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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2014 Missile Defense Agency **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO <sup>##</sup>	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	497.676	88.162	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	585.838
MD05: <i>Targets Program</i>	497.676	88.162	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	585.838

<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

**Note**

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

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

As part of the total Ballistic Missile Defense System (BMDS), the Test Program Element (PE) brings the BMDS element capabilities together for an integrated system-level test approach. Based on the Systems Engineering assessments of realistic threat scenarios, test events demonstrate capability of the evolving integrated layered missile defense system in a simultaneous test and operations environment. The Missile Defense Agency (MDA) employs a systematic review of BMDS testing that establishes a convention for setting test objectives that go beyond simply exercising newly delivered elements of the system. The BMDS Test Program establishes and documents in the Integrated Master Test Plan (IMTP) the test requirements for the BMDS with specific focus on collecting the data needed for the verification, validation and accreditation (VV&A) of the BMDS models and simulations (M&S). The BMDS performance evaluation strategy is to develop M&S of the BMDS and compare predictions to empirical data collected through comprehensive flight and ground testing to validate accuracy. Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs) are the conditions and events which define or describe the data to be obtained from flight and ground tests in order to independently accredit M&S. CECs and EMEs are utilized to design a test to further advance the understanding and confidence of the M&S tool set that will be used to evaluate all possible engagements. MDA testing is based on an integrated developmental and operational test program. The MDA Test Program is based on a commitment to deploy technology that is proven, cost-effective, and adaptable to an evolving security environment. MDA, in full collaboration with its IMTP stakeholders: Combatant Commands; Service Operational Test Agencies (OTAs); Director, Operational Test & Evaluation; and Director, Developmental Test and Evaluation, develops and approves the IMTP which aligns the BMDS Test Program to the PAA phases for proven capability delivery. This PE provides consolidated MDA-wide capabilities and resources for the planning, design, execution, provision of infrastructure, and management of BMDS testing. This PE also provides funding to the Operational Test Agencies (OTA), which are active in all phases of test planning, execution and post-test analysis, to include the development of the IMTP. Also included in this PE is funding to the Targets and Countermeasures (TC) program office for the development and procurements of ballistic missile targets and countermeasures for the BMDS in support of the MDA flight test program. Targets are representative of feasible future threats and flight test requirements are derived from the CECs and EMEs and are documented in the Agency's IMTP.

The Test and Targets PE is grouped into two major areas: Test and Evaluation; Targets and Countermeasures. This PE also includes the test related program content: Concurrent, Test, Training, and Operations (CTTO); Engineering Test Analysis; Facilities, Siting, and Environmental Management; and Fielding and Integration.

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

**R-1 ITEM NOMENCLATURE**  
PE 0603888C: *Ballistic Missile Defense Test & Targets*

- BMDS Test Program Functions:
- Directs the testing required to verify, validate, and accredit (VV&A) MDA`s models and simulation (M&S).
  - Plans tests according to BMDS and Element objectives.
  - Develops MDA test policy.
  - Executes BMDS ground and flight tests.
  - Ensures appropriate data is collected at the necessary fidelity.
  - Collects data for BMDS analysis and manages MDA data centers.
  - Provides BMDS and Element performance results for IMTP stakeholders.
  - Provides final target system integration, target mission logistics and launch execution for BMDS test target systems.
  - Provides test resources to support flight and ground tests.

- Major Test Program Goals:
- Direct planning, execution, analyses, and reporting of BMD system test events to support system verification.
  - Improve test execution and discipline for on-time, successful testing.
  - Integrate Element test processes into BMDS processes.
  - Develop Element Lessons Learned and Best Practices to support BMDS test design.
  - Provide required infrastructure and environmental compliance for robust BMDS testing.
  - Ensure test readiness, realism, and accuracy and improve test execution quality.

Targets and Countermeasures element level testing is funded as part of a developmental program and reflected in this Program Element (PE) submission. This PE also provides Targets and Countermeasures participation in the consolidated MDA-wide System Test Program and the resources for the planning, design, execution, and management of Targets and Countermeasures in BMD System testing in accordance with the BMDS Test Policy. This applies to all Flight, Integrated, Ground, and Distributed Ground Tests and Post-Test Analysis and reconstructions listed in the IMTP.

BMDS Targets and Countermeasures Functions:  
As part of the total Ballistic Missile Defense System (BMDS), the BMDS Targets Program provides centrally managed targets and countermeasures development and procurement for a cost effective, integrated system-level test approach. The BMDS Targets Program has realized past and future savings by centralized competition and management of targets and countermeasures using efficient acquisition strategies and lot buys resulting in economies of scale and cost savings. Based on the systems engineering assessments of threat intelligence, the BMDS Program Element develops, builds, and supports the launch of Short Range Ballistic Missile (SRBM: Less than 100Km range) targets, Medium Range Ballistic Missile (MRBM: 1000-3000 Km Range) targets, Intermediate Range Ballistic Missile (IRBM: 3000-5500 Km Range) targets, Intercontinental Ballistic Missile (ICBM: Greater than 5500 km range) targets, and Multi-Class Components to test, verify, and validate the performance of the BMDS against feasible threat signatures. The Missile Defense Agency (MDA) BMDS Targets Program provides an economical and reliable inventory of targets

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2014 Missile Defense Agency	<b>DATE:</b> April 2013
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>
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which are representative of feasible future threats and demonstrate capability of the evolving layered missile defense system in a simultaneous test and operations threat environment.

**Major Targets and Countermeasures Goals:**

-Provide cost effective, reliable targets representative of feasible future threats; target performance planning; and BMDS modeling and simulation to the MDA test and engineering community.

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

<b><u>B. Program Change Summary (\$ in Millions)</u></b>	<b><u>FY 2012</u></b>	<b><u>FY 2013</u></b>	<b><u>FY 2014 Base</u></b>	<b><u>FY 2014 OCO</u></b>	<b><u>FY 2014 Total</u></b>
Previous President's Budget	85.569	0.000	0.000	-	0.000
Current President's Budget	88.162	0.000	0.000	-	0.000
Total Adjustments	2.593	0.000	0.000	-	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	2.593	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustment	0.000	0.000	0.000	-	0.000

**Change Summary Explanation**

N/A

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**Exhibit R-2A, RDT&E Project Justification:** PB 2014 Missile Defense Agency **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO <sup>##</sup>	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
MD05: <i>Targets Program</i>	497.676	88.162	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	585.838
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

**Note**

Starting in FY 2012, BMD Test and Targets content moves to the following Program Elements: BMD Test and Evaluation PE 0603914C (Budget Project MT04), BMD Targets PE 0603915C (Budget Project MT05), and BMD C2BMC 0603896C (Budget Project MX01).

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

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

The mission of the Missile Defense Agency (MDA) BMDS Targets program is to provide an economical and reliable inventory of targets that are representative of feasible future threats. These targets enable demonstration of the evolving layered missile defense system capability in operationally realistic scenarios. The BMDS Targets Program develops and acquires three target types across four target classes. The four target classes include: Short Range Ballistic Missiles (SRBM), Medium Range Ballistic Missiles (MRBM), Intermediate Range Ballistic Missiles (IRBM), and Intercontinental Ballistic Missiles (ICBM). The target types (Type 1-3) designate the complexity of the target within its class. Type-1 targets are simple baseline configurations. Type-2 targets have increased capability or complexity. Type-3 targets have unique configurations.

The BMDS Targets Program develops and provides Multi-Class Components that can be used across the spectrum of target types and classes. The BMDS Targets Program provides target digital models that enable MDA weapon system program offices to simulate end to end sensor and interceptor performance during pre-mission analysis. The BMDS Targets Program also provides maintenance, aging surveillance, refurbishment, and routine testing of government furnished equipment boosters and target components. Target requirements are derived from the Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs) that are documented in the Agency's Integrated Master Test Plan. The BMDS Targets Program develops and builds targets and countermeasures at multiple locations including: Courtland, AL; Orlando, FL; Chandler, AZ; and Albuquerque, NM. Storage and maintenance facilities are also located throughout the country including: Huntsville, AL; White Sands, NM; Ogden, UT; Camp Navajo, AZ; Hawthorne, NV; Tooele, UT; Courtland, AL; and Kodiak, AK.

The BMDS Targets Program consists of three major areas: Target Hardware, Program Operations, and Target Support.

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

	FY 2012	FY 2013	FY 2014
<b>Title:</b> Program Operations	0.956	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>		<b>PROJECT</b> MD05: <i>Targets Program</i>
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>
<b>Articles:</b>		0	0	0
<p><b>Description:</b> Program Operations consisted of the government, contractor and Federally Funded Research and Development Center (FFRDC) workforce that managed the overall Targets and Countermeasures (TC) program, to include engineering, logistics, program management, business management, acquisition, contract administration, and quality assurance.</p> <p><b>FY 2012 Accomplishments:</b> The personnel for TC enabled the program to develop, build, and evaluate targets that respond to the changing threat and meet requirements in the Integrated Master Test Plan. These personnel included the following:</p> <ul style="list-style-type: none"> <li>-Other Government Agency (OGA) Civilians to provide support in the following functional areas: Engineering; Logistics; and Safety, Quality, and Mission Assurance</li> <li>-Contractor support services in the following functional areas: Engineering; Readiness; and Safety, Quality, and Mission Assurance; Security</li> <li>-FFRDCs, Intergovernmental Personnel Act (IPAs), University Affiliated Research Center (UARC) staff, Detailees, and Liaisons to support the TC program office in Engineering</li> </ul> <p>Refer to Project MT05 in Program Element 0603915C for the balance of FY 2012 Accomplishments.</p> <p><b>FY 2013 Plans:</b> N/A</p> <p><b>FY 2014 Plans:</b> N/A</p>				
<b>Title:</b> Target Support		17.897	0.000	0.000
<b>Articles:</b>		0	0	0
<p><b>Description:</b> BMDS Target Program Support consists of two sub-elements. These are Systems Engineering/Program Management and Logistics.</p> <p>System engineering/program management provides target program technical direction to meet program requirements while balancing cost, schedule, performance, and risk. It conducts functional requirements allocation to product lines, defines product line specifications/interfaces, and follows guidelines for design reviews. It performs target system analysis to verify system performance, defines target program baselines, controls flight test configurations, and conducts pre and post-flight analysis. It identifies treaty and environmental issues and develops plans for issue resolution. It also includes Single Stimulation Framework (SSF)/Objective Stimulation Framework (OSF) compatible Modeling and Simulation execution and improvements to evolve TC</p>				

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2012</b>
<p>Modeling and Simulation capability; trajectory analyses; signature analyses and characterization; studies to assess alternative target and platform solutions; assessments of risk and mission assurance; and design approval of government furnished equipment.</p> <p>BMDS Targets Program logistics support provides the Missile Defense Agency (MDA) with target storage, aging surveillance, and transportation of TC hardware in support of BMDS testing. Also included are integrated logistics support for facilities, inventory maintenance, spare parts, aging surveillance, disposal, special testing for rocket motor propellants, and other hazardous material handling. This task manages and oversees accountability of all government furnished equipment and contractor acquired property. Logistics also provides common support equipment for launch vehicles, re-entry vehicles, associated objects, and all up integrated target rounds. It also supports launch site activations through the transportation of support equipment to various test sites.</p> <p><b><i>FY 2012 Accomplishments:</i></b>            System Engineering and Program Management: Performed program management and systems engineering functions including: specialty and production engineering; acquisition, production, logistics management; modeling and simulation; and tests.</p> <ul style="list-style-type: none"> <li>-Continued Program Management and Business Operations for target components to provide a framework for overall management of the Targets program</li> <li>-Continued Information Technology support for Other Government Agencies (OGAs) so that subject matter experts could be used to support Target requirements</li> <li>-Continued Special Studies and associated analyses of future target Launch Vehicles, Re-Entry Vehicles, and launch platforms to ensure targets representative of future feasible threats technology is being incorporated into the Targets program</li> <li>-Continued Quality/Mission Assurance to include Pedigree Reviews to ensure high probability of mission success</li> <li>-Continued information technology and classified network support to ensure sensitive target information is not compromised</li> <li>-Continued Software Independent Verification and Validation (IV&amp;V) for targets, including the Extended Medium Range Ballistic Missile (eMRBM) and Launch Vehicle-2 (LV-2), and Medium Range Ballistic Missile Type 3 (MRBM T3) to provide risk reduction of flight missions</li> <li>-Continued Missile Defense Agency Engineering Directorate targets and countermeasures requirements support to ensure targets accurately represent the threat</li> </ul> <p>Logistics:</p> <ul style="list-style-type: none"> <li>-Continued C4 Motors storage, disposal, transportation, aging surveillance, and static fire support in order to sustain Launch Vehicle-2 (LV-2)</li> </ul>				
				<b>FY 2013</b>
				<b>FY 2014</b>

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2012</b>
<p>-Continued Castor IVB sustainment and storage costs in order to support Medium Range Targets (MRT)</p> <p>-Continued Lance Missile sustainment, telemetry van sustainment and facilities sustainment costs</p> <p>-Continued Orbus 1A missile sustainment support to maintain the capability to build Extended Long Range Air Launch Targets (E-LRALT)</p> <p>-Continued Minuteman Motors storage, disposal, transportation, aging surveillance, and static fire costs in order to maintain the capability to build Extended Medium Range Ballistic Missile (eMRBM) and MRBM Type 3 targets</p> <p>-Continued Multi-Class Inventory storage, aging surveillance, and transportation support to ensure availability of Re-entry Vehicles (RVs) and ground support equipment</p> <p>-Continued Multi-Class Vehicle support, ordnance inventory reduction planning, small ordnance, x-ray, refurbishment, transportation, and modification costs</p> <p>-Continued Castor IVA, GEM-40, and M-57 motor storage, transportation, and disposal</p> <p>-Initiated modification to expand the missile assembly building at Courtland, Alabama</p> <p>Refer to Project MT05 in Program Element 0603915C for the balance of FY 2012 Accomplishments.</p> <p><b>FY 2013 Plans:</b> N/A</p> <p><b>FY 2014 Plans:</b> N/A</p>				<b>FY 2013</b>
				<b>FY 2014</b>
<b>Title:</b> Target Hardware		<b>Articles:</b>	69.309	0.000
			0	0
<b>Description:</b> Target Hardware included the design and build of Short Range Ballistic Missile (SRBM) targets, Medium Range Ballistic Missile (MRBM) targets, Intermediate Range Ballistic Missile (IRBM) targets, and common payloads and components. It provided for support of specific flight tests in the areas of pre-mission and post-mission analysis. Missile Defense Agency's Test Directorate is responsible for all target launch operations to include range coordination and use, transportation of equipment and target hardware to the range, and launch execution.				
Specifically, target development effort provided for the non-recurring engineering (NRE) development of Short Range Ballistic Missile (SRBM), Medium Range Ballistic Missile (MRBM), Intermediate Range Ballistic Missile (IRBM), reentry vehicle, and associated object systems to support Ballistic Missile Defense System (BMDS) flight testing. It included short, medium, intermediate and long range target systems with air, sea, and ground launch capabilities as well as enhancements to legacy target systems for cost effective target solutions. Efforts included requirements decomposition, design, qualification testing, and characterization. It included ensuring boosters, inter-stages, avionics systems, reentry vehicles, payload deployment				

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2012</b>	<b>FY 2013</b>		<b>FY 2014</b>
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<p>modules, and associated objects adhered to interface specifications and met reliability, mission assurance, and cost goals. Efforts addressed target producibility, manufacturing maturity, and affordability. Supporting this objective were the necessary modeling and simulation efforts, analyses, configuration management, technical interchange meetings, and design reviews resulting in designs that meet BMDS requirements.</p> <p>The manufacturing of target hardware included the development of full up targets and target components for SRBM, MRBM, and IRBM assets. It included integrated or component ballistic missile flight test hardware (launch vehicles, reentry vehicles, associated objects, and kits); target characterization; quality and mission assurance; government furnished equipment and services; and transportation and logistics support. Target requirements are delineated in the MDA Integrated Master Test Plan (IMTP). Future revisions to the IMTP will likely affect target types and quantities noted in the Planned Accomplishments.</p> <p><b>FY 2012 Accomplishments:</b> Target requirements are delineated in the MDA Integrated Master Test Plan (IMTP). Future revisions to the IMTP will likely affect target types and quantities noted in the Planned Accomplishments.</p> <p>FY 2012 Base Plans were to develop, build, and support the launch of the following target types to enable BMDS testing and validation of the BMDS weapon system performance:</p> <p>Short Range Ballistic Missiles (SRBM):</p> <ul style="list-style-type: none"> <li>-Aegis Readiness Assessment Vehicle-C (ARAV-C) - Continued development of Ship Sets 4-5 to support pre-ship readiness reviews in FY 2013 and FY 2014, respectively</li> <li>-Aegis Readiness Assessment Vehicle-B (ARAV-B) - Initiated development of Ship Sets 11-13, 16, and 17 to support future flight test requirements</li> <li>-Aegis Readiness Assessment Vehicle-A (ARAV-A) - Initiated development of Ship Sets 10-12 to support pre-ship readiness review in FY 2013</li> <li>-Continued development of all other SRBMs in support of the current IMTP</li> </ul> <p>Medium Range Ballistic Missile (MRBM):</p> <ul style="list-style-type: none"> <li>-Extended Medium Range Ballistic Missile (eMRBM) - Continued development of Ship Set 1 to support pre-ship readiness review in FY 2013; initiated development of Ship Sets 2-5 to support future flight test requirements</li> <li>-Extended Long Range Air Launch Target (ELRALT) - Delivered Ship Sets 1 to support FTI-01 (FTO-01 Risk Reduction Flight Test); and continued development of Ship Set 2 to support future flight test requirements</li> </ul>				
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>
<p>-MRBM Type 3 (MRBM T3) - Continued development of Ship Set 1 to support pre-ship readiness review in FY 2014; initiated development of Ship Sets 2-4 to support future flight test requirements -Continued development of all other MRBMs in support of the current IMTP</p> <p>Intermediate Range Ballistic Missile (IRBM):</p> <p>-Launch Vehicle 2 (LV-2) - Continued development of Ship Set 4 to include qualification testing to support pre-ship readiness review in FY 2013 -IRBM T1/T2 - Continued development of Ship Sets 1 thru 6 to support future flight test requirements -Continued development of all other IRBMs in support of the current Integrated Master Test Plan (IMTP)</p> <p>Multi-Class Components:</p> <p>-Continued development of Modified Ballistic Re-Entry Vehicle-5 (MBRV-5) to include build of the Attitude Control Module (ACM) to support planned FY 2014 production unit deliveries -Continued development and delivery of MBRV-7 to include build of the separation system to support planned deliveries of Extended Medium Range Ballistic Missile Ship Sets 1 and 2 in FY 2013 -Continued development of MBRV-8 to include completion of the Re-Entry Vehicle Separation Module (RVSM) to support initial delivery in FY 2013 -Continued development of all other Re-entry Vehicles, Associated Objects, and Motors in support of the current Integrated Master Test Plan.</p> <p>Refer to Project MT05 in Program Element 0603915C for the balance of FY 2012 Accomplishments.</p> <p><b>FY 2013 Plans:</b> N/A</p> <p><b>FY 2014 Plans:</b> N/A</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		88.162	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b> <b>Base</b>	<b>FY 2014</b> <b>OCO</b>	<b>FY 2014</b> <b>Total</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>Cost To</b> <b>Complete</b>	<b>Total Cost</b>
• 0603915C: <i>Ballistic Missile Defense Targets</i>	497.550	435.747	495.257		495.257	516.092	406.611	481.527	463.660	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

The Missile Defense Agency's (MDA) Targets and Countermeasures Program Office (TC) provides for the development and procurement of ballistic missile targets and countermeasures for the Ballistic Missile Defense System in support of the MDA's flight test program. Target requirements are derived from the Agency's Integrated Master Test Plan (IMTP).

Based on the Acquisition Plan for TC's Prime Contract (9 July 2003), MDA competed and awarded a prime contract to Lockheed Martin Space Systems Company (LMSSC) on 9 December, 2003 for the development of the Flexible Target Family (FTF). Targets in the short, medium, and intermediate range as well as reentry vehicles are procured using this contract.

Based on the TC's Medium Range Targets Acquisition Plan (6 June 2008), TC awarded a sole source firm fixed price contract to the Orbital Sciences Corporation ground launched MRT/RV targets in June 2008. This award was based upon the requirement for target consistency resulting in a unique target/RV configuration to support testing of the Aegis Weapon System. A total of three targets have been procured on this contract with one asset remaining in inventory.

Based on TC's Acquisition Plan (3 November 2009), TC competitively awarded a prime contract to Orbital Sciences Corporation on 7 March 2011 for the design and development (cost plus) and delivery (fixed-price incentive fee) of eight air-launched Intermediate Range Ballistic Missile (IRBM) targets. This award includes two follow-on options; one for eight IRBM targets and one for one to six IRBM targets.

The Sounding Rocket Program 3 (SRP-3) contract is managed by the US Air Force Space and Missile Systems Center, Space Development and Test Directorate at Kirtland AFB, NM to provide air launched target systems. The SRP-3 contract has 4 prequalified vendors (Orbital Sciences Corporation, Alliant Tech Systems, L-3 Communications - Coleman Aerospace (Coleman), and Space Vector Corp) that are able to compete for new task orders to develop targets on this contract. To date, Coleman is the only vendor that has been awarded task orders on this contract.

The Solid Rocket Motor Technical Services Contract was awarded to Alliant Tech Systems in May 2005 and provides aging and surveillance, refurbishment, transportation, testing, and sensitivity studies for MDA TC solid rocket motors to include A3, C4, Orbus 1/1A, GEM, and Castor IV variants. A follow-on, sole source contract was awarded 30 September 2011.

The Aegis Readiness Assessment Vehicle (ARAV) target effort is managed by TC and the Naval Surface Warfare Center Port Hueneme Division White Sands (NSWC PHD WS). NSWC PHD WS has unique sounding rocket expertise and access to existing contracts managed by White Sands Missile Range that makes this a beneficial

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Missile Defense Agency		<b>DATE:</b> April 2013
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
<p>relationship for both parties. TC provides targets funding via Military Interdepartmental Purchase Orders that NSWC PHD WS expends on its hardware development and engineering contracts. In addition, TC provides funding to Sandia National Labs in support of the Attitude Control Module (ACM) development effort for the ARAV Group C target. NSWC PHD WS manages the integration of the ACM onto the launch vehicle. The MDA Test Directorate is responsible for funding all launch services of these targets in support of the IMTP.</p> <p>Targets and Countermeasures (TC) is currently in various stages of planning or execution for procurement of ballistic missile targets by range class: Short Range (SRBM), Medium Range (MRBM), Intermediate Range (IRBM), and Intercontinental Range (ICBM). These targets will be procured using a Target Performance Specification to support flight test requirements as identified in the Integrated Master Test Plan (IMTP). Each target class will be solicited, evaluated, and awarded independently in IMTP ``need date`` priority order.</p> <p>Within each target class, capabilities are further segregated and designated as a class type. Type 1, Type 2, and Type 3 capabilities are defined as follows:</p> <p>Type 1: A Type 1 target is the baseline (simple) configuration for the class. A Type 1 target satisfies the minimum target requirements to provide the baseline capability for each target class. The baseline configuration represents the complete vehicle stack-up and includes: 1-n boosters, attitude control system, test object, flight termination system, housekeeping and environmental instrumentation, and telemetry. For example, the basic configuration of an LV-2 target is representative of a Type 1 configuration in the intermediate range class.</p> <p>Type 2: A Type 2 target requires more advanced or complex performance capabilities. Type 2 capabilities may be included in the baseline Type 1 configuration or provided as configuration kits that can be added to the baseline configuration. Type 2 kits may include the following: countermeasures and associated deployment capability, enhanced targeting and aimpoint accuracies, selectable booster and test object dynamics, tailored separation debris, temperature sensors, hit location and miss distance instrumentation, onboard sensors, deployable fly along sensors, and/or lethality payloads. For example, the LV-2 target with countermeasures or additional payloads is representative of a Type 2 configuration in the intermediate range class.</p> <p>Type 3: A Type 3 target is a unique configuration procured in low unit quantities. Type 3 targets encompass unique threat characteristics or test conditions (i.e. Ground Based Midcourse Defense high velocity engagement scenario) not achievable with a Type 1 or Type 2 configuration. For example, a mobile launched ICBM Type 1 or Type 2 target is representative of a Type 3 configuration in the intercontinental range class.</p> <p>TC is in the process of transitioning from a `just-in-time` approach to delivering unique targets to meet specific flight test requirements to more of a production based strategy geared towards building an inventory of product lines able to meet multiple test requirements. Work under existing contracts/orders will run to completion rather than being transitioned to a new contractor(s).</p> <p>Future targets may be procured under the new acquisition competitive Request for Proposals unless the new acquisitions would result in higher cost, delivery delays, or less capable targets. TC will procure pre and post mission planning, data products, support to modeling and simulation and ground test, inventory sustainment and management, and flight test execution.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Missile Defense Agency		<b>DATE:</b> April 2013
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>

<b>E. Performance Metrics</b> N/A
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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Missile Defense Agency** **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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<b>Product Development (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Operations - Government Support - 1	MIPR	Aviation & Missile Research, Dev & Eng Center:Huntsville, AL	2.226	0.059		0.000		0.000		-		0.000	0.000	2.285	0.000
Program Operations - Personnel Support - 1	C/FFP	Teledyne Solutions, Inc.:Huntsville, AL	45.481	0.249		0.000		0.000		-		0.000	0.000	45.730	0.000
Program Operations - Personnel Support - 15	C/FFP	Colsa Corporation:Huntsville, AL	0.523	0.070		0.000		0.000		-		0.000	0.000	0.593	0.000
Program Operations - Personnel Support - 6	FFRDC	Johns Hopkins University Applied Physics Lab:Laurel, MD	3.055	0.031		0.000		0.000		-		0.000	0.000	3.086	0.000
Program Operations - Personnel Support - 7	MIPR	US Air Force Space and Missile Systems Center (SMC:Kirtland AFB, NM	1.781	0.378		0.000		0.000		-		0.000	0.000	2.159	0.000
Program Operations - Personnel Support - 8	MIPR	US Army Aviation and Missile Command:Huntsville, AL	3.482	0.169		0.000		0.000		-		0.000	0.000	3.651	0.000
Target Support - Log - 1	C/CPAF	Lockheed Martin Space Systems:Courland, AL	29.926	1.057		0.000		0.000		-		0.000	0.000	30.983	0.000
Target Support - Log - 12	MIPR	New Mexico State Univ. Physical Sciences Lab:Las Cruces, NM	2.349	0.300		0.000		0.000		-		0.000	0.000	2.649	0.000
Target Support - Log - 13	MIPR	Naval Surface Warfare Center:Crane, IN	14.108	3.884		0.000		0.000		-		0.000	0.000	17.992	0.000
Target Support - Log - 18	MIPR	United States Property &	7.996	0.935		0.000		0.000		-		0.000	0.000	8.931	0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Missile Defense Agency** **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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<b>Product Development (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Fiscal Office for Arizona:Phoenix, AZ													
Target Support - Log - 2	C/CPFF	Alliant Techsystems:Magna, UT	2.674	0.791		0.000		0.000		-		0.000	0.000	3.465	0.000
Target Support - Log - 3	C/FFP	Aerojet Corporation:Albuquerque, NM	2.356	0.100		0.000		0.000		-		0.000	0.000	2.456	0.000
Target Support - Log - 4	C/FFP	Alliant Techsystems, Inc. (ATK):Magna, UT	18.392	0.941		0.000		0.000		-		0.000	0.000	19.333	0.000
Target Support - Log - 9	MIPR	Hill Air Force Base:Ogden, UT	3.583	0.400		0.000		0.000		-		0.000	0.000	3.983	0.000
Target Support - Sys Eng - 1	C/CPAF	Lockheed Martin Space Systems:Courland, AL	116.735	0.705		0.000		0.000		-		0.000	0.000	117.440	0.000
Target Support - Sys Eng - 13	MIPR	Missile Defense Agency:Arlington, VA	6.016	4.748		0.000		0.000		-		0.000	0.000	10.764	0.000
Target Support - Sys Eng - 2	C/FFP	The Analytic Sciences Corporation (TASC):Albuquerque, NM	6.103	1.671		0.000		0.000		-		0.000	0.000	7.774	0.000
Target Support - Sys Eng - 3	C/FFP	Teledyne Solutions, Inc.:Huntsville, AL	8.092	0.018		0.000		0.000		-		0.000	0.000	8.110	0.000
Target Support - Sys Eng - 4	C/FFP	Wyle Laboratories:Huntsville, AL	1.915	0.285		0.000		0.000		-		0.000	0.000	2.200	0.000
Target Support - Sys Eng - 5	FFRDC	Johns Hopkins University Applied Physics Lab:Baltimore, MD	5.942	0.500		0.000		0.000		-		0.000	0.000	6.442	0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Missile Defense Agency** **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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<b>Product Development (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Target Support - Sys Eng - 6	FFRDC	Aerospace Corporation:El Segundo, CA	3.191	0.679		0.000		0.000		-		0.000	0.000	3.870	0.000
Target Support - Sys Eng - 7	MIPR	Aviation & Missile Research, Dev & Eng Center:Huntsville, AL	7.726	0.650		0.000		0.000		-		0.000	0.000	8.376	0.000
Target Support - Sys Eng - 9	MIPR	US Air Force Space & Missile Systems Center (SMC):Kirtland AFB, NM	1.479	0.233		0.000		0.000		-		0.000	0.000	1.712	0.000
Target Hardware - IRBM-1	C/CPAF	Lockheed Martin Space Systems:Courland, AL	0.000	0.174		0.000		0.000		-		0.000	0.000	0.174	0.000
Target Hardware - IRBM-2	C/CPAF	Orbital Sciences Corporation:Chandler, AZ	0.000	0.766		0.000		0.000		-		0.000	0.000	0.766	0.000
Target Hardware - MRBM - 1	C/CPAF	Lockheed Martin Space Systems:Courland, AL	77.328	19.979		0.000		0.000		-		0.000	0.000	97.307	0.000
Target Hardware - MRBM - 3	C/CPIF	L3 Communications/ Coleman Aerospace:Orlando, FL	115.462	3.970		0.000		0.000		-		0.000	0.000	119.432	0.000
Target Hardware - Multi-Class - 5	C/CPAF	Lockheed Martin Space Systems:Courland, AL	9.755	19.931		0.000		0.000		-		0.000	0.000	29.686	0.000
Target Hardware - SRBM - 1	C/CPIF	L3 Communications/ Coleman Aerospace:Orlando, FL	0.000	9.301		0.000		0.000		-		0.000	0.000	9.301	0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Missile Defense Agency** **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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<b>Product Development (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Target Hardware - SRBM-2	MIPR	Naval Surface Warfare Center, Port Hueneme:Port Hueneme, CA	0.000	15.188		0.000		0.000		-		0.000	0.000	15.188	0.000
<b>Subtotal</b>			497.676	88.162		0.000		0.000		0.000		0.000	0.000	585.838	0.000

**Remarks**  
All Budget Project MD05 funds support BMDS-Level Testing.

<b>Support (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

**Remarks**  
N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

**Remarks**  
N/A

<b>Management Services (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2014 Missile Defense Agency **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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<b>Management Services (\$ in Millions)</b>				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

**Remarks**  
N/A

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	497.676	88.162		0.000		0.000		0.000		0.000	0.000	585.838	0.000

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

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**Exhibit R-4, RDT&E Schedule Profile: PB 2014 Missile Defense Agency** **DATE:** April 2013

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>
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Significant Event Complete ▲      Milestone Decision Complete ★      Element Test Complete ◆      System Level Test Complete ●      Complete Activity ✦  
 Significant Event Planned △      Milestone Decision Planned ☆      Element Test Planned ◇      System Level Test Planned ○      Planned Activity ✧

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
IRBM Type 1/Type 2 Preliminary Design Review		▲																										
ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 8)		▲																										
ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 9)		▲																										
e MRBM Critical Design Review		▲																										
ARAV-C (SRBM) Pre-Ship Readiness Review (Ship Set 1)			▲																									
MRT (SRBM) Pre-Ship Readiness Review (Ship Set 10)			▲																									
IRBM Type 1/Type 2 Critical Design Review				▲																								
E-LRALT Pre-Ship Readiness Review (Ship Set 1)				▲																								
ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 10)				▲																								

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Missile Defense Agency		<b>DATE:</b> April 2013
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603888C: <i>Ballistic Missile Defense Test &amp; Targets</i>	<b>PROJECT</b> MD05: <i>Targets Program</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
IRBM Type 1/Type 2 Preliminary Design Review	2	2012	2	2012
ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 8)	2	2012	2	2012
ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 9)	2	2012	2	2012
e MRBM Critical Design Review	2	2012	2	2012
FMA-1 (SRBM) Pre-Ship Readiness Review (Ship Set 14)	2	2012	2	2012
ARAV-C (SRBM) Pre-Ship Readiness Review (Ship Set 1)	3	2012	3	2012
MRT (SRBM) Pre-Ship Readiness Review (Ship Set 10)	3	2012	3	2012
IRBM Type 1/Type 2 Critical Design Review	4	2012	4	2012
E-LRALT Pre-Ship Readiness Review (Ship Set 1)	4	2012	4	2012
ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 10)	4	2012	4	2012