NM	4,289	3,700	1Q	3,979	1Q	4,246	1Q	16,214
Field Activity Support	C/Various	Various/ Huntsville, AL	6,716	8,588	1Q	8,540	1Q	8,781	1Q	32,625
Subtotal Support Costs			11,005	12,288		12,519		13,027		48,839
Remarks										
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation										
Remarks										

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Personnel Support										
Government Personnel		Wash., DC	2,640	2,693	1/4Q	2,747	1/4Q	2,802	1/4Q	10,882
Government Travel		Wash., DC	160	200	1/4Q	204	1/4Q	208	1/4Q	772
Government Support	C/FFP	SPARTA/ Wash., DC	3,588	4,242	1Q	4,355	1Q	4,441	1Q	16,626
Subtotal Management Services			6,388	7,135		7,306		7,451		28,280
Remarks										
Project Total Cost			17,393	19,423		19,825		20,478		77,119
Remarks										

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005							
APPROPRIATION/BUDGET ACTIVITY						R-1 NOMENCLATURE							
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)						0603888C Ballistic Missile Defense Test and Targets							
COST (\$ in Thousands)						FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0705 Targets & Countermeasures Block 2004						182,708	176,407	0	0	0	0	0	0
RDT&E Articles Qty						6	12	0	0	0	0	0	0

A. Mission Description and Budget Item Justification

The Targets and Countermeasures program provides capability-based targets to support Block 2004 integrated and layered BMDS testing. Targets developed under this project will test and verify the Initial Defensive Capability as well as enhance the BMDS capability by providing capability-based targets of all types with an assortment of payloads and payload objects. Based on System Engineering assessments of possible threat scenarios, the targets and countermeasures program supports the Engagement Sequence Group (ESG) by launching targets to test the performance of the BMDS, ultimately enabling a weapon to engage a target. Funding for this program supports the design, prototyping, development, verification, product improvement, and qualification testing of BMDS Block 2004 targets and associated payloads. It also supports the maintenance, aging surveillance, refurbishment, and routine testing of existing government furnished equipment (GFE) boosters, as well as the purchase of long lead material assets and asset management items for short and medium range target components.

Also funded in this project is the utilization of a targets prime contractor. Lockheed Martin Space Systems Company (LMSSC), based in Denver, Colorado, was selected as the targets prime contractor. LMSSC will be central to the development and acquisition of new target systems to support integrated and layered BMDS Block testing by providing program management and systems engineering functions across the Missile Defense Agency targets portfolio. Additionally, LMSSC will develop all future target configurations, including advanced targets, design and development of target payloads (to include instrumentation, re-entry vehicles, and countermeasures), and procurement of all long lead target material components. By emphasizing the use of product lines (i.e. development of common target components and parts), it is anticipated that both cycle time and cost will be reduced (see Section D, Acquisition Strategy for more details on the targets prime contract). This program also provides the technical support of mission management/mission assurance for all Element flight tests.

Block 2004 provides some hardware, and full range support and mission management for the following BMDS element flight tests:

- Ground-Based Midcourse Defense (GMD) targets - GMD Targets will be used to test the Initial Defensive Capability in GMD Integrated Flight Tests (IFT's) IFT-13c, IFT-14, FT-04-1, FT-06-1, FTG-04-1, FTG-04-2 and FTG-04-5 (see Program Element 0603882C, Projects 0708 and 0808 for details on BMDS Flight Test). Some instrumentation efforts were moved into Block 06 Advanced Instrumentation Development since the Small Low Observable (SLO) program was canceled in FY04.
- THAAD - FT-3 and FT-4
- PAC-3 - DT/OT -12a/b
- Aegis - FTM 04-1, FTM 04-2 and FTM 04-3
- Arrow - USFT-1a and USFT-2a
- Medium Range Target (MRT)- FT-04-3

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets	
B. Accomplishments/Planned Program				
	FY 2004	FY 2005	FY 2006	FY 2007
Target Support	64,813	97,049	0	0
RDT&E Articles (Quantity)	0	0	0	0
<p>This effort comprises a significant portion of the targets and countermeasures prime contract costs, as well as funding for Federally Funded Research and Development Centers (FFRDCs) and National Lab activities that directly support the Targets and Countermeasures program. There are no quantities of articles reported under this task since the scope of work is primarily program management, systems engineering, functional requirements analysis, and target systems design work through the Critical Design Review (CDR) systems engineering process. This effort also provides target mission management and execution, and overall mission assurance of flight tests. Includes conducting mission planning, documentation, and development of scenario plans in accordance with mission requirements. Controls target management (scheduling and configuration modifications) in support of Block 04 BMDS and Element testing. Additionally, this effort will program and plan for award fee for the entire targets prime contract, including element target delivery orders that are funded in separate Missile Defense Agency Program Elements (PE's). The acquisition and presentation of targets used in integrated and layered BMDS testing will continue to be funded by the Missile Defense Agency Elements (e.g., THAAD, Aegis, etc.) in separate Program Elements utilizing the targets prime contract vehicle.</p> <p>FY 2004 Accomplishments:</p> <ul style="list-style-type: none"> • Awarded targets prime contract in 1Q/04 with Lockheed Martin Space Systems Company (LMSSC). • Conducted System Requirements Reviews (SRR's). • Conducted Critical Design Review (CDR) on the Short Range Liquid Fuel Target Booster in 3Q/04. • Conducted early concept definition analyses. • Initiated advanced target system and sub-system prototype design work. • FFRDCs and National Labs performed unique target requirements, certification, and instrumentation analyses. • Conducted program management reviews and Integrated Baseline Reviews (IBR's) with LMSSC. • Provided target mission management and mission assurance of flight tests for the following target missions: <ul style="list-style-type: none"> • Aegis test FM-6. • Arrow tests USFT-1a. • Critical Measurements Program-4 (CMP). Conducted CMP-4 flight test in 4Q/04. • Completed the Short Range Air-Launched Target (SRALT) Risk Reduction Flight in support of future BMDS and Element testing. • Completed the Long Range Air-Launched Target (LRALT) Risk Reduction Flight in support of future BMDS and Element testing. • Completed the Foreign Military Acquisition (FMA) Risk Reduction Flight from a marine Mobile Launch Platform (MLP). <p>FY 2005 Planned Accomplishments:</p> <ul style="list-style-type: none"> • Continue to prepare for and conduct SRR's. • Continue to manage and conduct program management reviews. • Continue to prepare for and conduct Preliminary Design Reviews (PDR's). • Continue to conduct and finalize CDR's. • Continue to conduct early concept definition analyses. • Continue to develop advanced target systems and sub-systems prototype design work. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE		
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets		
<ul style="list-style-type: none"> FFRDCs and National Labs to continue unique target requirements, certification, and instrumentation analyses. To provide target mission management and mission assurance of flight tests for the following target missions: <ul style="list-style-type: none"> Aegis - FTM-04-1, FTM-04-2, and FTM-04-3. Arrow - USFT-2a. CMCM - FT-04-2 and FT-04-4. GMD - IFT-13c, IFT-14, FT-04-1, FTG-04-1, and FTG-04-2. PAC-3 - DT/OT-12a/b. THAAD - FT-3 & 4. Complete the Medium Range Target (MRT), FT-04-3, Risk Reduction Flight in support of future BMDS and Element testing. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Target Development	92,880	42,624	0	0
RDT&E Articles (Quantity)	6	7	0	0
<p>This effort develops, integrates, and tests short, medium, and long-range BMDS targets. It is anticipated the prime contractor will initiate the development and testing of targets in Block 06 (Targets and Countermeasures Project 0805).</p> <p>FY 2004 Accomplishments:</p> <p>RDT&E Test Articles: 3 SRALT's; 1 LRALT; 1 MLP; 1 GMD Target</p> <ul style="list-style-type: none"> Completed the SRALT development and conducted a successful Risk Reduction Flight (RRF). The SRALT utilized a single SR-19 Minuteman booster and a threat-like payload package. This target was dropped from a C-17 aircraft during the risk reduction flight test. The test demonstrated a mobile, short-range target capability that allows flexibility in launch location and trajectory when tested against the integrated, layered BMDS. Short Range Liquid Fuel Target Booster (SR-LFTB) - This program completed engine testing culminating in a Critical Design Review (CDR) in June 2004. At that time, the contract was canceled and evaluated for potential future transition to the targets prime contractor. FY04 funding for this program was re-allocated to develop Ground-Based Missile Defense targets (see description below). Completed GMD Targets development to support GMD IFT 13c. Continuing target development for GMD targets IFT 14, FT-04-1, FT-06-1, FTG-04-1, FTG-04-2, and FTG-04-5. Completed the LRALT development and conducted a successful RRF. The LRALT utilized two SR-19 Minuteman boosters and a threat-like payload package. This target was dropped from a C-17 aircraft during the risk reduction flight. The test demonstrated a mobile, medium-range target capability that allows flexibility in launch location and trajectory when tested against the integrated, layered BMDS. Completed the MLP target development and conducted a successful RRF. The test demonstrated a mobile, short-range target capability that allows flexibility in launch location and trajectory when tested against the integrated, layered BMDS. Continued the MRT development and completed a Critical Design Review (CDR). Completed the Short Range Liquid Fuel Target Booster development, engine testing, and a CDR. Initiated Delivery Order (DO) 04-02 Aegis Bulk Chemical Payload. Initiated DO 04-04 for LRALT Cobra Dane. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE		
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets		
<ul style="list-style-type: none"> Initiated DO for FMA Exploitation. Initiated DO for Security Classification Guide. Initiated DO 04-01 for CMCM-2 Booster. <p>FY 2005 Planned Accomplishments:</p> <p>RDT&E Test Articles: 1 MRT; 4 GMD Targets; 1 CMP-4; 1 LRALT CD</p> <ul style="list-style-type: none"> Continue MRT development and conduct risk reduction flight in 2Q/05. This target will utilize Castor IVB boosters, and a threat-like payload package. The purpose is to demonstrate a mobile, medium-range target capability that allows flexibility in launch mode/location and trajectory when tested against the integrated, layered BMDS. Complete 4 GMD targets and launch to support IFT 14, FT-04-1, FTG-04-1, and FTG-04-2. Launch GMD target IFT-13c. Complete development of the LRALT CD. Test scheduled for 4Q/05. Initiate Scorpious development (Congressional add). Initiate DO 05-01 for Aegis FTM 04-2 and FTM 04-3 integration & launch. Initiate DO for Long Range Target (LRT). Initiate DO for SR-19/SR-73 Launch Vehicle. Initiate DO for Acquisition Logistics Management System (ALMS). 				
	FY 2004	FY 2005	FY 2006	FY 2007
Payload Development	14,895	23,332	0	0
RDT&E Articles (Quantity)	0	5	0	0
<p>FTG 04-5 (IFT-19/2d)</p> <p>This effort provides funding for program management and development of: 1) unique target payload components (re-entry vehicles (RV's), countermeasures, instrumentation, adaptor sections, and deployment mechanisms), as well as optical on-target data collection instrumentation used for algorithm development/evaluation and payload characterization; 2) development of Fly Along Sensor Package (FASP) flight units for BMDS testing; 3) development of advanced instrumentation systems/techniques to include data collection and transmission techniques/methods; 4) development of advanced countermeasures to support BMDS flight testing and special systems engineering studies, and; 5) development of advanced RV concepts to support BMDS testing.</p> <p>Note: A payload includes components such as countermeasures, re-entry vehicles, instrumentation, adaptor sections, and deployment mechanisms.</p>				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE		
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets		
<p>FY 2004 Accomplishments:</p> <ul style="list-style-type: none"> Commenced development of advanced sensors for integration into FASP's. Successfully completed Real-time Mission Monitoring prototype for LRALT mission. Commenced development of secure telemetry network. Developed prototype countermeasure concepts in conjunction with the National Laboratories in support of the MDA/TE Critical Measurements and Countermeasure Program (CMCM) -1 and 2. Developed, built, and characterized countermeasure objects in support of the Ground-based Midcourse Defense (GMD) flight test in support of BMDS testing. Developed a field programmable countermeasure ejector design to preliminary design review-level. Commenced development of next generation countermeasures and associated preliminary design engineering packages. Critical Measurements Program 4 (CMP-4) - This program is to test experimental payload packages. One successful flight test occurred in 4Q/04. <p>FY 2005 Planned Accomplishments:</p> <p>RDT&E Test Articles: 4 M-FASP Flight Units; 1 Auxiliary Sensor Unit</p> <ul style="list-style-type: none"> Critical Measurements & Countermeasures (CMCM) -CMCM 1 (2Q/05) & CMCM 2 (4Q/05) - These two tests will determine the effectiveness of evolving countermeasure development projects. Prime contractor (Lockheed Martin Space Systems Company) will initiate development of a target system using C-4 boosters for use for GMD testing in FY06. Complete 3 Midcourse-Fly Along Sensor Packages (M-FASP) flight units and 1 qualification unit. Complete development of one Auxiliary Sensor Unit, ILC 4Q 2005. Develop new techniques data telemetry during flight tests. Begin development of enhanced Real-time Mission Monitoring for BMDS missions. Develop enhanced auxiliary sensor unit. Participate in MDA wide efforts to standardize instrumentation across Product Lines for telemetry, avionics, Flight Termination/Command Destruct Systems, and Global Positioning Strategy (GPS). Begin development of Instrumentation Inventory to reduce cycle time required to produce targets. Begin development of advanced instrumentation and telemetry concepts. Continue development of countermeasures for the BMDS flight test programs. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Asset Management	10,120	13,402	0	0
RDT&E Articles (Quantity)	0	0	0	0
<p>This effort provides funding for the maintenance, storage, aging surveillance, modification, documentation, material handling, delivery of assets, refurbishment, and routine testing of government furnished equipment (Minuteman II, Peacekeeper, Lance, Pershing II, Polaris A-3, Trident C-4, Caster IVB, FMA assets) related to target boosters, payloads, instrumentation, launch support equipment, and unique target hardware components. There are no article quantities reported under this task since the hardware quantities under this task are existing government furnished equipment components and not new hardware items.</p>				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
FY 2004 Accomplishments:									
<ul style="list-style-type: none">• Buildup, integration, and delivery of IFT-13c STARS vehicle to KLC.• Pathfinder, site validation, buildup, integration, and delivery of Arrow target to Mobile Launch Platform. Includes retrograde of all post mission equipment.• Refurbishment and assembly of 2 SR 19 motors and associated equipment and deliver for LRALT RRF.• Refurbishment and assembly of 1 SR 19 motor and associated equipment and deliver for SRALT RRF.• Storage, maintenance and aging and surveillance program for, 84 Pershing II Reentry Vehicles and other components, 104 Lance Missiles, 19 Polaris A-3 motors, 9 Orbus Motors, Minuteman motors, 14 FMA's, and 9 Castor IVB's.• Maintenance of existing support equipment and facilities at Redstone Arsenal, White Sands Missile Range, Kodiak, and Pacific Missile Range Facility.• Procurement of assembled Castor IV motors using GFE cases to support future MRT missions.• Procurement of Trident C-4 motors for future use as targets. Quantity TBD based upon negotiations with the Navy.• Refurbishment and assembly of 1 Castor IVB motor and associated support equipment for the MRT RRF.									
FY 2005 Planned Accomplishments:									
<ul style="list-style-type: none">• Complete refurbishment and assembly of 1 Castor IVB motor and associated support equipment and deliver as the launch vehicle for the MRT RRF.• Continue the storage, maintenance, and aging and surveillance program for 84 Pershing II Reentry Vehicles and other components, 99 Lance Missiles, 16 Polaris A-3 motors, 6 Orbus motors, Minuteman motors, 13 FMA's and 7 Castor IVB motors.• Continue the maintenance of existing support equipment and facilities at Redstone Arsenal, White Sands Missile Range, Kodiak, and Pacific Missile Range Facility.• Continue the procurement of assembled Castor IV motors using GFE cases to support future MRT missions.• Continue the procurement of Trident motors for future use as targets. Quantity TBD based upon negotiations with the Navy.• Begin procurement of additional FMA Assets to support future target flight tests.• Continue refurbishment and assembly of 3 Castor IVB motors and associated support equipment for FY 2006 Aegis flight tests.									
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

D. Acquisition Strategy

Targets and Countermeasures Program will follow the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. To support this strategy, the Targets and Countermeasures Program awarded a ten year prime contract (four year base plus three 2-year option periods) to Lockheed Martin Space Systems Company (LMSSC) who will provide the targets to test against the layered and integrated BMDS. The Targets prime contract will also add a new capability for Targets and Countermeasures systems engineering and provide single system management for the Targets and Countermeasures Program. Overall objectives of this procurement are to deliver reliable target system performance, to provide system level engineering and management through an integrated prime contractor, to reduce target acquisition cycle time, to control target program costs and stimulate creative cost reduction initiatives, and to focus on components and capability-based product lines through integration and launch of target systems. The contract will be a combination of Cost Plus Award Fee and Firm Fixed Price Delivery Orders under two Contract Line Items (CLIN's). This structure allows for maximum flexibility to produce either full blown up targets to test new concepts and ideas, or product lines under which common target components will be developed, integrated, and tested. By emphasizing common target components, it is anticipated that a reduction in both cycle time and cost will be achieved. As the targets prime contract begins its first four year base period, current on-going target development contracts will generally be completed under the terms of their existing contracts. This includes a variety of individual and Task Order Cost Plus Fixed Fee and Cost Plus Award Fee contracts. Some on-going target developments, however, may transition to the prime contractor depending on the status of the contract and maturity of the target system being developed. Under this Project (0705), a majority of the four year base period of the prime contract will be completed. The government will maintain system responsibility and will ensure successful management of BMDS targets execution.

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Target Support										
System Engineering	C/CPAF	Lockheed Martin/ Denver, CO	49,719	75,570	1Q	0	N/A	0	N/A	125,289
System Engineering	C/FFRDC	JHU/APL/Laurel , MD	1,891	2,127	1Q	0	N/A	0	N/A	4,018
Mission Assurance	C/Various	Northrop Grumman/ California	2,598	9,310	1/4Q	0	N/A	0	N/A	11,908
Mission Management	C/Various	Various	7,073	9,042	1/4Q	0	N/A	0	N/A	16,115
System Engineering	C/Various	Sandia National Lab/New Mexico	1,300	1,000	1Q	0	N/A	0	N/A	2,300
Target Development										
Integration	C/Various	Coleman Aerospace, Orlando, FL	7,157	3,558	1/2Q	0	N/A	0	N/A	10,715
Launch Vehicles	C/CPAF	Lockheed Martin/Denver, CO	0	19,000	1Q	0	N/A	0	N/A	19,000
Launch Vehicles	C/Various	Orbital Sciences, Chandler, AZ	8,193	6,509	1Q	0	N/A	0	N/A	14,702
System Engineering	C/CPAF	Lockheed Martin/Denver, CO	0	10,057	1Q	0	N/A	0	N/A	10,057
System Engineering	C/Various	TMI	0	500	1Q	0	N/A	0	N/A	500
System Engineering	C/Various	Multiple/ Scorpius	45,170	3,000	1/2Q	0	N/A	0	N/A	48,170
Launch Vehicles	C/Various	Northrop Grumman/ California	7,615	0	N/A	0	N/A	0	N/A	7,615
Launch Vehicles	C/Various	Various	25,908	0	N/A	0	N/A	0	N/A	25,908

Project: 0705 Targets & Countermeasures - Block 2004

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Payload Development										
Re-Entry Vehicles	C/CPAF	Lockheed Martin/ Denver, CO	2,313	2,500	1Q	0	N/A	0	N/A	4,813
Re-Entry Vehicles	C/Various	Various	1,069	3,125	1/2Q	0	N/A	0	N/A	4,194
Countermeasures	C/CPAF	Lockheed Martin/ Denver, CO	0	12,425	1Q	0	N/A	0	N/A	12,425
Countermeasures	C/FFRDC	JHU/APL/ Laurel, MD	1,230	1,500	1/2Q	0	N/A	0	N/A	2,730
Instrumentation	C/FFRDC	MIT/LL/ Boston, MA	1,527	2,861	1/2Q	0	N/A	0	N/A	4,388
Instrumentation	C/FFRDC	MIT/LL/ Boston, MA	4,297	921	1Q	0	N/A	0	N/A	5,218
Instrumentation	C/Various	Sandia National Lab/New Mexico	5,338	0	N/A	0	N/A	0	N/A	5,338
Instrumentation	C/Various	NSA/Ft. Meade, MD	190	0	N/A	0	N/A	0	N/A	190
Asset Management										
Logistics	C/Various	RTTC	0	581	1/2Q	0	N/A	0	N/A	581
Logistics	C/Various	Various	6,280	9,060	1Q	0	N/A	0	N/A	15,340
Logistics	C/Various	Albuquerque, NM	3,840	3,761	1Q	0	N/A	0	N/A	7,601
Subtotal Product Development			182,708	176,407		0		0		359,115
Remarks										
Under Target Development/System Engineering for FY05 there is \$3.000 for a Congressional Add which is Earmarked for Scorpius										

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs										
Remarks										
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation										
Remarks										
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services										
Remarks										
Project Total Cost			182,708	176,407		0		0		359,115
Remarks										

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																	Date February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)													R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																			
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
Production Milestones																																
GMD Target Development		▲	■	▲	△	■	■	△																								
Short Range Air Launch Target	▲	■	▲																													
Long Range Air Launch Target	▲	■	▲																													
Mobile Launch Platform Target	▲	■	▲																													
Medium Range Target	▲	■	■	▲	△	■	△																									
Short Range Liquid Fuel Booster	▲	■	▲																													
PDR																																
CMCM - 1		▲																														
CMCM - 2			▲																													
CDR																																
Mobile Launch Platform Equipment- OEM CDR	▲																															
Short Range Liquid Fuel Booster - Integration		▲																														
Medium Range Target		▲																														
CMCM - 1				▲																												
CMCM - 2						△																										
Testing Milestones																																
Long Range Air Launch Target - RRF			▲																													
Medium Range Target - RRF Air						△																										
Mobile Launch Platform Target - RRF				▲																												
Short Range Air Launch Target - RRF			▲																													
Aegis FTM 04-1						◇																										
Aegis FTM 04-2							◇																									
Aegis FTM 04-3								◇																								
Arrow USFT-1				◆																												

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																	Date February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)										R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																						
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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				
Testing Milestones																																
Arrow USFT-2a						◊																										
CMCM-1 FT 04-2							Δ																									
CMCM-2 FT 04-4								Δ																								
CMP-4				▲																												
GMD FT 04-1								◊																								
GMD FT-06-1									◊																							
GMD FTG 04-1								◊																								
GMD FTG 04-2									◊																							
GMD FTG 04-5									◊																							
GMD IFT-13c					◆																											
GMD IFT-14						◊																										
LRALT CD FT 04-5								Δ																								
PAC-3 DT/OT-12a/b				◆																												
THAAD FT-3								◊																								
THAAD FT-4									◊																							

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Production Milestones								
GMD Target Development	2Q-4Q	1Q-4Q						
Short Range Air Launch Target	1Q-3Q							
Long Range Air Launch Target	1Q-3Q							
Mobile Launch Platform Target	1Q-3Q							
Medium Range Target	1Q-4Q	1Q-2Q						
Short Range Liquid Fuel Booster	1Q-3Q							
PDR								
CMCM - 1	2Q							
CMCM - 2	3Q							
CDR								
Mobile Launch Platform Equipment- OEM CDR	1Q							
Short Range Liquid Fuel Booster - Integration	2Q							
Medium Range Target	2Q							
CMCM - 1	4Q							
CMCM - 2		2Q						
Testing Milestones								
Long Range Air Launch Target - RRF	3Q							
Medium Range Target - RRF Air		2Q						
Mobile Launch Platform Target - RRF	4Q							
Short Range Air Launch Target - RRF	3Q							
Aegis FTM 04-1		2Q						
Aegis FTM 04-2		3Q						
Aegis FTM 04-3		4Q						
Arrow USFT-1	4Q							
Arrow USFT-2a		2Q						
CMCM-1 FT 04-2		3Q						
CMCM-2 FT 04-4		4Q						
CMP-4	4Q							
GMD FT 04-1		4Q						
GMD FT-06-1			1Q					
GMD FTG 04-1		4Q						

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
GMD FTG 04-2			1Q					
GMD FTG 04-5			1Q					
GMD IFT-13c		1Q						
GMD IFT-14		2Q						
GMD Target (FT-04-5)	1Q-4Q							
GMD Target (FT-06-1)		1Q						
LRALT CD FT 04-5		4Q						
PAC-3 DT/OT-12a/b	4Q							
THAAD FT-3		4Q						
THAAD FT-4			1Q					
Test Bed		1Q-4Q	1Q-3Q					

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603888C Ballistic Missile Defense Test and Targets				
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0805 Targets & Countermeasures Block 2006	0	112,984	222,194	208,246	0	0	0	0
RDT&E Articles Qty	0	0	11	7	0	0	0	0

A. Mission Description and Budget Item Justification

The Targets and Countermeasures program provides capability-based targets to support Block 2006 integrated and layered BMDS testing. Targets developed under this project will enhance the BMDS capability by providing short, medium, and long range capability-based targets with enhanced payloads. Based on the Systems Engineering assessments of possible threat scenarios, the targets and countermeasures program supports the Engagement Sequence Group (ESG) by launching targets to test the performance of the BMDS, ultimately enabling a weapon to engage a target. Funding for this program supports the continuation of targets prime contract activities, and the design, prototyping, development, certification, product improvement, and qualification testing of BMDS Block 2006 targets and associated payloads. It also supports the maintenance, aging surveillance, refurbishment, and routine testing of existing government furnished equipment (GFE) boosters, as well as the purchase of long lead material assets and asset management items for short, medium and long-range target components.

The following target will be developed and available to support Block 2006 testing:

- Long Range Foreign Material Acquisition (LR-FMA) - Under this program, long range FMA's are procured and tested for potential use as a long-range strategic target against the integrated and layered BMDS. The Long Range FMA program was initiated by the targets prime contractor in 1Q/05, with a ground-launch risk reduction flight test at a yet to be determined date. Start and end dates for this program are estimates only until the systems engineering requirements cycle is completed and detailed program content and schedule has been developed.

Ground-Based Midcourse Defense (GMD) Targets - The Targets and Countermeasures Program will continue to fund a portion of GMD FTG-06-1a/b.

The program also provides hardware and full range support and mission management for the following BMDS element flight tests in Block 2006:

- Ground-Based Midcourse Defense (GMD) targets - Flight Tests (FT) FT-06-1, FT-06- 6, FTG-04-5, FTG-06-1a/b, FTG-06-2 (Launch Vehicle 2), FTG- 06-3a/b and FTG-06-4 (see Program Element 0603882C, Projects 0708 and 0808 for details on BMDS Flight Test).
- THAAD - FTT-04-1, FTT-06-1, FTT-06-2, FTT- 06-3, FTT 06-4 and FTT 06-5
- PAC-3 - ATM-XXX and Task 7-2
- ABL - 4 FMA and 2 Lance tests
- Aegis FTM-06-1, FTM-06-2, FTM-06-3, and FTM-06-4
- Japanese Cooperative Test FTM-06-2
- KI - NFIRE-2 a and b
- Space & Tracking Surveillance System (STSS) - DTMT1 and DSMT1.
- Also included are two technology demonstration flights for Critical Measurements & Countermeasures (CMCM-3, 4).

The targets prime contractor (Lockheed Martin Space Systems Company) will develop all future target configurations with an emphasis on developing product lines of common target components, rather than full-blown individual target systems. Lockheed Martin Space Systems Company will maximize the use of existing government furnished equipment, to include the use of Foreign Material Acquisitions (FMA's) when appropriate, while minimizing the number of new developments. Lockheed Martin Space Systems Company will optimize the use of existing designs, provide capability-based and common component upgrades, and pursue target portfolio commonality in booster stages, inter stages, avionics, launch support equipment, counter-measures, and re-entry vehicles. It is

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY			R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			0603888C Ballistic Missile Defense Test and Targets	
<p>anticipated this product line approach and target component commonality will reduce both cycle time (e.g., concept definition to launch) and cost. During FY04 the Small Low Observable (SLO) program was canceled but some instrumentation efforts were moved into Block 06 Advanced Instrumentation Development.</p>				
<u>B. Accomplishments/Planned Program</u>				
	FY 2004	FY 2005	FY 2006	FY 2007
Target Development	0	63,000	52,990	17,861
RDT&E Articles (Quantity)	0	0	2	0
<p>This effort develops, integrates, and tests short, medium, and long-range BMDS targets. It is anticipated the prime contractor will initiate the development and testing of targets in Block 06 (Targets and Countermeasures Project 0805).</p> <p>FY 2005 Planned Accomplishments:</p> <ul style="list-style-type: none"> • Initiate Delivery Order (DO) the prime contractor (Lockheed Martin Space Systems Company) to procure Long Range FMA. • Initiate DO for GMD FTG-06-1 and FTG-06-2 (Launch Vehicle 2) • Initiate DO for THAAD FTT 06-1 Launch Vehicle and FTT-04-1 • Initiate DO for Aegis BMD FTM-06-1 • Conduct associated engineering trade studies. • Purchase long-lead hardware components. <p>FY 2006 Planned Program:</p> <p>RDT&E Test Articles: 1 Launch Vehicle 2 Target; 1 Long Range Foreign Material Assets (FMA)</p> <ul style="list-style-type: none"> • Conduct Risk Reduction Flight (RRF) on the Launch Vehicle 2 target. • Complete development on the Long Range FMA and conduct a RRF. • Complete target development for GMD FTG-06-1 and FTG-06-2 (Launch Vehicle) targets. • Complete target development for THAAD FTT-06-1. • Complete development for AEGIS BMD FTM-06-1 and 2. • Conduct associated engineering trade studies. • Purchase long-lead hardware components. • Purchase Modular Mechanical Ordnance Destruct System (MMODS). <p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> • Analyze test data from the FTG-06-2 (Launch Vehicle 2) RRF to be conducted in FY 2006. • Analyze test data from the Long Range FMA RRF to be conducted FY 2006. • Purchase MMODS. • Purchase Flex Seal Nozzles. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY			R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			0603888C Ballistic Missile Defense Test and Targets	
<ul style="list-style-type: none"> • Participate in SRR's, PDR's and CDR's. • Conduct associated engineering trade studies. • Purchase hardware components. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Target Support	0	6,800	92,967	153,319
RDT&E Articles (Quantity)	0	0	0	0
<p>This effort comprises a significant portion of the targets and countermeasures prime contract costs, as well as funding for Federally Funded Research and Development Centers (FFRDCs) and National Lab activities that directly support the Targets and Countermeasures program. There are no quantities of articles reported under this task since the scope of work is primarily program management, systems engineering, functional requirements analysis, and target systems design work through the Critical Design Review (CDR) systems engineering process. This effort also provides target mission management and execution, and overall mission assurance of flight tests which includes conducting mission planning, documentation, and development of scenario plans in accordance with mission requirements. Controls target management (scheduling and configuration modifications) in support of Block 06 BMDS and Element testing. Additionally, this effort will program and plan for award fee for the entire targets prime contract, including element target delivery orders that are funded in separate Missile Defense Agency Program Elements (PE's). The acquisition and presentation of targets used in integrated and layered BMDS testing will continue to be funded by the Missile Defense Agency Elements (e.g., THAAD, Aegis, etc.) in separate Program Elements utilizing the targets prime contract vehicle.</p> <p>FY 2005 Planned Accomplishments:</p> <p>Leveraging available and emerging technologies from foreign and domestic sources assuring that target acquisition programs are capabilities driven and employ spiral development processes.</p> <p>FY 2006 Planned Program:</p> <ul style="list-style-type: none"> • Prepare for and conduct System Requirements Reviews (SRR's). • Manage and conduct program management reviews. • Prepare for and conduct Preliminary Design Reviews (PDR's). • Conduct and finalize Critical Design Reviews (CDR's). • Conduct early concept definition analyses. • Develop advanced target systems and sub-systems prototype design work. • FFRDCs and National Labs to continue unique target requirements, certification, and instrumentation analyses. • Provide target mission management and mission assurance of flight tests for the following target missions: <ul style="list-style-type: none"> • Aegis tests FTM-06-1, FTM-06-2, and FTM-06-3 • GMD tests FTG-04-5, FTG-06-1a/b, and FTG-06-2 (Launch Vehicle 2) • THAAD tests FTT-04-1, and FTT-06-1 • Kinetic Energy Interceptor tests NFIRE 2 a and b 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			Date February 2005	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE		
RDTE&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets		
<p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> Continue to prepare for and conduct SRR's. Continue to manage and conduct Program Management Reviews. Continue to prepare for and conduct PDR's. Continue to conduct and finalize CDR's. Continue to conduct early concept definition analyses. Continue to develop advanced target systems and sub-systems prototype design work. FFRDCs and National Labs to continue unique target requirements, certification, and instrumentation analyses. Provide target mission management and mission assurance of flight tests for the following target missions: <ul style="list-style-type: none"> Aegis tests FTM-06-4 and FTM-06-5 PAC-3 tests FT-16-2 and FT-16-3 THAAD tests FTT-06-2, FTT-06-3, and FTT-06-4 GMD tests FT-06-6, FTG-06-3a/b, and FTG-06-4 STSS tests DTMT-1 and DSMT-1 CMCM-4 				
	FY 2004	FY 2005	FY 2006	FY 2007
Payload Development	0	40,184	60,588	26,254
RDT&E Articles (Quantity)	0	0	8	7
<p>This effort provides funding for program management and development of: 1) unique target payload components (re-entry vehicles (RV's), countermeasures, instrumentation, adaptor sections, and deployment mechanisms), as well as optical on-target data collection instrumentation used for algorithm development/evaluation and payload characterization; 2) development of Fly Along Sensor Package (FASP) flight units for BMDS testing; 3) development of advanced instrumentation systems/techniques to include data collection and transmission techniques/methods; 4) development of advanced countermeasures to support BMDS flight testing and special systems engineering studies, and; 5) development of advanced RV concepts to support BMDS testing.</p> <p>FY 2005 Planned Accomplishments:</p> <ul style="list-style-type: none"> Continue development of secure telemetry network for operational testing. Continue production of two M-FASP units for inventory. Continue development of advanced sensors for integration into SDS (High Speed Camera, High Speed Spectrometer & Radiometer). Continue development and implement new techniques data telemetry during flight tests. Continue development of Spatially Diverse Sensor (SDS) platform (next generation FASP). Continue development of enhanced Real-time Mission Monitoring for BMDS missions. Continue development of Instrumentation Inventory, including SDS to reduced cycle time required to produce targets. Continue development of advanced instrumentation and telemetry concepts. Participate efforts to standardize instrumentation across Product Lines for TM, avionics, Flight Termination/Command Destruct Systems, GPS, etc. Complete development of re-entry vehicles (MBRV-2's). 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		0603888C Ballistic Missile Defense Test and Targets
<ul style="list-style-type: none"> • Transition-to-limited-production of legacy-GMD countermeasure designs from the National Labs to the Targets and Countermeasures Prime Contractor (TCPC). • Design flight test countermeasures in support of the CMCM-4 program. • Build and characterize countermeasure objects for BMDS flight tests. • Conduct studies on legacy countermeasures to down-select designs for transition-to-limited production. • Develop techniques, materials and processes for new prototype countermeasures. • Conduct design studies to bring countermeasures designs to the Critical Design Review-level. • Begin development of countermeasure inventory to reduce cycle time required to produce targets. <p>FY 2006 Planned Program:</p> <p>RDT&E Test Articles: 6 MBRV-2's; 2 M-FASPS</p> <ul style="list-style-type: none"> • Complete the manufacturing of 6 MBRV-2's. • Complete production of 2 M-FASP units for inventory. • Complete development of Wireless LAN for operational testing. • Complete development of advanced sensors for integration into SDS (High Speed Camera, High Speed Spectrometer & Radiometer). • Complete development and implement new techniques data telemetry during flight tests. • Continue development of Spatially Diverse Sensor (SDS) platform (next generation FASP). • Continue development of enhanced Real-time Mission Monitoring for BMDS missions. • Continue development of Instrumentation Inventory, including SDS to reduced cycle time required to produce targets. • Continue development of advanced instrumentation and telemetry concepts. • Begin development of the advanced secure telemetry network. • Participate in efforts to standardize instrumentation across Product Lines for TM, avionics, Flight Termination/Command Destruct Systems. • Transition-to-limited-production several countermeasure designs from the National Labs to the Targets and Countermeasures Prime Contractor (TCPC). • Continue to develop techniques, materials and processes for new prototype countermeasures. • Conduct design studies to bring countermeasures designs to the Critical Design Review-level. • Continue to develop a countermeasure inventory in support of BMDS flight tests. • Build and characterize countermeasures for GMD flight tests. <p>FY 2007 Planned Program:</p> <p>RDT&E Test Articles: 7 MBRV-2's</p> <ul style="list-style-type: none"> • Complete the manufacturing of 7 MBRV-2's. • Complete development of Spatially Diverse Sensor (SDS). • Complete development of the advanced secure telemetry network. • Continue development of enhanced Real-time Mission Monitoring for BMDS missions. • Continue development of Instrumentation Inventory, including SDS to reduced cycle time required to produce targets • Continue development of advanced instrumentation and telemetry concepts. • Participate in efforts to standardize instrumentation across Product Lines for TM, avionics, Flight Termination/Command Destruct Systems, GPS, etc. 		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets		
<ul style="list-style-type: none"> Transition-to-limited-production several countermeasure designs from the National Labs to the Targets and Countermeasures Prime Contractor (TCPC). Continue to develop techniques, materials and processes for new prototype countermeasures. Conduct design studies to bring countermeasures designs to the Critical Design Review-level. Continue to develop a countermeasure inventory in support of BMDS Flight Test. Build and characterize countermeasures for GMD flight tests. 				
	FY 2004	FY 2005	FY 2006	FY 2007
Asset Management	0	3,000	15,649	10,812
RDT&E Articles (Quantity)	0	0	1	0
<p>This effort provides funding for the maintenance, storage, aging surveillance, modification, documentation, material handling, delivery of assets, refurbishment, and routine testing of government furnished equipment (Minuteman II, Peacekeeper, Lance, Pershing II, Polaris A-3, Trident C-4, Caster IVB, FMA assets) related to target boosters, payloads, instrumentation, launch support equipment, and unique target hardware components.</p> <p>FY 2005 Planned Accomplishments:</p> <ul style="list-style-type: none"> Initiated DO to develop C-4 Transporter Erector. Conduct advanced development of the C-4 Transporter Erector. Initiate development of the C-4 launch support system. <p>FY 2006 Planned Program:</p> <p>RDT&E Test Articles: 1 C-4 Launch Transporter Erector</p> <ul style="list-style-type: none"> Complete the development of the C-4 Transporter Erector. Complete the development of the C-4 launch support system. Continue the storage, maintenance, and aging and surveillance program for 84 Pershing II Reentry Vehicles and other components, 99 Lance Missiles, 16 Polaris A-3 motors, 6 Orbus motors, Minuteman motors, 13 FMA's and 7 Castor IVB motors. Continue the maintenance of existing support equipment and facilities at Redstone Arsenal, White Sands Missile Range, Kodiak, and Pacific Missile Range Facility. Continue the procurement of Trident motors for future use as targets. Quantity TBD based upon negotiations with the Navy. Continue the procurement of assembled Castor IV motors using GFE cases to support future MRT missions. Follow on procurement of additional FMA Assets to support future target flight tests. Continue refurbishment and assembly of 3 Castor IVB motors and associated support equipment for FY 2006 Aegis flight tests. <p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> Continue the storage, maintenance, and aging and surveillance program for 84 Pershing II Reentry Vehicles and other components, 99 Lance Missiles, 16 Polaris A-3 motors, 6 Orbus motors, Minuteman motors, 13 FMA's and 7 Castor IVB motors. 				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
<ul style="list-style-type: none">Continue the maintenance of existing support equipment and facilities at Redstone Arsenal, White Sands Missile Range, Kodiak, and Pacific Missile Range Facility.Continue the procurement of Trident motors for future use as targets. Quantity TBD based upon negotiations with the Navy.Follow on procurement of additional FMA Assets to support future target flight tests.									
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

Project: 0805 Targets & Countermeasures - Block 2006

MDA Exhibit R-2A (PE 0603888C)

Line Item 75 - 97 of 120

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets
<p><u>D. Acquisition Strategy</u></p> <p>Targets and Countermeasures will follow the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The targets prime contractor will continue to emphasize target product lines that develop target components such as booster stages, avionics, countermeasures, etc. As target developments and existing contracts are completed under Project 0705 (Block 04), the prime contractor will optimize target designs and developments completed for Block 04 and incorporate them as necessary to support Block 06 development. The prime contractor will also continue to provide capability-based and commonality target upgrades, as well as pursue target portfolio commonality in order to reduce cycle time and cost of BMDS target systems. Under this Project (0805), the four year base period of performance will expire. The government will either exercise the first option to continue with the prime, or re-compete the effort. As with Project 0705 (Block 04), the government will continue to maintain system responsibility and will ensure successful management of targets execution.</p>		

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Target Development										
System Engineering	C/CPAF	Lockheed Martin/ Denver, CO	0	14,000	1/4Q	26,400	1/2Q	13,200	1/2Q	53,600
System Engineering	C/Various	TMI	0	0	N/A	1,000	1/3Q	1,000	1/3Q	2,000
System Engineering	C/Various	Huntsville, AL	0	0	N/A	75	1/2Q	0	N/A	75
System Engineering	C/Various	SBIR	0	0	N/A	0	N/A	1,000	1/3Q	1,000
Integration	C/Various	Multiple/ Lockheed Martin/ Denver, CO	0	0	N/A	4,857	1/2Q	2,661	1/2Q	7,518
Launch Vehicles	C/CPAF	Lockheed Martin/ Denver, CO	0	49,000	1/2Q	20,658	1/2Q	0	N/A	69,658
Target Support										
System Engineering	C/CPAF	Lockheed Martin/ Denver, CO.	0	6,800	1Q	78,516	1Q	137,878	1Q	223,194
System Engineering	C/FFRDC	JHU/APL/ Laurel, MD	0	0	N/A	1,500	1/2Q	2,213	1/2Q	3,713
System Engineering	C/Various	Sandia National Lab/New Mexico	0	0	N/A	1,200	1/2Q	1,224	1/2Q	2,424
Mission Management	C/Various	TSI	0	0	N/A	8,538	1/4Q	8,727	1/4Q	17,265
Mission Assurance	C/Various	Northup Grumman/ California	0	0	N/A	3,213	1/4Q	3,277	1/4Q	6,490
Payload Development										
Re-Entry Vehicles	C/CPAF	Lockheed Martin/ Denver, CO	0	5,600	1Q	25,674	1Q	10,287	1/2Q	41,561

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Re-Entry Vehicles	C/Various	Huntsville, AL	0	0	N/A	1,530	1/2Q	1,561	1/2Q	3,091
Countermeasures	C/CPAF	Lockheed Martin/ Denver, CO	0	10,840	1Q	20,704	1Q	7,147	1Q	38,691
Countermeasures	C/FFRDC	JHU/APL/ Laurel, MD	0	0	N/A	1,500	1/2Q	1,500	1/2Q	3,000
Instrumentation	C/Various	Sandia National Lab/New Mexico	0	19,882	1/2Q	6,286	1/3Q	4,759	1/3Q	30,927
Instrumentation	C/CPAF	Lockheed Martin/ Denver, CO	0	0	N/A	2,174	1Q	1,000	1Q	3,174
Instrumentation	C/FFRDC	MIT/LL/ Boston, MA	0	3,350	1/3Q	2,200	1/3Q	0	N/A	5,550
Instrumentation	C/Various	NSA/ Ft. Meade, MD	0	512	1/3Q	520	1/3Q	0	N/A	1,032
Asset Management										
Logistics	C/Various	RTTC	0	0	N/A	284	1/2Q	290	1/2Q	574
Logistics	C/Various	Lockheed Martin/ Denver, CO	0	3,000	1/2Q	15,365	1/2Q	10,522	1/2Q	28,887
Subtotal Product Development			0	112,984		222,194		208,246		543,424
Remarks										
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs										
Remarks										

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis								Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets					
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation										
Remarks										
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services										
Remarks										
Project Total Cost			0	112,984		222,194		208,246		543,424
Remarks										

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

R-1 NOMENCLATURE

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
Development Milestones																																
Pilot Test and Evaluate Classified VPN					△							△																				
C4 Development					△							△																				
Countermeasures						△																										
Instrumentation						△																										
Re-Entry Vehicles																																
Testing Milestones																																
Long Range FMA Risk Reduction Flight													△																			
C4 Risk Reduction Flight												△																				
ABL												◇	◇			◇	◇															
Aegis FTM 06-1												◇																				
Aegis FTM 06-2												◇																				
Aegis FTM 06-3														◇																		
Aegis FTM 06-4																	◇															
CMCM-3												△																				
CMCM-4																	◇															
FTM-06-2 Japanese Cooperative JFM-1												◇																				
FTM-06-4																	◇															
GMD FT-06-6																	◇															
GMD FTG 06-1a/b													◇																			
GMD FTG 06-2																	◇															
GMD FTG-04-5												◇																				
KEI NFIRE-2a												◇																				
KEI NFIRE-2b													◇																			

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																				Date February 2005															
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)												R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																							
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011						
	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							
Testing Milestones																																			
PAC-3 ATM-XX												◊																							
PAC-3 Task 7-2																	◊																		
STSS DSMT1															◊																				
STSS DTMT1															◊																				
THAAD FTT 04-1												◊																							
THAAD FTT 06-1													◊																						
THAAD FTT 06-2														◊																					
THAAD FTT 06-3																◊																			
THAAD FTT 06-4																	◊																		
THAAD FTT 06-5																		◊																	

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development Milestones								
Pilot Test and Evaluate Classified VPN		1Q-4Q	1Q-3Q					
C4 Development		1Q-4Q	1Q-2Q					
Countermeasures		2Q-4Q	1Q-4Q	1Q-4Q	1Q			
Instrumentation		2Q-4Q	1Q-4Q	1Q-4Q	1Q			
Re-Entry Vehicles	4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q			
Testing Milestones								
Long Range FMA Risk Reduction Flight			4Q					
C4 Risk Reduction Flight			3Q					
ABL			3Q,4Q	3Q,4Q				
Aegis FTM 06-1			3Q					
Aegis FTM 06-2			4Q					
Aegis FTM 06-3				2Q				
Aegis FTM 06-4				4Q				
CMCM-3			3Q					
CMCM-4				3Q				
FTM-06-2 Japanese Cooperative JFM-1			2Q					
FTM-06-4				2Q				
GMD FT-06-6				1Q				
GMD FTG 06-1a/b			4Q					
GMD FTG 06-2				1Q				
GMD FTG-04-5			2Q					
KEI NFIRE-2a			2Q					
KEI NFIRE-2b			3Q					
PAC-3 ATM-XX			3Q					
PAC-3 Task 7-2					1Q			
STSS DSMT1				2Q				
STSS DTMT1				2Q				
THAAD FTT 04-1			3Q					
THAAD FTT 06-1			4Q					
THAAD FTT 06-2				1Q				
THAAD FTT 06-3				3Q				

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
THAAD FTT 06-4				4Q				
THAAD FTT 06-5					1Q			

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603888C Ballistic Missile Defense Test and Targets				
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0905 Targets & Countermeasures Block 2008	0	0	10,293	37,991	177,463	163,430	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification

The Targets and Countermeasures program provides capability-based targets to support Block 2008 integrated and layered BMDS testing. Targets developed under this project will test and enhance the BMDS capability by providing short, medium, and long range capability based targets with more complex payloads. Based on System Engineering assessments of possible threat scenarios, the targets and countermeasures program supports the Engagement Sequence Group (ESG) by launching targets to test the performance of the BMDS, ultimately enabling a weapon to engage a target. Funding for this program supports the continuation of targets prime contract activities, and the design, prototyping, development, certification, product improvement, and qualification testing of BMDS Block 2008 targets and associated payloads. It also supports the maintenance, aging surveillance, refurbishment, and routine testing of existing government furnished equipment (GFE) boosters, as well as the purchase of long lead material assets and asset management items for short, medium and long-range target components. This program also provides the technical support of mission management for Element flight tests. Similar to Project 0805 (Block 06), this Project (0905) will continue to rely upon the targets prime contractor to develop new target systems, as well as develop product lines of common target components. Existing designs, government furnished equipment, and Foreign Material Acquisition (FMA's) will continue to be utilized as necessary to minimize new developments, contain costs, and reduce cycle time. The Medium and Long Range Liquid Fuel Booster and the Strategic Range Air Launch Target programs were canceled.

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
Payload Development	0	0	10,293	37,991
RDT&E Articles (Quantity)	0	0	0	0

This effort provides funding for program management and development of: 1) unique target payload components (re-entry vehicles (RV's), countermeasures, instrumentation, adaptor sections, and deployment mechanisms), as well as optical on-target data collection instrumentation used for algorithm development/evaluation and payload characterization; 2) development of Fly Along Sensor Package (FASP) flight units / Spatially Diverse Sensor (SDS) for BMDS testing; 3) development of advanced instrumentation systems/techniques to include data collection and transmission techniques/methods; 4) development of advanced countermeasures to support BMDS flight testing and special systems engineering studies, and; 5) development of advanced RV concepts to support BMDS testing. There are no Articles of Quantity to report under this Task since the Payload Development delivery dates extend beyond FY 2007.

FY 2006 Planned Program:

- Development of unique target instrumentation.
- Development of advanced instrumentation and telemetry.
- Continue development of Spatially Diverse Sensor (SDS) platform (next generation FASP).
- Continue development of Instrumentation Inventory, including SDS to reduced cycle time required to produce targets.
- Continue to standardize instrumentation across Product Lines for telemetry, avionics, Flight Termination/Command Destruct Systems, GPS, etc.
- Continue the development and implement new techniques data telemetry during flight tests.
- Development of optical on-target data collection instrumentation used for algorithm development/evaluation and payload characterization.
- Continue development of enhanced Real-time Mission Monitoring for BMDS missions.

Project: 0905 Targets & Countermeasures - Block 2008

MDA Exhibit R-2A (PE 0603888C)

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
<ul style="list-style-type: none">• Transition-to-limited-production several countermeasure designs from the National Labs to the Targets and Countermeasures Prime Contractor (TCPC).• Continue to develop techniques, materials and processes for new prototype countermeasures.• Conduct design studies to bring countermeasures designs to the Critical Design Review-level.• Continue to develop a countermeasure inventory in support of BMDS flight tests.• Build and characterize countermeasures for GMD flight tests.									
FY 2007 Planned Program:									
<ul style="list-style-type: none">• Complete development and implement new techniques data telemetry during flight tests.• Continue development of Instrumentation Inventory, including SDS to reduced cycle time required to produce targets. Continue to develop unique target instrumentation.• Continue the development of advanced instrumentation and telemetry.• Continue development of SDS platform.• Continue to standardize instrumentation across Product Lines for telemetry, avionics, Flight Termination/Command Destruct Systems, GPS, etc.• Continue the development of optical on-target data collection instrumentation used for algorithm development/evaluation and payload characterization.• Continue development of enhanced Real-time Mission Monitoring for BMDS missions.• Transition-to-limited-production several countermeasure designs from the National Labs to the TCPC.• Continue to develop techniques, materials and processes for new prototype countermeasures.• Conduct design studies to bring countermeasures designs to the Critical Design Review-level.• Continue to develop a countermeasure inventory in support of BMDS flight tests.• Build and characterize countermeasures for BMDS flight tests.									
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419

Project: 0905 Targets & Countermeasures - Block 2008

MDA Exhibit R-2A (PE 0603888C)

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

D. Acquisition Strategy

Targets and Countermeasures will follow the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The targets prime contractor will continue to develop targets for use in MDA BMDS testing, with a continued emphasis on product line development and target component commonality. It is expected that the prime contractor will continue to refine and streamline the activities for which it is under contract, and as described in Section A of this Project. Under this Project (0905), the first two year option period of performance, for the prime contractor will expire, and the government will either exercise a second two year option, or re-compete the effort. As with Project 0805 (Block 06), the government will continue to maintain system responsibility and will ensure successful management of targets execution.

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
I. Product Development Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Payload Development										
Re-Entry Vehicles	C/CPAF	Lockheed Martin/ Denver, CO	0	0	N/A	0	N/A	19,497	1/2Q	19,497
Countermeasures	C/CPAF	Lockheed Martin/ Denver, CO	0	0	N/A	0	N/A	9,630	1/2Q	9,630
Instrumentation	C/CPAF	Lockheed Martin/ Denver, CO	0	0	N/A	6,720	1/2Q	4,535	1/2Q	11,255
Instrumentation	C/FFRDC	Sandia National Lab/New Mexico	0	0	N/A	3,573	1/2Q	3,800	1/2Q	7,373
Instrumentation	C/Various	NSA/ Ft. Meade, MD	0	0	N/A	0	N/A	529	1/2Q	529
Subtotal Product Development			0	0		10,293		37,991		48,284
Remarks										
II. Support Costs Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs										
Remarks										

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
III. Test and Evaluation Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation										
Remarks										
IV. Management Services Cost (\$ in Thousands)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award/ Oblg Date	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services										
Remarks										
Project Total Cost			0	0		10,293		37,991		48,284
Remarks										

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

R-1 NOMENCLATURE

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
Development Milestones																																
Instrumentation										△																						
Countermeasures														△																		
Re-Entry Vehicles														△								△										
Testing Milestones																																
ABL																				◇	◇	◇	◇	◇	◇							
Aegis FTM 08-1																					◇											
Aegis FTM 08-2																						◇										
Aegis FTM 08-3																							◇									
Arrow USFT-3																				◇												
Arrow USFT-4																				◇												
CMCM-5																					◇											
CMCM-6																								◇								
GMD FT 08-1																						◇										
GMD FTG 08-2																				◇												
GMD FTG 08-3a/b																						◇										
GMD FTG 08-4																							◇									
GMD FTG 08-5																								◇								
GMD FTG 08-6a/b																									◇							
PAC-3 Task 7-3																				◇												
STSS DSMT2																					◇											
STSS DTMD3&4																							◇									
STSS DTMT2																				◇												
THAAD FTT 08-1																					◇											

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																				Date February 2005													
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)												R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																					
Fiscal Year		2004				2005				2006				2007				2008				2009				2010				2011			
		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				
Testing Milestones																																	
THAAD FTT 08-2																																	
THAAD FTT 08-3																																	
THAAD FTT 08-4																																	
THAAD FTT 08-5																																	
THAAD FTT 08-6																																	

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development Milestones								
Instrumentation			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Countermeasures				1Q-4Q	1Q-4Q	1Q-4Q		
Re-Entry Vehicles				1Q-4Q	1Q-4Q	1Q		
Testing Milestones								
ABL					3Q,4Q	1Q,2Q,3Q,4Q		
Aegis FTM 08-1					4Q			
Aegis FTM 08-2						2Q		
Aegis FTM 08-3						3Q		
Arrow USFT-3					2Q			
Arrow USFT-4					2Q			
CMCM-5					3Q			
CMCM-6						3Q		
GMD FT 08-1						1Q		
GMD FTG 08-2					2Q			
GMD FTG 08-3a/b					4Q			
GMD FTG 08-4						2Q		
GMD FTG 08-5						3Q		
GMD FTG 08-6a/b						4Q		
PAC-3 Task 7-3					2Q			
STSS DSMT2					3Q			
STSS DTMD3&4					4Q			
STSS DTMT2					2Q			
THAAD FTT 08-1					3Q			
THAAD FTT 08-2					3Q			
THAAD FTT 08-3						1Q		
THAAD FTT 08-4						1Q		
THAAD FTT 08-5						2Q		
THAAD FTT 08-6						2Q		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets			
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0005 Targets & Countermeasures Block 2010	0	0	0	0	4,188	32,379	200,479	204,974
RDT&E Articles Qty	0	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification

The Targets and Countermeasures program provides capability-based targets to support Block 2010 integrated and layered BMDS testing. Targets developed under this project will test and enhance the BMDS capability by providing short, medium, and long range capability based targets with more complex payloads. Based on Missile Defense National Team (MDNT) assessments of possible threat scenarios, the targets and countermeasures program supports the Engagement Sequence Group (ESG) by launching targets to test the performance of the BMDS, ultimately enabling a weapon to engage a target.

Funding for this program supports the continuation of targets prime contract activities, and the design, prototyping, development, certification, product improvement, and qualification testing of BMDS Block 2010 targets and associated payloads. It also supports the maintenance, aging surveillance, refurbishment, and routine testing of existing government furnished equipment (GFE) boosters, as well as the purchase of long lead material assets and asset management items for short, medium and long-range target components. This effort provides funding for program management and the development of various countermeasures for BMDS flight testing, including characterization and ground testing of those countermeasure systems. This program also provides the technical support of mission management/mission assurance for all Element flight tests and advanced development for long range strategic targets. Similar to Project 0905 (Block 08), this Project (0005) will continue to rely upon the targets prime contractor to develop new target systems, as well as develop product lines of common target components. Existing designs, government furnished equipment, and Foreign Material Acquisition (FMA's) will continue to be utilized as necessary to minimize new developments, contain costs, and reduce cycle time. .

The Enhanced Target Delivery System (ETDS) target will be developed and available to support Block 2010 testing:

- The ETDS is a conceptual target which will emulate a long-range strategic target used to test the integrated and layered BMDS. It is anticipated that the ETDS development will be initiated by the targets prime contractor in FY09, with a booster demonstration occurring in FY10. These dates for beginning and completing the ETDS reflect a delay of program start. Decision to delay start of this target, which would have heavier lift and longer range capacity, was based on the pace of testing for the Ground-Based Midcourse Defense and BMDS, and the need to rebalance based on current priorities. Start and end dates for this program are notional until the systems engineering requirements cycle is completed and detailed program content and schedule has been developed.

B. Accomplishments/Planned Program

	FY 2004	FY 2005	FY 2006	FY 2007
Funding in this Project is not programmed until FY 2008.	0	0	0	0
RDT&E Articles (Quantity)	0	0	0	0

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
C. Other Program Funding Summary									
	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	226,765	231,145	136,241	184,877	197,229	205,191	212,435	218,763	1,612,646
PE 0603879C Advanced Concepts, Evaluations and Systems	132,701	159,878	0	0	0	0	0	0	292,579
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	3,731,708	4,521,019	3,266,196	3,945,991	3,650,848	3,315,513	3,183,622	2,545,882	28,160,779
PE 0603883C Ballistic Missile Defense Boost Defense Segment	475,911	476,179	483,863	648,728	620,793	690,807	811,430	1,183,182	5,390,893
PE 0603884C Ballistic Missile Defense Sensors	417,814	577,297	529,829	995,711	1,214,008	1,186,134	1,069,208	1,018,614	7,008,615
PE 0603886C Ballistic Missile Defense System Interceptors	114,669	279,815	229,658	444,900	677,243	1,137,337	1,468,827	1,717,507	6,069,956
PE 0603888C Ballistic Missile Defense Test and Targets	616,773	720,818	622,357	684,170	608,282	643,119	661,362	670,092	5,226,973
PE 0603889C Ballistic Missile Defense Products	309,949	383,830	455,152	509,982	509,161	516,599	516,017	515,729	3,716,419
PE 0603890C Ballistic Missile Defense System Core	449,747	399,829	447,006	538,442	532,412	530,934	520,679	531,832	3,950,881
PE 0603891C Special Programs - MDA	0	0	349,522	482,903	826,173	1,097,252	1,015,198	1,244,072	5,015,120
PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
PE 0901598C Management Headquarters - MDA	92,100	113,777	99,327	95,443	98,984	98,728	81,492	81,760	761,611
Air Force – Other Procurement	0	0	2,400	1,453	11,279	386	17,710	25,709	58,937
Air Force – Operations and Maintenance	0	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
Air Force – Military Personnel	0	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
Army – Operations and Maintenance	37,600	49,597	66,974	68,246	69,809	71,472	73,325	75,230	512,253
Army National Guard – Operations and Maintenance	0	0	155	151	150	154	164	167	941
Army National Guard – Military Personnel	21,000	21,000	17,648	24,432	24,952	25,591	25,591	25,591	185,805
Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PAC-3/MEADS – RDT&E	433,728	344,978	304,973	336,959	465,395	521,791	522,418	502,961	3,433,203
PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		Date February 2005
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets
<p><u>D. Acquisition Strategy</u></p> <p>Targets and Countermeasures will follow the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The targets prime contractor will continue to develop targets for use in MDA BMDS testing, with a continued emphasis on product line development and target component commonality. It is expected that the prime contractor will continue to refine and streamline the activities for which it is under contract. Under this Project (0005), the second two year option period of performance, for the prime contractor will expire, and the government will either exercise a third two year option, or re-compete the effort. As with Projects 0805 (Block 06) and 0905 (Block 08), the government will continue to maintain system responsibility and will ensure successful management of targets execution.</p>		

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date

February 2005

APPROPRIATION/BUDGET ACTIVITY

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)

R-1 NOMENCLATURE

0603888C Ballistic Missile Defense Test and Targets

Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	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	1	2	3	4
Testing Milestones																																
ABL																																
AEGIS																																
Arrow																																
CMCM																																
GMD																																
KEI																																
PAC-3																																
STSS																																
THAAD																																
Development Milestones																																
Countermeasures																																
Instrumentation																																
Re-Entry Vehicles																																
Target Development																																

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Testing Milestones								
ABL							1Q-4Q	1Q-4Q
AEGIS							1Q-4Q	1Q-4Q
Arrow							1Q-4Q	1Q-4Q
CMCM							1Q-4Q	1Q-4Q
GMD							1Q-4Q	1Q-2Q
KEI							1Q-4Q	1Q-4Q
PAC-3							1Q-4Q	1Q-4Q
STSS							1Q-4Q	1Q-4Q
THAAD							1Q-4Q	1Q-4Q
Development Milestones								
Countermeasures						1Q-4Q	1Q-4Q	1Q-4Q
Instrumentation							1Q-4Q	1Q-4Q
Re-Entry Vehicles						1Q-4Q	1Q-4Q	1Q
Target Development					1Q-4Q	1Q-4Q	1Q-4Q	1Q

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005																	
APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE																			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603888C Ballistic Missile Defense Test and Targets																			
COST (\$ in Thousands)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011															
0602 Program-Wide Support	34,139	6,239	6,543	9,912	10,175	10,490	14,970	9,690															
RDT&E Articles Qty	0	0	0	0	0	0	0	0															
<p><u>A. Mission Description and Budget Item Justification</u></p> <p>Program-Wide Support provides funding for common support functions across the entire program such as strategic planning, program integration, cost estimating, contracting, financial management to include preparation of financial statements, reimbursement of financial services provided by DFAS, internal review and audit, earned-value management, and program assessment. Includes costs for both government civilians performing these functions as well as support contractors providing government staff augmentation in these areas. Applies to costs at the MDA HQ as well as its Executing Agents in the Services: Army Space and Missile Defense Command, Army PEO Space and Missile Defense, Office of Naval Research, and various Air Force laboratory and acquisition activities. Other costs include physical and technical security, legal services, travel and training, office and equipment leases, utilities and communications, supplies and maintenance, and similar operating expenses at the various MDA Executing Agent locations, which at the MDA HQ are generally funded from the Management Headquarters Program Element (0901598C). Also includes funding for charges on canceled appropriations in accordance with Public Law 101-510, legal settlements, and foreign currency fluctuation on a limited number of foreign contracts.</p> <p><u>B. Accomplishments/Planned Program</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 2004</td> <td style="text-align: center;">FY 2005</td> <td style="text-align: center;">FY 2006</td> <td style="text-align: center;">FY 2007</td> </tr> <tr> <td>Civilian Salaries and Support</td> <td style="text-align: right;">34,139</td> <td style="text-align: right;">6,239</td> <td style="text-align: right;">6,543</td> <td style="text-align: right;">9,912</td> </tr> <tr> <td>RDT&E Articles (Quantity)</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> </tr> </table> <p>See Section A: Mission Description and Budget Item Justification</p>										FY 2004	FY 2005	FY 2006	FY 2007	Civilian Salaries and Support	34,139	6,239	6,543	9,912	RDT&E Articles (Quantity)	0	0	0	0
	FY 2004	FY 2005	FY 2006	FY 2007																			
Civilian Salaries and Support	34,139	6,239	6,543	9,912																			
RDT&E Articles (Quantity)	0	0	0	0																			

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets				
C. Other Program Funding Summary									
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PE 0603881C Ballistic Missile Defense Terminal Defense Segment	860,794	928,388	1,143,610	1,034,676	879,674	617,319	731,282	485,512	6,681,255
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PE 0605502C Small Business Innovative Research - MDA	146,030	0	0	0	0	0	0	0	146,030
PE 0901585C Pentagon Reservation	16,251	13,761	17,386	15,586	6,058	6,376	4,490	4,725	84,633
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Navy – Operations and Maintenance	0	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
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PAC-3/MEADS – Missile Procurement	841,964	574,972	581,924	578,579	660,584	616,020	509,032	738,679	5,101,754

Project: 0602 Program-Wide Support

MDA Exhibit R-2A (PE 0603888C)

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