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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | | | PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 737.863 | 1,113.425 | 1,071.039 | - | 1,071.039 | 898.680 | 790.906 | 787.113 | 878.215 | Continuing | Continuing |
| WX04: <i>Test & Evaluation Capability Development</i> | 3.618 | - | - | - | - | - | - | - | - | 0.000 | 3.618 |
| XX04: <i>Concurrent, Test, Training & Ops (CTTO)</i> | 33.514 | - | - | - | - | - | - | - | - | 0.000 | 33.514 |
| YX04: <i>Test & Evaluation</i> | 339.515 | - | - | - | - | - | - | - | - | 0.000 | 339.515 |
| MD04: <i>Test Program</i> | - | 559.133 | 455.993 | - | 455.993 | 466.694 | 383.940 | 406.262 | 351.721 | Continuing | Continuing |
| MX04: <i>BMD Test & Targets Development Support</i> | - | - | 32.389 | - | 32.389 | 31.337 | 23.549 | 25.237 | 27.123 | 0.000 | 139.635 |
| YX05: <i>Targets and Countermeasures Core</i> | 338.168 | - | - | - | - | - | - | - | - | 0.000 | 338.168 |
| MD05: <i>Targets Program</i> | - | 517.065 | 540.689 | - | 540.689 | 363.009 | 347.933 | 321.954 | 461.937 | Continuing | Continuing |
| ZX40: <i>Program-Wide Support</i> | 23.048 | - | - | - | - | - | - | - | - | 0.000 | 23.048 |
| MD40: <i>Program-Wide Support</i> | - | 37.227 | 41.968 | - | 41.968 | 37.640 | 35.484 | 33.660 | 37.434 | Continuing | Continuing |

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Projects AX04, CX04, DX04, EX04, WX04, XX04, and YX04 for FY 2010 is now captured in Project MD04. The content previously planned in Projects BX05, CX05, EX05, WX05, and YX05 for FY 2010 is now captured in Project MD05.

A. Mission Description and Budget Item Justification

As part of the total Ballistic Missile Defense System (BMDS), the Test and Targets Program Element (PE) brings the BMDS elements capabilities together by providing resources that includes targets and countermeasures development and procurement for an integrated system-level test approach. Based on the systems engineering assessments of realistic threat scenarios, the targets and countermeasures program develops, builds, and supports the launch of Short Range Ballistic Missile (SRBM) targets, Medium Range Ballistic Missile (MRBM) targets, Intermediate Range Ballistic Missile (IRBM) targets, Intercontinental Ballistic Missile (ICBM) targets, and common payloads and components to test, verify, and validate the performance of the BMDS. The Targets and Countermeasures (TC) program provides a cost effective and reliable inventory of targets which are threat representative and demonstrate capability of the evolving layered missile defense system in a simultaneous test and operations operating environment.

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> |
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The Missile Defense Agency (MDA) initiated 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 models and simulations of the BMDS and compare their predictions to empirical data collected through comprehensive flight and ground testing to validate their 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 anchor models and simulations. CECs and EMEs are utilized to design a test engagement to further advance the understanding and confidence of the modeling and simulation associated with all possible engagements.

MDA testing is based on an integrated, comprehensive, and phased test program. The MDA Test Program incorporates the Phased Adaptive Approach (PAA) which is based on an assessment of missile threats, and a commitment to deploy technology that is proven, cost-effective, and adaptable to an evolving security environment. The Missile Defense Agency, in full collaboration with Combatant Commands; Service Operational Test Agencies; Director, Operational Test & Evaluation; and Director, Developmental Test and Evaluation developed and approved the Integrated Master Test Plan (IMTP) v10.2 which aligns the Ballistic Missile Defense Test Program to the PAA phases for proven capability delivery. MDA ground tests emulate the quality of service (that is, data of sufficient accuracy and low enough latency) of C2BMC and sensors. Testing Element systems, subsystems, and components early in the development is necessary prior to conducting BMD-System level testing. The Element Level testing is funded as part of an Element developmental program and contained in their respective Program Element (PE) submissions. This PE provides consolidated MDA-wide capabilities and resources for the planning, design, execution, provision of infrastructure, and management of BMD System testing. This PE also provides funding to the Targets and Countermeasures (TC) program office for the development and procurement of ballistic targets and countermeasures for the BMDS in support of the MDA flight test program. Target requirements are derived from the Agency's IMTP. 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. This PE also provides funding to the Targets and Countermeasures (TC) program office for the development and procurements of ballistic missile targets and countermeasures for the Ballistic Missile Defense System (BMDS) in support of the MDA flight test program. Target requirements are derived from the CECs and EMEs and are documented in the Agency's Integrated Master Test Plan.

The Test and Targets Program Element is grouped into two major areas: Test and Evaluation, and Targets and Countermeasures. This program element 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.

BMDS Test Program Functions:

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- Guide the testing required to verify, validate, and accredit (VV&A) MDA`s modeling and simulation (M&S).
- The Directorate for Test centralizes authority, control, and responsibility for all BMDS testing and performs the following functions:
 - Plans tests according to BMDS and Element objectives.
 - Provides test ranges, instrumentation, and infrastructure.
 - Develops MDA test policy.
 - Plans and executes BMDS ground and flight tests.
 - Demonstrates through test events integrated BMDS capability.
 - Ensures appropriate data is collected at the necessary fidelity for growth and capability.
 - Collects data for BMDS analysis and manages MDA data centers.
 - Provides documentation of BMDS and Element performance results for use by: MDA; the Operational Test Agencies; the Combatant Commander`s; OSD; Director, Operational Test & Evaluation (DOT&E); and senior decision makers.
 - Provides data and information to anchor the models and simulations used to verify BMDS capabilities and to support BMDS characterization and assessment.
 - Provides final target system integration, target mission logistics and launch execution for BMDS test target systems.

Test Program Contribution to the BMDS:

- Plan and conduct testing for evaluation of the BMDS CECs and EMEs** developed by Systems Engineering.
- Collect and provide test data in order to support the effectiveness, suitability, survivability, and interoperability assessments of the BMDS.
- Provide test infrastructure necessary to support increasingly complex tests.
 - Provide risk reduction for the BMDS through flight testing to include technology demonstration, algorithm and model validation, and threat characterization.
 - Develop Missile Defense Agency (MDA) BMDS testing policy with common, repeatable processes.

** 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 anchor system models and simulations.

Major Test Program Goals:

- Improve test execution and discipline for on-time, successful testing.
- Provide leadership and guidance for the planning, execution, analysis, and reporting of BMD system test events to support system verification.
- Establish single BMD system test processes that reflect the best practices of existing Element processes.
- Integrate Element test processes into BMDS processes.

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> |
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- Develop Element Lessons Learned and Best Practices to support BMDS test design processes.
- Provide required infrastructure and environmental compliance for robust BMD system testing.
- Ensure test readiness, realism, and accuracy and improve the quality of execution in test programs.

BMDS Targets and Countermeasures Functions:

The Targets and Countermeasures program office is responsible for executing the development and procurement of targets to support testing of the BMDS. The multiple targets (3 types) provided by TC are across four target classes: Short Range Ballistic Missiles (SRBM), Medium Range Ballistic Missiles (MRBM), Intermediate Range Ballistic Missiles (IRBM), and Intercontinental Ballistic Missiles (ICBM). It provides threat representative targets for use in BMDS testing to verify models and simulations, as well as to verify BMDS performance across a broad range of operational conditions.

MDA Element testing is based on an integrated, comprehensive, and phased test program. Element systems, sub-systems, and components are tested early in development and are necessary prior to conducting BMD-system level testing. 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 Integrated Master Test Plan.

Targets and Countermeasures Contribution to the BMDS:

- Target Types
- Type-1 Targets are simple, baseline configurations
- Type-2 Targets have increased capability or complexity
- Type-3 Targets are one of a kind design/development or launch activity
- Provides the BMDS risk reduction through measurements of flight testing to include technology demonstration algorithms, model validation, and threat and countermeasures characterization.
- Collects and provides test data in order to support effectiveness, suitability, and interoperability assessments.

Major Targets and Countermeasures Goals:

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> |
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- Provide cost effective, reliable, threat representative all-up-round targets, target performance planning, and BMDS modeling and simulation to the MDA test and engineering community.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 823.333 | 1,113.425 | 1,105.959 | - | 1,105.959 |
| Current President's Budget | 737.863 | 1,113.425 | 1,071.039 | - | 1,071.039 |
| Total Adjustments | -85.470 | - | -34.920 | - | -34.920 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -2.588 | - | | | |
| • SBIR/STTR Transfer | -15.842 | - | | | |
| • Other Adjustment Detail | -67.040 | - | -34.920 | - | -34.920 |

Change Summary Explanation

The FY 2012 \$34.920 million dollar decrease in this program element is the result primarily of efficiency savings estimates. The test program has realized \$19.857 million in efficiency savings. The targets program has realized \$23.300 million in efficiency savings. Other adjustments include MDA programmatic changes.

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT WX04: <i>Test & Evaluation Capability Development</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| WX04: <i>Test & Evaluation Capability Development</i> | 3.618 | - | - | - | - | - | - | - | - | 0.000 | 3.618 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

In accordance with the Missile Defense Agency revised budget structure, the content planned in Project WX04 in FY 2010 is captured in Project MD04 in FY 2011-FY 2015.

A. Mission Description and Budget Item Justification

Project WX04 has been transferred to Project MD04

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

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: See Project MD04 for FY 2010 Accomplishments | 3.618 | - | - |
| Articles: | 0 | | |
| Description: See Description Below | | | |
| FY 2010 Accomplishments: NA | | | |
| Accomplishments/Planned Programs Subtotals | 3.618 | - | - |

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

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT XX04: <i>Concurrent, Test, Training & Ops (CTTO)</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| XX04: <i>Concurrent, Test, Training & Ops (CTTO)</i> | 33.514 | - | - | - | - | - | - | - | - | 0.000 | 33.514 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

In accordance with the Missile Defense Agency revised budget structure, the content planned in Project XX04 in FY 2010 is captured in Project MD04 in FY 2011-FY 2015.

A. Mission Description and Budget Item Justification

Project XX04 has been transferred to Project MD04

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

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: See Project MD04 for FY 2010 Accomplishments | 33.514 | - | - |
| Articles: | 0 | | |
| Description: See Description Below | | | |
| FY 2010 Accomplishments: NA | | | |
| Accomplishments/Planned Programs Subtotals | 33.514 | - | - |

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

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT YX04: <i>Test & Evaluation</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| YX04: <i>Test & Evaluation</i> | 339.515 | - | - | - | - | - | - | - | - | 0.000 | 339.515 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

In accordance with the Missile Defense Agency revised budget structure, the content planned in Project YX04 in FY 2010 is captured in Project MD04 in FY 2011-FY 2015.

A. Mission Description and Budget Item Justification

Project YX04 has been transferred to Project MD04

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

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: See Project MD04 for FY 2010 Accomplishments | 339.515 | - | - |
| Articles: | 0 | | |
| Description: See Description Below | | | |
| FY 2010 Accomplishments: NA | | | |
| Accomplishments/Planned Programs Subtotals | 339.515 | - | - |

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

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
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| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| MD04: <i>Test Program</i> | - | 559.133 | 455.993 | - | 455.993 | 466.694 | 383.940 | 406.262 | 351.721 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Projects WX04, XX04, and YX04 for FY 2010 is now captured in Project MD04.

A. Mission Description and Budget Item Justification

The Test Program provides consolidated Missile Defense Agency (MDA) capabilities and resources to support the management and execution of Ballistic Missile Defense System (BMDS) and Element-level testing. With the evolution of the BMDS, testing needs have expanded beyond those of the individual Elements to include testing of BMDS Critical Engagement Conditions (CEC) and Empirical Measurement Events (EME) to anchor modeling and simulations.

The Directorate for Test is responsible for all BMDS testing. The Directorate for Test relies on BMD Systems Engineering to provide the system test objectives to define the test architecture. The Directorate for Test plans and executes BMD system test events. The Directorate for Test also develops the necessary test policy, test plans, and test infrastructure to conduct an effective test program.

Activities are grouped into four major areas: 1) Support to Operations, which provides for the Test Functional Management Office, flight and ground testing support, target launch operations, and Operational Test Agency assessments; 2) Infrastructure Support to Flight Test and Ground Test Programs, which develops, sustains, and modernizes the core infrastructure assets required to support the BMDS System and Element-level flight and ground testing; 3) Flight Test and Ground Test Infrastructure Development, which provides for Integrated Master Test Plan infrastructure development, auxiliary sensors development, and component ground test lab development; and 4) Common Test Support, which provides for test planning and design, test data management, ground test lab support, test readiness and training, and the Pacific Range Support Team (PRST).

Other test related program content involving engineering test analysis; concurrent test, training, and operations; fielding and integration; and facilities, siting, and environmental management, are also included within this project.

The goals of this budgetary objective are to support and improve a robust testing program, and to enhance modeling and simulation efforts to provide, in conjunction with flight and ground testing, confidence to the Combatant Commanders that the missile defense system works.

The MDA test program, along with the Army, Navy, Air Force, and Operational Test Agencies, conducts a rigorous review of BMDS models and simulations (M&S) to determine the data needed to verify, validate, and accredit the models and simulations. Working with the Services, Operational Test Agencies (OTA), and with the support of the Director of Operational Test and Evaluation (DOT&E), the test program was restructured to improve confidence in the missile defense capabilities under development and ensure the capabilities transferred to the Warfighter are operationally effective, suitable, and survivable.

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Additional Test Program Content

Test Engineering supports the analysis process by providing event leadership, tools, and processes to conduct pre- and post-mission system level analysis for all BMD system flight and ground test events. Analysis is performed and reported using the Joint Analysis Team (JAT) process. Pre-mission analysis provides essential risk reduction analysis used to optimize conditions for successful accomplishment of the primary mission objectives. Post-mission analysis is performed to assess the primary and secondary test objectives, and to identify mission-specific performance enhancements or anomalies that were observed. The Ballistic Missile Defense System performance assessment strategy is to develop models and simulations of the Ballistic Missile Defense System and compare their predictions to empirical data collected through comprehensive flight and ground testing to validate model and simulation accuracy, rather than physically testing all possible combinations of Ballistic Missile Defense System configurations, engagement conditions, and target phenomena.

FY12 budget request recognizes that historical execution rates will result in FY11 funds available to support the FY12 program. The planned accomplishments reflect the use of the FY11 funding in addition to the FY12 request.

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

| | FY 2010 | FY 2011 | FY 2012 |
|--|-------------------|-------------------------|-------------------------|
| <p>Title: 1.0 Support to Operations and Testing</p> <p style="text-align: right;">Articles:</p> <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: (FY 2010 Budget \$102,284)</p> <p>-Completed detailed test planning and executed FY10 BMDS Flight Test events: JFTM-03 (Aegis Simulated Flight Test) , FTX-06 (Aegis Flight Test), FTT-11 (THAAD Intercept Flight Test), FTG-06 (GM Intercept Flight Test), FEL-01A (ALTB Flight Experiment), BVT-01 (GM Flight Test), FTT-14 (THAAD Intercept Flight Test), FEL-01B (ALTB Flight Experiment); Targets of Opportunity HTV-2a, FTX-07/GT-200, GT-201, and GT-202 (Glory Trips), PATRIOT 7-2A, PATRIOT 6.5-2.</p> <p>-Completed detailed test planning and executed FY10 BMDS System Ground Test events: FCE-C HWIL, FCE-C Distributed, GTX-04a (BMDS Focused Ground Test), and GTI-04b (BMDS Integrated HWIL Ground Test).</p> <p>-Conducted test planning in FY10 for the following FY11 BMDS Flight and Ground Test events: GTD-04b (BMDS Distributed Ground Test), GTI-04d (BMDS Integrated HWIL Ground Test), GTD-04d (BMDS Distributed Ground Test), JFTM-04 (Aegis Simulated Intercept Flight Test), FTG-06A (GM Intercept Flight Test), Caravan-2 USFT-4, FTM-16 (Aegis Flight test), FTM-15 (Aegis Intercept Flight Test), and FTX-11/GT-203 (Glory Trip).</p> <p>-Completed Phase 1 Hardware/Software Benchmark testing, supported Ground Test Integration of SSF, and integrated hardware into SSF Development Lab.</p> | <p>-</p> <p>0</p> | <p>135.135</p> <p>0</p> | <p>200.027</p> <p>0</p> |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| <p>-Initiated detailed test planning for BMDS flight and ground test events listed in the IMTP and depicted in R-4 schedule profile.</p> <p>-Continued the development and implementation of test policy, standards, directives, and procedures for creating unified BMD test processes. Drafted and completed numerous guides and policies including: Test Career Guide, Directive 3000.04 BMDS Joint Engineering and Test IMTP Development, Restrictions on the Use of Ballistic Targets, International Test Policy, MDA Directive 3002.03 BMDS Test Policy, MDA Test Event Notification Policy, Test Event Viewing Policy. Continued to integrate mission assurance and best practices and lessons learned into test policy, processes, procedures and training and certification plans.</p> <p>-Developed, delivered, and briefed Quick Look Brief (QLB), Executive QLB (EQLB), Mission Data Review (MDR), and Executive MDR (EMDR) for BMDS test events listed in the IMTP.</p> <p>-Incorporated software changes to Modular Analysis and Reporting Suite (MARS) to enhance analyst efficiency and capability. Continued to populate the MARS Analysis Database with most current test data to support analysis and capability assessments.</p> <p>-The BMDS Capability Assessment team (BCA) team conducted non-advocate assessments of the BMDS readiness and investigated BMDS performance issues and proposed mitigation plans.</p> <p>-Supported MDA System Engineering and Warfighter requirements, integration of multiple Elements, OTA and test support team into BMDS system flight and ground tests.</p> <p><i>FY 2011 Plans:</i></p> <p>-Integrate mission assurance and best practices and lessons learned.</p> <p>-Develop and implement test policy, standards, directives, and procedures for creating unified BMD test processes.</p> <p>-Coordinate budget planning and execution activities, as well as Test Functional Area (TFA) manpower activities.</p> <p>-Communicate and interact with the Ballistic Missile Defense System (BMDS) development community and Operational Test Agencies (OTA).</p> <p>-Complete detailed test planning, mission management, and integration for FY 2011 Ballistic Missile Defense System (BMDS) level and other test events.</p> <p>-Support BMDS Elements in planning and integration of their program specific flight and ground tests.</p> <p>-Support planning and execution of BMDS Contingency Operations.</p> <p>-Prepare and conduct all phase test readiness reviews and schedule all executive test reviews.</p> <p>-Perform BMDS test configuration control and asset management.</p> <p>-Complete BMDS daily test status reports and integrate flight and ground test scheduling and deconfliction.</p> <p>-Support end-to-end test cost oversight on flight and ground tests from the Integrated Master Test Plan.</p> <p>-Integrate and support all Associated Operations on flight and ground test events.</p> <p>-Integrate, develop, and execute all test event viewing plans and conduct all test event viewing.</p> <p>-Support BMDS System Engineering and Warfighter requirements and integration of multiple Elements, Operational Test Agency (OTA) and test support teams into BMDS system flight and ground test events.</p> | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>-Refine scenario designs for BMDS flight tests to support Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs) identified in BMDS Integrated Master Test Plan (IMTP). -Initiate planning for FY 2012 BMDS system level and other test events.</p> <p>FY 2012 Plans:</p> <p>-Integrate mission assurance, best practices, and lessons learned. -Develop and implement test policy, standards, directives, and procedures for creating unified BMD test processes. -Coordinate budget planning and execution activities, as well as Test Functional Area (TFA) manpower activities. -Communicate and interact with the Ballistic Missile Defense System (BMDS) development community and Operational Test Agencies (OTA). -Complete detailed test planning, mission management, and integration for FY 2012 Ballistic Missile Defense (BM) system level and other test events. -Support BMDS Elements in planning and integration of their program specific flight and ground tests. -Support planning and execution of BMDS Contingency Operations. -Prepare and conduct all phase test readiness reviews and schedule all executive test reviews. -Perform BMDS test configuration control and asset management. -Complete BMDS daily test status and integrate flight and ground test scheduling and deconfliction. -Support end-to-end test cost oversight on flight and ground tests from the Integrated Master Test Plan. -Integrate and support all Associated Operations on flight and ground test events. -Integrate, develop, and execute test event viewing plans and conduct all test event viewing. -Support BMDS System Engineering and Warfighter requirements and integration of multiple Elements, Operational Test Agency (OTA) and test support teams into BMDS system flight and ground test events. -Refine scenario designs for BMDS flight tests to support Critical Engagement Conditions (CECs) and Empirical Measurement Events (EMEs) identified in BMDS Integrated Master Test Plan (IMTP). -Initiate planning for FY 2013 BMDS system level and other test events. -Conduct mission planning and range coordination activities, execute target missions, and collect and analyze target system data. (Funding for this effort in FY 2010 and FY 2011 is captured in MD05)</p> | | | | |
| <p>Title: 2.0 Infrastructure Support to Flight Test and Ground Test</p> <p align="right">Articles:</p> <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: (FY 2010 Budget \$128,796)</p> | | - 0 | 96.539 0 | 118.511 0 |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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-Provided O&M of MDA dedicated test range infrastructure at Pacific Missile Range Facility (PMRF), Reagan Test Site (RTS), Vandenberg Air Force Base (VAFB), White Sands Missile Range (WSMR), Pt Mugu, and Kauai Test Facility (KTF) to support on-going MDA Integrated Master Test Plan (IMTP) flight test requirements.

-Provided O&M of MDA dedicated ground test and hardware in the loop (HWIL) infrastructure at various CONUS locations (AL, CA, CO, FL, MD, TN and VA) to support on-going MDA IMTP ground test requirements and advanced technology development.

-Provided development, upgrades and O&M of both flight test (FT) and ground test (GT) infrastructure to support IMTP testing requirements not supportable by current capabilities. Major efforts include: GT 2nd String; which increased numbers of HWIL representations of all BMDS elements to support increased test capacity demands; GT fidelity enhancements to support increased realism and test increased BMDS functionalities; FT ranges and auxiliary sensors, to support longer range engagements and larger scale complex operational test (OT) events. [This is where most of the new test infrastructure capability deliveries will occur over 20 specific projects].

-Completed development and provided O&M to the MDA dedicated Pacific Tracker and XTR-1 radar and completed integration and testing of the system to achieve IOC by 2QFY11 to support on-going MDA IMTP flight test requirements and advanced technology development.

-Provided O&M to the MDA dedicated test resource scheduling tools, test support communications, real-time test data transport and situational awareness, and time/space/position information (TSPI) systems over a CONUS/Pacific distributed test architecture to support on-going MDA IMTP flight test requirements and advanced technology development.

-Operated High Altitude Observatory -I and -II (HALO-I and HALO-II) and Wide-body Airborne Sensor Program (WASP) for data collection services on BMDS flight tests. Operated High Altitude Observatory -III (HALO-III) as an Airborne Diagnostic Target (ADT) for Airborne Laser Test Bed (ALTB).

-Continued coordination with the Targets Program to develop and qualify common Flight Termination and Range Tracking Systems that will simplify target integration at the ranges.

-Provided centralized data management, archival, and distribution services to support BMDS evaluation and program assessments. The Data Centers comprise MDA's official archive for all MDA mission related scientific and technical data. Sustained the Pacific Collector Telemetry Instrumentation Ship to support off-range BMDS testing and increasingly complex test scenarios. Assessed the viability of adding a range safety capability to support more complex flight testing. Operated two Transportable Telemetry Systems (TTS) that provide long range missile telemetry acquisition, processing, and archiving capability.

-Developed a third TTS to support larger range additional telemetry collection requirements.

FY 2011 Plans:

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| <p>-Develop, maintain, and upgrade as needed MDA unique range facilities and instrumentation at the following ranges in accordance with the DoD Financial Management Regulation and Test Resource Management Center Policy: White Sands Missile Range (WSMR), Naval Air Warfare Center (NAWC), Kauai Test Facility (KTF), Wake Island, Pacific Missile Range Facility (PMRF), Reagan Test Site (RTS), Vandenberg Air Force Base (VAFB), and other test sites as required.</p> <p>-Continue efforts to transition KTF from the Department of Energy (DoE) to the Navy.</p> <p>-Operate, maintain, and upgrade as needed the Kwajalein Mobile Range Safety System (KMRSS) and PMRF MRSS to support BMDS flight testing.</p> <p>-Operate High Altitude Observatory -I (HALO-I) and HALO-II to support optical data collection requirements on Ballistic Missile Defense (BMD) flight tests. Operate HALO-III to serve as an Airborne Diagnostic Target for the Airborne Laser Test Bed (ALTB) technology program. Operate the Wide-body Airborne Sensor Platform (WASP) to support optical data collection requirements and provide captive carry capability for MDA sensor programs.</p> <p>-Maintain and upgrade MDA unique ground test facilities to support all BMDS developmental program hardware and software testing. These facilities provide hardware in the loop (HWIL) capability, threat signature measurement capability, and sensor calibration standards.</p> <p>-Maintain and upgrade MDA unique ground test facilities to support BMDS system-level ground tests, including basic ground test control as well as some Element representations.</p> <p>-Continue coordination with the Targets Program to develop and qualify common Flight Termination and Range Tracking Systems that will simplify target integration at the ranges.</p> <p>-Sustain the Pacific Collector Telemetry Instrumentation Ship to support off-range BMDS testing and increasingly complex test scenarios.</p> <p>-Operate and maintain three Transportable Telemetry System (TTS) that provide long range missile telemetry acquisition, processing, and archiving capability.</p> <p>-Support the Test and Evaluation Data Analysis Capability (TEDAC) Enterprise to provide test communications among the MDA ranges and test situational awareness to MDA.</p> <p>-Continue development of a range safety capability for the Pacific Collector Telemetry Instrumentation Ship.</p> <p>FY 2012 Plans:</p> <p>-Develop, maintain, and upgrade as needed MDA unique range facilities and instrumentation at the following ranges in accordance with the DoD Financial Management Regulation and Test Resource Management Center Policy: White Sands Missile Range (WSMR), Naval Air Warfare Center (NAWC), Kauai Test Facility (KTF), Wake Island, Pacific Missile Range Facility (PMRF), Reagan Test Site (RTS), Vandenberg Air Force Base (VAFB), and other test sites as required.</p> <p>-Continue efforts to transition KTF from Department of Energy (DoE) to the Navy.</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>-Operate, maintain, and upgrade as needed the Kwajalein Mobile Range Safety System (KMRSS) and PMRF MRSS to support BMDS flight testing.</p> <p>-Operate High Altitude Observatory-I (HALO-I) and HALO-II to support optical data collection requirements on Ballistic Missile Defense (BMD) flight tests. Operate HALO-III to serve as an Airborne Diagnostic Target for the Airborne Laser Test Bed technology (ALTB) program. Operate the Wide-body Airborne Sensor Platform (WASP) to support optical data collection requirements and provide captive carry capability for MDA sensor programs.</p> <p>-Maintain and upgrade MDA unique ground test facilities to support all BMDS developmental program hardware and software testing. These facilities provide hardware in the loop (HWIL) capability, threat signature measurement capability, and sensor calibration standards.</p> <p>-Maintain and upgrade MDA unique ground test facilities to support BMDS system-level ground tests, including basic ground test control as well as some Element representations.</p> <p>-Continue coordination with the Targets Program to develop and qualify common Flight Termination and Range Tracking Systems that will simplify target integration at the ranges.</p> <p>-Sustain the Pacific Collector Telemetry Instrumentation Ship to support off-range BMDS testing and increasingly complex test scenarios.</p> <p>-Operate and maintain three Transportable Telemetry System (TTS) that provide long range missile telemetry acquisition, processing, and archiving capability.</p> <p>-Support the Test and Evaluation Data Analysis Capability (TEDAC) Enterprise to provide test communications among the MDA ranges and test situational awareness to MDA.</p> <p>-Continue development of a range safety capability for the Pacific Collector Telemetry Instrumentation Ship.</p> | | | | |
| Title: 3.0 Flight Test and Ground Test Infrastructure Development | | - | 163.087 | 48.473 |
| | | Articles: 0 | 0 | 0 |
| Description: See Description Below | | | | |
| FY 2010 Accomplishments: (N/A) | | | | |
| FY 2011 Plans: -Continue development of a 2nd suite of hardware in the loop (HWIL) equipment including the acquisition of additional hardware and digital element representations to support concurrent ground testing of current BMDS capability and that under development. -Identify and execute focused investments in the BMDS test infrastructure to support the IMTP. -Add hardware and digital element representations to support expansion of the existing HWIL capability as the BMDS evolves. | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 | | |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | |
| | | | | FY 2010 |
| | | | | FY 2011 |
| | | | | FY 2012 |
| <p>-Complete development of the Pacific Tracker Radar / Telemetry Instrumentation Ship to support off-range BMDS testing and increasingly complex test scenarios.</p> <p>-Develop additional telemetry and instrumentation assets to support GMD salvo testing and increasingly complex flight test scenarios.</p> <p>-Develop dedicated C2BMC regional test bed and communication nodes to support IMTP test program.</p> <p>-Continue sustainment and development of the Kinetic HWIL facility to support next generation scene development efforts.</p> <p>FY 2012 Plans:</p> <p>-Identify and execute focused investments in the BMDS test infrastructure to support the IMTP.</p> <p>-Continue development of a 2nd suite of HWIL equipment including the acquisition of additional hardware and digital element representations to support concurrent ground testing of current BMDS capability and that under development.</p> <p>-Add hardware and digital element representations to support expansion of the existing HWIL capability as the BMDS evolves.</p> <p>-Operate and maintain the Pacific Tracker Radar / Telemetry Instrumentation Ship to support off-range BMDS testing and increasingly complex test scenarios.</p> <p>-Continue development of additional telemetry and instrumentation assets to support GMD salvo testing and increasingly complex flight test scenarios.</p> <p>-Continue development of a dedicated C2BMC regional test bed and communication nodes to support IMTP test program.</p> <p>-Continue sustainment and development of the Kinetic HWIL facility to support next generation scene development efforts.</p> | | | | |
| <p>Title: 4.0 Common Test Support</p> <p align="right">Articles:</p> | | | | - |
| | | | | 0 |
| | | | | 60.303 |
| | | | | 0 |
| | | | | 52.343 |
| | | | | 0 |
| <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: (FY 2010 Budget \$31,256)</p> <p>-Developed and delivered to Congress two semiannual builds of the Integrated Master Test Plan. These plans established the BMDS test baseline and focused on collecting data to provide confidence in the BMDS models and simulations (M&S) that accurately characterizes the integrated operational system performance. In addition, improvements to the operational realism of test events were realized by incorporating Combatant Commander (Warfighter) and Operational Test Agencies (OTA) critical operational issues.</p> <p>-Provided test scenario designs for the IMTP, defined requirements for long-range test architecture, and completed operational comparison analysis for MDA.</p> <p>-Managed the BMDS test baseline, reassessing schedule and budget as necessary to incorporate fact of life changes.</p> | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | FY 2010 |
| <p>Provided flight test planning and design of the following test events: FTG-06 (GM Intercept Flight Test), FTG-06a (GM Intercept Flight Test), FTO-01 (Aegis/THAAD/Patriot Multiple Intercept Flight Test), FTT-14 (THAAD Intercept Flight Test), FTX-17 (Air Launched Target Return To Flight) , JFTM-4 (Aegis Simulated Intercept Flight Test), BVT-01 (GM Flight Test), and FTT-24 (THAAD Intercept Flight Test). This encompassed defining test scenarios and initial test plans, validating feasibility and executability of test events, conducting flight safety, trajectory, threat, collision avoidance, and mobile asset analysis, as well as sensor planning.</p> <p>-Provided detailed ground test planning and design support for the GT-04 test campaign. This included development and design of ground test scenarios, initial test architectures and configurations along with feasibility studies and analysis.</p> <p>-Supported MDA System Engineering and Warfighter requirements, and the integration of multiple Elements, the OTA, and test support teams into BMDS system flight and ground tests.</p> <p>-Provided system-level range support, mission assurance, logistics support, test specific support personnel, test specific communication, support equipment, and permission analysis and studies.</p> <p>-Completed Phase-1 Hardware/Software Benchmark testing, supported Ground Test Integration of Single Stimulation Framework (SSF), and integrate hardware into SSF Development Lab.</p> <p>-Developed, integrate, test, train, deploy, and operate spiral releases of software tools.</p> <p>-Supported Phase-1 activities associated with BMDS Capability Deliveries and critical factor analysis.</p> <p>FY 2011 Plans:</p> <p>-Plan and manage the Test Baseline by coordinating, revising, and providing regular semi-annual revisions to the Integrated Master Test Plan (IMTP) to support planning and execution of the Phased Adaptive Approach. Establish the BMDS test baseline focusing on collecting data to provide confidence in the BMDS M&S that accurately characterizes the integrated operational system performance. Improve operational realism of test events by incorporating Warfighter and Operational Test Agencies (OTA) critical operational issues. Provide test scenario designs for the IMTP, requirements for long-range test architecture, and operational comparison analysis for MDA. Manage the test baseline, reassessing schedule and budget as necessary to incorporate fact of life changes.</p> <p>-Provide flight test planning support for increased operational realism by partnering closely with the Warfighter and OTA. Define test scenarios and initial test plans. Validate feasibility and executability of test events. Conduct flight safety, trajectory, threat, collision avoidance, and mobile asset analysis, as well as sensor planning.</p> <p>-Provide ground test planning support for BMDS tests. Develop and design ground test scenarios and feasibility. Develop initial test architectures and configurations.</p> <p>-Manage the MDA Data Center Program (DCP), develop, modernize, and sustain the library, operations, and infrastructure providing centralized data management, archival, and distribution services to reduce the risks and costs of BMDS development and fielding.</p> | | | | FY 2011 |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <p>-Develop and maintain Information Assurance (IA) documentation, perform as IA manager for test data management networks and infrastructure and interface with MDA Information Management & Technology Operations team to coordinate and maintain test data management network operations capabilities.</p> <p>-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.</p> <p>-Continue coordinating with the Targets Program to develop and qualify common Flight Termination and Range Tracking Systems that will simplify target integration at the ranges.</p> <p>-Develop Truth Data Requirements Documents (TDRD) and deliver multiple Truth Data Packages (TDP) that include Best Estimate Trajectory (BETs), environmental data, optical data, radar cross section (RCS) data, and analysis documentation.</p> <p>-Provide on-site truth-quick-look product development support for each flight and ground test event supporting analysis requirements for modeling and simulation validation and accreditation.</p> <p>-Develop and publish the Integrated Data Management Plans (IDMPs) and Data Handling Plans (DHPs) that capture and satisfy Element and System level analysis data collection requirements.</p> <p>-Support Phase-I (Engineering) activities associated with determining critical factors, data points, and EMEs and CECs required to support Verification, Validation, and Accreditation (VV&A) of Modeling and Simulations (M&S).</p> <p>-Provide System Mission Managers to lead Integrated Event Test Team mission management and readiness activities across all five test event phases for System and Element flight and ground tests, and contingency operations.</p> <p>-Develop MDA test program Risk Management Standardization and support risk assessment and mitigation of the BMDS test program. Establish test lessons learned process to enable organizational learning.</p> <p>-Develop and codify test training materials to support test operations (trainers, evaluators, and operators/crews) and data management (data managers, element data managers, and data requestors) areas</p> <p>-Provide lab development, integration and event execution support to the IMTP-defined ground test campaign events.</p> <p>FY 2012 Plans:</p> <p>-Plan and manage the Test Baseline by coordinating, revising, and providing regular semiannual builds to the Integrated Master Test Plan (IMTP) to support planning and execution of the Phased Adaptive Approach. Establish the BMDS Test Baseline focusing on collecting data to provide confidence in the BMDS M&S to accurately characterizes the integrated operational system performance. Improve operational realism of test events by incorporating Warfighter and Operational Test Agencies (OTA) critical operational issues. Provide test scenario designs for the IMTP, requirements for long-range test architecture, and operational comparison analysis for MDA. Manage the test baseline, reassessing schedule and budget as necessary to incorporate fact of life changes.</p> | | | |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>-Provide flight test planning support for increased operational realism by partnering closely with the Warfighter and OTA. Define test scenarios and initial test plans. Validate feasibility and executability of test events. Conduct flight safety, trajectory, threat, collision avoidance, and mobile asset analysis, as well as sensor planning.</p> <p>-Provide ground test planning support for BMDS tests. Develop and design ground test scenarios and feasibility. Develop initial test architectures and configurations.</p> <p>-Manage the MDA Data Center Program (DCP); develop, modernize, and sustain the library, operations, and infrastructure; providing centralized data management, archival and distribution services to reduce the risks and costs of BMDS development and fielding.</p> <p>-Develop and maintain Information Assurance (IA) documentation, perform as IAM for Test Data Management networks and infrastructure and interface with MDA Information Management & Technology Operations team to coordinate and maintain Test Data Management network operations capabilities.</p> <p>-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.</p> <p>-Continue coordinating with the Targets Program to develop and qualify common Flight Termination and Range Tracking Systems that will simplify target integration at the ranges.</p> <p>-Develop Truth Data Requirements Documents (TDRD) and deliver multiple Truth Data Packages (TDP) that include Best Estimate Trajectory (BETs), environmental data, optical data, radar cross section (RCS) data, and analysis documentation.</p> <p>-Provide on-site truth-quick-look product development support for each flight and ground test event supporting analysis requirements for modeling and simulation validation and accreditation.</p> <p>-Develop and publish the Integrated Data Management Plans (IDMPs) and Data Handling Plans (DHPs) that capture and satisfy Element and System level analysis data collection requirements.</p> <p>-Support Phase-I (Engineering) activities associated with determining critical factors, data points, and EMEs and CECs required to support Verification, Validation, and Accreditation (VV&A) of Modeling and Simulations (M&S).</p> <p>-Provide System Mission Managers to lead Integrated Event Test Team mission management and readiness activities across all five test event phases for System and Element flight and ground tests and contingency operations.</p> <p>-Develop MDA test program Risk Management Standardization and support risk assessment and mitigation of the BMDS test program. Establish test lessons learned process to enable organizational learning.</p> <p>-Develop and codify test training materials supporting test operations (trainers, evaluators, and operators/crews) and data management (data managers, element data managers, data requestors) areas.</p> <p>-Provide lab development, integration and event execution support to the IMTP-defined ground test campaign events.</p> | | | | |
| Title: Engineering Test Analysis | | - | 39.639 | 29.384 |
| Articles: | | 0 | 0 | 0 |

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: (FY 2010 Budget \$70,172)</p> <ul style="list-style-type: none"> -Developed, integrated, and tested a common BMDS hardware in the loop (HWIL) stimulation framework with the Elements for the GTI-04, GTD-04 ground tests. -Conducted BMDS HWIL stimulation framework verification and validation(V&V) for BMDS GTI-04 and GTD-04 ground tests. -Built enhancements to the SSF required for execution of the GT05 campaign to include identification of interdependencies required for execution. -Integrated Single Stem Framework (SSF) interfaces with the Cobra Dane Upgraded Early Warning Radar. -Integrated SSF interfaces with the GMD fielded assets. -Provided integrated Verification, Validation, and Accreditation (VV&A) of MDA models and simulations (M&S) at the system-level for ground tests that support BMDS fielding decisions, and tier one COCOM exercises. -Conducted System-level V&V to include threat trajectory and signature V&V throughout the System; end-to-end environmental implementation is consistent and correct; communications and architecture behave properly; and interoperability is adequately addressed [Conduct System-level post flight reconstruction for validation of BMDS performance assessment M&S]. -Worked closely with Elements, Test Community, System Engineering, and OTA and ensured M&S for events met intended uses and objectives, and had proper VV&A documentation and evidence to include benchmarking/anchoring pedigree. <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> -Perform System-level analysis and interoperability analysis on BMDS test events listed in the IMTP. -Develop Analysis Execution Plans (AEP) and final Test Analysis Reports (TAR) for BMDS test events listed in the IMTP. -Lead Joint Analysis Teams (JAT) for BMDS test events listed in the IMTP. -Develop, deliver, and brief Quick Look Brief (QLB), Executive QLB (EQLB), Mission Data Review (MDR), and Executive MDR (EMDR) for BMDS test events listed in the IMTP. -Incorporate software changes to Modular Analysis and Reporting Suite (MARS) to enhance analyst efficiency and capability. -Continue to populate the MARS Analysis Database with most current test data to support analysis and capability assessments. -Develop assessments for the MDA Director and the Director of Engineering: Defense of Homeland Against L/IRBMs, Organic Aegis BMD, Defense of Israel. -Provide SE&I test configuration management, risk assessment, and anomaly and test incident report review, assessment and closure to enable execution of the ground and flight test program. -Allocate and track Critical Engagement Condition (CEC) and Empirical Measurement Events (EME) data requirements and sufficiency for ground and flight tests in accordance with the Integrated Master Test Plan. | | | |
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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 | | | | |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | | PROJECT MD04: <i>Test Program</i> | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | FY 2010 | FY 2011 | FY 2012 | |
| <p>-Define test objectives and evaluation criteria for all system level test events.</p> <p>-Design and certify scenarios for ground test events to meet required data collection and satisfy SE&I, Operational Test Agencies and Warfighter objectives.</p> <p>FY 2012 Plans:</p> <p>-Perform System-level analysis and interoperability analysis on BMDS test events listed in the IMTP.</p> <p>-Develop Analysis Execution Plans (AEP) and final Test Analysis Reports (TAR) for BMDS test events listed in the IMTP.</p> <p>-Lead Joint Analysis Teams (JAT) for BMDS test events listed in the IMTP.</p> <p>-Develop, deliver, and brief Quick Look Brief (QLB), Executive QLB (EQLB), Mission Data Review (MDR), and Executive MDR (EMDR) for BMDS test events listed in the IMTP.</p> <p>-Incorporate software changes to Modular Analysis and Reporting Suite (MARS) to enhance analyst efficiency and capability.</p> <p>-Continue to populate the MARS Analysis Database with most current test data to support analysis and capability assessments.</p> <p>-Provide SE&I test configuration management, risk assessment, and anomaly and test incident report review, assessment and closure to enable execution of the ground and flight test program.</p> <p>-Allocate and track Critical Engagement Condition (CEC) and Empirical Measurement Events (EME) data requirements and sufficiency for ground and flight tests in accordance with the Integrated Master Test Plan.</p> <p>-Define test objectives and evaluation criteria for all System level test events.</p> <p>-Design and certify scenarios for ground test events to meet required data collection and satisfy SE&I, Operational Test Agencies and Warfighter objectives.</p> <p>-Produce threat data required to enable Ballistic Missile Defense System Ground Tests, Ballistic Missile Defense System Performance Assessment, as documented in the Ballistic Missile Defense System Integrated Master Test Plan.</p> | | | | | | |
| <p>Title: Concurrent Test, Training and Operations</p> <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: (FY 2010 Budget \$33,514)</p> <p>-Demonstrated initial network architecture and network enhancements, C2BMC Network Interface Processor Plus (CNIP+) and BMDS Element and Activity Monitor with representations of Element (BEAM) interactions.</p> <p>-Operated and Sustained DMETS training and exercise suites and associated hardware and software at 80 hours per week.</p> <p>-Continued providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture.</p> | | | Articles: | - 0 | 51.419 0 | - 0 |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <p>-Coordinated and integrated BMDS CTTO Element-level activities and capabilities for the Change Notice to implement CTTO content into the technical baseline.</p> <p>-As an initial implementation, planned, architected, designed, and deployed, a Regional Test Network to support Agency integration of its Integrated Master Test Plan.</p> <p><i>FY 2011 Plans:</i></p> <p>-Increase confidence in the BMDS through rigorous concurrent test, training, and operations.</p> <p>-Enable BMDS testing and training in the field without degrading protection capability.</p> <p>-Sustain Unified Combatant Commanders BMDS operations while simultaneously supporting concurrent BMDS systems development and acquisition to defend the United States, its deployed forces, friends, and allies.</p> <p>-Safely inject consistent high fidelity test and evaluation threat data on operational equipment to exercise all phases of the kill chain using all sensor/shooter combinations.</p> <p>-Aid in Aegis Ballistic Missile Defense, Terminal High Altitude Area Defense, Ground-based Midcourse Defense, Sensors, and Fire Control standardization evaluation and certification for all BMDS personnel and ensures all crews are highly qualified to perform their mission-specific tasks by conducting exercises and wargames executed from actual equipment and networked configurations.</p> <p>-The Distributed Multi-Echelon Training System (DMETS) will specifically address the high priority Unified Combatant Commanders requirement to conduct distributed, high fidelity, and end-to-end strategic and operational training for missile defense operations that incorporates missile warning activity in any or all of the BMDS Elements. The system will allow for scalable testing of the BMDS over the operational architecture as well as allow operators to train where they fight using a parallel architecture either physically separated or logically separated from the operational one; training will be scalable as well; from individual BMD assets to regional BMDS capabilities to the full BMDS global community.</p> <p>-Begin integration of Element delivered implementations.</p> <p>-Monitor and coordinate the execution of Agency Modeling and Simulation development efforts (key dependencies for the successful execution of CTTO).</p> <p>-Operate and sustain Distributed Multi-Echelon System (DMETS) training and exercise suites and associated hardware and software at 80 hours per week.</p> <p>-Continue providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture.</p> <p>-Continue to upgrade DMETS to mirror the deployed systems. Includes technical refresh. Expand training enhancements (e.g. dynamic scenarios emulating enemy mobile launchers, constructive (manned) element simulations, and initial crew assessment tools) and cross mission training.</p> <p>-Continue to expand training audience to include regional and theater training.</p> | | | |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 | |
| <p>-Improve training operations tools which provide better training system reliability and automated asset management.</p> <p>FY 2012 Plans: This effort moves to MX04 in FY2012</p> <p>-Continue integration of element delivered implementations. -Monitor and coordinate the execution of Agency Modeling and Simulation development efforts; key dependencies for the successful execution of CTTO. -Operate and sustain Distributed Multi-Echelon System (DMETS) training and exercise suites and associated hardware and software at 80 hours per week. -Continue providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture. -Continue to upgrade DMETS to mirror the deployed systems. Includes technical refresh. Expand training enhancements (e.g. dynamic scenarios emulating enemy mobile launchers, constructive (manned) element simulations, and initial crew assessment tools) and cross mission training. -Implement and Deploy distributed regional training solutions.</p> | | | | | |
| <p>Title: Fielding and Integration</p> <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: (FY 2010 Budget \$6,824)</p> <p>-Coordinated synchronization of System Engineering and Test and Evaluation processes. -Supported BMDS Common Work Breakdown Structure development and implementation. -Supported Decision Support System acquisition activities and initial implementation. -Updated the BMDS Master Plan. -Updated BMDS program documentation (SAMP, PAC). -Coordinated capability delivery process execution with CD-03. -Continued conducting integrated BMDS integration planning and execution. -Continued to execute the BMDS Change Management process.</p> <p>FY 2011 Plans: -Continue Ballistic Missile Defense System (BMDS) integration planning and capability delivery execution (CD-04).</p> | | Articles: | - 0 | 9.110 0 | 7.255 0 |

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | | PROJECT MD04: <i>Test Program</i> | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | FY 2010 | FY 2011 | FY 2012 | |
| <p>-Manage BMDS Schedule Baseline. -Update BMDS Technical Baseline documentation. -Support Decision Support System acquisition activities and implementation. -Continue to execute the BMDS Change Management process.</p> <p>FY 2012 Plans: -Continue Ballistic Missile Defense System (BMDS) integration planning and capability delivery execution (CD-04). -Manage BMDS Schedule Baseline. -Update BMDS Baseline documentation. -Support Decision Support System acquisition activities and implementation. -Continue to execute the BMDS Change Management process.</p> | | | | | | |
| <p>Title: Facilities Siting, and Environmental</p> <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: (FY 2010 Budget \$3,801)</p> <p>-Supported MDA MILCON planning and programming for FY2010 and 2011 and reported MDA's environmental quality expenditures via the PB-28 Budget Exhibit. -Provided oversight for real property acquisition of the MILCON 2005 BRAC and RDT&E construction programs. -Continued support operations and maintenance of MDA-assigned facilities at test and operational locations worldwide, including the ongoing transfer of Kauai Test Facility from Department of Energy to the Department of Defense. Supported construction for scheduled BMDS test campaigns, to include Reagan Test Site (RTS), Pacific Missile Range Facility (PMRF), Vandenberg, Pt. Mugu, and Wake Island. -Supported site survey and bed-down approval process, launch facilities designs, and award of construction contracts. Used MDA's Strategic Plan for Environmental Management to manage and execute MDA's environmental activities and assets in a proactive and environmentally sound manner. -Relied on MDA's Environmental Management System (EMS) to ensure environmental compliance with all applicable U.S. laws and regulations, DoD and Service regulations and policies, Executive Orders, binding international agreements, host-nation requirements, and other requirements that seek to preserve, protect, or enhance human health and/or the environment across all MDA operations and activities. -Planned, programmed, and budgeted to achieve, monitor, and maintain compliance IAW environmental laws.</p> | | | Articles: | - 0 | 3.901 0 | - 0 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | | PROJECT MD04: <i>Test Program</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | FY 2010 | |
| <p>-Integrated environmental factors, issues, and values in MDA`s acquisition decision-making process to mitigate risk to cost, schedule, and performance while protecting the environment.</p> <p>-Promoted awareness and understanding of environmental management in all phases of MDA`s acquisition mission and provided appropriate training to all MDA personnel.</p> <p>-Conducted required Agency reporting on environmental liabilities and environmental expenditures.</p> <p>FY 2011 Plans:</p> <p>-Support MDA MILCON planning and programming and reporting of environmental quality expenditures via the PB-28 Exhibit.</p> <p>-Provide oversight for real property acquisition of the MILCON 2005 BRAC and RDT&E construction programs.</p> <p>-Continue support operations and maintenance of MDA-assigned facilities at test and operational locations worldwide, to include Aegis Ashore and the transfer of Kauai Test Facility from Department of Energy to the Department of Defense.</p> <p>-Support construction for scheduled BMDS test campaigns, to include Reagan Test Site (RTS), PMRF, Vandenberg, Pt. Mugu, and Wake Island.</p> <p>-Support site survey and bed-down approval process, launch facilities designs, and award of construction contracts.</p> <p>-Use MDA`s Strategic Plan for Environmental Management to manage and execute MDA`s environmental activities and assets in a proactive and environmentally sound manner.</p> <p>-Rely on MDA`s EMS to ensure environmental compliance with all applicable U.S. laws and regulations, DoD and Service regulations and policies, Executive Orders, binding international agreements, host-nation requirements, and other requirements that seek to preserve, protect, or enhance human health and/or the environment across all MDA operations and activities.</p> <p>-Plan, program, and budget to achieve, monitor, and maintain compliance IAW environmental laws.</p> <p>-Integrate environmental factors, issues, and values in MDA`s acquisition decision-making process to mitigate risk to cost, schedule, and performance while protecting the environment.</p> <p>-Promote awareness and understanding of environmental management in all phases of MDA`s acquisition mission and provide appropriate training to all MDA personnel.</p> <p>-Conduct required Agency reporting on environmental liabilities and environmental expenditures.</p> <p>FY 2012 Plans:</p> <p>-Support MDA Military Construction (MILCON) planning and programming and reporting of environmental quality expenditures.</p> <p>-Provide oversight for real property acquisition of the MILCON and RDT&E construction programs.</p> <p>-Continue support operations and maintenance of MDA-assigned facilities at test and operational locations worldwide, including Aegis Ashore, the new ICBM launch facility, as future sites throughout Europe.</p> <p>-Support construction for scheduled Ballistic Missile Defense System (BMDS) test campaigns, to include Reagan Test Site, Pacific Missile Range Facility (PMRF), Vandenberg Air Force Base (VAFB), Pt. Mugu, and Wake Island.</p> <p>-Support site survey and bed-down approval process, launch facilities designs, and award of construction contracts.</p> | | | | FY 2011 | FY 2012 |

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| -Use MDA`s Strategic Plan for Environmental Management to manage and execute MDA`s environmental activities and assets in a proactive and environmentally sound manner. -Ensure environmental compliance with all applicable U.S. laws and regulations, DoD and Service regulations and policies, Executive Orders, binding international agreements, host-nation requirements, and other requirements that seek to preserve, protect, or enhance human health and/or the environment across all MDA operations and activities. -Plan, program, and budget to achieve, monitor, and maintain compliance in accordance with environmental laws. -Integrate environmental factors, issues, and values in MDA`s acquisition decision-making process to mitigate risk to cost, schedule, and performance while protecting the environment. -Promote awareness and understanding of environmental management in all phases of MDA`s acquisition mission and provide appropriate training to all MDA personnel. -Conduct required Agency reporting on environmental liabilities and environmental expenditures. | | | |
| Accomplishments/Planned Programs Subtotals | - | 559.133 | 455.993 |

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

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • 0603896C: <i>BMD C2BMC</i> | 327.074 | 342.625 | 364.103 | | 364.103 | 330.337 | 353.081 | 338.835 | 304.217 | Continuing | Continuing |

D. Acquisition Strategy

The Directorate for Test acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, evolutionary acquisition, and knowledge based funding. The Directorate for Test directs a team of various internal staff (Government and Scientific, Engineering and Technical Assistance support), executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, a Federally Funded Research and Development Center (FFRDC), and other MDA programs to execute the various diverse efforts within the Ballistic Missile Defense System (BMDS) test program through competition. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conforms to their respective headquarters regulations are used. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

The CTTO systems design and acquisition will follow the MDA`s capability-based acquisition strategy that emphasizes fielding capabilities that address particular threats. The design and development of the BMDS CTTO capability is a collaborative effort. The government is the task manager to integrate the technical effort and manage the contracting efforts. The government, using existing competitively awarded contract structures, established a CTTO Project Office; determined BMDS CTTO requirements and standardization; determined BMDS Core Protocol and Standards; upgrades, technology insertion points, and synchronize BMDS Element level activities; training exercises and events and capabilities. The long term acquisition strategy is to normalize CTTO requirements into existing contract structures. The intent is to develop a fully capable CTTO capability that provides comprehensive, in-place, geographically dispersed test, training, and evaluation of the complete BMDS. The CTTO approach supports evolutionary development, continuously building upon demonstrated capabilities to advance the BMDS capabilities.

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E. Performance Metrics

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Engineering Test Analysis Threat Engineering MD04 | Various | Various: NJ, CO, MD, VA | 1.555 | 1.013 | Oct 2010 | 0.472 | | - | | 0.472 | Continuing | Continuing | Continuing |
| Engineering Test Analysis DEV IMTP Engineering MD04 | Various | USASMDC: Huntsville, AL | 48.214 | 13.381 | Oct 2010 | 11.528 | | - | | 11.528 | Continuing | Continuing | Continuing |
| Engineering Test Analysis Joint Analysis Team IMTP Engineering MD04 | Various | Various: Various | 20.413 | 25.245 | Oct 2010 | 17.384 | | - | | 17.384 | Continuing | Continuing | Continuing |
| Concurrent Test, Training and Operations DMETS MD04 | C/CPAF | Various: Various | 23.091 | 27.766 | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Concurrent Test, Training and Operations Test/Training Enhancements MD04 | C/CPAF | Various: Various | 26.460 | 23.653 | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Fielding and Integration Support Contracts MD04 | C/CPAF | Computer Sciences Corp.: Falls Church, VA | 6.824 | 9.110 | Oct 2010 | 7.255 | | - | | 7.255 | Continuing | Continuing | Continuing |
| Facilities Siting, and Environmental Support Contracts MD04 | Various | Various: Various | 3.801 | 3.901 | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 130.358 | 104.069 | | 36.639 | | - | | 36.639 | | | |

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| 1.0 Support to Operations and Testing Support to Operations and Testing MD04 | Various | Various:Various | 102.824 | 135.135 | Oct 2010 | 200.027 | | - | | 200.027 | Continuing | Continuing | Continuing |
| 2.0 Infrastructure Support to Flight Test and Ground Test Infrastructure Support to Flight Test and Ground Test MD04 | Various | Various:Various | 128.786 | 96.539 | Oct 2010 | 118.511 | | - | | 118.511 | Continuing | Continuing | Continuing |
| 3.0 Flight Test and Ground Test Infrastructure Development Flight Test and Ground Test Infrastructure Development MD04 | Various | Various:Various | - | 163.087 | Oct 2010 | 48.473 | | - | | 48.473 | Continuing | Continuing | Continuing |
| 4.0 Common Test Support Common Test Support MD04 | Various | Various:Various | 25.286 | 60.303 | Oct 2010 | 52.343 | | - | | 52.343 | Continuing | Continuing | Continuing |
| Subtotal | | | 256.896 | 455.064 | | 419.354 | | - | | 419.354 | | | |

Remarks
FY 2012 Support to Operations and Testing includes target launch operations which was previously funded in MD05.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |
| Project Cost Totals | | | 387.254 | 559.133 | | 455.993 | | - | | 455.993 | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
|---|--|---|

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| FCE-C Distributed (Regional Distributed Contingency Test) | 1 | 2010 | 1 | 2010 |
| FCE-C HWIL (Regional HWIL Contingency Test) | 1 | 2010 | 1 | 2010 |
| FTP-01 (ATM-48) (Patriot Intercept Flight Test) | 1 | 2010 | 1 | 2010 |
| FTX-06 E2, E3, E4 (Aegis Flight Test) | 1 | 2010 | 1 | 2010 |
| JFTM-03 E1, E2 (Aegis Simulated Intercept Flight Test) | 1 | 2010 | 1 | 2010 |
| FEL-01a (ALTB Flight Experiment) | 2 | 2010 | 2 | 2010 |
| FTG-06 (GM Intercept Flight Test) | 2 | 2010 | 2 | 2010 |
| FTP-02 (7-2a) (Patriot Intercept Flight Test) | 2 | 2010 | 2 | 2010 |
| FTP-03 (6.5-2) (Patriot Intercept Flight Test) | 2 | 2010 | 2 | 2010 |
| GTI-04b (BMDS Integrated HWIL Ground Test) | 2 | 2010 | 4 | 2010 |
| GTX-04a (BMDS Focused Ground Test) | 2 | 2010 | 2 | 2010 |
| FTT-14 (THAAD Intercept Flight Test) | 3 | 2010 | 3 | 2010 |
| BVT-01 (GM Flight Test) | 3 | 2010 | 3 | 2010 |
| FTX-07 (FY10 Glory Trips) (GT-200, GT-201, GT202) | 3 | 2010 | 4 | 2010 |
| TA-10 (Technical BMDS Test) | 3 | 2010 | 4 | 2010 |
| FEL-01b (ALTB Flight Experiment) | 4 | 2010 | 4 | 2010 |
| TA-04 (Technical BMDS Test) | 4 | 2010 | 4 | 2011 |
| Arrow Intercept Flight Test - FY11 | 1 | 2011 | 4 | 2011 |
| FTG-06a (GM Intercept Flight Test) | 1 | 2011 | 1 | 2011 |
| JFTM-04 E1, E2, E3 (Aegis Simulated Intercept Flight Test) | 1 | 2011 | 1 | 2011 |
| GTD-04b (BMDS Distributed Ground Test) | 1 | 2011 | 2 | 2011 |
| FTM-16 (Aegis Flight Test) E1 (Simulated Intercept) | 2 | 2011 | 2 | 2011 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
|---|--|---|

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| FTP-04 (7-3) (Patriot Intercept Flight Test) | 2 | 2011 | 2 | 2011 |
| GTI-04d (BMDS Integrated HWIL Ground Test) | 2 | 2011 | 3 | 2011 |
| FTM-15 (Aegis Intercept Flight Test) | 3 | 2011 | 3 | 2011 |
| FTX-17 (Air Launched Target Return to Flight) Flight Test | 3 | 2011 | 3 | 2011 |
| GTX-04e (BMDS Focused Ground Test) | 3 | 2011 | 2 | 2012 |
| FTX-11 (FY11 Glory Trips) (GT-203, GT-204, GT-205) | 3 | 2011 | 4 | 2011 |
| GTD-04d Part 1 (BMDS Distributed Ground Test) | 3 | 2011 | 4 | 2011 |
| WFTP-04x (Ground Test) (Warfighter Trial Period) | 3 | 2011 | 3 | 2011 |
| PA-04 (Digital BMDS Test) | 4 | 2011 | 1 | 2014 |
| FTI-06b (GMD Kill Vehicle Test) | 4 | 2011 | 4 | 2011 |
| FTM-16 (Aegis Flight Test) E2 (Intercept) | 4 | 2011 | 4 | 2011 |
| FTT-12 (THAAD Intercept Flight Test) (MSE) | 4 | 2011 | 4 | 2011 |
| GTI-04 (ISR) (BMDS Integrated HWIL Ground Test) | 4 | 2011 | 1 | 2012 |
| GDEx-04d (Ground Test) (Warfighter Exercise) | 4 | 2011 | 4 | 2011 |
| WFTP-04d (Ground Test) (Warfighter Trial Period) | 4 | 2011 | 1 | 2012 |
| Israeli Cooperative Intercept Flight Test - FY12 | 1 | 2012 | 4 | 2012 |
| GDEx-04e (IT) | 1 | 2012 | 1 | 2012 |
| GTD-04d Part 2 (BMDS Distributed Ground Test) | 1 | 2012 | 2 | 2012 |
| GTI-04e (BMDS Integrated HWIL Ground Test) (VV&A) | 2 | 2012 | 1 | 2013 |
| FTG-06b (GM Intercept Flight Test) | 3 | 2012 | 3 | 2012 |
| FTM-16 E3 (Aegis Intercept Flight Test) | 3 | 2012 | 3 | 2012 |
| FTM-19 E2 (Aegis Intercept Flight Test) | 3 | 2012 | 3 | 2012 |
| FTM-20 E2 (Aegis Intercept Flight Test) | 3 | 2012 | 3 | 2012 |
| FTT-13 (THAAD Intercept Flight Test) | 3 | 2012 | 3 | 2012 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
|---|--|---|

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| FTO-01 (Aegis/THAAD/Patriot Multiple Intercept Flight Test) (Salvo) | 4 | 2012 | 4 | 2012 |
| Israeli Cooperative Intercept Flight Test - FY13 | 1 | 2013 | 4 | 2013 |
| FTM-22 E2 (Aegis Intercept Flight Test) | 2 | 2013 | 2 | 2013 |
| FTM-21 E1 (Aegis Simulated Intercept Flight Test) | 2 | 2013 | 2 | 2013 |
| FTM-21 E2 (Aegis Simulated Intercept Flight Test) | 2 | 2013 | 2 | 2013 |
| FTM-21 E3 (Aegis Intercept Flight Test) (Salvo) | 2 | 2013 | 2 | 2013 |
| FTM-19 E1 (Aegis Intercept Flight Test) | 3 | 2013 | 3 | 2013 |
| FTM-23 (Aegis Intercept Flight Test) | 3 | 2013 | 3 | 2013 |
| FTT-11a (THAAD Intercept Flight Test) | 3 | 2013 | 3 | 2013 |
| GTI-04e (BMDS Integrated HWIL Ground Test) | 3 | 2013 | 3 | 2013 |
| GTD-04e (BMDS Distributed Ground Test) | 3 | 2013 | 4 | 2013 |
| GTI-04e (BMDS Integrated HWIL Ground Test) (OT) | 3 | 2013 | 4 | 2013 |
| FTG-13 (GM Intercept Flight Test) | 4 | 2013 | 4 | 2013 |
| AA CTV-01 E1 (Aegis Ashore Flight Test) | 4 | 2013 | 4 | 2013 |
| AA CTV-01 E2 (Aegis Ashore Flight Test) | 4 | 2013 | 4 | 2013 |
| FTM-20 E1 (Aegis Intercept Flight Test) | 4 | 2013 | 4 | 2013 |
| SCDPTV-01 (Aegis Flight Test) | 4 | 2013 | 4 | 2013 |
| GTX-06 (Focused Regional Ground Test) | 4 | 2013 | 3 | 2014 |
| GTD-04e (BMDS Distributed Ground Test) (OT) | 4 | 2013 | 4 | 2013 |
| GDEx-04e (Ground Test) (Warfighter Exercise) | 4 | 2013 | 1 | 2014 |
| PA-06 (Digital BMDS Test) | 4 | 2013 | 4 | 2015 |
| Israeli Cooperative Intercept Flight Test - FY14 | 1 | 2014 | 4 | 2014 |
| FTX-14 (Aegis Simulated Intercept Flight Test) (Wildcat RRF) | 1 | 2014 | 1 | 2014 |
| WFTP-04e (Ground Test) (Warfighter Trial Period) | 1 | 2014 | 1 | 2014 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
|---|--|---|

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| SCDCTV-01 (Aegis Flight Test) | 2 | 2014 | 2 | 2014 |
| GTI-06 (BMDS Integrated HWIL Ground Test) (VV&A) | 2 | 2014 | 4 | 2014 |
| AA FTM-01 E1 (Aegis Ashore First Intercept Flight Test) | 3 | 2014 | 3 | 2014 |
| AA FTM-01 E2 (Aegis Ashore Intercept Flight Test) | 3 | 2014 | 3 | 2014 |
| SCDCTV-02 (Aegis Flight Test) | 3 | 2014 | 3 | 2014 |
| FTT-15 (THAAD Intercept Flight Test) | 3 | 2014 | 3 | 2014 |
| FTX-10 (Cobra Dane Flight Test) | 3 | 2014 | 3 | 2014 |
| FTG-08 (GM Intercept Flight Test) (Two-Stage) | 4 | 2014 | 4 | 2014 |
| FTM-24 (Aegis Intercept Flight Test) (Wildcat) | 4 | 2014 | 4 | 2014 |
| Israeli Cooperative Intercept Flight Test - FY15 | 1 | 2015 | 4 | 2015 |
| FTM-25 E1 (Aegis Intercept Flight Test) (MSE) | 1 | 2015 | 1 | 2015 |
| FTM-25 E2 (Aegis Intercept Flight Test) | 1 | 2015 | 1 | 2015 |
| SFTM-1 (Aegis Flight Test) E1 (Simulated Intercept), E2 (Intercept) | 1 | 2015 | 1 | 2015 |
| SFTM-2 (Aegis Flight Test) E1 (Simulated Intercept), E2 (Intercept) | 2 | 2015 | 2 | 2015 |
| GTI-06 (BMDS Integrated HWIL Ground Test) | 2 | 2015 | 3 | 2015 |
| GTI-06 (BMDS Integrated HWIL Ground Test) (OT) | 3 | 2015 | 3 | 2015 |
| GTD-06 (BMDS Distributed Ground Test) | 3 | 2015 | 4 | 2015 |
| FTO-02 (GMD/Aegis Ashore/Aegis/THAAD/Patriot Multiple Intercept Flight Test) (Salvo) | 4 | 2015 | 4 | 2015 |
| GTD-06 (BMDS Distributed Ground Test) (OT) | 4 | 2015 | 4 | 2015 |
| GDEx-06 (Ground Test) (Warfighter Exercise) | 4 | 2015 | 4 | 2015 |
| WFTP-06 (Ground Test) (Warfighter Trial Period) | 4 | 2015 | 4 | 2015 |
| GTX-07a (BMDS Focused Ground Test) | 4 | 2015 | 3 | 2016 |
| Israeli Cooperative Intercept Flight Test - FY16 | 1 | 2016 | 4 | 2016 |
| GTX-07b (BMDS Focused Ground Test) | 2 | 2016 | 4 | 2016 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD04: <i>Test Program</i> |
|---|--|---|

| Events | Start | | End | |
|--------------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| FTT-17 (THAAD Intercept Flight Test) | 3 | 2016 | 3 | 2016 |
| FTG-15 (GM Intercept Flight Test) | 4 | 2016 | 4 | 2016 |

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|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|----------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | | | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | | | | PROJECT MX04: <i>BMD Test & Targets Development Support</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| MX04: <i>BMD Test & Targets Development Support</i> | - | - | 32.389 | - | 32.389 | 31.337 | 23.549 | 25.237 | 27.123 | 0.000 | 139.635 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Ballistic Missile Defense System (BMDS) Concurrent Test, Training, and Operations (CTTO) effort provides for comprehensive, in-place, geographically dispersed upgrades, testing, training, and sustainment while maintaining operational readiness across the complete Ballistic Missile Defense System (BMDS) Enterprise. This CTTO capability will enable simultaneous cross-element training events in the field during BMDS incremental and spiral development testing and sustained operational readiness conditions without degrading protection capability. The BMDS CTTO capability is formally documented as a requirement in the War Fighter's Prioritized Capabilities List (PCL) and Modifications Requirement List (MRL).

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

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: Concurrent Test, Training and Operations | - | - | 32.389 |
| Articles: | 0 | 0 | 0 |
| Description: See Description Below | | | |
| FY 2010 Accomplishments: (FY 2010 Budget \$33,514) | | | |
| -Demonstrated initial network architecture and network enhancements, C2BMC Network Interface Processor Plus (CNIP+) and BMDS Element and Activity Monitor with representations of Element (BEAM) interactions. | | | |
| -Operated and Sustained DMETS training and exercise suites and associated hardware and software at 80 hours per week. | | | |
| -Continued providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture. | | | |
| -Coordinated and integrated BMDS CTTO Element-level activities and capabilities for the Change Notice to implement CTTO content into the technical baseline. | | | |
| -As an initial implementation, planned, architected, designed, and deployed, a Regional Test Network to support Agency integration of its Integrated Master Test Plan. | | | |
| FY 2011 Plans: | | | |
| -Increase confidence in the BMDS through rigorous concurrent test, training, and operations. | | | |
| -Enable BMDS testing and training in the field without degrading protection capability. | | | |
| -Sustain Unified Combatant Commanders BMDS operations while simultaneously supporting concurrent BMDS systems development and acquisition to defend the United States, its deployed forces, friends, and allies. | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | DATE: February 2011 |
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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MX04: <i>BMD Test & Targets Development Support</i> |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|

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| <p>-Safely inject consistent high fidelity test and evaluation threat data on operational equipment to exercise all phases of the kill chain using all sensor/shooter combinations.</p> <p>-Aid in Aegis Ballistic Missile Defense, Terminal High Altitude Area Defense, Ground-based Midcourse Defense, Sensors, and Fire Control standardization evaluation and certification for all BMDS personnel and ensures all crews are highly qualified to perform their mission-specific tasks by conducting exercises and wargames executed from actual equipment and networked configurations.</p> <p>-The Distributed Multi-Echelon Training System (DMETS) will specifically address the high priority Unified Combatant Commanders requirement to conduct distributed, high fidelity, and end-to-end strategic and operational training for missile defense operations that incorporates missile warning activity in any or all of the BMDS Elements. The system will allow for scalable testing of the BMDS over the operational architecture as well as allow operators to train where they fight using a parallel architecture either physically separated or logically separated from the operational one; training will be scalable as well; from individual BMD assets to regional BMDS capabilities to the full BMDS global community.</p> <p>-Begin integration of Element delivered implementations.</p> <p>-Monitor and coordinate the execution of Agency Modeling and Simulation development efforts (key dependencies for the successful execution of CTTO).</p> <p>-Operate and sustain Distributed Multi-Echelon System (DMETS) training and exercise suites and associated hardware and software at 80 hours per week.</p> <p>-Continue providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture.</p> <p>-Continue to upgrade DMETS to mirror the deployed systems. Includes technical refresh. Expand training enhancements (e.g. dynamic scenarios emulating enemy mobile launchers, constructive (manned) element simulations, and initial crew assessment tools) and cross mission training.</p> <p>-Continue to expand training audience to include regional and theater training.</p> <p>-Improve training operations tools which provide better training system reliability and automated asset management.</p> <p>FY 2012 Plans:</p> <p>-Continue integration of element delivered implementations.</p> <p>-Monitor and coordinate the execution of Agency Modeling and Simulation development efforts; key dependencies for the successful execution of CTTO.</p> <p>-Operate and sustain Distributed Multi-Echelon System (DMETS) training and exercise suites and associated hardware and software at 80 hours per week.</p> <p>-Continue providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture.</p> | | | |
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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | DATE: February 2011 |
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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MX04: <i>BMD Test & Targets Development Support</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| -Continue to upgrade DMETS to mirror the deployed systems. Includes technical refresh. Expand training enhancements (e.g. dynamic scenarios emulating enemy mobile launchers, constructive (manned) element simulations, and initial crew assessment tools) and cross mission training. -Implement and Deploy distributed regional training solutions. | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 32.389 |

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

N/A

D. Acquisition Strategy

The CTTO systems design and acquisition will follow the MDA's capability-based acquisition strategy that emphasizes fielding capabilities that address particular threats. The design and development of the BMDS CTTO capability is a collaborative effort. The government is the task manager to integrate the technical effort and manage the contracting efforts. The government, using existing competitively awarded contract structures, established a CTTO Project Office; determined BMDS CTTO requirements and standardization; determined BMDS Core Protocol and Standards; upgrades, technology insertion points, and synchronize BMDS Element level activities; training exercises and events and capabilities. The long term acquisition strategy is to normalize CTTO requirements into existing contract structures. The intent is to develop a fully capable CTTO capability that provides comprehensive, in-place, geographically dispersed test, training, and evaluation of the complete BMDS. The CTTO approach supports evolutionary development, continuously building upon demonstrated capabilities to advance the BMDS capabilities.

E. Performance Metrics

NA

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency | | | | | | | | | | | DATE: February 2011 | | | |
|---|------------------------|--------------------------------|------------------------|--|------------|--------------|------------|---|------------|---------------|---------------------|------------------|--------------------------|--------------------------|
| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | | | | |
| 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P) | | | | PE 0603888C: Ballistic Missile Defense Test and Targets | | | | MX04: BMD Test & Targets Development Support | | | | | | |
| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 | |
| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Concurrent Test, Training and Operations DMETS MX04 | C/CPAF | Various:Various | - | - | Oct 2010 | 8.309 | | - | | 8.309 | Continuing | Continuing | Continuing | |
| Concurrent Test, Training and Operations Test/Training Enhancements MX04 | C/CPAF | Various:Various | - | - | Oct 2010 | 23.432 | | - | | 23.432 | Continuing | Continuing | Continuing | |
| Concurrent Test, Training and Operations FFRDC MX04 | SS/FFP | MITRE:Various | - | - | | 0.648 | | - | | 0.648 | Continuing | Continuing | Continuing | |
| Subtotal | | | - | - | | 32.389 | | - | | 32.389 | | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 | |
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 | |
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | - | - | | 32.389 | | - | | 32.389 | | | | |

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

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|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT YX05: <i>Targets and Countermeasures Core</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| YX05: <i>Targets and Countermeasures Core</i> | 338.168 | - | - | - | - | - | - | - | - | 0.000 | 338.168 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

All Project YX05 funds supported BMDS-Level Testing.

A. Mission Description and Budget Item Justification

Project YX05 has been transferred to Project MD05.

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

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: See Project MD05 for FY 2010 Accomplishments | 338.168 | - | - |
| Articles: | 0 | | |
| Description: See Description Below | | | |
| FY 2010 Accomplishments: See Project MD05 for FY 2010 Accomplishments. | | | |
| Accomplishments/Planned Programs Subtotals | 338.168 | - | - |

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

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| MD05: <i>Targets Program</i> | - | 517.065 | 540.689 | - | 540.689 | 363.009 | 347.933 | 321.954 | 461.937 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Project YX05 for FY 2010 is now captured in Project MD05.

All Project MD05 funds support BMDS-Level Testing.

A. Mission Description and Budget Item Justification

The goal of the Missile Defense Agency (MDA) Targets and Countermeasures (TC) program is to provide a cost effective and reliable inventory of targets that are threat representative and demonstrate capability of the evolving layered missile defense system in a simultaneous test and operations operating environment. Based on the systems engineering assessments of realistic threat scenarios, the targets and countermeasures program develops, builds, and supports the launch of Short Range Ballistic Missile (SRBM) targets, Medium Range Ballistic Missile (MRBM) targets, Intermediate Range Ballistic Missile (IRBM) targets, Intercontinental Ballistic Missile (ICBM) targets, including the common payloads and components program office to test, verify, and validate the performance of the BMDS.

Funding for the TC program supports the continuation of the target program`s source activities which include the requirements, design, build, and test of BMDS targets, associated payloads, and flight missions. It also supports the maintenance, aging surveillance, refurbishment, and routine testing of existing government furnished equipment (GFE) boosters and target components, as well as the purchase of long lead material assets and asset management items for short, medium, intermediate, and long-range target components.

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

Program Operations consists of the government, contractor and Federally Funded Research and Development Center (FFRDC) workforce that manages the overall TC program, to include engineering, logistics, program management, business management, acquisition, contract administration, and quality assurance.

Target Support consists of three sub-elements. These are Systems Engineering/Program Management, Logistics, and Support Equipment.

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| <p>System engineering/program management effort includes activities by TC prime contractors as well as non-prime systems engineering efforts. This effort provides target program technical direction to meet program requirements while balancing cost, schedule, performance, and risk. This effort utilizes the spiral development process for long-range plans initiating new developments. 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. Efforts not on the prime contracts in support of the TC program include Single Stimulation Framework (SSF) compatible Modeling and Simulation (M&S) execution and improvements to evolve TC M&S 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 (GFE).</p> <p>TC Logistics efforts provide the Missile Defense Agency (MDA) with target storage, aging surveillance, and transportation of Targets and Countermeasures (TC) hardware in support of Ballistic Missile Defense System (BMDS) testing. These efforts are essential in providing a dependable and reliable target system that enables the Missile Defense Agency to build more operational realistic targets to emulate known threats or potential threats. This effort includes integrated logistics support for all TC material including facilities, inventory maintenance, spare parts, aging surveillance, disposal, and special testing for Government Furnished Equipment (GFE) target rocket motor propellants and other hazardous material handling. This task provides for management and execution of the Consolidated Missile Asset Reuse for Targets (CMART) Program and provides all required facilities and monitoring for explosive storage and Foreign Materiel Acquisition (FMA).</p> <p>Support equipment effort provides for the development and build of 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>Target Hardware is the third and final area of Targets and Countermeasures. In short, it includes the design and build of Short Range Ballistic Missile (SRBM) targets, Medium Range Ballistic Missile (MRBM) targets, Intermediate Range Ballistic Missile (IRBM) targets, Intercontinental Ballistic Missile (ICBM) targets, and common payloads and components. It also provides for support of specific flight tests in the areas of pre-mission and post-mission analysis. Effective 2011, MDA'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.</p> <p>Specifically, target development effort provides for the non-recurring engineering (NRE) development of SRBM, MRBM, IRBM, and ICBM launch vehicle, reentry vehicle, and associated object systems to support BMDS flight testing. It includes 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 include requirements decomposition, design, qualification testing, and characterization. It includes ensuring boosters, inter-stages, avionics systems, reentry vehicles, payload deployment modules, and associated objects adhere to interface specifications and meet reliability, mission assurance, and cost goals. Efforts address target producibility, manufacturing maturity, and</p> | | |

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affordability. Supporting this objective are the necessary modeling and simulation efforts, analyses, configuration management, technical interchange meetings, and design reviews resulting in designs that meet BMDS requirements.

The manufacturing of target hardware includes the development of full up targets and target components for SRBM, MRBM, IRBM, and ICBM assets. It includes 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). Any revisions to the IMTP will affect target types and quantities noted in the Planned Accomplishments.

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

| | FY 2010 | FY 2011 | FY 2012 |
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| <p>Title: Program Operations</p> <p style="text-align: right;">Articles:</p> <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: Funding for these FY2010 accomplishments are reported in prior year budget project YX05 (\$60,850).</p> <p>-Provided government, contractor, and Federally Funded Research and Development Center (FFRDC) program staff (salary and travel) for the overall management of the program including the following functions: systems engineering, test and evaluation, logistics, program management and acquisition, scheduling, business management, financial management, contract administration, earned value management, cost estimation and analysis, data management, security, quality assurance, mission assurance, and safety</p> <p>FY 2011 Plans: -Provide government, contractor, and Federally Funded Research and Development Center (FFRDC)/University Affiliated Research Center (UARC) program staff for the overall management of the Targets and Countermeasures program as follows: -Contractor Support Services pending Missile Defense Agency Engineering and Support Services (MiDAESS) task order awards -MDA Civilians in the following functional areas: Acquisition Management; Business and Financial Management; Contracts; Administrative Services; Engineering; Readiness; Safety, Quality and Mission Assurance; Security; and Test -FFRDCs, Intergovernmental Personnel Act (IPAs), UARCs, Detailees, and Liaisons including personnel from Johns Hopkins University Applied Physics Lab to support the TC program office in Engineering</p> | <p>-</p> <p>0</p> | <p>84.079</p> <p>0</p> | <p>74.109</p> <p>0</p> |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <p>-Other Government Agency (OGA) Civilians including personnel at Army Aviation and Missile Command, Army Aviation and Missile Research Development and Engineering Center, and Naval Sea Warfare Center Crane Division to support the TC program office in Logistics; Safety, Quality and Mission Assurance</p> <p>-MiDAESS contractor support in the following functional areas: Acquisition Management; Business and Financial Management; Contracts; Administrative Services; Engineering; Readiness; Safety, Quality, and Mission Assurance; Security; and Test</p> <p>-Travel for Government Civilians</p> <p>-Operations support to include Change of Station requirements and Student Loan Repayments</p> <p>FY 2012 Plans:</p> <p>-Provide government, contractor, and Federally Funded Research and Development Center (FFRDC)/University Affiliated Research Center (UARC) program staff for the overall management of the Targets and Countermeasures program as follows:</p> <p>-MDA Civilians in the following functional areas: Acquisition Management; Business and Financial Management; Contracts; Administrative Services; Engineering; Readiness, Safety, Quality, Mission Assurance, and Source Selection activity; Security; and Test</p> <p>-FFRDCs, Intergovernmental Personnel Act (IPAs), UARCs, Detailees, and Liaisons including personnel from Johns Hopkins University Applied Physics Lab to support the TC program office in Engineering</p> <p>-Other Government Agency (OGA) Civilians including personnel from Army Aviation and Missile Command, Army Aviation and Missile Research Development and Engineering Center, and Naval Sea Warfare Center Crane Division to support the TC program office in Logistics; Safety, Quality and Mission Assurance</p> <p>-MiDAESS contractor support in the following functional areas: Acquisition Management; Business and Financial Management; Contracts; Administrative Services; Engineering; Readiness, Safety, Quality, and Mission Assurance; Security; and Test</p> <p>-Travel for Government Civilians</p> <p>-Operations support to include Change of Station requirements and Student Loan Repayments</p> <p>Variance Analysis:</p> <p>FY 2011budget increases from FY 2010 are due to additional Civilian salaries and Contractor Support Services levels as a result of the TC Directorate establishing and staffing a new organization to meet the requirements of the MDA Integrated Master Test Plan, the common payloads and components program office. In addition to the new organization in Targets and Countermeasures</p> | | | |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <p>the volume of work, in terms of numbers and types of targets, has increased across the entire Targets and Countermeasures organization.</p> <p>FY 2012 budget decreases from FY 2011 are due to Test functions associated with Targets & Countermeasures being transferred to the MDA Test Directorate. As a result of this transfer, the Test functional area is zeroed out and the Government Travel for those personnel is decreased accordingly. As part of the Department of Defense reform agenda, eliminated full-time equivalent positions to maintain staffing levels to meet Targets & Countermeasures requirements to meet the Integrated Master Test Plan schedule.</p> | | | |
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| <p>Title: Target Support</p> <p>Description: See Description Below</p> <p>FY 2010 Accomplishments: Funding for these FY2010 accomplishments are reported in prior year budget project YX05 (\$88,625).</p> <ul style="list-style-type: none"> -Performed prime contractor program management and systems engineering functions including: specialty and production engineering; acquisition, production, logistics management; modeling and simulation; and tests -Performed studies/analyses of future target Launch Vehicles, launch platforms, and Associated Objects -Continued planning, coordinating, and developing characterization test plans and deliverables for Launch and Re-entry Vehicles -Conducted Independent Review Assessments of target development programs -Conducted risk and mission assurance assessments -Updated target modeling and simulation for current threat scenarios; to establish formal validation documentation process and configuration management of all models; to incorporate detailed models for navigation error, thrust vector control errors, and missile bending effects in trajectory tools; and to further develop models for selected phenomenology and matter -Completed Forward Exit Ring Crack /static fire analysis to characterize the risk of the forward exit ring crack on C-4 first stage motors. -Continued inventory, storage, maintenance, disposal, and aging surveillance program for MDA's rocket motors, ground/launch support equipment and associated hardware -Continued maintenance of existing support equipment and facilities at Redstone Arsenal, Camp Navajo, Eglin AFB, Hawthorne Western Ammunition Depot, White Sands Missile Range, Pacific Missile Range Facility, Hill AFB (Oasis), and Tooele Army Depot -Maintained Single Integration Capability (SIC), Courtland, Alabama | <p>Articles:</p> <p>-</p> <p>0</p> | <p>100.772</p> <p>0</p> | <p>83.997</p> <p>0</p> |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <ul style="list-style-type: none"> -Transported assets, hazardous material, and rocket motors -Continued Government Furnished Equipment tracking, administration and property management -Continued closeout of the Strategic Targets Systems/Generic Rest of World (STARS/GROW) program -Procured Communications Security (COMSEC) equipment and encryptors -Provided transportation, sparing, and logistics support of equipment to support mission execution -Provided LV-2 support equipment to include motor handling ground pallets, pressure measurement transducers, and an umbilical retract system <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> -System Engineering and Program Management <p>-Non-Prime</p> <ul style="list-style-type: none"> -Continue Program Management and Business Operations for target components -Continue Information Technology support for Other Government Agencies (OGAs) -Continue Special Studies and associated analyses of future target Launch Vehicles, Re-Entry Vehicles, and launch platforms -Continue Source Selection Support; Exploitation Information; Inertial Instruments; and Documentation Transfer -Continue Quality/Mission Assurance to include Pedigree Reviews -Continue include information technology and classified network support -Continue Software Independent Verification and Validation (IV&V) for targets including the Extended Medium Range Ballistic Missile (eMRBM) and Launch Vehicle-2 (LV-2) -Continue MDA Engineering Directorate targets and countermeasures requirements support <p>-Perform prime contractor program management and systems engineering functions including: specialty and production engineering; acquisition, production, logistics management; modeling and simulation; and tests</p> <p>-Logistics and Sustainment</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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-Provide Non-Prime efforts in the areas of maintenance, transportation, utilities, storage, license fees, aging surveillance, disposal and material handling for targets, target components, re-entry rebuilds, associated objects, and support equipment to include:

- C4 Motors - Storage, disposal, transportation, aging surveillance, and static fire costs
- Castor IVA - Transportation costs
- Castor IVB - Storage costs
- GEM-40 - Desiccant baffles and forward dome inspection costs
- Lance - Missile sustainment, telemetry van sustainment and facilities sustainment costs
- M-57 - Storage, disposal, transportation, and aging surveillance
- Orbus 1A - Propellant testing and qualification testing costs
- SR19 - Storage, disposal, transportation, aging surveillance, and static fire costs
- STARS - Close out costs
- Multi-Class Consolidated Missile Assets for Re-use for Targets (CMART) - Inventory storage, aging surveillance, and transportation costs
- Multi-Class Other - Vehicle support, ordnance inventory reduction planning, small ordnance, x-ray, refurbishment, transportation, and modification costs
- Perform prime contractor logistics management to include maintenance of the Single Integration Capability (SIC)

FY 2012 Plans:

- System Engineering and Program Management
- Non-Prime
- Continue Program Management and Business Operations for target components
- Continue Information Technology support for Other Government Agencies (OGAs)
- Continue Special Studies and associated analyses of future target Launch Vehicles, Re-Entry Vehicles, and launch platforms
- Continue Quality/Mission Assurance to include Pedigree Reviews
- Continue information technology and classified network support
- Continue Software Independent Verification and Validation (IV&V) for targets including the Extended Medium Range Ballistic Missile (eMRBM) and Launch Vehicle-2 (LV-2)
- Continue MDA Engineering Directorate targets and countermeasures requirements support

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <p>-Perform prime contractor program management and systems engineering functions including: specialty and production engineering; acquisition, production, logistics management; modeling and simulation; and tests</p> <p>-Logistics and Sustainment</p> <p>-Provide Non-Prime efforts in the areas of maintenance, transportation, utilities, storage, license fees, aging surveillance, disposal and material handling for targets, target components, re-entry rebuilds, associated objects, and support equipment to include:</p> <p>-C4 Motors - Storage, disposal, transportation, aging surveillance, and static fire costs</p> <p>-Castor IVA - Transportation costs</p> <p>-Castor IVB - Storage costs</p> <p>-GEM-40 - Desiccant baffles and forward dome inspection costs</p> <p>-Lance - Missile sustainment, telemetry van sustainment and facilities sustainment costs</p> <p>-M-57 - Storage, disposal, transportation, and aging surveillance</p> <p>-Orbus 1A - Missile sustainment</p> <p>-SR19 - Storage, disposal, transportation, aging surveillance, and static fire costs</p> <p>-Multi-Class Consolidated Missile Assets for Re-use for Targets (CMART) - Inventory storage, aging surveillance, and transportation costs</p> <p>-Multi-Class Other - Vehicle support, ordnance inventory reduction planning, small ordnance, x-ray, refurbishment, transportation, and modification costs</p> <p>-Perform prime contractor logistics management to include maintenance of the Single Integration Capability (SIC)</p> <p>Variance Analysis:</p> <p>FY 2011 budget increases from FY 2010 due to the mix of targets scheduled in FY 2011 as well as additional Pedigree Reviews.</p> <p>FY 2012 budget decreases from FY 2011 due to the following: mix of targets in FY 2012 requires fewer Pedigree Reviews; additional Target Support costs previously incurred by the Government separately have been integrated into the new Targets acquisition contracts; TC will have completed its IRBM source selection reducing those staffs; and Orbus 1A graduation testing will</p> | | | |
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| be completed. Additionally as part of the Department of Defense reform agenda, this effort reflects a reduction in the number of technical studies and pre-test mission delivery date finalization analyses. | | | | | | |
| Title: Target Hardware | | | | Articles: | - | 332.214 |
| | | | | 0 | 0 | 382.583 |
| Description: See Description Below | | | | | | |
| FY 2010 Accomplishments: Funding for these FY2010 accomplishments are reported in prior year budget project YX05 (\$188,693). | | | | | | |
| Develop, build, and support the launch of the following target types enabling BMDS testing and validating BMDS weapon system performance: | | | | | | |
| -Short Range Ballistic Missiles (SRBM) | | | | | | |
| -Completed target hardware build and integration for the following target types: | | | | | | |
| -1 Aegis Readiness Assessment Vehicle-C (ARAV-C) | | | | | | |
| -3 Foreign Materiel Acquisition-1 (FMA-1) | | | | | | |
| -2 Foreign Materiel Acquisition-2 (FMA-2) | | | | | | |
| -1 Short Range Air Launched Target (SRALT) | | | | | | |
| -1 Medium Range Target (MRT) | | | | | | |
| -Conducted target performance planning and range coordination activities, executed target missions, and collected and analyzed target system data for the following missions: | | | | | | |
| -FTX-06 E2, E3, and E4 | | | | | | |
| -JFTM-3 | | | | | | |
| -ATM-48 | | | | | | |
| -Initiated and/or continued target hardware development, target integration, target performance planning, and range coordination for future missions of the following target types: | | | | | | |
| -3 ARAV-Cs | | | | | | |
| -2 FMA-1 | | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
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| <ul style="list-style-type: none"> -1 FMA Spare -1 SRALT-3 -2 ARAV-B -Medium Range Ballistic Missile (MRBM) -Continued Enhanced Long Range Air Launched Target (E-LRALT) non-recurring development -Initiated and/or continued target hardware development, target integration, target performance planning, and range coordination for future missions of the following target types: -2 Enhanced Long Range Air Launch Target (E-LRALT) -3 Medium Range Targets (MRT) -Intermediate Range Ballistic Missile (IRBM) -Completed Launch Vehicle-2 (LV-2) development -Completed target hardware build and integration for the following target types: -1 Launch Vehicle-2 (LV-2) -Conducted target performance planning and range coordination activities, executed target missions, and collected and analyzed target system data -Initiated and/or continued target hardware development, target integration, target performance planning, and range coordination for future missions of the following target types: -5 Launch Vehicle-2 (LV-2) -Target Common Payloads and Components -Completed development of Modified Ballistic Re-Entry Vehicle (MBRV)-2 -Initiated RV-7 Reentry Vehicle development -Modified existing Family 1 countermeasures hardware for use in future flight tests -Initiated Critical Design Review (CDR) level design for the United Kingdom payload concept -Provided Quality Assurance and Mission Assurance compliance with Agency requirements for design, test, manufacturing, quality, safety, and reliability <p><i>FY 2011 Plans:</i></p> | | | |

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| Develop, build, and support the launch of the following target types to enable BMDS testing and the validation of BMDS weapon system performance: -Multi-Class Components -Re-entry Vehicle (RV) -Continue Matching Ballistic Re-entry Vehicle (MBRV-7) development -Associated Object (AO) -Continue Family 1C development resulting in critical design review -Continue Family 1F development -Continue Family 1G development -Other Counter Measure/Associate Object Non-Recurring Engineering to include the United Kingdom Project Agreement -Motors -Continue production of SR19 Flexseals -Provide funding for Special Targets -Intermediate Range Ballistic Missile (IRBM) -Launch Vehicle 2 (LV-2) - Initiate/continue development of Ship Sets 3 thru 6 -IRBM Type 1/Type 2(T1/T2) - Initiate/continue development of Ship Sets 1 thru 8 -Medium Range Ballistic Missile (MRBM) -Extended Medium Range Ballistic Missile (eMRBM) - Initiate/continue development of Ship Sets 1 thru 5 -Enhanced Long Range Air Launch Target (ELRALT) - Initiate/continue development of Ship Sets 1 and 2 -Short Range Ballistic Missiles (SRBM) -Short Range Air Launched Target (SRALT) - Initiate/continue build of Ship Sets 2 and 3 -Aegis Readiness Assessment Vehicle-C (ARAV-C) - Initiate/continue build of Ship Sets 2 and 3 -Aegis Readiness Assessment Vehicle-B (ARAV-B) - Initiate/continue build of Ship Sets 6 thru 9 -Foreign Materiel Acquisition-2 (FMA-2) - Initiate/continue build of Ship Set 3 -Medium Range Target (MRT Air) - Initiate/continue build of Ship Set 7 | | | | FY 2011 |
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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| <p>-Strypi II - Conduct Product Acceptance Review (PAR) for Strypi II</p> <p><i>FY 2012 Plans:</i> Develop, build, and support the launch of the following target types to enable BMDS testing and validation of BMDS weapon system performance:</p> <p>-Multi-Class Components</p> <p>-Re-entry Vehicle (RV)</p> <p>-Continue Matching Ballistic Re-entry Vehicle (MBRV-7) development -Associated Object (AO)</p> <p>-Continue Family 1G development -Other Counter Measures/Associated Objects Non-Recurring Engineering to include the United Kingdom Project Agreement -Motors</p> <p>-Continue production of SR19 Flexseals -Initiate/ continue development of all other Re-entry Vehicles, Associated Objects, and Motors in support of the current Integrated Master Test Plan. -Intermediate Range Ballistic Missile (IRBM)</p> <p>-Launch Vehicle 2 (LV-2) - Initiate/continue development of Ship Sets 4 thru 6 -IRBM T1/T2 - Initiate/continue development of Ship Sets 1 thru 18 -Initiate/continue development of all other IRBMs in support of the current Integrated Master Test Plan (IMTP) -Medium Range Ballistic Missile (MRBM)</p> <p>-Enhanced Medium Range Ballistic Missile (eMRBM) - Initiate/continue development of Ship Sets 1 thru 5 -Enhanced Long Range Air Launch Target (ELRALT) - Initiate/continue development of Ship Sets 1 and 2 -MRBM Type 3 (MRBM T3) - Initiate/continue development of Ship Sets 1 thru 3 -Initiate/continue development of all other MRBMs in support of the current IMTP -Short Range Ballistic Missiles (SRBM)</p> | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 | | | | |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | | PROJECT MD05: <i>Targets Program</i> | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | FY 2010 | FY 2011 | FY 2012 |
| <p>-Short Range Air Launched Target (SRALT) - Initiate/continue development of Ship Set 2 -Foreign Materiel Acquisition-1 (FMA-1) - Initiate/continue development of Ship Set 10 -Initiate/continue development of all other SRBMs in support of the current IMTP</p> <p>Variance Analysis:</p> <p>FY 2011 budget increase from FY 2010 is due to the mix of targets required to execute the Integrated Master Test Plans, to include the Intermediate Range Ballistic Missile contract award and development of the Enhanced Medium Range Ballistic Missile target.</p> <p>FY 2012 budget increase from FY 2011 is due to the mix of targets required to execute the Integrated Master Test Plan, to include the MRBM Type 1 contract award.</p> | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | - | 517.065 | 540.689 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | |
| N/A | | | | | | |
| D. Acquisition Strategy | | | | | | |
| <p>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 Missile Defense Agency's flight test program. Target requirements are derived from the Agency's Integrated Master Test Plan.</p> <p>Based on the Acquisition Plan for Targets and Countermeasures 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.</p> <p>Based on the Targets and Countermeasures Medium Range Targets Acquisition Plan (6 June, 2008), the Targets and Countermeasures program office 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.</p> | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
| <p>The Sounding Rocket Program 3 (SRP-3) contract is managed by the US Air Force Space and Missile Systems Center, Space Development and Test Wing at Kirtland AFB, NM to provide air launched target systems. The SRP-3 contract has 4 prequalified vendors (Orbital Sciences Corp, Alliant Tech Systems, L-3 Coleman Aerospace, and Space Vector Corp) that are able to compete for new task orders to develop targets on this contract. To date, L-3 Coleman is the only vendor that has been awarded task orders on this contract.</p> <p>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 contract is currently under development to continue this work.</p> <p>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 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 (DT) is responsible for funding all launch services of these targets in support of the IMTP.</p> <p>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. 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> | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
| <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>All future targets will 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> | | |
| <u>E. Performance Metrics</u> | | |
| NA | | |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
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| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Operations Government Personnel and Travel MD05 | MIPR | MDA:Washington, DC | 26.288 | 24.265 | Oct 2010 | 21.732 | Oct 2011 | - | | 21.732 | Continuing | Continuing | Continuing |
| Program Operations Personnel Support - 1 MD05 | C/FFP | Teledyne Solutions:Huntsville, AL | 45.481 | - | | - | | - | | - | 0.000 | 45.481 | 45.481 |
| Program Operations Personnel Support - 2 MD05 | C/FFP | Cobham, Inc.:Huntsville, AL | 21.266 | - | | - | | - | | - | 0.000 | 21.266 | 21.266 |
| Program Operations Personnel Support - 3 MD05 | C/FFP | Northrop Grumman:Albuquerque, NM | 15.674 | - | | - | | - | | - | 0.000 | 15.674 | 15.674 |
| Program Operations Personnel Support - 4 MD05 | C/FFP | Tecolote:Huntsville, AL | 2.155 | - | | - | | - | | - | 0.000 | 2.155 | 2.155 |
| Program Operations Government Support - 1 MD05 | MIPR | AMRDEC:Huntsville, AL | 1.347 | 0.879 | Jan 2011 | 0.890 | Jan 2012 | - | | 0.890 | Continuing | Continuing | Continuing |
| Program Operations Personnel Support - 5 MD05 | C/FFP | SRS:Huntsville, AL | 1.571 | - | | - | | - | | - | 0.000 | 1.571 | 1.571 |
| Program Operations Personnel Support - 6 MD05 | FFRDC | Johns Hopkins University Applied Physics Lab:Laurel, MD | 1.793 | 1.262 | Nov 2010 | 1.278 | Nov 2011 | - | | 1.278 | Continuing | Continuing | Continuing |
| Program Operations Personnel Support - 7 MD05 | MIPR | SMC US Air Force Space and Missile Systems Center:Kirtland AFB, NM | 1.171 | 0.610 | Nov 2010 | 0.621 | Nov 2011 | - | | 0.621 | Continuing | Continuing | Continuing |
| Program Operations Personnel Support - 8 MD05 | MIPR | US Army Aviation and Missile Command:Huntsville, AL | 2.519 | 0.963 | Dec 2010 | 0.976 | Dec 2011 | - | | 0.976 | Continuing | Continuing | Continuing |
| Program Operations Personnel Support - 9 MD05 | C/FFP | BAE Systems:Huntsville, AL | 0.305 | - | | - | | - | | - | 0.000 | 0.305 | 0.305 |
| Program Operations Personnel Support - 10 MD05 | C/CPFF | Paradigm Technologies:Arlington, VA | 1.704 | - | | - | | - | | - | 0.000 | 1.704 | 1.704 |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Operations Personnel Support - 11 MD05 | MIPR | US Army Space & Missile Defense Command:Huntsville, AL | 16.330 | - | | - | | - | | - | 0.000 | 16.330 | 16.330 |
| Program Operations Personnel Support - 12 MD05 | C/FFP | CACI:Huntsville, AL | 0.400 | - | | - | | - | | - | 0.000 | 0.400 | 0.400 |
| Program Operations Personnel Support - 13 MD05 | C/FFP | Computer Sciences Corp.:Huntsville, AL | 0.712 | - | | - | | - | | - | 0.000 | 0.712 | 0.712 |
| Program Operations Personnel Support - 14 MD05 | C/FFP | Coleman Technology, Inc.:Huntsville, AL | 0.560 | - | | - | | - | | - | 0.000 | 0.560 | 0.560 |
| Program Operations Personnel Support - 15 MD05 | C/FFP | Colsa Corporation:Huntsville, AL | - | 0.523 | Dec 2010 | - | | - | | - | 0.000 | 0.523 | 0.523 |
| Program Operations Personnel Support - 16 MD05 | C/CPAF | Targets MiDAESS Support:Huntsville, AL | - | 55.577 | Dec 2010 | 48.612 | Mar 2012 | - | | 48.612 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 1 MD05 | C/CPAF | Lockheed Martin Space Systems:Courland, AL | 82.868 | 33.867 | Jan 2011 | 29.679 | Jan 2012 | - | | 29.679 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 2 MD05 | C/FFP | Northrop Grumman Space Systems:Albuquerque, NM | - | 6.103 | Dec 2010 | 4.270 | Dec 2011 | - | | 4.270 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 3 MD05 | C/FFP | Teledyne Solutions, Inc.:Huntsville, AL | 8.052 | 0.040 | Feb 2011 | 0.042 | Mar 2012 | - | | 0.042 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 4 MD05 | C/FFP | Wyle Laboratories:Huntsville, AL | - | 1.915 | Dec 2010 | 2.460 | Dec 2011 | - | | 2.460 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 5 MD05 | FFRDC | Johns Hopkins University Applied Physics Lab:Baltimore, MD | 4.239 | 1.703 | Nov 2010 | 1.791 | Dec 2011 | - | | 1.791 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 6 MD05 | MIPR | Aerospace Corporation:El Segundo, CA | - | 3.191 | Jan 2011 | 3.357 | Jan 2012 | - | | 3.357 | Continuing | Continuing | Continuing |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
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| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Target Support Sys Eng - 7 MD05 | MIPR | Aviation & Missile Research, Dev & Eng Center:Huntsville, AL | - | 7.726 | Dec 2010 | 5.727 | Dec 2011 | - | | 5.727 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 8 MD05 | MIPR | Missile Defense Integration & Operations Center:Schriever AFB, CO | - | 0.213 | Dec 2010 | - | | - | | - | 0.000 | 0.213 | 0.213 |
| Target Support Sys Eng - 9 MD05 | MIPR | Space & Missile Systems Center:Kirtland AFB, NM | 0.934 | 0.545 | Nov 2010 | 0.581 | Dec 2011 | - | | 0.581 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 10 MD05 | MIPR | Sandia National Laboratories:Albuquerque, NM | - | 0.861 | Feb 2011 | 0.275 | Feb 2012 | - | | 0.275 | Continuing | Continuing | Continuing |
| Target Support Log - 1 MD05 | C/CPAF | Lockheed Martin Space Systems:Courland, AL | 17.565 | 12.361 | Jan 2011 | 10.482 | Jan 2012 | - | | 10.482 | Continuing | Continuing | Continuing |
| Target Support Log - 2 MD05 | C/CPFF | Alliant Techsystems:Magna, UT | - | 2.674 | Dec 2010 | 2.108 | Dec 2011 | - | | 2.108 | Continuing | Continuing | Continuing |
| Target Support Log - 3 MD05 | C/FFP | Aerojet Corporation:Albuquerque, NM | 1.845 | 0.511 | Nov 2010 | 0.538 | Nov 2011 | - | | 0.538 | Continuing | Continuing | Continuing |
| Target Support Log - 4 MD05 | C/FFP | Alliant Techsystems:Magna, UT | 15.307 | 3.085 | Dec 2010 | 2.830 | Dec 2011 | - | | 2.830 | Continuing | Continuing | Continuing |
| Target Support Log - 5 MD05 | MIPR | Defense Energy Support Center:San Antonio, TX | - | - | | 0.242 | Jan 2012 | - | | 0.242 | Continuing | Continuing | Continuing |
| Target Support Log - 6 MD05 | MIPR | Alliant Techsystems:Magna, UT | - | 1.543 | Jan 2011 | 0.798 | Dec 2011 | - | | 0.798 | Continuing | Continuing | Continuing |
| Target Support Log - 7 MD05 | MIPR | | 0.180 | 0.112 | Feb 2011 | 0.137 | Jan 2012 | - | | 0.137 | Continuing | Continuing | Continuing |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
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| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | Aviation & Missile Research, Dev & Eng Center:Huntsville, AL | | | | | | | | | | | |
| Target Support Log - 8 MD05 | MIPR | Army Communications Electronics Command:Eglin AFB, FL | 0.159 | 0.064 | May 2011 | - | | - | | - | 0.000 | 0.223 | 0.223 |
| Target Support Log - 9 MD05 | MIPR | Hill Air Force Base:Ogden, UT | 2.156 | 1.427 | Mar 2011 | 1.501 | Mar 2012 | - | | 1.501 | Continuing | Continuing | Continuing |
| Target Support Log - 10 MD05 | MIPR | Naval Air Warfare Center Weapons Division:China Lake, CA | 3.643 | - | | 1.700 | Dec 2011 | - | | 1.700 | Continuing | Continuing | Continuing |
| Target Support Log - 11 MD05 | MIPR | Northrop Grumman Space Systems:Albuquerque, NM | 1.089 | 0.716 | Dec 2010 | 0.753 | Dec 2011 | - | | 0.753 | Continuing | Continuing | Continuing |
| Target Support Log - 12 MD05 | MIPR | New Mexico State Univ. Physical Sciences Lab:Las Cruces, NM | 1.702 | 0.647 | Mar 2011 | 0.681 | Feb 2012 | - | | 0.681 | Continuing | Continuing | Continuing |
| Target Support Log - 13 MD05 | MIPR | Naval Surface Warfare Center:Crane, IN | 6.553 | 7.555 | Jan 2011 | 5.046 | Feb 2012 | - | | 5.046 | Continuing | Continuing | Continuing |
| Target Support Log - 14 MD05 | MIPR | Redstone Arsenal Garrison:Huntsville, AL | 6.044 | 1.644 | Nov 2010 | 1.730 | Dec 2011 | - | | 1.730 | Continuing | Continuing | Continuing |
| Target Support Log - 15 MD05 | MIPR | Redstone Technical Test Center:Huntsville, AL | - | 0.809 | Jan 2011 | - | | - | | - | 0.000 | 0.809 | 0.809 |
| Target Support Log -16 MD05 | MIPR | Army Joint Munitions Command:Hawthorne Army Depot, NV | 1.070 | 1.650 | Dec 2010 | 1.158 | Feb 2012 | - | | 1.158 | Continuing | Continuing | Continuing |
| Target Support Log - 17 MD05 | MIPR | US Naval Weapons Stations:Earl, NJ | - | 0.040 | Feb 2011 | 0.043 | Feb 2012 | - | | 0.043 | Continuing | Continuing | Continuing |
| Target Support Log - 18 MD05 | MIPR | | 5.844 | 2.152 | Mar 2011 | 2.264 | Feb 2012 | - | | 2.264 | Continuing | Continuing | Continuing |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | United States Property & Fiscal Office for Arizona:Phoenix, AZ | | | | | | | | | | | |
| Target Support Log - 19 MD05 | MIPR | White Sands Missile Range:White Sands, NM | - | 0.153 | Jan 2011 | 0.161 | Jan 2012 | - | | 0.161 | Continuing | Continuing | Continuing |
| Target Support Log - 20 MD05 | MIPR | Defense Finance and Accounting Service:Indianapolis, IN | 3.514 | 0.545 | Dec 2010 | 0.573 | Dec 2011 | - | | 0.573 | Continuing | Continuing | Continuing |
| Target Support Sys Eng -11 MD05 | MIPR | Naval Surface Warfare Center, Crane:Crane, IN | - | 0.213 | Dec 2010 | - | | - | | - | 0.000 | 0.213 | 0.213 |
| Target Support Sys Eng - 12 MD05 | MIPR | Defense Financial Accounting System:Indianapolis, IN | - | 0.478 | Oct 2010 | 0.464 | Oct 2011 | - | | 0.464 | Continuing | Continuing | Continuing |
| Target Support Sys Eng - 13 MD05 | MIPR | Missile Defense Agency:Arlington, VA | - | 6.016 | Oct 2010 | 2.276 | Oct 2011 | - | | 2.276 | Continuing | Continuing | Continuing |
| Target Support Log - 21 MD05 | MIPR | Army Space & Missile Defense Command:Huntsville, AL | - | 0.213 | Dec 2010 | 0.330 | Dec 2011 | - | | 0.330 | Continuing | Continuing | Continuing |
| Target Hardware SRBM - 1 MD05 | C/CPAF | Lockheed Martin Space Systems:Courtland, AL | 22.373 | 17.345 | Jan 2011 | 0.622 | Jan 2012 | - | | 0.622 | Continuing | Continuing | Continuing |
| Target Hardware SRBM - 2 MD05 | MIPR | Naval Surface Warfare Center, Port Hueneme Detach:White Sands, NM | 31.665 | 25.926 | Feb 2011 | 23.311 | Dec 2011 | - | | 23.311 | Continuing | Continuing | Continuing |
| Target Hardware SRBM - 3 MD05 | C/CPAF | Lockheed Martin Space Systems:Courtland, AL | - | - | | 0.008 | Jan 2012 | - | | 0.008 | Continuing | Continuing | Continuing |
| Target Hardware SRBM - 4 MD05 | MIPR | US Army White Sands Missile Range:White Sands, NM | 0.690 | 0.980 | Dec 2010 | - | | - | | - | 0.000 | 1.670 | 1.670 |
| Target Hardware MRBM - 1 MD05 | C/CPAF | Lockheed Martin Space Systems:Courtland, AL | - | 77.328 | Jan 2011 | 147.560 | Jan 2012 | - | | 147.560 | Continuing | Continuing | Continuing |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Target Hardware MRBM - 2 MD05 | C/CPIF | Alliant Technical Systems:Magna, UT | - | - | | 6.670 | Dec 2011 | - | | 6.670 | Continuing | Continuing | Continuing |
| Target Hardware MRBM - 3 MD05 | C/CPIF | Coleman Aerospace:Orlando, FL | 71.531 | 43.931 | Dec 2010 | 24.605 | Dec 2011 | - | | 24.605 | Continuing | Continuing | Continuing |
| Target Hardware MRBM - 4 MD05 | MIPR | Coleman Aerospace:Orlando, FL | - | 2.128 | Dec 2010 | - | | - | | - | 0.000 | 2.128 | 2.128 |
| Target Hardware IRBM - 1 MD05 | C/CPAF | Lockheed Martin Space Systems:Courtland, AL | 50.112 | 51.180 | Jan 2011 | 19.343 | Jan 2012 | - | | 19.343 | Continuing | Continuing | Continuing |
| Target Hardware IRBM - 2 MD05 | C/CPAF | Massachusetts Institute of Technology/Lincoln Labs:Lexington, MA | - | 0.420 | Jan 2011 | 5.081 | Feb 2012 | - | | 5.081 | Continuing | Continuing | Continuing |
| Target Hardware IRBM - 3 MD05 | MIPR | Sandia National Labs:Albuquerque, NM | 4.720 | 4.237 | Mar 2011 | - | | - | | - | 0.000 | 8.957 | 4.237 |
| Target Hardware IRBM - 4 MD05 | C/CPIF | Lockheed Martin Space Systems:Courtland, AL | - | 10.572 | Jan 2011 | 1.297 | Jan 2012 | - | | 1.297 | Continuing | Continuing | Continuing |
| Target Hardware IRBM - 5 MD05 | C/FFP | Teledyne Solutions, Inc.:Huntsville, AL | - | 2.390 | Dec 2010 | 1.338 | Dec 2011 | - | | 1.338 | Continuing | Continuing | Continuing |
| Target Hardware IRBM - 6 MD05 | C/FFP | Northrop Grumman Space Systems:Albuquerque, NM | - | 0.128 | Dec 2010 | - | | - | | - | 0.000 | 0.128 | 0.128 |
| Target Hardware Multi-Class - 1 MD05 | C/CPAF | Lockheed Martin Space Systems:United Kingdom | - | 1.862 | Jan 2011 | 1.927 | Jan 2012 | - | | 1.927 | Continuing | Continuing | Continuing |
| Target Hardware Multi-Class - 2 MD05 | MIPR | Sandia National Labs:Albuquerque, NM | - | 3.263 | Mar 2011 | - | | - | | - | 0.000 | 3.263 | 3.263 |
| Target Hardware Multi-Class-3 MD05 | C/CPAF | Gray Research:Huntsville, AL | - | 0.223 | Dec 2010 | - | | - | | - | 0.000 | 0.223 | 0.223 |
| Target Hardware Multi-Class-4 MD05 | C/FFP | Aerojet Cooperation:Albuquerque, NM | - | 3.603 | Nov 2010 | 3.790 | Nov 2011 | - | | 3.790 | Continuing | Continuing | Continuing |
| Target Hardware SRBM-5 MD05 | C/CPIF | Coleman Aerospace:Orlando, FL | 10.944 | 25.016 | Dec 2010 | 0.703 | Dec 2011 | - | | 0.703 | Continuing | Continuing | Continuing |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
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| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Target Hardware SRBM-6 MD05 | C/FFP | Coleman Aerospace:Orlando, FL | - | 0.532 | Dec 2010 | - | | - | | - | 0.000 | 0.532 | 0.532 |
| Target Hardware SRBM-7 MD05 | MIPR | Naval Air Warfare Center:Patuxent River, MD | - | 2.818 | Dec 2010 | - | | - | | - | 0.000 | 2.818 | 2.818 |
| Target Hardware SRBM-8 MD05 | MIPR | Pacific Missile Range Facility:Barking Sands, HI | - | 1.325 | Dec 2010 | - | | - | | - | 0.000 | 1.325 | 1.325 |
| Target Hardware IRBM-7 MD05 | MIPR | Pacific Missile Range Facility:Barking Sands, HI | 0.320 | 0.183 | Dec 2010 | - | | - | | - | 0.000 | 0.503 | 0.183 |
| Target Hardware IRBM - 8 MD05 | MIPR | Defense Finance & Accounting Service:Indianapolis, IN | 0.531 | 1.044 | Dec 2010 | - | | - | | - | 0.000 | 1.575 | 1.575 |
| Target Hardware IRBM - 9 MD05 | C/CPAF | US Army Kwajalein Atoll:Marshall Islands | 1.575 | 5.725 | Dec 2010 | - | | - | | - | 0.000 | 7.300 | 7.300 |
| Target Hardware IRBM - 10 MD05 | C/CPAF | New IRBM RFP:New IRBM RFP | - | 23.673 | Jun 2011 | 121.503 | Apr 2012 | - | | 121.503 | Continuing | Continuing | Continuing |
| Target Hardware IRBM - 11 MD05 | C/CPAF | New IRBM RFP:New IRBM RFP | - | - | | 5.791 | Apr 2012 | - | | 5.791 | Continuing | Continuing | Continuing |
| Target Hardware IRBM - 12 MD05 | C/FFP | New IRBM RFP:New IRBM RFP | - | 0.096 | May 2011 | 2.414 | Apr 2012 | - | | 2.414 | Continuing | Continuing | Continuing |
| Target Hardware SRBM - 9 MD05 | MIPR | Defense Finance and Accounting Service:Indianapolis, IN | 8.240 | 4.209 | Jan 2011 | - | | - | | - | 0.000 | 12.449 | 12.449 |
| Target Hardware SRBM - 10 MD05 | MIPR | Coleman Aerospace:Orlando, CA | - | 0.532 | Dec 2010 | - | | - | | - | 0.000 | 0.532 | 0.532 |
| Target Hardware SRBM - 11 MD05 | MIPR | Sandia National Labs:Albuquerque, NM | - | 0.044 | Mar 2011 | 0.678 | Jan 2012 | - | | 0.678 | Continuing | Continuing | Continuing |
| Target Hardware SRBM - 12 MD05 | MIPR | SRBM RFP:SRBM RFP | - | 0.087 | Jun 2011 | - | | - | | - | 0.000 | 0.087 | 0.087 |
| Target Hardware Multi-Class - 5 MD05 | C/CPAF | Lockheed Martin Space Systems:Courtland, AL | - | 9.755 | Jan 2011 | 1.401 | Jan 2012 | - | | 1.401 | Continuing | Continuing | Continuing |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
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| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Target Hardware Multi-Class - 6 MD05 | MIPR | Edwards Air Force Base:Los Angeles, CA | - | 0.340 | Dec 2010 | - | | - | | - | 0.000 | 0.340 | 0.340 |
| Target Hardware Multi-Class - 7 MD05 | MIPR | Interstate Battery Systems:Albuquerque, NM | - | 0.021 | Dec 2010 | - | | - | | - | 0.000 | 0.021 | 0.021 |
| Target Hardware Multi-Class - 8 MD05 | MIPR | Massachusetts Institute of Technology:Lexington, MA | - | 3.414 | Dec 2010 | 0.897 | Dec 2011 | - | | 0.897 | Continuing | Continuing | Continuing |
| Target Hardware Multi-Class - 9 MD05 | MIPR | National Security Agency:Albuquerque, NM | - | 0.033 | Dec 2010 | - | | - | | - | 0.000 | 0.033 | 0.033 |
| Target Hardware Multi-Class - 10 MD05 | MIPR | Missile Defense Agency:Huntsville, AL | - | 5.320 | Nov 2010 | - | | - | | - | 0.000 | 5.320 | 5.320 |
| Target Hardware SRBM - 13 MD05 | MIPR | Air Force Mobility Command:Scott AFB, IL | - | 2.531 | Dec 2010 | - | | - | | - | 0.000 | 2.531 | 2.531 |
| Target Hardware SRBM - 14 MD05 | C/FFP | Orbital Sciences Corporation:Chandler, AZ | - | - | | 4.909 | Jan 2012 | - | | 4.909 | Continuing | Continuing | Continuing |
| Target Hardware SRBM - 15 MD05 | MIPR | MDA Israeli Cooperative Program Office:Huntsville, AL | - | - | | 4.845 | Dec 2011 | - | | 4.845 | Continuing | Continuing | Continuing |
| Target Hardware MRBM - 5 MD05 | C/CPAF | Orbital Sciences Corporation:Chandler, AZ | - | - | | 1.452 | Jan 2012 | - | | 1.452 | Continuing | Continuing | Continuing |
| Target Hardware MRBM - 6 MD05 | C/CPAF | New MRBM RFP:New MRBM RFP | - | - | | 2.438 | Mar 2012 | - | | 2.438 | Continuing | Continuing | Continuing |
| Subtotal | | | 504.741 | 517.065 | | 540.689 | | - | | 540.689 | | | |

Remarks
Increases to Civilian salaries and Contractor Support Services levels in FY 2011 and FY 2012 are the result of the TC Directorate establishing and staffing a new organization to meet the requirements of the MDA Integrated Master Test Plan, including the common payloads and components program office. In addition to the new organization in Targets and

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
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| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Countermeasures and the complexity involved with both, the volume of work, in terms of numbers and types of targets, has increased across the entire Targets and Countermeasures organization. | | | | | | | | | | | | | |
| All Project MD05 funds support BMDS-Level Testing. | | | | | | | | | | | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Subtotal | | | - | - | | - | | - | | - | 0.000 | 0.000 | 0.000 |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 504.741 | 517.065 | | 540.689 | | - | | 540.689 | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
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Schedule Details

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| FMA-1 (SRBM) Pre-Ship Readiness Review (Ship Set 8) | 1 | 2010 | 1 | 2010 |
| FMA-1 (SRBM) Pre-Ship Readiness Review (Ship Set 9) | 3 | 2010 | 3 | 2010 |
| FMA-1 (SRBM) Pre-Ship Readiness Review (Ship Set 10) | 3 | 2012 | 3 | 2012 |
| FMA-1 (SRBM) Pre-Ship Readiness Review (Ship Set 11) | 2 | 2015 | 2 | 2015 |
| FMA-2 (SRBM)Pre-Ship Readiness Review (Ship Set 4) | 1 | 2011 | 1 | 2011 |
| FMA-2 (SRBM)Pre-Ship Readiness Review (Ship Set 3) | 1 | 2011 | 1 | 2011 |
| MRT (SRBM) Pre-Ship Readiness Review (Ship Set 7) | 3 | 2011 | 3 | 2011 |
| MRT (SRBM) Pre-Ship Readiness Review (Ship Set 9) | 4 | 2010 | 4 | 2010 |
| MRT (SRBM) Pre-Ship Readiness Review (Ship Set 10) | 1 | 2011 | 1 | 2011 |
| STRYPI (SRBM) Pre-Ship Readiness Review (Ship Set 1) | 1 | 2011 | 1 | 2011 |
| ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 8) | 2 | 2012 | 2 | 2012 |
| ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 9) | 4 | 2012 | 4 | 2012 |
| ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 10) | 4 | 2012 | 4 | 2012 |
| ARAV-A (SRBM) Pre-Ship Readiness Review (Ship Set 11) | 4 | 2012 | 4 | 2012 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 8) | 2 | 2011 | 2 | 2011 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 9) | 2 | 2011 | 2 | 2011 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 10) | 4 | 2012 | 4 | 2012 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 11) | 4 | 2012 | 4 | 2012 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 12) | 4 | 2012 | 4 | 2012 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 13) | 4 | 2014 | 4 | 2014 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 14) | 4 | 2014 | 4 | 2014 |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 15) | 4 | 2014 | 4 | 2014 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
|---|--|--|

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| ARAV-B (SRBM) Pre-Ship Readiness Review (Ship Set 16) | 4 | 2014 | 4 | 2014 |
| ARAV-C Critical Design Review (NRE) | 3 | 2010 | 3 | 2010 |
| ARAV-C (SRBM) Pre-Ship Readiness Review (Ship Set 3) | 2 | 2011 | 2 | 2011 |
| ARAV-C (SRBM) Pre-Ship Readiness Review (Ship Set 4) | 2 | 2011 | 2 | 2011 |
| ARAV-C (SRBM) Pre-Ship Readiness Review (Ship Set 1) | 4 | 2011 | 4 | 2011 |
| ARAV-C (SRBM) Pre-Ship Readiness Review (Ship Set 5) | 4 | 2012 | 4 | 2012 |
| ARAV-C (SRBM) Pre-Ship Readiness Review (Ship Set 6) | 4 | 2014 | 4 | 2014 |
| SRALT (SRBM) Pre-Ship Readiness Review (Ship Set 3) | 3 | 2011 | 3 | 2011 |
| SRALT (SRBM) Pre-Ship Readiness Review (Ship Set 4) | 3 | 2012 | 3 | 2012 |
| E-LRALT Pre-Ship Readiness Review (Ship Set 1) | 3 | 2012 | 3 | 2012 |
| E-LRALT Pre-Ship Readiness Review (Ship Set 2) | 1 | 2013 | 1 | 2013 |
| e MRBM Contract Award | 3 | 2010 | 3 | 2010 |
| e MRBM Preliminary Design review | 2 | 2011 | 2 | 2011 |
| e MRBM Critical Design Review | 1 | 2012 | 1 | 2012 |
| e MRBM Pre-Ship Readiness Review (Ship Set 1) | 3 | 2012 | 3 | 2012 |
| e MRBM Pre-Ship Readiness Review (Ship Set 2) | 3 | 2012 | 3 | 2012 |
| e MRBM Pre-Ship Readiness Review (Ship Set 3) | 4 | 2012 | 4 | 2012 |
| e MRBM Pre-Ship Readiness Review (Ship Set 4) | 1 | 2013 | 1 | 2013 |
| e MRBM Pre-Ship Readiness Review (Ship Set 5) | 2 | 2013 | 2 | 2013 |
| MRBM Type 1/ Type 2 Contract Award (NRE) (Award 1) | 4 | 2012 | 4 | 2012 |
| MRBM Type 1/ Type 2 Contract Award (NRE) (Award 2) | 1 | 2015 | 1 | 2015 |
| MRBM Type 1/ Type 2 Preliminary Design Review | 2 | 2013 | 2 | 2013 |
| MRBM Type 1/ Type 2 Critical Design Review | 1 | 2014 | 1 | 2014 |
| MRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 1) | 1 | 2015 | 1 | 2015 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

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|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
|---|--|--|

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| MRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 2) | 1 | 2015 | 1 | 2015 |
| MRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 3) | 2 | 2015 | 2 | 2015 |
| MRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 4) | 3 | 2015 | 3 | 2015 |
| MRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 5) | 3 | 2015 | 3 | 2015 |
| MRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Ste 6) | 4 | 2016 | 4 | 2016 |
| MRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 7) | 4 | 2016 | 4 | 2016 |
| MRBM Type 3 Contract Award (NRE) | 2 | 2011 | 2 | 2011 |
| MRBM Type 3 Preliminary Design Review | 1 | 2012 | 1 | 2012 |
| MRBM Type 3 Critical Design Review | 4 | 2012 | 4 | 2012 |
| MRBM Type 3 Pre-Ship Readiness Review (Ship Set 1) | 4 | 2013 | 4 | 2013 |
| MRBM Type 3 Pre-Ship Readiness Review (Ship Set 2) | 1 | 2014 | 1 | 2014 |
| MRBM Type 3 Pre-Ship Readiness Review (Ship Set 3) | 4 | 2014 | 4 | 2014 |
| LV-2 Pre-Ship Readiness Review (Ship Set 2) | 4 | 2010 | 4 | 2010 |
| LV-2 Pre-Ship Readiness Review (Ship Set 3) | 2 | 2011 | 2 | 2011 |
| LV-2 Pre-Ship Readiness Review (Ship Set 4) | 4 | 2011 | 4 | 2011 |
| LV-2 Pre-Ship Readiness Review (Ship Set 5) | 1 | 2012 | 1 | 2012 |
| LV-2 Pre-Ship Readiness Review (Ship Set 6) | 2 | 2013 | 2 | 2013 |
| IRBM Type 1/Type 2 Contract Award (NRE) | 2 | 2011 | 2 | 2011 |
| IRBM Type 1/Type 2 Preliminary Design Review (NRE) | 4 | 2011 | 4 | 2011 |
| IRBM Type 1/Type 2 Critical Design Review | 2 | 2012 | 2 | 2012 |
| IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 1) | 3 | 2013 | 3 | 2013 |
| IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 2) | 4 | 2013 | 4 | 2013 |
| IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 3) | 1 | 2014 | 1 | 2014 |
| IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 4) | 2 | 2014 | 2 | 2014 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

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|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD05: <i>Targets Program</i> |
|---|--|--|

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 5) | 3 | 2014 | 3 | 2014 |
| IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 6) | 4 | 2014 | 4 | 2014 |
| IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 7) | 1 | 2015 | 1 | 2015 |
| IRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 8) | 2 | 2015 | 2 | 2015 |
| IRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 9) | 3 | 2015 | 3 | 2015 |
| IRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 10) | 4 | 2015 | 4 | 2015 |
| IRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 11) | 1 | 2016 | 1 | 2016 |
| IRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 12) | 2 | 2016 | 2 | 2016 |
| IRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 13) | 3 | 2016 | 3 | 2016 |
| IRBM Type 1/ Type 2 Pre-Ship Readiness Review (Ship Set 14) | 4 | 2016 | 4 | 2016 |
| ICBM Type 1/Type 2 Contract Award (NRE) | 4 | 2013 | 4 | 2013 |
| ICBM Type 1/Type 2 Preliminary Design Review (NRE) | 3 | 2014 | 3 | 2014 |
| ICBM Type 1/Type 2 Critical Design Review (NRE) | 2 | 2015 | 2 | 2015 |
| ICBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 1) | 4 | 2016 | 4 | 2016 |
| ICBM Type 3 Contract Award (NRE) | 1 | 2013 | 1 | 2013 |
| ICBM Type 3 Preliminary Design Review (NRE) | 3 | 2013 | 3 | 2013 |
| ICBM Type 3 Critical Design Review (NRE) | 2 | 2014 | 2 | 2014 |
| ICBM Type 3 Pre-Ship readiness Review (Ship Set 1) | 1 | 2015 | 1 | 2015 |

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT ZX40: <i>Program-Wide Support</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| ZX40: <i>Program-Wide Support</i> | 23.048 | - | - | - | - | - | - | - | - | 0.000 | 23.048 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Project ZX40 is now captured in Project MD40 beginning in FY11

A. Mission Description and Budget Item Justification

Project ZX40 has been transferred project MD40.

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

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Civilian Salaries and Support | 23.048 | - | - |
| Articles: | 0 | | |
| Description: See Description Below | | | |
| FY 2010 Accomplishments: NA | | | |
| Accomplishments/Planned Programs Subtotals | 23.048 | - | - |

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

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD40: <i>Program-Wide Support</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| MD40: <i>Program-Wide Support</i> | - | 37.227 | 41.968 | - | 41.968 | 37.640 | 35.484 | 33.660 | 37.434 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

Note

In accordance with the Missile Defense Agency revised budget structure, the content previously planned in Project ZX40 is now captured in Project MD40 beginning in FY11

A. Mission Description and Budget Item Justification

Program-Wide Support (PWS) contains non-headquarters management costs in support of MDA functions and activities across the entire Ballistic Missile Defense System (BMDS). Includes Government Civilians, Advisory and Assistance Services, and Federally Funded Research and Development Contracts (FFRDC) providing integrity and oversight of the BMDS as well as supporting MDA in enabling the development and evaluation of technologies that will respond to the changing threat. Other costs included provide facility capabilities for MDA Executing Agent locations (with the exception of Federal Office Building 2 after FY 2011), such as physical and technical security, legal services, travel and agency training, office and equipment leases, rents and utilities, data and unified communications support, supplies and maintenance, and similar operating expenses. Also includes legal settlements, and foreign currency fluctuations on a limited number of foreign contracts. In keeping with congressional intent, PWS is allocated among the PEs on a pro-rata basis and therefore fluctuates by year based on the total MDA budget and the individual PE's budget amount.

Funding for the FY 2010 accomplishments is reported in prior year budget project ZX40 (\$22,741).

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Civilian Salaries and Support | - | 37.227 | 41.968 |
| Articles: | 0 | 0 | 0 |
| Description: See Description Below | | | |
| FY 2010 Accomplishments: Funding for the FY 2010 accomplishments is reported in prior year budget project ZX40 (\$22,741). | | | |
| FY 2011 Plans: See paragraph A, Mission Description and Budget Item Justification | | | |
| FY 2012 Plans: See paragraph A, Mission Description and Budget Item Justification | | | |
| Accomplishments/Planned Programs Subtotals | - | 37.227 | 41.968 |

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| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603888C: <i>Ballistic Missile Defense Test and Targets</i> | PROJECT MD40: <i>Program-Wide Support</i> |

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

NA