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Missile Defense Agency (MDA) Exhibit R-2 RDT&F	Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Justification						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			NCLATURE Ballistic Mi	Februar ssile Defense		argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	584,615	621,861	665,445	664,419	682,454	700,507	710,725
0304 Test & Evaluation	221,855	0	0	0	0	0	0
YX04 Test & Evaluation	0	285,692	260,427	252,223	259,370	272,251	273,853
0804 Test & Evaluation Block 2006	120,381	0	0	0	0	0	0
0904 Test & Evaluation Block 2008	36,282	0	0	0	0	0	0
AX04 Test & Evaluation Block 1.0	0	40,082	27,936	0	0	0	0
BX04 Test & Evaluation Block 2.0	0	35,227	28,333	3,968	0	0	0
CX04 Test & Evaluation Block 3.0	0	14,211	38,802	53,938	45,048	46,979	49,068
DX04 Test & Evaluation Block 4.0	0	0	0	6,518	24,854	28,061	32,748
EX04 Test & Evaluation Block 5.0	0	9,576	17,712	31,526	41,189	45,267	40,901
WX04 Test & Evaluation Capability Development	0	5,329	15,522	42,143	40,276	45,364	46,579
XX04 Concurrent, Test, Training & Ops (CTTO)	0	41,359	37,701	35,722	32,969	8,946	9,047
0305 Targets & Countermeasures Core	20,272	0	0	0	0	0	0
0805 Targets & Countermeasures Block 2006	157,126	0	0	0	0	0	0
0905 Targets & Countermeasures Block 2008	17,898	0	0	0	0	0	0
0005 Targets & Countermeasures Block 2010	2,659	0	0	0	0	0	0
YX05 Targets and Countermeasures Core	0	182,249	219,831	215,203	219,223	233,280	237,330
0602 Program-Wide Support	8,142	0	0	0	0	0	0
ZX40 Program-Wide Support	0	8,136	19,181	23,178	19,525	20,359	21,199

Note:

1. Funding for content in budget project YX04 (FY08 thru FY13) was previously included in FY07 within budget project 0304 plus the Test Planning and Design task within budget project 0904.

2. Funding for content in budget project AX04, BX04, CX04, DX04, EX04 and WX04 (FY08 thru FY13) was previously included in FY07 within budget projects 0804, 0904, 0004, R104, and R204.

3. Funding for content in budget project XX04 (FY08 thru FY13) was previously included in FY07 within budget projects 0817, 0917, 0017, and R117.

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4. Starting in FY08, funding for all block content (with the exception of Test Pla within budget projects AX04, BX04, CX04, DX04, EX04, and WX04.	nning and Design) in bud	get projects 0804 and 0904 are included
5. Starting in FY08, funding for all content (with the exception of Concurrent Te included within budget project YX04.	est, Training and Operatic	ons (CTTO)) in budget project 0304 is
6. Starting in FY08, funding for Test Planning and Design is included within but	dget project YX04.	
7. Starting in FY08, funding for CTTO is included within budget project XX04.		
8. Starting in FY08, targets funding associated with budget projects 0804, 0904, budget project YX05.	AX04, BX04, CX04, DX0	04, EX04, and WX04 is included within
9. The content in this PE supports the master system level test schedule which is	included in the R-4 section	on of budget projects 0304 and YX04.
A. Mission Description and Budget Item Justification		
A.1 System Element Description As part of the total Ballistic Missile Defense System (BMDS), the Test and Targ and countermeasures development, for an integrated system-level test approach,		
For FY07, this PE consists of fifteen projects: Test & Evaluation (T&E); T&E E T&E Block 2014; Targets & Countermeasures Core; Targets & Countermeasures Countermeasures Block 2010; Targets & Countermeasures Block 2012; Concurr Block 2010; CTTO Block 2012, and Program Wide Support.	es Block 2006; Targets &	Countermeasures Block 2008; Targets &
For FY08-FY13, this PE consists of ten projects: T&E (contained in the new MI T&E Block 2; T&E Block 3; T&E Block 4; T&E Block 5; T&E Capability Dev Training & Ops (CTTO), and Program Wide Support.		
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BMDS Test Program:

BMDS testing is conducted at essentially three levels, Element component level testing, Element level verification testing, and BMD System level integration testing. Element component level testing consist primarily of Element subsystem developmental testing and Component-level debug and improvement testing. This level of testing is funded as part of an Elements developmental program and reflected in their respective Program Element (PE) submission. Element level verification testing primarily consists of Element level developmental and verification testing, Element improvements, Component-level integration, verification and validation of hardware and software readiness for incorporation into BMDS, and System integration testing. This level of testing is funded primarily as part of an Elements developmental program and reflected in their respective Program Element (PE); however, portions of this testing are occasionally funded by the Test and Targets PE if the Element test has BMD System level interest. BMD System Integration Testing primarily supports Engagement Sequence Group (ESG) demonstration, Launch threat characterization, Operational Test Agency (OTA) involvement, System-level integration and improvements, International participation, and Warfighter involvement. This level of testing is funded as a combination of funding from this PE and the primary Elements PE. This approach includes a combined Developmental/Operational Test (DT/OT) Program at both the element and system level. System Level test infrastructure is also funded as part of this PE.

The T&E projects provide consolidated MDA-wide capabilities and resources to support the management and execution of BMDS System and Element-level testing. With the evolution of the BMDS, testing needs have expanded beyond those of the individual elements to include testing of BMDS engagement sequences that rely on multiple BMDS elements. The structure of MDA's T&E Directorate, hereafter referred to as the MDA Responsible Test Organization (RTO), centralizes authority, control, and responsibility for all BMDS testing. The RTO is responsible for executing BMDS system tests and conducting post-test analysis to characterize BMDS system performance to support system verification. BMDS system test objectives are determined by BMD Responsible Engineering Organization (REO) and include threat capability in the selection of targets and test parameters. The MDA test program provides data and information to anchor the models and simulations used to verify BMDS capabilities and to support BMDS characterization and assessments. RTO activities are grouped into seven functional areas: Test Policy and Strategy; BMDS Combined Test Force; BMDS Readiness; Test Resources; Facilities, Siting, and Environmental management; Concurrent Test, Training, and Operations (CTTO); Fielding and Integration.

The Test Policy and Strategy program supports the development and implementation of strategic planning, test policy, standards, and procedures for creating a unified BMD test process. This program also includes funding for the BMDS Capability Assessment (BCA) team and funding for all of the Service Operational Test Agencies (OTAs) to conduct a BMDS Operational Assessment (OA). The BMDS Readiness program is responsible for improving the quality, design, execution and efficiency of the BMDS test, integration and fielding programs. The BMDS Readiness program is responsible for assuring test readiness, ensuring test realism, assessing test adequacy, and tracking test risk. The RTO also includes the BMDS

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Combined Test Force (CTF) which plans, executes, analyzes, and reports all BMD system test events. The BMDS CTF consolidates the personnel, processes, and resources across MDA, including the BMDS elements, into a unified, cohesive team to execute the BMDS test program. The BMDS CTF provides for core support that spans multiple Blocks as well as the individual efforts required for the test and assessment of specific Blocks. The Test Resources program supports the development, operation, maintenance, and modernization of the T&E infrastructure supporting both BMDS System and Element-level testing. The Facilities, Siting and Environmental program provides guidance, environmental analysis and documentation, real property facility siting, acquisition, and facility operational support for BMD systems. The Ballistic Missile Defense System (BMDS) Concurrent Test, Training and Operations (CTTO) provides 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-on 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 required in the JFCC-IMD Modifications Requirement List (MRL). The Fielding and Integration program's mission is to manage and direct the integration of the BMDS including developing, testing and sustaining the fielded BMDS.

BMDS Targets Program:

The Targets and Countermeasures Directorate provides targets (hardware and launch services) to the MDA Elements to test the integrated BMDS. The Targets and Countermeasures Directorate oversees the associated funding for the testing. The funding for these targets reside in the Elements respective Program Elements.

BMDS Test and Evaluation Functions:

- MDA's Responsible Test Organization (RTO) structure centralizes authority, control, and responsibility for all BMDS testing.
- Plans tests according to BMDS and Element objectives.
- Provides test ranges, instrumentation and infrastructure.
- Develops MDA test policy.
- Directs the Combined Test Force (CTF).
- Plans, executes, and conducts analysis of BMDS ground and flight tests.
- Demonstrates integrated BMDS capability.
- Addresses critical measurements 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 OTAs, STRATCOM, and senior decision makers.

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 Provides civil engineering / facility acquisition expertise, oversees all constr activities. 	uction funding, and ensure	es environmental compliance of all MDA
• Provides data and information to anchor the models and simulations used to assessment.	verify BMDS capabilities	and to support BMDS characterization and
 Concurrent Test, Training and Operations (CTTO) Functions: Concurrent Test, Training, and Operations (CTTO) effort organizes and profor an integrated system-level developmental and acquisition approach, brin provides for implementation of test and evaluation, training, and operations gaps as part of current and future Blocks. 	ging together the capabilit	ies of the BMDS Elements. This effort
 BMDS Targets and Countermeasures Functions: The Targets and Countermeasures Program is a supporting BMDS program targets, countermeasures, and instrumentation to support testing prior to init. 	1 0	e
A.2 System Element Budget Justification and Contribution to the Ballistic Test and Evaluation Contribution to the BMDS:	Missile Defense System ()	BMIDS)
• Plan and conduct testing of the BMDS Engagement Sequence Groups (ESG		
 Collect and provide test data in order to support the effectiveness, suitability Provide infrastructure and environmental compliance necessary to support in 		
 Provide initiastructure and environmental compliance necessary to support in Provide risk reduction for the BMDS through measurements flight testing to and threat and countermeasure characterization. 		
• Develop MDA BMDS testing policy with common, repeatable processes.		
 Concurrent Test, Training, and Operations (CTTO) Contribution to the BMDS: Enables BMDS sustained operational capability and continued BMDS increability to maintain an operational capability, participate in exercises, train, a Provides comprehensive, in-place, geographically dispersed test, evaluation 	nd mission rehearse.	
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 Eliminates current need to co-locate forces at a central training facility, thus advantage of training operators in an operational state Ensures horizontal and vertical test and evaluation scalability from Element Safely injects consistent high fidelity threat and scenario data on operational sensor/shooter combinations. Strategic end-state: BMDS available on-demand for test and evaluation, train 	through Global BMDS. equipment to exercise all	phases of the kill chain using all
 Targets and Countermeasures Contribution to the BMDS: The Targets and Countermeasures Program develops new targets and counter subsystem characterization, and the acquisition and maintenance of long lead program provides capability-based ballistic missile target systems to include boosters, re-entry vehicles (RVs), countermeasures, guidance and control consystems. Additionally, the Targets and Countermeasure program supports ag furnished equipment such as Minuteman II and Lance missile hardware. Util common target components, a BMDS target system is integrated and tested, new target system hardware. To assist the government in this endeavor, a tert test all BMDS targets. 	I target material items. Spe missile subsystems and co mponents, data and instru- ing surveillance, refurbish izing existing government thus reducing the cost and	ecifically, the Targets and Countermeasures ommon target components, such as nentation packages, and launch support ment, and reuse of existing government inventories and the development of cycle time of developing and acquiring
 <u>A.3 Major System Element Goals</u> Major Test and Evaluation Goals: Form one BMDS test team under the RTO that is accountable to the MDA D 	irector and Element progr	am directors.

- Provide leadership and guidance under the CTF 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.
- Benchmark and merge existing Elements and executing processes into BMDS processes.
- Develop Element Lessons Learned and Best Practices to support single BMDS test design processes.
- Provide required infrastructure and environmental compliance for robust BMD system testing.

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 Major Concurrent Test, Training and Operations (CTTO) Goals: Integrate existing BMDS teams to support BMDS CTTO and report progress Provide leadership and guidance for the planning, execution, analysis, and re Benchmark and merge existing Element and executing processes into BMDS Develop Lessons Learned and Best Practices to support single BMDS CTTO Increase Warfighter confidence in the BMDS. Enable BMDS testing and training in the field without degrading protection of Sustain BMDS operations while simultaneously supporting concurrent BMD capability. Ensure horizontal and vertical CTTO scalability from MDA Element through Safely inject consistent high fidelity threat and scenario data on operational e sensor/shooter combinations. 	porting of BMDS CTTO CTTO processes. design process. capability. S systems development an n global BMDS.	events to support system verification. nd acquisition without degrading protection
• Support the development and evaluation of Warfighter Tactics, Techniques,	and Procedures at the BM	DS level
 Major Targets and Countermeasures Goals: The Targets and Countermeasures Program is developing a Flexible Target F modularity. The FTF will minimize the set of different booster stages, provid components, provide common vehicle support equipment, provide common I and Countermeasure Program has incorporated a Product Line strategy to bet Engineering, Launch Vehicle, Data and Instrumentation, Countermeasures, F Product Lines will develop common target components for BMDS testing wh flexibility. Product Lines will prove the flexibility to allow common target components. 	le common Flight Test Ser launch support equipment tter manage the Program. Re-entry Vehicles, Logisti hich will reduce both cycl	rvices (FTS) and Instrumentation , and provide common interfaces. Targets Product Lines consist of Systems cs, Integration, and Mission Management. e time and cost while maximizing

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A.4 Maior Events Sche	-	*			0
Major Event	Project	Timeframe	Description		
Flight Test					
System Flight Tests					
FTM-11 (Test Failure)	0804	1Q FY 2007	 BMDS Primary: Exercise functionality on AN/SPY-1 sensor for BMDS/Aegis BMD Second Determine Aegis BMD Anti-Ship Cruise Missi 	or Launch and Engagement (L& ary:) capability with lethal intercept	AN/SPY-1 Engagement Sequence Group (ESG) with priorit E) support for SM-3 weapon to engage target. of exo-atmosphere Short Range Ballistic Missile (SRBM) a
FTT-06	0804	2Q FY 2007	 COMPLETED THAAD Primary: Demo high endo aim p THAAD Secondary: Demo Element Integration 		intercept against a non-separating liquid fuel target cility (PMRF)
FTX-02	0804	2Q FY 2007	COMPLETED BMDS/GMD Primary: Demo GBI EO SBX th radar functions (includ Demo Aegis BMD cap BMDS Secondary: Assess BMDS old Bloo Assess Aegis BMD LR	rough a simulated interceptor la ing advanced algorithm) against ability to perform a simulated S ck 06 functionality and interope S&T capabilty and to anchor M	unch and and collect SBX data to support assessment of t a dynamic target with associated objects M-3 Launch on Remote (LOR) engagement rability with GMD, Aegis BMD, SBIRS, and C2BMC
FTG-03 (No Test)	0804	3Q FY 2007	 No Test due to Target Anon BMDS Primary: Demo BMDS function Interceptor (GBI) laund intercepting lethal obje BMDS/ GMD Secondary: SBX collect data in sha Aegis BMD to collect data 	naly ality of GBI LO/EO Beale Upgr ched from Vandenberg Air Forc cct adow mode for post msn playba data in shadow mode (on-line) f	raded Early Warning Radar (UEWR) for Ground Based e Base (VAFB) to perform all functions associated with

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APPROPRIATION/BUDGI RDT&E, DW/04 Advan		avalanment and	Drototypog (ACD &D)	R-1 NOMENCLATURE	ile Defense Test and Targets
,	¥			0003000C Damstic Miss	ne Defense Test and Targets
Major Event	Project	Timeframe	Description		
FTM-11 Event 4	0804	3Q FY 2007	on AN/SPY-1 sensor fo BMDS/Aegis BMD Seconda • Determine Aegis BMD Anti-Ship Cruise Missi	used in SM-3 Engage On (EO) Allor Launch and Engagement Engag ary: capability with lethal intercept of	N/SPY-1 Engagement Sequence Group (ESG) with priority gement (L&E) support for SM-3 weapon to engage target. f exo-atmosphere Short Range Ballistic Missile (SRBM) & (TM)
FTM-12	0804	3Q FY 2007	 COMPLETED Aegis BMD Primary: Determine Aegis BMD Ballistic Missile (MRB Aegis BMD Secondary: Assess multiple simulta Planned participants ind 	capability with cued engagement M) uneous engagement performance	t & lethal intercept of exo-atmosphere Medium Range
FTT-05	0804	3Q FY 2007	COMPLETED THAAD Primary: • Demo booster / kill veh THAAD Secondary: • Evaluate aero heating e • Planned participants ind		pressure fly-out environment
FTT-07	0804	3Q FY 2007	 COMPLETED BMDS Primary: Exercise BMDS function weapon against a non-s BMDS/THAAD Secondary: Demonstrate and assess Planned participants indication 	onality for THAAD EO AN/TPY- eparating low aspect mid-endo lic ability of THAAD to provide ST	-2 (TM) ESG where AN/TPY-2 (TM) is the engaging quid fuel target FADIL-J to Aegis BMD (SPAWAR) and C2BMC PY-2 (TM); Aegis BMD; PATRIOT
FTG-03a	0804	4Q FY 2007	 Interceptor (GBI) launce discrimination, transition BMDS/ GMD Secondary: SBX collect data in sha 	thed from Vandenberg Air Force on to terminal, & hitting lethal obj dow mode for post msn playback	

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,	^		Prototypes (ACD&P)	06038888C Ballistic Miss	sile Defense Test and Targets
Major Event	Project	Timeframe	Description		
FTM-11a	0804	4Q FY 2007		er operational conditions with m erformance against engineering egis BMD	
FTG-04	AX04	2Q FY 2008	 and perform all function BMDS/GMD Secondary: Exercise the operational SBX as inline sensors a Demo the GBI EO SBX GBI engagement 	ns on a more complex target sce al functionality of the BMDS using and GBI as the engaging weapon X ESG using AN/SPY-1 and SB.	ng DSP, AN/SPY-1 AN/TPY-2 (FBM), Beale IEWR, and
FTG-05	AX04	4Q FY 2008	 BMDS Primary: Within a BMDS framey launched from VAFB a BMDS/ GMD Secondary: Exercise the operationa and/or SBX as on-line s 	work, demonstrate the engageme and perform all functions to inter	ent of a target launched for KLC, using a GBI interceptor cept the lethal object from a more complex target scene ng DSP, AN/SPY-1, AN/TPY-2 (FBM), Beale UEWR, weapon.
FTG-06	AX04	2Q FY 2009	 BMDS Primary: Within a BMDS framey providing initial track w performing all function scene. BMDS/GMD Secondary: Exercise the operationa system, SBX, and AN/ 	work, demonstrate the engageme with SBX updates, using a GBI 1 is with a medium closing velocit I functionality of the BMDS usi	ent of a target launched from KLC with AN/SPY-1 aunched from VAFB executing a dogleg maneuver and y to intercept the lethal object fro a more complex target ng DSP and AN/SPY-1 to provide initial warning to the ne on-line sensor, and GBI as the engaging weapon.
FTG-07	AX04	4Q FY 2009	 BMDS Primary: Within a BMDS framewincreased countermeasu altitude, performing all BMDS/ GMD Secondary: Exercise the operationa system SBX as the on-l 	work, demonstrate the engageme are complexity with a GBI launc functions to intercept the lethal	ent of a target launched from KLC with multiple sensors and hed from VAFB performing a long time of flight, with low representative object from a complex target scene. ng DSP and AN/SPY-1 to provide initial warning to the ging weapon.

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Major Event	Project	Timeframe	Description		
FTM-13	BX04	1Q FY 2008	 intercepts against a raid Specification Detect, track, and cond Block IA missiles BMDS Secondary: Exercise operational in Block 06 TBSS: Volum 	d of two unitary SRBM targets in a luct simultaneous engagements of formation exchange architectures	PY-1 ESG for the SM-3 weapon to conduct lethal accordance with BMDS old Block 06 Test Bed System two SRBM threats with: Aegis BMD CG and Two SM-3 to include TADILs voice, SIPRNET and IBS-I IAW old a test communication links and procedures
FTT-08	BX04	1Q FY 2008	 COMPLETED THAAD Primary: Demonstrate integrated closed loop operations, THAAD Secondary: Demonstrate hot condii Demonstrate Interceptor 		Control and Communication (TFCC) and Interceptor exo-atmospheric, unitary target tercept
FTB-01	BX04	3Q FY 2008	 Note: Also known as FTM- BMDS Primary: Exercise functionality of engagement of a Foreig BMDS Secondary: Aegis BMD CG and TI Demonstrate and assess Characterize PATRIOT Demonstrate and assess SBX IAW the old Bloc Planned participants in 	14 Event 1. used in the SM-2 Engage On AN/S gn Military Asset SRBM HAAD perform target acquisition s C2BMC ability to provide situati Γ ability to receive, process, and di s capability to exchange track info s capability to exchange track info	SPY-1 ESG for a Near-Term Sea Based Terminal (SBT) and track exchange ional awareness to PACOM isplay Link 16 messages in the SED lab as receive only rmation between THAAD and PATRIOT rmation between Aegis BMD, AN/TPY-2, THAAD, and 006 Test Bed Internal ICD, Part 1 & Part 2, Volume 1
FTT-09	BX04	3Q FY 2008	 THAAD Primary: Demonstrate and assess Interceptor closed loop nonreoriented separatin THAAD Secondary: Demonstrate long-rang 	s integrated Radar, Launcher, THA operations, engagement functions	AAD Fire Control and Communication (TFCC), and a, and low-endoatmospheric intercept of a spin-stabilized are update

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		evelopment and		tic Missile Defense Test and Targets
Major Event	Project	Timeframe	Description	
FTT-10	BX04	4Q FY 2008	 of THAAD interceptors and perform all function BMDS Secondary Aegis BMD to provide early warning and track 	a threatrepresentative exo-atmospheric ballistic target using a salvo ons to intercept this lethal object. k data to cue THAAD Radar (AN/TPY-2 (TM)) PY-2 (TM), C2BMC, Aegis BMD, PATRIOT, SBIRS
FTM-14	BX04	2Q FY 2009	 Note: Also known as FTM-14 Event 3 BMDS Primary: Exercise functionality used in the SM-3 LOR i 	intercept against an IRBM or, report, and exchange track information via line-of-site or Satellite
FTX-04	BX04	2Q FY 2009	 Note: Also known as FTM-14 Event 2 BMDS Primary: Exercise functionality used in the SM-3 Engag lethal intercepts against a raid of 2 separating N BMDS Secondary: Aegis BMD CG and THAAD perform target a Demonstrate and assess C2BMC ability to prov Characterize PATRIOT ability to receive, proc Demonstrate and assess capability to exchange Demonstrate and assess capability to exchange 	e On AN/SPY-1 ESG for the SM-3 weapon to conduct simulated MRBM targets acquisition and track exchange vide situational awareness to PACOM cess, and display Link 16 messages in the SED lab as receive only e track information between THAAD and PATRIOT e track information between Aegis BMD, AN/TPY-2, THAAD, and old Block 2006 Test Bed Internal ICD, Part 1 & Part 2, Volume 1
FTT-11	BX04	3Q FY 2009	BMDS Primary:	C and Interceptor closed loop operations, engegament functions, and and RCS A target nteroperability with THAAD - C2BMC or target intercept selection by the Interceptor seeker AFS ner, and Radar operations.

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		<u> </u>	Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets
Major Event	Project	Timeframe	Description
FTT-12	BX04	4Q FY 2009	 BMDS Primary: Demonstrate integrated Radar, Launcher, TFCC, and Interceptor closed loop operations, engagement functions, and intercepts of concurrent Low and Mid Endo separating targets BMDS Secondary: Demonstrate Element engagement scheduling in a flash environment Demonstrate Sim-Over-Live engagement operations Characterize performance of a hot STS conditioned, not launched Interceptor Demonstrate Interceptor endgame capability for target intercept Demonstrate acquisition, tack and aimpoint selection by the Interceptor seeker AFS Demonstrate Soldier conduct of TFCC, Launcher and Radar operations.
FTX-05	CX04	4Q FY 2009	 Planned participants include: C2BMC, THAAD, AN/TPY-2 (TM) BMDS Primary: Characterize Fylingdales UEWR Planned participants include: C2BMC, UEWR, GMD, Aegis BMD, SBIRS
FTM-15	EX04	4Q FY 2009	 BMDS Primary: Exercise functionality used in the SM-3 LOR intercept against an IRBM Verify the abiity of the Aegis BMD to monitor, report, and exchange track information via line-of-site or Satellite TADIL-J
JFTM-01	WX04	1Q FY 2008	 COMPLETED Aegis BMD Primary: Demonstrate Japan BMD (JABMD) combat system configuration and SM-3 Block IA performance against a Group B MRBM target Aegis BMD Secondary: Demonstrate and assess BMDS two way voice and data test communications links and procedures IAW BMDS old Block 06 TBSS: Volume 1 ESG tested: SM-3 EO AN/SPY-1; (Demonstrate performance of the JABMD configuration and the SM-3 Block IA installed in the Japan Maritime Self Defense Force (JMSDF) Destroyer JDS KONGO Planned participants include: Aegis BMD
ATM-48	WX04	4Q FY 2008	 BMDS Primary: Exercise BMDS functionality for PAC-3/GEM/GEM+ & EO AN/MPQ-53/65 BMDS/PAC Secondary: Demonstrate and Assess (D&A) BMDS old Block 06 functionality & intercept with: PATRIOT, THAAD, C2BMC, DSP/SBIRS (if available) Planned participants include: C2BMC; PATRIOT; THAAD HWIL: SIBRS
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APPROPRIATION/BU			R	-1 NOMENCLATURE	e Defense Test and Targets
Major Event	Project	Timeframe	Description		
PAC3 7-2	WX04	4Q FY 2008	 D&A BMDS Block 06 fun D&A LDC software upgra D&A capability of THAAI Collect data to assess situa Collect data to identify & s BC Interfaces to test: C2B 	PDB-6.0 & C2BMC Spiral 6.2 actionality & intercept with: PA de capability between C2BMC D - PATRIOT exchange of trac tional awareness capability from	2 TRIOT, THAAD, C2BMC, DSP/SBIRS (if available) & PATRIOT & information m PATRIOT to C2BMC & M&S anchoring stem issues & unresolved issues specified by JAT THAAD, C2BMC - THAAD
JFTM-02	WX04	1Q FY 2009	 Aegis BMD Primary: Event 1: Demonstrate Aegi Event 2: Demonstrate Aegi 	is BMD simulated engagement is BMD simulated engagement MDS two way voice and data te	
FTS-01	WX04	2Q FY 2009	 Demo capability to handow Demo capability to track b Demo capability to maintat Demo capability to supply Demo capability to generate data Demo capability to generate STSS Secondary: Evaluate measured signatu Determine the measured potential of the second potential of t	oosting TBM with track sensor in track of TBM during midcou track to C2BMC te a track sensor stare command	cquisition sensor to track sensor on same satellite irse d with OSMs received from one SV & external cueing with OSMs received from one SV & priori data els ng boost
					MDA Exhibit R-2 (PE 06038880

Mi	ssile Defense Agency (M	IDA) Exhibit R-2	RDT&E Budget Item Just	ification	Date February 2008
APPROPRIATION/BUI	DGET ACTIVITY		Prototypes (ACD&P)	R-1 NOMENCLATURE	e Defense Test and Targets
Major Event	Project	Timeframe	Description	•	=
FTS-02	WX04	3Q FY 2009	 Demo handover of boo Demo tracking of boos Demo acquisition & tra Determine relative poss Generate stereo tracks C2BMC Determine position & v Demo inherent system BMDS/STSS Secondary: Demo simulated GBI I 	ting missile stages with track sense ack of midcourse objects deployed ition of midcourse objects	n sensor to track sensor on same SV or from a PBV ed deployed objects & send mission data reports to ts
FTL-01 Ground Test	WX04	4Q FY 2009	 BMDS/ABL Primary: Demo ABL capability BMDS/ABL Secondary: Characterize capabilitid Intelligence (BMC4I) t Characterize ABL capa Characterize ABL capa Characterize ABL capa Characterize ABL capa 	to negate a threat-representative ba es of ABL Battle Management, Co o safely initiate and execute an en- abilities to detect and track a ballist	mmand, Control, Communications, Computers and gagement. tic missile during the boost phase functions against a ballistic missile during the boost phase
System Ground Tests GTD-01	0804	1Q FY 2007	 Block 04 functionality D&A Element SA data Demo AN/TPY-2 (FB) C2BMC sensor manage AN/TPY-2 (FB) track of the sensor manage 	& interoperability	3) ed to GMD
					MDA Exhibit R-2 (PE 0603888C)

Mi	sila Dafanca Aganay (N	(IDA) Exhibit D 3	RDT&E Budget Item Just	ification	Date February 2008
APPROPRIATION/BUI		VIDA) EXHIDIT K-2	KD1&E Duuget Hem Just	R-1 NOMENCLATURE	rebluary 2000
		evelopment and	Prototypes (ACD&P)	0603888C Ballistic Missile Defense Test and Targets	
Major Event	Project	Timeframe	Description		
GTX-02a	0804	2Q FY 2007	 scenarios with priority Assess BMDS initial of BMD, SBIRS/Azusa BMDS Secondary: D&A THAAD - PATR D&A capability for TH Assess assigned SEBO 	on THAAD EO AN/TPY-2 (TM Id Block 06 functionality & inter IOT exchange track information IAAD & C2BMC to exchange d s (THAAD, PATRIOT, C2BMC	roperability with: THAAD, PATRIOT, C2BMC, AEGIS n (man/voice not P2P engagement coordination) ata C)
GTG 04-3	0804	3Q FY 2007	 COMPLETED GMD Primary: Demo readiness of GM integration & BMDS g GMD Secondary: Demo GMD capability Demo CE-2 architectur Demo GMD system pe 04 ESG behavior Demo communication functionality, GMD pla 	round tests to perform EO SBX and Flying e additions (Second IDT) with c rformance, with component upg	y upgrades including SBX & Fylingdales, for field dales current ESGs rades, is consistent with previously demonstrated old Block ID readiness functionality, GMD activation (alert transition) gagement operations
GTG 04-4.a	0804	3Q FY 2007	 COMPLETED GMD Primary: Verify the GMD system Verify the dual node G Demo GMD system is to perform old Block 0 Demo GMD activation operations Demo GFC to XBR, E Demo GMD upgrades of the system of t	n, dormant node with upgrades MD system consistent with previously demo 6 ESGs, communications betwee , GMD planning operations, GM	onstrated behavior for old Block 04 ESGs, GMD capability en GMD components, GMD readiness functionality ID sensor operations and tasking, GMD engagement & ET to UWR FYL interface connectivity ot affected safety

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		DA) Exhibit R-2	RDT&E Budget Item Just		February 2008
APPROPRIATION/BUD RDT&E, DW/04 Adva		velopment and	Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets	
Major Event	Project	Timeframe	Description		
GTI-02	0804	4Q FY 2007	 old Block 06 scenarios Assess BMDS initial o THAAD, AN/TPY-2 (I PATRIOT) Exercise functionality u THAAD EO AN/TPY- ESGs with AN/TPY-2 BMDS Secondary D&A C2BMC`s Capability to control & SA capability with BM 	bld Block 06 functionality & interop FB), C2BMC, GMD (SBX, Fyling used in applicable Block 06 ESGs -2 (TM) (FB) as Surveillance/Initial Track c manage BMDS communication n IDS bility (PROCAP) capability with B	dales, Beale, Cobra Dane), Aegis BMD, SBIRS/MCS, with priority on: Sensor etworks
GTD-02	0804	1Q FY 2008	COMPLETED BMDS Primary: Assess BMDS ability t Blk 06 scenarios and of BMDS Secondary: Exercise functionality t Assess BMDS initial of (SBX, Fylingdales, Bea D&A capability for TH Assessment capability, with THAAD & PATR D&A C2BMCs Capability	to simultaneously execute multiple perational comm. used in app. Old Blk 06 ESGs, prio old Blk 06 functionality & interoper ale, Cobra Dane), Aegis BMD, SB HAAD & C2BMC to exchange data , Aegis BMD-THAAD-PATRIOT RIOT (voice only)	a, THAAD-PATRIOT peer-to-peer coord., THAAD Hit exchange of track info, Aegis BMD peer-to-peer coord. omm networks, Sensor management capability with

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MIS APPROPRIATION/BUD		IDA) Exhibit R-2	RDT&E Budget Item Just	R-1 NOMENCLATURE	February 2008	
		evelopment and	Prototypes (ACD&P)		ile Defense Test and Targets	
Major Event	Project	Timeframe	Description			
GTX-09b	AX04	2Q FY 2009	 BMDS Primary: Demo capability for AN Assess BMDS ability to Exercise functionality or engagement support set 	o simultaneously execute multiple of applicable old Block 06 ESGs v nsor sess objectives for AN/TPY-2 dis ICS) enhancements ncements (GEM) WR (Thule)	mination for C2BMC to manage and GMD to use	
GTI-09	AX04	3Q FY 2009	Note: GTI-09 also includedBMDS Primary:Provide old Block 06 BExercise functionality uAssess BMDS old BlocDemo engagement coorDemonstrate C2BMC'sMultiple demo and asseBMDS Secondary:	in R-4 for projects BX04, CX04 a MDS functionality in an integrate used in the applicable old Block 0 ek 06 functionality and interopera- rdination and lower-tier point to p a sensor management / situational	ed environment 6 ESGs in an integrated environment. bility. point.	
GTX-03a	BX04	2Q FY 2008	 Note: GTX-03a also include BMDS Primary: Assess BMDS ability to functionality using thea developmental baseline BMDS Secondary: Exercise functionality i D&A PATRIOT upper Assess BMDS function (FBM) and DSP/SBIRS D&A THAAD-PATRIC D&A THAAD hit asses D&A THAAD radar co D&A capability to Aeg 	d in R-4 for project EX04. o simultaneously execute multiple ter assets with old Blk 06 scenari s at the end of CY 08 n applicable ESGs with priority o tier debris mitigation ality and interoperability with PA S OT peer-to-peer engagement miti ssment to C2BMC herent integration and improved	discrimination AN/TPY-2 (FBM) and LOR AN/SPY-1 ESG	

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		IDA) Exhibit R-2	RDT&E Budget Item Justi		February 2008
APPROPRIATION/BUDG		avalanmant and	Ductofymag (ACD & D)	R-1 NOMENCLATURE	le Defense Test and Targets
RDT&E, DW/04 Advan	-	-		0005000C Damstic Missi	le Defense Test and Targets
Major Event	Project	Timeframe	Description	D / A	
GTI-03	BX04	3Q FY 2008	 BMDS Primary: Assess BMDS ability to threats with the projecte BMDS Secondary: Exercise functionality o 2 (FBM) as sensor supp Assess BMDS functiona D&A C2BMC (GEM or D&A AN/TPY-2 (FBM D&A Aegis BMD capal D&A Aegis BMD capal D&A THAAD & PATE D&A THAAD hit asses 	d fielded and developmental base f applicable old Block 06 ESGs w ort ality, interoperability and connect r COCOM Suite)) sensor data sent to C2BMC bility to exercise SM-3 LO AN/TI ability to exercise SM-3 LOR AN/ RIOT peer-to-peer engagement co sment to C2BMC	ESGs using old Block 06 scenarios & old Block 06 eline at the end of CY 2008 with priority on PATRIOT, AN/TPY-2 (TM) or AN/TPY- ivity PY-2 (FBM) /SPY-1 ESG ordination
GTD-03/GTG-03b.2	BX04	4Q FY 2008	 Note: GTD-03/GTG-03b.2 a BMDS Primary: Assess BMDS ability to threats with the projecte BMDS Secondary: Exercise functionality o 2 (FBM) as the sensor s Assess BMDS functiona D&A C2BMC (GEM or D&A AN/TPY-2 (FBM D&A Aegis BMD capal D&A Aegis BMD capal D&A THAAD & PATE D&A THAAD hit asses 	d fielded and developmental base f applicable old Block 06 ESGs w upport ality, interoperability and connect r COCOM Suite)) sensor data sent to C2BMC bility to exercise SM-3 LO AN/T bility to exercise SM-3 LOR AN/RIOT peer-to-peer engagement co	X04, CX04 and EX04. ESGs using old Block 06 scenarios & old Block 06 eline at the end of CY 2008 with priority on PATRIOT, AN/TPY-2 (TM) or AN/TPY- ivity PY-2 (FBM) SPY-1 ESG ordination

RDT&E, DW/04 Adv	anced Component D	evelopment and	Prototypes (ACD&P)	0603888C Ballistic Miss	sile Defense Test and Targets	
Major Event	Project	Timeframe	Description			
GTX-09a GTD-09	BX04 BX04	1Q FY 2009 4Q FY 2009	 Theater assets with foce Assess BMDS Ability threats for CY 2008 ba Exercise Functionality (FBM), THAAD, PAT Assess THAAD and A BMDS Secondary: Initial demo of MDSE Initial demo of C2BM0 Risk reduction for GTI Note: GTD-09 also included BMDS Primary: Provides old Block 06 hardware, and operation Assess BMDS ability t 	on Capability with newly release sus on THAAD and Aegis (SBT) to simultaneously execute multip selines of old Block 06 ESGs Multiple I RIOT, Aegis BMD and C2BMC egis BMD (SBT) functionality (CHETS) enhancements C enhancements (GEM) <u>1-04</u> d in R-4 for project CX04. BMDS functionality in a distribu- nal crews. o simultaneously execute multip	ple ESGs with old Block 06 scenarios and old Block 06 Demo and Assess old Block 06 Objectives for AN/TPY-2	
			 threats with end of CY 2009 baselines. Multiple demo and assess objectives for AN-TPY-2 discrimination capability with C2BMC, GI Exercise functionality of applicable old Block 06 ESGs with priority on AN/TPY-2 (FBM) as I engagement support sensor. Demo and assess C2BMC`s sensor management, situational awareness and point to point engag BMDS Secondary: Demonstration of MDSE (CHETS) enhancements 			

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Missile Defense Agency (MDA) Exhibit R-2 RDT&E	Budget Item Ju		February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				MENCLATURE		
RD1 &E, Dw/04 Advanced Component Devel	lopment and Prototy	pes (ACD&P)	000388	8C Ballistic Missile Defense Test and Targets		
B. Program Change Summary	FY 2007		FY 2009			
Previous President's Budget (FY 2008 PB)	594,190	586,150	620,104			
Current President's Budget (FY 2009 PB)	584,615	621,861	665,445			
Total Adjustments	-9,575	35,711	45,341			
Congressional Specific Program Adjustments	0	40,000	0			
Congressional Undistributed Adjustments	0	-4,289	0			
Reprogrammings	-357	0	0			
SBIR/STTR Transfer	-9,218	0	0			
Adjustments to Budget Years Note 1:	0	0	45,341			
 FY07 decrease of \$9.575 million includes SBIR/STTR transfers and MDA reprogrammings. FY08 increase of \$35.711 million includes a Congressionally specific program increase of \$40 million and a portion of the MDA Congressional undistributed reduction. FY09 increase of \$45.341 million reflects MDA programmatic changes to support program requirements. Note 2: Ground Test after the GT-3 Series (i.e. GTD-3, GTI-3, GTX-3a) had their nomenclature changed to align to the calendar year. For example, old GT-4 Series (i.e. GTD-4, GTI-4, GTX-4a, etc) in FY09 became GT-9 Series (i.e. GTD-9, GTI-9, GTX-9a, etc). Note 3: Summary of Changes, PB08 R-2 Test Events vs. PB09 R-2 Test Events (Flight Tests and Ground Tests): Flight Tests: 						
FTT-05 PB08: 2Q FY 2007 PB09: 3Q FY 2007 Notes: Developmental schedule caused test schedule adjustment						
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Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Just		February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missi	le Defense Test and Targets
ATM-48		
PB08: 3Q FY 2007		
PB09: 4Q FY 2008		
Notes: Test date changed to accommodate Target Availability.		
FTG-03a		
PB08: Not in PB08 Submission		
PB09: 4Q FY 2007		
Notes: Test created after FTG-03. No test due to Target anomaly on FTG-03.		
Totos, Test eleated after 1 18 05. The test due to Target anomaly on 1 18 05.		
FTG-04		
PB08: 4Q FY 2007		
PB09: 2Q FY 2008		
Notes: Event timeframe moved because of rippling effect caused by the addition	of FTG-03a	
Totes. Event unertaine moved because of ripping effect caused by the addition	01110 054	
FTT-08		
PB08: 4Q FY 2007		
PB09: 1Q FY 2008		
Notes: Test schedule adjusted due to developmental program adjustments		
Notes. Test schedule adjusted due to developmental program adjustments		
FTX-03		
PB08: 4Q FY 2007		
PB09: Not in PB09 Submission		
Notes: Test event was cancelled due to the feasibility of the test event		
rotes. rest event was cancened due to the reasionity of the test event		
FTG-05		
PB08: 1Q FY 2008		
PB09: 4Q FY 2008		
Notes: Event timeframe moved because of rippling effect caused by the addition	of FTG-03a	
Trotes. Event unertaine moved because of ripping effect caused by the addition	01110 000	
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Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Just	ification	Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missi	le Defense Test and Targets
FTT-09		
PB08: 2Q FY 2008 PB09: 3Q FY 2008		
Notes: Test schedule adjusted due to developmental program adjustments		
FTG-06		
PB08: 3Q FY 2008		
PB09: 3Q FY 2009 Notes: Event timeframe moved because of rippling effect caused by the addition	of FTG 03a	
Notes. Event unienance moved because of ripping effect caused by the addition	101110-03a	
FTB-01		
PB08: Not in PB08 Submission		
PB09: 3Q FY 2008 Notes: FTM-14 was comprised of three separate events. FTM-14 Event 1 has be	on renamed FTR 01 and a	will occur in 30 EV 2008 which was the
date of the original FTM-14	chi renamed 1710-01 and V	will occur in 5Q 1 1 2008 which was the
FTM-14		
PB08: 3Q FY 2008		
PB09: 2Q FY 2009 Notes: FTM-14 was comprised of three separate events. FTM-14 Event 1 has be	en renamed FTB-01 and y	vill occur in 30 FY 2008 which was the
date of the original FTM-14. FTM Event 2 has been renamed FTX-04 and will of		
occur in 2Q FY 2009		
FTS-01 (now designated as FTS-02)		
PB08: 3Q FY 2008		
PB09: 3Q FY 2009 Notes: Satellite launch dates were changed by program office		
rotes. Succine numer dutes were changed by program office		

Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Just	tification	Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE	e Defense Test and Targets
FTS-02 (test no longer has designation as it is a Test of Opportunity with a Targ	get of Opportunity)	
PB08: 3Q FY 2008 PB09: Test of Opportunity		
Notes: Test is now a Test of Opportunity with a Target of Opportunity, and as s	uch has been removed fror	n the PB09 Submissions as it is no longer a
major event		in the T D07 Submissions as it is no ionger a
FTK-01		
PB08: 4Q FY 2008		
PB09: 3Q FY 2009		
Notes: Test schedule adjusted due to developmental program adjustments		
FTS-03 (now designated as FTS-01)		
PB08: 4Q FY 2008		
PB09: 2Q FY 2009		
Notes: Satellite launch dates were changed by program office		
PAC3 7-2		
PB08: Not in PB08 Submission		
PB09: 4Q FY 2008		
Notes: Test not in PB08 R-Docs R-2		
FTX-04		
PB08: 4Q FY 2008		
PB09: 2Q FY 2009		
Notes: FTX-04 was the name of THAAD's Developmental flight test (RDC-2) was name was not used, a decision was made to reuse FTX-04 in PB09. This new even		

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Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Just		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE	le Defense Test and Targets
	0005000C Damstic Wissi	te Defense Test and Targets
FTG-07		
PB08: 1Q FY 2009		
PB09: 4Q FY 2009 Notes: Event timeframe moved because of rippling effect caused by the addition	of FTC 03a	
Notes. Event timerrame moved because of ripping effect caused by the addition	1011 ⁻ 10-03a	
FTS-04 (test no longer has designation as it is a Test of Opportunity with a Targ	et of Opportunity)	
PB08: 1Q FY 2009	et of opportunity)	
PB09: Test of Opportunity		
Notes: Test is now a Test of Opportunity with a Target of Opportunity, and as su	ich has been removed from	m the PB09 Submissions as it is no longer a
major event		-
FTT-11		
PB08: 1Q FY 2009		
PB09: 3Q FY 2009		
Notes: Test schedule adjusted due to developmental program adjustments and ta	rget availability	
FTT-12		
PB08: 2Q FY 2009		
PB09: 4Q FY 2009		
Notes: Test schedule adjusted due to developmental program adjustments and ta	rget availability	
	8	
FTT-13		
PB08: 4Q FY 2009		
PB09: 3Q FY 2010		
Notes: Test schedule adjusted due to developmental program adjustments and ta	rget availability	

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Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Just		February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE	le Defense Test and Targets
	0003000C Damstic Missi	le Defense Test and Targets
FTM-15		
PB08: Not in PB08 Submission		
PB09: 4Q FY 2009		
Notes: Test not in PB08 R-Docs R-2		
FTX-05		
PB08: Not in PB08 Submission		
PB09: 2Q FY 2009		
Notes: Test not in PB08 R-Docs R-2		
Ground Tests:		
GTG-04.3		
PB08: 2Q FY 2007		
PB09: 3Q FY 2007		
Notes: Test schedule adjusted due to developmental program adjustments		
GTG 04.4a		
PB08: 2Q FY 2007		
PB09: 3Q FY 2007		
Notes: Test schedule adjusted due to developmental program adjustments		
GTX-03b		
PB08: 2Q FY 2008		
PB09: Not in PB09 Submission		
Notes: Test objectives were merged with GTX-03a (increase in scope and comp	lexity of GTX-3a) and tes	t was cancelled

	· · · · · · · · · · · · · · · · · · ·	Date February 2008
Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Just APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	rebruary 2008
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		e Defense Test and Targets
GTI-09		8
PB08: Not in PB08 Submission		
PB09: 3Q FY 2009		
Notes: Test not in PB08 R-Docs R-2		
GTD-09 DD09. Net in DD09. Sector insign		
PB08: Not in PB08 Submission PB09: 4Q FY 2009		
Notes: Test not in PB08 R-Docs R-2		
Notes. Test not in T boo K-boes K-2		

			Date Esheres	2009			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justi			Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE						
RDT&E, DW/04 Advanced Component Development and Prototypes	S (ACD&P)	&P) 0603888C Ballistic Missile			e Test and Ta	argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0304 Test & Evaluation	221,855	0	0	0	0	0	0
RDT&E Articles Qty	2	0	0	0	0	0	0
Note	•						

Note:

1. RDT&E Articles: FY07 - Delivery of Two (2) Transportable Telemetry Systems.

2. Starting in FY08, funding for all content (with the exception of Concurrent Test, Training and Operations (CTTO)) in budget project 0304 is included within budget project YX04. Starting in FY08, funding for CTTO is included within budget project XX04.

3. The content in this budget project for FY07 supports the master system level test schedule which is included in the R-4 section of budget projects 0304 for FY07 and YX04 for FY08-FY13.

A. Mission Description and Budget Item Justification

The Test and Evaluation (T&E) projects provided consolidated Missile Defense Agency-wide (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 engagement sequences that rely on multiple BMDS elements. MDA's Responsible Test Organization (RTO) structure centralized all authority and responsibility for all BMDS testing. The RTO relied on BMD System Engineering to provide the system test objectives to test and assess BMDS capability. The RTO made use of a BMDS Combined Test Force (CTF) to plan, execute, analyze, and report BMD system test events. The RTO also developed the necessary test policy, test plans, and test infrastructure to conduct an effective test program. RTO activities are grouped into six functional areas; Test Policy and Strategy, BMDS CTF, Test Resources, Facilities, Siting, and Environmental management, BMDS Readiness, and Concurrent Test, Training and Operations (CTTO).

The Test Policy and Strategy program supported the development and implementation of test policy, standards, directives, and procedures for creating unified BMD test processes which reflect the best practices of existing element processes. Mission Assurance is integrated into the entire MDA test program through the identification and application of T&E best practices into test processes and procedures for flight, software and ground testing. The Test Policy and Strategy program also developed strategic plans and International policy for the RTO. Target certification reports are developed to ensure that targets are suitable to meet test objectives. The Test Policy and Strategy program provided policy and guidance on Knowledge Management practices, establishing standardized documentation for test planning, test reporting, and data archiving. The program also developed, coordinated, and managed RTO inputs into the overall BMDS Program Plans. The Test Policy and Strategy program supported two major assessments of the BMDS: The BMDS Capability Assessment (BCA) team and System-Level Operational Test Assessments. The BCA team

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RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	D&P) 0603888C Ballistic Missile Defense Test and Targets	

provided a non-advocate, independent assessment of the BMDS throughout its life-cycle. Where possible, BCA team-members recommended changes to the current test program and mitigation efforts to reduce performance degradation, implementation, and integration risks. Operational Test Agency (OTA) funding is consolidated within the RTO so they can provide operational assessments of the BMDS. The OTAs maintained their assessments in the OTA database which is a living document of the BMDS assessment.

The BMDS CTF plans, executes, analyzes, and reports BMDS test events. Government personnel plan and execute test events with the assistance of contractor support. CTF core activities consist of:

- Test Planning and Design (campaign-level test planning and design).
- Test Operations (detailed system level planning and execution for flight test (FT) and ground test (GT) events).
- Test Analysis and Reporting (system test event data collection, analysis and reporting and associated tool development for FTs and GTs).
- CTF Support performed Test Configuration Working Group (TCWG) secretariat functions, CTF integration functions, and responsibility for business management functions.

Test Planning and Design funds campaign-level planning and design functions for the BMDS Test Program Baseline to include the collection and adjudication of test objectives from MDA System Engineering, the OTAs and the Warfighters; validation of test venues and test scenarios; definition of test resource requirements, the establishment of a baseline test campaign timeline, and the interface with co-located OTA and Advanced Systems representatives. Theses efforts culminate in the development and publication of the Integrated Master Test Plan (IMTP). The IMTP is the overarching document that describes the BMDS test environment, supporting test organizations, developmental and operational test programs, and management of MDA test resources. Test Operations funded the execution teams for BMDS FT and GT to include detailed test planning, pre-test field integration and execution of all BMDS test program events, the staffing, management and execution of BMDS Task Forces (TF), ensured the fulfillment of all Executive Test Review requirements, and the interface with co-located OTA representatives. Under the BMDS TF construct, Test Operations currently consists of five distinct TFs: TF A (Ground-based ESG FT), TF B (Aegis & THAAD ESG FT), TF C (Lower Tier Characterization), TF D (System GT), and TF E (Emerging Technologies). Test Operation products included, but are not limited to, detailed test planning and execution documentation, Operations Requirements, Test Directives, Executive Test Reviews, and Pre/Post-Test Notifications.

The CTF Test Analysis and Reporting (TA&R) division developed, integrated, and delivered all BMDS TA&R products for IMTP specified system FTs and GTs, and targets of opportunity. Maintained and executed all critical path TA&R functions, tools, processes, and infrastructures supporting development and delivery of TA&R products within a single, integrated, standardized reporting process.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008	
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE		
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	&P) 0603888C Ballistic Missile Defense Test and Targets		

CTF Support funds the business of the CTF through performance of CTF integration and organization management functions. Specifically, CTF Support leads the TCWG, which manages changes to the IMTP, conducts the Test Integration Council, executes CTF operations (action management, War Room, test program information management), manpower and security functions, and interfaces with co-located OTA representatives. The Chief of Staff Office has responsibility for business management functions.

The Test Resources Program developed, sustained, and modernized the core T&E facilities of the BMDS test bed to support system and elementlevel Flight and Ground testing and assessment. This included development, maintenance and modernization of the MDA mobile instrumentation tool box, BMD-unique ground test facilities, and MDA data centers. The mobile instrumentation tool box included telemetry, radar, and optical data collection assets such as three (3) test aircraft equipped with optical sensors, mobile telemetry systems, the Kwajalein Mobile Range Safety System, the Mobile Launch Platform (MLP), the Pacific Collector Mobile Instrumentation Ship and the X-Band Transportable Radar Ship (XTR-1) (under development). These assets are required to collect the spatial data needed to execute the Flight tests safely and collect the measurement data needed for BMDS performance evaluation. The Test Resources Program also made focused investments to improve MDA-unique capability at Major Range & Test Facility Base (MRTFB) activities including the NP-3D improvement program with the Navy. All of these assets enabled robust Flight Testing and support mandatory safety and analysis data requirements in support of BMDS test activities. Because this core test capability is corporately sustained, the individual BMDS elements paid only the direct costs associated with their specific test efforts. The Test Resources Program also provided for the development, maintenance and modernization of element Hardware In the Loop (HWIL) representations to support robust systemlevel ground testing. The Test Resources Program maintained a continuous analysis, which pits data collection requirements and test scenarios against existing and planned test assets, to identify the test infrastructure needed to test the BMDS elements as part of engagement sequences. The Test Resources Program also included the Pacific Range Support Team (PRST) to support the BMDS CTF with range mission planning and execution expertise, development of common standards and mission assurance, and to recommend development or modification of mobile instrumentation to support MDA testing.

The Facilities, Siting and Environmental program provided guidance, environmental analyses and documentation, real property facility siting, acquisition, and facility operational support for the BMDS. This program overseen facility acquisition of the Military Construction (MILCON) and RDT&E construction programs. This program also provided guidance and supported the Environmental Assessment and Environmental Impact Statement process, environmental compliance, pollution prevention, and other environmental efforts. This program ensured environmental compliance of all BMDS activities with federal, state, local, DOD and international law, treaties and regulations.

The BMDS Readiness program (formerly known as the Test Assurance program) is responsible for improving the quality, design, execution and efficiency of the BMDS test, integration and fielding programs. The BMDS Readiness program is responsible for assuring test readiness, ensuring

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test realism, assessing test adequacy, and tracking test risk. The BMDS Readiness program assessed readiness processes and metrics for these programs and evaluated the outcomes. BMDS Readiness increased the efficiency and effectiveness of the BMDS test program by integrating key strategies and objectives into the Responsible Test Organization (RTO) test program by identifying and improving test processes. BMDS Readiness assessed test adequacy by conducting: Test assessments to provide input on data voids for assessment and unfulfilled objectives; Test design reviews ensured tests are configured to support assessment activity; and Mission planning meetings ensured the proper data will be collected for analysis and assessment.

The purpose of the BMDS Concurrent Test, Training, and Operations (CTTO) effort is to address the Unified Combatant Commanders high priority requirement for a capability to sustain BMDS operations while simultaneously supporting concurrent research, development, test, and evaluation; maintenance; training; and system upgrade activities without degrading the ability to defend the United States, its deployed forces, friends, and allies. CTTO enabled continued BMDS incremental and spiral development and testing while providing the Unified Combatant Commanders the ability to maintain their operational capability, participate in exercises, train, and rehearse mission scenarios while the system is in an operational state or "on alert."

The functions of the CTTO are as follows:

- 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.
- 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.
- Aid in AEGIS Ballistic Missile Defense, Terminal High Altitude Air Defense, Ground-based Midcourse Defense, Sensors, and Fire Control standardization evaluation and certification for all BMDS personnel and ensured all crews are highly qualified to perform their mission-specific tasks by conducting exercises and wargames executed from actual equipment and networked configurations.

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APPROPRIATION/BUDGET ACTIVITY	Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification February 2008				
RDT&E, DW/04 Advanced Component Development and Prototypes (R-1 NOMENCLATUREtypes (ACD&P)0603888C Ballistic Missile Defense Test and Targets			Forgota	
	(ACD&F)	0003000C Dal	Isuc Missile Defense 1	est and 1	l'argets
B. Accomplishments/Planned Program					
	FY	2007	FY 2008		FY 2009
Test Resources		110,660		0	0
RDT&E Articles (Quantity)		2		0	0
 RDTREE Articles (Quantity) Control of the DMDS Test Bed. This included ranges and instrumentation, airborne sensors, mobile launch platform, developmental ground test facilities and HWL laboratories to support element- and system-level testing. This program continued to improve test infrastructure in terms of capability and quantity, as recommended from continuing MDA studies. These improvements built on the existing core test infrastructure to support element and system-level testing. This program continued to improve test infrastructure in terms of capability and quantity, as recommended from continuing MDA studies. These improvements built on the existing core test infrastructure to support element and system-level Flight and Ground testing. FY07 Accomplishments: Provided level-of-effort funding to ranges (White Sands Missile Range (WSMR), Kauai Test Facility (KTF), Wake Island, Pacific Missile Range Facility (PMRF), Reagan Test Site (RTS), Western Range / Vandenberg Air Force Base (VAFB), Naval Air Warfare Center (NAWC), Kodiak Launch Complex (KLC)) to maintain MDA-unique test facilities and instrumentation platforms HALO-I, HALO-II and WASP to support IR measurement data collection for BMDS testing and development activities. Maintained the MDA-unique ground test facilities, including wind tunnels, space-environment chambers, light gas gun, ladar performance lab, rocket-plume sensor capabilities, and hardware-in-the-loop simulation facility supported component level Hardware in the Loop risk reduction testing. The PRST provided efficient planning, coordination and management of range resources and infrastructure in support of BMDS Flight Testing throughout the Pacific Test bed. Continued coordination with the Targets Program to develop and qualify common Flight Termination and Range Tracking Systems that simplified target integration at the ranges. Maintained the MDA Data Centers Program to provide efficient data archived, accessed, di					
increasingly complex test scenarios. Project: 0304 Test & Evaluation Line Item 78 -	32 of 2 U NCLASSIFIE	262 2 D		MD	A Exhibit R-2A (PE 06038880

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE	a Defense Test and Tensets
		e Defense Test and Targets
 Continued to operate, maintain and improve System Ground Test and HWIL System Test Laboratory 1 and the Space Based Infrared System Technical St 		
 Continued support of the Test and Evaluation Data Analysis Capability (TEL 		
and test situational awareness to MDA HQ.	DAC) which provided test	communications among the WDA ranges
• Continued to operate and maintain the Transportable Telemetry Systems (TT processing, and real time test data transmission capability thereby supporting		
• Continued development of the X-band Transportable Radar (XTR-1) which s		
scenarios.		6 Sustainment and any heat doubted
 Completed upgrade of the Kwajalein Mobile Range Safety System (KMRSS support.), maintained Operations a	& Sustainment and conducted mission
• Coordinated MDA Major Range & Test Facilities Base (MRTFB) with OSD	•	1 0
Codified agreement on the NP-3D upgrade program which provided three (3	·	
 Completed upgrade of the Hypervelocity Ballistic Range G Light Gas Gun a BMDS Live Fire Test & Evaluation (LFT&E). 	t AEDC which provided h	light indenty projecties in support of
• Maintained and operated the Kauai Test Facility (KTF) which enabled the la	unch of target systems sup	oporting BMD Test Activities
(Congressional Earmark).Continued Upgrades to PMRF Sensors, Command and Control Systems, Date	a Analysis Tools, and Rar	nge Safety Systems which supported
BMDS testing (Congressional Plus-up).		
• Characterized advanced technology in the terrestrial neutron environments w Indiana University Cyclotron Facility (Congressional Plus-up).	which allowed simulation of	of unique BMD Environments at the
manana emitersity eyerenen i aemity (congressionar i las ap).		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Instif	icotion	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	R-1 NOMENCLATURE			nd Targets
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	FY	ť 2007	FY 2008	FY 2009
BMDS CTF Core		48,556	0	0
RDT&E Articles (Quantity)		0	0	0
The BMDS Combined Test Force (CTF) planned, executed, analyzed, and reported BMDS test events. The CTF core support provided core funding to support the block test program contained in projects 0804 and 0904 in FY07. The CTF performed four primary functions; Test Planning and Design, Test Operations (Flight Test (FT) and Ground Test (GT)), Test Analysis and Reporting and CTF Support located in Huntsville, Alabama. Some components of GT operations are located in Colorado Springs, CO. The Test Planning and Design function performed campaign-level test planning and design. The Test Planning and Design function performed the following major tasks: (1) test requirements development, (2) test event design and (3) test planning integration and development of the Integrated Master Test Plan (IMTP). The Test Operations function performed detailed specific test event procedure planning and test event execution through the use of a Task Force (TF) construct (TF A (Ground-based Engagement Sequence Group (ESG) FT), TF B (Aegis & THAAD ESG FT), TF C (Lower Tier and Characterization), TF D (System GT), and TF E (Emerging Technologies)). The Test Operations function performed the following major tasks: (1) detailed test event specific planning, (3) test integration and (4) test execution.				
Test Analysis and Reporting function (TA&R) performed test event data management (for both truth and system data). TA&R developed, integrated and delivered all BMDS TA&R analysis products for IMTP specified system FTs, GTs and TOOs within a single integrated, standardized reporting process. The TA&R function performed the following major tasks: (1) Joint Analysis Teams (JAT), (2) Data Management, (3) development of Truth Data and (4) System Analysis. The CTF Support function provided critical functional operations. This function provided the following support: (1) CTF integration; (2) BMDS test configuration control; (3) CTF test information management, control and dissemination, (4) CTF support services, and (5) CTF business management.				

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RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missile	e Defense Test and Targets
FY07 Accomplishments:		
Achieved Full Operational Capability.		
• Implemented core processes and standardization across both the CTF and BM	IDS tests.	
• Operated and improved the Test Configuation Working Group (TCWG) char of BMDS test events.	nge control process to cont	trol the content, configuration and schedule
• Provided the core contractor support/test teams that executed the BMDS bloc	k testing efforts described	l in exhibits 0804 and 0904.
• Revised and fully coordinated the Baseline BMDS IMTP, and began to provi	0	
• Completed a major revision of the BMDS IMTP that expanded the document	1 1 1	initiated a major revision to the IMTP
including incorporation of the new MDA Block Structure, establishment of the	5	5
fielding decisions, and also restructured to a FY timeline (FY08 - FY09).		
• Prepared and coordinated Test Directives for budget projects 0804 and 0904	test events.	
• Developed GT requirements and scenarios and initial FT scenarios for budge	t projects 0804 and 0904 t	test events.
• Developed and coordinated System Event Test Plans, Element Test Plans, Te	st Design Review package	es and Mission Requirements Documents
for budget project 0804 and 0904 test events.		
Developed Communication Plans, Certification Packets, Mission Readiness	0	5
Plans, Test Event Launch/Test Constraints documents, Rear Detachment Plan and 0904 test events.	ns and Executive Manager	ment Review Briefings for budget 0804
• Provided campaign test planning, mapped to knowledge points and fielding of	lecisions identified to the	new MDA block construct.
• Developed Pre-mission Analysis Plans, input to the National Ranges Univers	al Documentation System	(UDS), and JAT Mission Logistics Plans.
• Developed, delivered, and briefed Quick Look Briefings (QLB), Executive Q	uick Look Briefings (EQI	LB), Mission Data Review (MDR),
Executive Mission Data Review (EMDR), and Final Test Reports.	_	
• Developed Integrated Data Management Plans (IDMP), Data Handling Plans	(DHP), Truth Data Requi	irements Document (TDRD)for budget
project 0804 and 0904 test events.		

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif		ication	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets		
	FY 2007		FY 2008 FY 2009	
Facilities, Siting & Environmental		3,515	0	(
RDT&E Articles (Quantity)	0		0	(
construction programs. The Environmental Management Division is prevention, National Environmental Policy Act process support, and environmental compliance of all BMDS activities with Federal, stat FY07 Accomplishments:	l other envir	conmental efforts. The	e Environmental Manager	nent Division ensures
 The Civil Engineering Division: Provided oversight for real property acquisition of the Military 0 Supported the construction execution of the Von Braun Comple Supported the construction award process of the FY07 facility MILCON Supported obtaining OSD approval and Congressional notificatic Complex, Courtland, AL and start of construction. Supported actions to complete the THAAD MILCON project at Supported construction of facilities required for AN/TPY-2 (FB Programmed facilities requirements for a second OCONUS AN. Supported siting and design of Targets Program facilities at Rea Supported Wake Island activities including Super Typhoon loke 	x II MILCO AILCON Lif Emergency on for estab PMRF, HI.) Radar at S /TPY-2 (FB)	N project on Redstor fe Safety Upgrades, I Services Facility on lishment of a Flexibl hariki, Japan.).	ne Arsenal, AL. Launch Control Center on I Meck Island. e Target Family Single Inte	Meck Island, and

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi		February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missil	e Defense Test and Targets
 Supported the MDA facility requirements in the 2005 BRAC process includi Dahlgren, VA. Supported the design charrette and RFP development for the MDA BRAC fa Supported the requirements development, installation master plan siting proc facility (Headquarters Command Center) at Fort Belvoir, VA. Supported the siting, design and start of construction for AN/TPY-2 radar in Supported construction completion of the Telemetry Building Addition, PMH Demolition, Edwards AFB, CA. Supported Ground-based Missile Missile Defense project requirements at Fo 	ng new facilities on Redst cility (Von Braun Comple ess, design charrette and l Alaska. RF, HI; Range G Addition	tone Arsenal, AL, Fort Belvoir, VA, and ex III) at Redstone Arsenal, AL. RFP development for the MDA BRAC h, AEDC, TN, and the Hangar 151 Wall
 The Environmental Management Division: Ensured that all MDA BMDS testing activities were conducted in compliance treaties and regulations concerning environmental compliance. Provided guidance and supported MDA's compliance with the National Envirequirements of E.O. 13148, and other environmental management efforts, in Prepared / provided oversight on Records of Environmental Consideration (F (MFR) for the following activities / events: AN/TPY-2 Radar Deployment to KEI Stage 2 Static Fire Testing, FTM-11, VAFB Target Launches in Suppor FTG-02, -03, and -04, NFIRE 2a and 2b, Launch Facility Life-Safety Upgrad and Operating PRST Equipment at Elmendorf AFB, Sea-Based X-Band Radar Testing at MIT/LL, Net-Centric Air Defense Element (NCADE) Test Beddown Activities at VAFB, Medium-Range Target Launch Facility at VA Prepared / provided oversight on six Environmental Assessments (EA) for the Courtland Target Assembly Facility EA, MDA Small Targets Launch Pad EA Family of Flexible Targets EA. Finalized the MDA Programmatic Environmental Impact Statement (PEIS) f Perchlorate Appendix, and prepared the Record of Decision (ROD) and Noti BMDS PEIS for the MDA Director. Developed and utilized a Geographic Information System (GIS) for the Alast 	ronmental Policy Act (NE acluding green procurement REC), Air Force 813s (AF NOAA's TSMRI in June t of the STSS and NFIRE, les at Meck Island, AEGI ar Operations in the Pacifi at WSMR, FTM-12, MKV FB, THAAD FTT-08. e following activities / ev A, KEI EA DOPAA, Airb or the Ballistic Missile De ce of Availability (NOA).	EPA), environmental management system nt, pollution prevention, and permitting. '813), and Memoranda For the Record au, AK, Flexible Targets Family Program, , ATM-48 Flight Test, FTX-02 Flight Test, S program relocation to Dahlgren, Siting ic, Microsatellite Radiation Testing, XTR-1 V Carrier Vehicle DACS Test, MDA ents: Wake Island Supplemental EA, forme Laser Debris Management EA, efense System (BMDS) - Revised the
Project: 0304 Test & Evaluation		MDA Exhibit R-2A (PE 0603888C)
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Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justifi	cation	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLAT	URE	
RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)	0603888C Ballisti	c Missile Defense Test an	d Targets
 Developed MDA Green Procurement Program (GPP) and audited Documented MDA's Environmental Management System (EMS) Prepared MDA's Plant Property, and Equipment Annual Report a Participated in DoD EMS and Environmental Liabilities Working Developed and began implementing a Corrective Action Plan for Prepared Corrective Action Plan for Plant, Property, and Equipm OUSD(C). Prepared MDA's draft Environmental Management Directive. Prepared White Paper for MKV Fueling Alternatives to Hypergo Conducted Debris Analysis for BMDS Flight Test.) and began and quarterly g Groups. r environmen nent.(PP&E)	mplementing new Environmental L ntal liabilities mate Disposal and Clos	iability Reports. rial weakness.	on of Appendix A to
	FY	2007	FY 2008	FY 2009
Test Policy and Strategy		43,699	0	0
RDT&E Articles (Quantity)		0	0	0
The Test Policy and Strategy program supported the development arc creating unified BMDS test processes. Efforts to achieve this mission ground and software testing; establishing standardized documentation independent assessment of the BMDS throughout its life-cycle via the assessments of the BMDS via Operational Test Agency (OTA) parti- objectives; providing for test mission assurance; and developing stra- due to the consolidation of funding which supports the OTA activities FY07 Accomplishments:	on included: a on for test pla he BMDS Ca icipation; dev ategic Planni	pplying best pract nning, test reporti pability Assessme veloping target acc	ices of existing Element ng and data archiving; p ent team (BCA); providing reditation reports to ensu	processes for flight, roviding non-advocate, ng for operational ure targets meet test
 Completed MDA Directive 3100.01, "International Test and Exe 	ercise Policy	' dated 13 Noveml	ber 2006, to assign respo	onsibilities and actions

- needed to conduct BMDS testing.
- BCA team continued to update the non-advocate assessment of the BMDS readiness and investigate BMDS performance issues and propose mitigation plans.
- Prepared Target Accreditation Reports to included, but not limited to: FTM-12, FTG-03, FTG-03a, FTT-06, FTT-07, FTX-02, FTM-11, FTM-11 Event 4.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Proiect Justifi	cation		Date February 200)8	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes		R-1 NOMENCL		e Defense Test		
 Continued to integrate mission assurance, best practices, and less plans. Continued communications and interaction between the BMDS of the the the the the the the the the the					C	
funding BMDS Operational Assessment Efforts.Continued the development and implementation of test policy, st			•	C	. ,	
 Completed MDA Directive 3200.03, "Test Review Policy: dated Continued to issue RTO Test Directives for flight and ground test 		007.				
• Completed MDA Directive 3200.02, "Test Event Notification and	0					
• Completed BRAC transition plan for relocation of Test, Integration	ion, and Fiel	ding personnel	to Huntsvi	lle and Colora	do Springs.	
	FY	2007		FY 2008	FY 2	2009
BMDS Readiness (Formerly Test Assurance)		8,560			0	0
RDT&E Articles (Quantity)		0			0	0
The BMDS Readiness program is responsible for improving the qua	lity, design,	execution and	efficiency	of the BMDS t	test, integration a	nd fielding
programs. The BMDS Readiness program is responsible for assuring	g test readine	ess, ensuring te	st realism,	assessing test	adequacy, and tra	acking test
risk. The BMDS Readiness program assesd readiness processes and						
increased the efficiency and effectiveness of the BMDS test program						
Organization (RTO) test program by identifying and improving test						
assessments which provided input on data voids for assessment and			U		0	ed to support
assessment activity; and Mission planning meetings ensured the prop	per data will	be collected for	or analysis	and assessmen	it.	
EV07 Accomplishments						
FY07 Accomplishments:Developed and implemented BMDS Test Incident Reporting.						
	intograta and	field				
 Established processes and metrics that support readiness to test, i Identified options for processes that are missing or deficient. 	integrate all	11010.				
 Tracked issues to ensure processes are developed and implement 	ted where no	eded				
 Tracked issues to ensure processes are developed and implementation Continued development and implementation of a Risk Managem 						
 Developed Kill Web Model that depicts BMDS capability. 	ient riografii	•				

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ACD&P)	R-1 NOMENCL	ATURE	e	d Targets	
t effectiver	ness.				
	1 2007	EV 0	008	EX 2000	
F1		FY 20		FY 2009	
	0,803			0	
t research, States, its d Inified Cor os while th om real-wo enabled en test and e Agency int CTTO Req dependent	development, te leployed forces, nbatant Comma he system is in a orld activities; an nd-to-end testin valuation planni o CTTO plannin uirements Work Verification and	est, and evalua friends, and al nders the abili n operational s ad allowed inje g of the BMDS ng. ng.	tion; mainten llies. CTTO e ty to maintain state or "on al ection of high S and enabled	ance, training, and system nabled continued BMDS a their operational ert." BMDS CTTO -fidelity simulations to BMDS training that	
	CD&P) effectiven Fy ne Unified research, states, its conified Con os while the m real-wo enabled e test and e Agency int CTTO Req lependent	CD&P) 0603888C Ball effectiveness. FY 2007 6,865 0 de Unified Combatant Comta research, development, te cresearch, development, te colspan="2">cresearch, development, te cresearch, development, te <td cols<="" td=""><th>oject Justification Fe R-1 NOMENCLATURE 0603888C Ballistic Missile Defectiveness. R-1 NOMENCLATURE 0603888C Ballistic Missile Defectiveness. effectiveness. effectiveness. FY 2007 FY 20 6,865 0 0 0 ne Unified Combatant Commanders high research, development, test, and evalua states, its deployed forces, friends, and a nified Combatant Commanders the abili os while the system is in an operational so om real-world activities; and allowed inju- enabled end-to-end testing of the BMDS test and evaluation planning. Agency into CTTO planning. CTTO Requirements Working Group to 6</th><th>February 2008 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and effectiveness. FY 2007 FY 2007 FY 2008 6,865 0 0 0 ne Unified Combatant Commanders high priority require research, development, test, and evaluation; mainten bates, its deployed forces, friends, and allies. CTTO en ified Combatant Commanders the ability to maintair os while the system is in an operational state or "on allow meal-world activities; and allowed injection of high enabled end-to-end testing of the BMDS and enabled test and evaluation planning. Agency into CTTO planning. CTTO Requirements Working Group to develop CTTO dependent Verification and Validation plan.</th></td>	<th>oject Justification Fe R-1 NOMENCLATURE 0603888C Ballistic Missile Defectiveness. R-1 NOMENCLATURE 0603888C Ballistic Missile Defectiveness. effectiveness. effectiveness. FY 2007 FY 20 6,865 0 0 0 ne Unified Combatant Commanders high research, development, test, and evalua states, its deployed forces, friends, and a nified Combatant Commanders the abili os while the system is in an operational so om real-world activities; and allowed inju- enabled end-to-end testing of the BMDS test and evaluation planning. Agency into CTTO planning. CTTO Requirements Working Group to 6</th> <th>February 2008 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and effectiveness. FY 2007 FY 2007 FY 2008 6,865 0 0 0 ne Unified Combatant Commanders high priority require research, development, test, and evaluation; mainten bates, its deployed forces, friends, and allies. CTTO en ified Combatant Commanders the ability to maintair os while the system is in an operational state or "on allow meal-world activities; and allowed injection of high enabled end-to-end testing of the BMDS and enabled test and evaluation planning. Agency into CTTO planning. CTTO Requirements Working Group to develop CTTO dependent Verification and Validation plan.</th>	oject Justification Fe R-1 NOMENCLATURE 0603888C Ballistic Missile Defectiveness. R-1 NOMENCLATURE 0603888C Ballistic Missile Defectiveness. effectiveness. effectiveness. FY 2007 FY 20 6,865 0 0 0 ne Unified Combatant Commanders high research, development, test, and evalua states, its deployed forces, friends, and a nified Combatant Commanders the abili os while the system is in an operational so om real-world activities; and allowed inju- enabled end-to-end testing of the BMDS test and evaluation planning. Agency into CTTO planning. CTTO Requirements Working Group to 6	February 2008 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and effectiveness. FY 2007 FY 2007 FY 2008 6,865 0 0 0 ne Unified Combatant Commanders high priority require research, development, test, and evaluation; mainten bates, its deployed forces, friends, and allies. CTTO en ified Combatant Commanders the ability to maintair os while the system is in an operational state or "on allow meal-world activities; and allowed injection of high enabled end-to-end testing of the BMDS and enabled test and evaluation planning. Agency into CTTO planning. CTTO Requirements Working Group to develop CTTO dependent Verification and Validation plan.

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Missile Defense Agency (MDA)	Exhibit R-2A R	DT&E Projec		IOMENCLATI		uary 2008		
RDT&E, DW/04 Advanced Component Develop	nent and Prot	otypes (ACD	&P) 0603	888C Ballisti	c Missile Defe	ense Test and	Targets	
C. Other Program Funding Summary								
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

Project: 0304 Test & Evaluation

41 of 262 UNCLASSIFIED MDA Exhibit R-2A (PE 0603888C)

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE	e Defense Test and Targets
D. Acquisition Strategy BMDS Test Program: The Responsible Test Organization (RTO) acquisition strategy is consistent with testing, spiral development, evolutionary acquisition, and knowledge based fund various internal staff (Government and Scientific, Engineering and Technical As Organizations, Laboratories and Program Offices, Federally Funded Research ar various diverse efforts within the BMDS test program. When a specific effort/ac an executing agent the acquisition strategy that conform to their respective head forms an integrated team to accomplish the necessary testing for BMDS.	ing thought the use of two sistance support), executi ad Development Centers, a tivity being conducted, ac	b year blocks. The RTO directed a team of ng agents, including DoD agencies, Service and other MDA programs executed the equired, or maintained, requires the use of
BMDS CTTO Program: The CTTO systems design and acquisition followed the MDA's capability-based addressed particular threats. The design and development of the BMDS CTTO c manager which integrated the technical effort and managed the contracting effor CTTO Project Office, determined BMDS CTTO requirements and standardization technology insertion points, and synchronize BMDS Element level activities, tra- strategy is to normalize CTTO requirements into existing contract structures. Leve task force will be comprised of government representative from the MDA Element Missile Defense; defense industry partners; and Systems Engineering and Techn capable CTTO that provides comprehensive, in-place, geographically dispersed to approach supported evolutionary development, continuously building upon demo	apability is a collaborative ts. The government, used on, determined BMDS Co ining exercises and events d by a flag/general officer ents and Joint Functional (ical Assistance defense co test, training and evaluation	e effort. The government is the task existing contract structures, established a re Protocol and Standards, upgrades, s and capabilities. The long term acquisition steering group, the CTTO Project Office Component Command for Integrated ontractor(s). The intent is to develop a fully on of the complete BMDS. The CTTO

Missila	Defense Agene	y (MDA) Exhibit R-3	RDT&F Proise	t Cost Analysis		Date Februa	rv 2008	
APPROPRIATION/BUDGET		y (MDA) Exhibit K-5	KDT&E FT0jec		IOMENCLATU		l y 2008	
RDT&E, DW/04 Advanced		Development and P	rototypes (AC				e Test and Targ	ets
I. Product Development		*		5000	builde Duillistie		e rest und rung	eus
1.1 router Development					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks	I	11						
II. Support Costs Cost (\$ in Thousa	nds)						
			1	Ì	FY 2008	1	FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								
Remarks	I	11						
III. Test and Evaluation	Cost (\$ in '	Thousands)						
III. Test and Evaluation	Cost (\$ in	Thousands)			FY 2008		FY 2009	
III. Test and Evaluation	Cost (\$ in '	Thousands) Performing	Total		FY 2008 Award/		FY 2009 Award/	
III. Test and Evaluation			Total PYs	FY 2008		FY 2009		Total
	Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
III. Test and Evaluation Cost Categories: Test Resources	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories: Test Resources	Contract Method	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories:	Contract Method & Type	Performing Activity & Location Army, Air Force/	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
Cost Categories: Test Resources Ground Test Facilities	Contract Method & Type	Performing Activity & Location Army, Air Force/ AL, FL, MD, TN Various/ CA, HI, NM,	PYs Cost 46,762	Cost	Award/ Oblg Date N/A	Cost	Award/ Oblg Date	Cost
Cost Categories: Test Resources	Contract Method & Type	Performing Activity & Location Army, Air Force/ AL, FL, MD, TN Various/	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
Cost Categories: Test Resources Ground Test Facilities	Contract Method & Type Various	Performing Activity & Location Army, Air Force/ AL, FL, MD, TN Various/ CA, HI, NM, Marshall Is, Alaska L3	PYs Cost 46,762	Cost 0	Award/ Oblg Date N/A	Cost 0	Award/ Oblg Date	Cost 46,762
Cost Categories: Test Resources Ground Test Facilities Ranges and Instrumentation	Contract Method & Type Various Various	Performing Activity & Location Army, Air Force/ AL, FL, MD, TN Various/ CA, HI, NM, Marshall Is, Alaska L3 Communications/	PYs Cost 46,762 264,853	Cost 0	Award/ Oblg Date N/A N/A	Cost 0	Award/ Oblg Date N/A N/A	Cost 46,762 264,853
Cost Categories: Test Resources Ground Test Facilities	Contract Method & Type Various	Performing Activity & Location Army, Air Force/ AL, FL, MD, TN Various/ CA, HI, NM, Marshall Is, Alaska L3	PYs Cost 46,762	Cost 0	Award/ Oblg Date N/A	Cost 0	Award/ Oblg Date	Cost 46,762

							Date	2009						
APPROPRIATION/BUDGE	ET ACTIVITY	y (MDA) Exhibit R-3	<u> </u>		R-1 N	OMENCLATUR								
RDT&E, DW/04 Advanc	ed Component !	Development and P	rototypes (AC)	D&P)										
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 200 Cost		FY 2008 Award/ Oblg Date	FY 2009 Cost	FY 2009 Award/ Oblg Date	Total Cost					
	T 7 ·	Various/	10.051		0			NT/4	10.051					
Data Centers	Various	TN, CO, AL, CA	19,851		0	N/A	0	N/A	19,851					
BMDS CTF Core		USASMDC, HANSCOM AFB & NAVSEA/												
Optical Data Analysis	Various	Huntsville,Huntsvil le, AL, MA & Crystal City, VA	19,325		0	N/A	0	N/A	19,325					
		USASMDC, NAVSEA & HANSCOM AFB/ Huntsville, AL,												
Radar Data Analysis	Various	Crystal City, VA & MA	17,586		0	N/A	0	N/A	17,586					
		USASMDC/												
Lethality	Various	Huntsville, AL	13,832		0	N/A	0	N/A	13,832					
		USASMDC/		-										
Kill Assessment	Various	Huntsville, AL	14,212		0	N/A	0	N/A	14,212					
		USASMDC, HANSCOM AFB, WRIGHT PATTERSON AFB & NAVSE/												
International Programs	Various	Huntsville, AL, MA, OH & Crystal City, VA	4,334		0	N/A	0	N/A	4.334					
International i rograms	v allous	MDA/						N/A	4,334					
Special Programs Tests	Various	Washington, D.C.	6,054		0	N/A	0	N/A	6,054					
Radar Exploitation	Various	USASMDC/ Huntsville, AL	11,204		0	N/A	0	N/A	11,204					

Project: 0304 Test & Evaluation

MDA Exhibit R-3 (PE 0603888C)

Missile D	efense Agenc	cy (MDA) Exhibit R-3	3 RDT&E Proje	ct Cost A	nalysis		Date Februa	ry 2008		
APPROPRIATION/BUDGET AC	CTIVITY				R-1 N	NOMENCLATUR	RE			
RDT&E, DW/04 Advanced C	Component	Development and J	Prototypes (AC	(D&P)	0603	888C Ballistic	Missile Defens	e Test and Targ	<i>yets</i>	
						FY 2008		FY 2009		1
I	Contract	Performing	Total	1		Award/		Award/		
I	Method	Activity &	PYs	FY 20	/08	Oblg	FY 2009	Oblg	Total	
Cost Categories:	& Type	Location	Cost	Cost	t	Date	Cost	Date	Cost	
		USASMDC & MDA/								
BMDS Strategic Planning	Various	Huntsville, AL & Washington, D.C.	11,424		0	N/A	0	N/A	11,424	
		MDA/Washington, D.C./								
Test Configuration Control Board	Various	Washington, D.C.	5,742	1	0	N/A	0	N/A	5,742	
		MDA/Washington, D.C./								
Test Assurance Directorate	Various	Washington, D.C.	6,468	1	0	N/A	0	N/A	6,468	
Test Policy and Strategy	ĺ	1		1						
	1	Various/	,	1			i			
BCA	Various	NJ, CA, MD, MA	37,051	1	0	N/A	0	N/A	37,051	
Operational Test Agency	ĺ	OTAs/		1						
Participation in System Test	Various	Various	29,602	1	0	N/A	0	N/A	29,602	
		USASMDC/	,							1
Target Certification	Various	Huntsville, AL	2,384	1	0	N/A	0	N/A	2,384	
BMDS Readiness (Formerly Test Assurance)										
Continuous Test Improvement	Various	Various	4,230	1	0	N/A	0	N/A	4,230	1
Subtotal Test and Evaluation	(1	675,590	í	0		0	-	675590	1

Remarks

Details related to this content for FY08 and FY09 is located within the R-3 document of budget project YX04.

	e A			0			Date Eabraight	2008	
APPROPRIATION/BUDGET AC		y (MDA) Exhibit R-3	RDT&E Project	Cost Ai		OMENCLATUR	Februar	y 2008	
RDT&E, DW/04 Advanced (Development and P	rototypes (ACI)&P)				Test and Targ	ets
IV. Management Services	-	.		, u i)	00000			i cor and i ung	
I vi initiagement per nees			1			FY 2008	İ	FY 2009	
	Contract	Performing	Total			Award/		Award/	
	Method	Activity &	PYs	FY 20	08	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost		Date	Cost	Date	Cost
Test Resources									
		USASMDC/							
SMDC Government Salaries	TM	Huntsville, AL	3,514	3,514		N/A	0	N/A	3,514
		Northrop							
		Grumman/							
Support Contracts	C/FFP	Arlington, VA	23,272		0	N/A	0	N/A	23,272
BMDS CTF Core									
		USASMDC/							
SMDC Government Salaries	TM	Huntsville, AL	18,093		0	N/A	0	N/A	18,093
		Various/							
		TASC, SPARTA,							
	C/EED	RNB Arlington,	50.250		0		0	NT / A	50.250
Support Contracts	C/FFP	VA	59,350		0	N/A	0	N/A	59,350
Facilities, Siting & Environmental									
		ICF & SciComm/							
Support Contracts	C/FFP	VA & MD	13,535		0	N/A	0	N/A	13,535
Test Policy and Strategy									
Government Salaries	TM	Washington, DC	23,303		0	N/A	0	N/A	23,303
		TASC, SPARTA/							
Support Contracts	C/FFP	Arlington, VA	18,282		0	N/A	0	N/A	18,282
Travel	ТМ		2,716		0	N/A	0	N/A	2,716
International Programs	ТМ	Washington, DC	526		0	N/A	0	N/A	526
BMDS Readiness (Formerly Test Assurance)									
Support Contracts	C/FFP	Various	2,158		0	N/A	0	N/A	2,158
Subtotal Management Services			164,749		0		0		164749

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis Date February 2008													
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Compone		R-1 N	NOMENCLATURE	le Defense Test and Ta	argets								
Remarks													
Details related to this content for FY	708 and FY09 is located	d within the R-3 o	locument	of budget project YX	X04.								
Test Resources Notes:													
• Ground Test Facility (GTF) Fun	6	~		1		2 1							
Range (AMOR) in AL, the Kine		1 · · · ·			gineering Developme	nt Center in TN. Each							
Facility then places funds on con			-										
• Ranges and Instrumentation fun-	0	00	0		•	•							
issues MDA funds for the Mobil instrumentation upgrades, and v													
funds are issued directly from MDA. Funds are MIPRed to members of the Pacific Range Support Team (PRST) (Patrick AFB, Vandenberg AFB, Pacific Missile Range Facility, Naval Air Warfare Center/Patuxent River & Pt Mugu, White Sands Missile Range, and Sandia National													
Labs), MIT/LL (Airborne Sensor support, Test Infrastructure support, Flexible Target Family support, and XTR-1 development), NRL (BMDS													
Test Communications and NP-3	10		,		, 1	•							
MDA contract with the Alaska A	1 1	- '	,		• •								
 PMRF Upgrades is a Congression support to PMRF. 	nal Add. Funds are issu	ue from MDA to	the Navy.	The Navy provides	funding to various co	ontractors providing							
• Environmental Radiation Effects	s Simulation is a Congr	essional Add.											
• Data Center Funding is issued fr	•			6	· · · · · · · · · · · · · · · · · · ·	1							
funds to the Army Missile Signa			-	, , , , , , , , , , , , , , , , , , , ,	in CA, Missile Defen	se Data Center in AL.							
The Data Centers place the fund	s on contract and/or ret	ain funding to su	pport on-s	ite personnel.									
Project Total Cost		840,339	0		0	840,339							
Remarks	I												

Missile Defe	ense Agenc	ey (N	/IDA) Ex	hibit	t R-4	Scho	edul	e Pro	ofile	T)							Dat Feb		ary 2	2008	}						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Compone	ent Develo	opm	ent	and	Pro	toty	pes ((AC	D&I	P)	R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets																	
Fiscal Year		2007				2008			200		09			2010			2011			20			2012			2013		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Ground Tests	_				_								_				-				-							
GTD-01																												
GTX-02a		∇																										
GTG 04-3			\diamond																									
GTG 04-4.a																												
GTI-02				\triangleright																								
GTD-02																												
GTX-03a						\Box																						
GTI-03							\Box																					
GTD-03								\Box																				
System Flight Tests	-				_								_															
FTM-11 (Test Failure)																												
P6L-1																												
P6L-2																												
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Missile Defense A	genc	v (N	/IDA) Ex	hibit	: R-4	Sch	edul	e Pr	ofile								Da Fe	te bru :	arv	200	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Do											R			ENCI C Ba l									Tar	gets				
Fiscal Year		20	007			20	008			20	09			20	10			20)11			2	012			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests				1				1			I			<u> </u>				<u> </u>		<u> </u>								
P6L-3	\diamond		T		Γ																Γ	Г						
AST-11		\diamond	1																									
AST-12		\diamond																										
FTT-06		\diamond																										
FTX-02		∇																										
GEM ATM 46 c/d		\diamond																										
RDC-01c																												
FTG-03 (No Test)																												
FTM-11 Event 4																												
FTM-12																												
FTT-05																												
FTT-07																												
PAC3 7-1																												
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System Flight Tests FTG-03a Image: Colspan=16 Image: Colsp		1		1	4	1	1		4	1		I	4	1		I	4	1			4	1		1	4	1		I		
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APPROPRIATION/BUDGET ACTIVITY											R-	-1 NC								- V			_					
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Fiscal Year		20	007			20	008			20	09			20	10			20	011			20	012			20)13	
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System Flight Tests																												
FTG-05								\Box																				
FTT-10								\Box																				
PAC3 7-2								\diamond																				
Glory Trips (USAF Operational)/Potential B	MDS	Tes	sts																									
GT-193																												
GT-198								Δ																				
Test Asset Upgrades																												
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Wargames and Exercises																												
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evelo	opm	ent a	and	Pro	toty	pes	(AC	D&	P)					LAT llisti			e De	efens	se T	est a	and	Tar	gets				
Fiscal Year		20	07			20	08			20)09			20	010			20)11			20)12			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Wargames and Exercises					_						_		_								_	-						
BMDS Overlay Exercise Keen Edge																												
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Ardent Sentry 07/Northern Edge 07																												
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Project: 0304 Test & Evaluation																						N	/IDA	Exhi	bit R-	4 (PE	E 060	3888C)

Missile Defe	ense Agency (MDA) Exhi	bit R-4A Schedul	e Detail			Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Compone	ent Development and F	Prototypes (ACI	D&P)		MENCLATURE 8C Ballistic Mis	sile Defense Tes	t and Targets	
Schedule Profile	FY 2007	FY 2008		2009	FY 2010	FY 2011	FY 2012	FY 2013
	FY 2007	FY 2008	FY	2009	FY 2010	FY 2011	FY 2012	FY 2013
System Ground Tests	10							
GTD-01	1Q							
GTX-02a	2Q							
GTG 04-3	3Q							
GTG 04-4.a	3Q							
GTI-02	4Q	10						
GTD-02		1Q						
GTX-03a		2Q						
GTI-03		3Q						
GTD-03		4Q						
System Flight Tests								
FTM-11 (Test Failure)	1Q							
P6L-1	1Q							
P6L-2	1Q							
P6L-3	1Q							
AST-11	2Q							
AST-12	2Q							
FTT-06	2Q							
FTX-02	2Q							
GEM ATM 46 c/d	2Q							
RDC-01c	2Q							
FTG-03 (No Test)	3Q							
FTM-11 Event 4	3Q							
FTM-12	3Q							
FTT-05	3Q							
FTT-07	3Q							
PAC3 7-1	3Q							
FTG-03a	4Q							
FTM-11a	4Q							
NFIRE-2a	4Q							

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Missile Defense Age APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Dev					MENCLATURE 8C Ballistic Mis	February 20 ssile Defense Tes		
Schedule Profile	FY 2007	FY 2008	FY	2009	FY 2010	FY 2011	FY 2012	FY 2013
RDC-01d	4Q							
FTM-13		1Q						
FTT-08		1Q						
JFTM-01		1Q						
FTG-04		2Q						
NFIRE-2b		2Q-3Q						
AST-13		3Q						
FTB-01		3Q						
FTT-09		3Q						
(PAC) 7-2		4Q						
ATM-48		4Q						
FTG-05		4Q						
FTT-10		4Q						
PAC3 7-2		4Q						
FTG 08-4				3Q				
Measurement Tests								
FTC-04		3Q						
Glory Trips (USAF Operational)/Potential BMDS Tests								
GT-193	2Q							
GT-198		4Q						
Test Asset Upgrades								
NP3 Upgrades	1Q-4Q	1Q-4Q	10	Q-4Q				
Wargames and Exercises								
Vigilant Shield 07	1Q							
BMDS Overlay - Eagle Resolve	3Q							
BMDS Overlay 07 - Juniper Cobra 07	4Q							
BMDS Overlay 07 - Terminal Fury 07	3Q							
BMDS Overlay Exercise Keen Edge	4Q							
Exercise Assured Response	1Q-3Q					1		
Ardent Sentry 07/Northern Edge 07	3Q							

Missile Defense Agency (MDA) Exhibit R-2A RDT&E APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	¥	R-1 NOME	NCLATURE Ballistic Mi s	Februar	Test and Ta	rgets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
YX04 Test & Evaluation	0	285,692	260,427	252,223	259,370	272,251	273,853
RDT&E Articles Qty	0	1	1	0	0	0	0
Note: 1. RDT&E Articles: FY08 - X-Band Transportable Radar (XTR-1). 2. Funding for content in budget project YX04 (FY08 thru FY13) was					oiect 0304 a	nd the Test	Planning

2. Funding for content in budget project YX04 (FY08 thru FY13) was previously included in FY07 within budget project 0304 and the Test Planning and Design task within budget projects 0804 and 0904.

3. The content in this budget project for FY08-FY13 supports the master system level test schedule which is included in the R-4 section of budget project YX04.

A. Mission Description and Budget Item Justification

The Test and Evaluation (T&E) projects (contained in the new MDA Block Structure under Mission Area Investment) provide consolidated Missile Defense Agency-wide (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 engagement sequences that rely on multiple BMDS elements. MDA's Responsible Test Organization (RTO) structure centralizes all authority and responsibility for all BMDS testing. The RTO relies on the BMD System Engineering to provide the system test objectives to test and assess BMDS capability. The RTO makes use of a BMDS Combined Test Force (CTF) to plan, execute, analyze, and report BMD system test events. The RTO also develops the necessary test policy, test plans, and test infrastructure to conduct an effective test program. RTO activities are grouped into six functional areas; Test Policy and Strategy, BMDS CTF, Test Resources, Facilities, Siting, and Environmental management, BMDS Readiness, Concurrent Test, Training and Operations (CTTO), Fielding and Integration, and MDA Infrastructure.

The Test Policy and Strategy program supports the development and implementation of test policy, standards, directives, and procedures for creating unified BMD test processes which reflect the best practices of existing element processes. The Test Policy and Strategy program also develops strategic plans, training and certification plans, and International policy for the RTO. Target certification reports are developed to ensure that targets are suitable to meet test objectives. The Test Policy and Strategy program provides policy and guidance on Knowledge Management (KM) practices, establishing standardized documentation for test planning, test reporting, and data archiving. The program also develops, coordinates, and manages RTO inputs into the overall BMDS Program Plans, RTO BRAC Transition Planning, and relocation of personnel. The Test Policy and Strategy

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

program supports two major assessments of the BMDS: The BMDS Capability Assessment (BCA) team and System-Level Operational test Assessments. The BCA team will provide a non-advocate, independent assessment of the BMDS throughout its life-cycle. Where possible, BCA team-members will recommend changes to the current test program and mitigation efforts to reduce performance degradation, implementation, and integration risks. Operational Test Agency (OTA) funding is consolidated within the RTO so they can provide operational assessments of the BMDS. The OTAs will maintain their assessments in the OTA database which is a living document of the BMDS assessment.

The BMDS CTF plans, executes, analyzes, and reports BMDS test events. Government personnel plan and execute test events with the assistance of contractor support. CTF core activities consist of:

- Test Planning and Design (campaign-level planning and design for flight tests (FTs) and ground tests (GTs)).
- Test Operations (detailed system level test planning and test execution).
- Test Analysis and Reporting (system test event data collection, analysis and reporting and associated tool development for FTs and GTs).
- CTF Support performs Test Configuration Working Group (TCWG) secretariat functions, CTF integration functions, and has responsibility for business management functions.

Test Planning and Design funds campaign-level planning and design functions for the BMDS Test Program Baseline to include the collection and adjudication of test objectives from MDA System Engineering, the OTAs and the Warfighters; validation of test venues and test scenarios; definition of test resource requirements, the establishment of a baseline test campaign timeline, and the interface with co-located OTA and Advanced Systems representatives. Theses efforts culminate in the development and publication of the Integrated Master Test Plan (IMTP). The IMTP is the overarching document that describes the BMDS test environment, supporting test organizations, developmental and operational test programs, and management of MDA test resources.

Test Operations funds the execution teams for both BMDS FTs and GTs to include detailed test planning, pre-test field integration and execution of all BMDS test program events, the staffing, management and execution of BMDS Task Forces (TF), ensuring the fulfillment of all Executive Test Review requirements, and the interface with co-located OTA representatives. Under the BMDS Task Force construct, Test Operations currently consists of five distinct TFs: TF A (Ground-based Engagement Sequence Group (ESG) FT), TF B (Aegis & THAAD ESG FT), TF C (Lower Tier and Characterization), TF D (System GT), and TF E (Emerging Technologies). Test Operation products include, but are not limited to, detailed test planning and execution documentation, Operations Requirements (ORs), Test Directives, Executive Test Reviews, and Pre/Post-Test Notifications.

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		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif		February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE	le Defense Test and Targets
The CTF Test Analysis and Reporting (TA&R) division develops, integrates, an		
FTs, GTs, and TOOs. Maintains and executes all critical path TA&R functions,	-	structures supporting development and
delivery of TA&R products within a single, integrated, standardized reporting p	rocess.	
CTE Support funds the husiness of the CTE through performance of CTE integr	tion and anomization ma	necompart functions. Specifically, CTE
CTF Support funds the business of the CTF through performance of CTF integra Support leads the TCWG, which manages changes to the IMTP, conducts the Te	-	• • •
management, War Room, test program information management), manpower an		- · · · ·
and has responsibility for business management functions.	a security functions, inter-	races with co-located OTA representatives,
and has responsibility for business management functions.		
The Test Resources Program develops, sustains, and modernizes the core T&E f	acilities of the BMDS test	t bed to support system and element-level
Flight and Ground testing and assessment. This includes development, maintena		
BMD-unique ground test facilities, and MDA data centers. The mobile instrume		
assets such as three (3) test aircraft equipped with optical sensors, mobile teleme	etry systems, the Kwajalei	n Mobile Range Safety System, the Mobile
Launch Platform (MLP), the Pacific Collector Mobile Instrumentation Ship and	the X-Band Transportable	e Radar Ship (XTR-1) (under development).
These assets are required to collect the spatial data needed to execute the Flight	tests safely and collect the	e measurement data needed for BMDS
performance evaluation. The Test Resources Program also makes focused invest	-	
Facility Base activities including the NP-3D improvement program with the Nav		
mandatory safety and analysis data requirements in support of BMDS test activi		
individual BMDS elements pay only the direct costs associated with their specif		0 1
development, maintenance and modernization of element Hardware In the Loop		
testing. The Test Resources Program maintains the engagement sequences as the		
continuous analysis pitting data collection requirements and test scenarios again		
needed to test the BMDS elements as part of the engagement sequences. The Te	-	• • • • • • • • • • • • • • • • • • • •
(PRST) to support the BMDS CTF with range mission planning and execution e		common standards and mission assurance,
and to recommend development or modification of mobile instrumentation to su	pport MDA testing.	
The Facilities Siting and Environmental program provides guidance, environme	ntal analyses and documa	ntation real property facility siting

The Facilities, Siting and Environmental program provides guidance, environmental analyses and documentation, real property facility siting, acquisition, and facility operational support for the BMDS. This program oversees facility acquisition of the Military Construction (MILCON) and RDT&E construction programs. This program also provides guidance and supports the Environmental Assessment and Environmental Impact

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missil	e Defense Test and Targets
Statement process, environmental compliance, pollution prevention, and other e compliance of all BMDS activities with federal, state, local, DOD and internation		1 0
The BMDS Readiness program (formerly known as the Test Assurance program efficiency of the BMDS test, integration and fielding programs. The BMDS Readine test realism, assessing test adequacy, and tracking test risk. The BMDS Readine programs and evaluate the outcomes. BMDS Readiness increases the efficiency strategies and objectives into the Responsible Test Organization (RTO) test programs assesses test adequacy by conducting: Test assessments to provide input on data to ensure tests are configured to support assessment activity; and Mission plannin and assessment.	idiness program is respons ss program will assess read and effectiveness of the B gram by identifying and im voids for assessment and	ible for assuring test readiness, ensuring diness processes and metrics for these MDS test program by integrating key proving test processes. BMDS Readiness unfulfilled objectives; Test design reviews

The Fielding and Integration program's mission is to manage and direct the integration of the BMDS including developing, testing and sustaining the fielded BMDS.

Funds in this project also consist of costs for Core IT services, Quality, Safety, and Mission Assurance, and Common Threat Engineering across the BMDS.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E P APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (roiect Justifi		Date						
	rojece o usemi	cation		1ary 2008					
APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets B. Accomplishments/Planned Program									
B. Accomplishments/Planned Program				·					
	FY	2007	FY 2008		FY 2009				
Test Resources		0		175,796	124				
RDT&E Articles (Quantity) The Test Resources program will provide for operations, sustainment		0		1					
 facilities and HWIL laboratories to support element- and system-level capability and quantity, as recommended from continuing MDA stud element and system-level Flight and Ground testing. FY08 Planned Program: Develop, maintain, integrate and upgrade MDA unique range fact Guidance: White Sands Missile Range (WSMR), Kauai Test Fact Site (RTS), Western Range / Vandenberg Air Force Base (VAFB) 	ies. These is ilities and in ility (KTF),	mprovements bunch nstrumentation a Wake Island, P	t the following r acific Missile Ra	ng core test inf anges in accore nge Facility (P	rastructure to support dance with DTRMO MRF), Reagan Tes				

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE 0603888C Ballistic Missile BDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Operate and maintain two Transportable Telemetry Systems (TTS) which provides long range missile archiving capability. Complete development of the X-band Transportable Radar (XTR-1) to support off-range BMDS testi identify candidate host platforms to support XTR-1 mobile test support and modify as appropriate. Complete upgrade of the Kwajalein Mobile Range Safety System (KMRSS). Sustain the Mobile Range Safety System (MRSS) at PMRF. Coordinate with OSD test resources community/programs (DTRMC, CTEIP, etc.) Continue the NP-3 Upgrades in conjunction with OSD/CTEIP and the Navy to support off-range BM scenarios. Support Department of Engergy in maintaining and operate the KTF to enable the launch of target system (RTS), Western Range (WSMR), Kauai Test Facility (KTF), Wake Island, Pacific Miss Site (RTS), Western Range / Vandenberg Air Force Base (VAFB), and the Kodiak Launch Complex (Operate High Altitude Observatory II (HALO-II), Wide Body Airborne Sensor Platform (WASP), Hi collection services and services of BMD Flight Test. Maintain and upgrade MDA unique Ground Test Facilities to support all the BMDS developmental pu These facilities provide hardware in the loop capability, threat signature measurement capability, and Use the Pacific Range Support Team (PRST) to provide efficient planning, coordination and manager support of BMDS Flight Testing throughout the Pacific Test bed.	Date February 2008
 APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) Protect and maintain two Transportable Telemetry Systems (TTS) which provides long range missile archiving capability. Complete development of the X-band Transportable Radar (XTR-1) to support off-range BMDS testinidentify candidate host platforms to support XTR-1 mobile test support and modify as appropriate. Complete upgrade of the Kwajalein Mobile Range Safety System (KMRSS). Sustain the Mobile Range Safety System (MRSS) at PMRF. Coordinate with OSD test resources community/programs (DTRMC, CTEIP, etc.) Continue the NP-3 Upgrades in conjunction with OSD/CTEIP and the Navy to support off-range BM scenarios. Support Department of Engergy in maintaining and operate the KTF to enable the launch of target system (MTS), Western Range / Vandenberg Air Force Base (VAFB), and the Kodiak Launch Complex (MSSP), Hi collection services and services of BMD Flight Test. Maintain and upgrade MDA unique Ground Test Facilities to support all the BMDS development of Support Team (PRST) to provide efficient planning, coordination and manager 	· · · · ·
 archiving capability. Complete development of the X-band Transportable Radar (XTR-1) to support off-range BMDS testii identify candidate host platforms to support XTR-1 mobile test support and modify as appropriate. Complete upgrade of the Kwajalein Mobile Range Safety System (KMRSS). Sustain the Mobile Range Safety System (MRSS) at PMRF. Coordinate with OSD test resources community/programs (DTRMC, CTEIP, etc.) Continue the NP-3 Upgrades in conjunction with OSD/CTEIP and the Navy to support off-range BM scenarios. Support Department of Engergy in maintaining and operate the KTF to enable the launch of target system (MRSS), while Range (WSMR), Kauai Test Facilities and instrumentation at the folloguidance: White Sands Missile Range (WSMR), Kauai Test Facility (KTF), Wake Island, Pacific Mis Site (RTS), Western Range / Vandenberg Air Force Base (VAFB), and the Kodiak Launch Complex (Operate High Altitude Observatory II (HALO-II), Wide Body Airborne Sensor Platform (WASP), Hi collection services and services of BMD Flight Test. Maintain and upgrade MDA unique Ground Test Facilities to support all the BMDS developmental professe facilities provide hardware in the loop capability, threat signature measurement capability, and Use the Pacific Range Support Team (PRST) to provide efficient planning, coordination and manager 	le Defense Test and Targets
 Continue coordinating with the Targets Program to develop and qualify common Flight Termination a simplify target integration at the ranges. Provide centralized data management, archival and distribution services to reduce the risks and cost o Operational Deployment. The Data Centers comprise MDA's official archive for all MDA mission rel Sustain the Pacific Collector to support off-range BMDS testing and increasingly complex test scenar Operate two Transportable Telemetry Systems (TTS) which provides long range missile telemetry accapability. 	telemetry acquisition, processing and ag and increasingly complex test scenarios OS testing and increasingly complex test tems supporting BMD Test Activities. owing ranges in accordance with DTRMC sile Range Facility (PMRF), Reagan Test KLC). gh Altitude Observatory (HALO-I) for data ogram hardware and software testing. sensor calibration standards. nent of range resources and infrastructure i nd Range Tracking Systems that will TBMDS Block Development and ated scientific and technical data. os.

		Date	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008	
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE		
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets	

- Continue support of the Test and Evaluation Data Analysis Capability (TEDAC) to provide test communications among the MDA ranges and test situational awareness to MDA HQ.
- Utilize and enhance the X-band Transportable Radar (XTR-1) to support off-range BMDS testing and increasingly complex test scenarios.
- Coordinate with OSD test resources community/programs (DTRMC, CTEIP, etc.).
- Continue the NP-3D Upgrades in conjunction with OSD/CTEIP and the Navy to support off-range BMDS testing and increasingly complex test scenarios.
- Sustain the Kwajalein Mobile Range Safety System (KMRSS).
- Sustain the Mobile Range Safety System (MRSS) at PMRF.
- Maintain and operate the Kauai Test Facility (KTF) to enable the launch of target systems supporting BMD Test Activities.

	FY 2007	FY 2008	FY 2009
BMDS CTF Core	0	48,825	49,720
RDT&E Articles (Quantity)	0	0	0

The BMDS Combined Test Force (CTF) plans, executes, analyzes, and reports BMDS test events. The CTF core provides core support to the block test program contained in projects AX04, BX04, CX04, DX04, EX04, and WX04 for FY08-FY13. The CTF performs four primary functions; Test Planning and Design, Test Operations (Flight Test (FT) and Ground Test (GT)), Test Analysis and Reporting and CTF Support located in Huntsville, Alabama. Some components of GT operations are located in Colorado Springs, CO.

The Test Planning and Design function performs campaign-level test planning and design. The Test Planning and Design function performs the following major tasks: (1) test requirements development, (2) test event design and (3) test planning integration and development of the Integrated Master Test Plan (IMTP).

The Test Operations function performs detailed specific test event procedure planning and test event execution through the use of a Task Force (TF) construct (TF A (Ground-based Engagement Sequence Group (ESG) FT), TF B (Aegis & THAAD ESG FT), TF C (Lower Tier and Characterization), TF D (System GT), and TF E (Emerging Technologies)). The Test Operations function performs the following major tasks: (1) detailed test design, (2) detailed test event specific planning, (3) test integration and (4) test execution.

Test Analysis and Reporting function (TA&R) performs test event data management (for both truth and system data). TA&R developes, integrates and deliveres all BMDS TA&R analysis products for IMTP specified system FTs, GTs and Targets of Opportunity (TOOs) within a single integrated,

Project: YX04 Test & Evaluation	
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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets	
standardized reporting process. The TA&R function performs the following maj development of Truth Data and (4) System Analysis.	or tasks: (1) Joint Analysis Teams (JAT), (2) Data Management, (3)	
management.		
FY08 Planned Program:		
• Provide the core contractor support/test teams that execute the BMDS block DX04, EX04, and WX04.	testing efforts described in budget projects AX04, BX04, CX04,	
• Prepare and coordinate the Test Directives for budget projects AX04, BX04,	, CX04, DX04, EX04, and WX04 test events.	
 Develop GT requirements and scenarios and initial FT scenarios for budget 	projects AX04, BX04, CX04, DX04, EX04, and WX04 test events.	
• Develop and coordinate System Event Test Plans, Element Test Plans, Test Design Review packages, and Mission Requirements Documents for		
budget projects AX04, BX04, CX04, DX04, EX04, and WX04 test events.		
• Develop Communication Plans, Certification Packets, Mission Readiness Re		
Plans, Test Event Launch/Test Constraints documents, Rear Detachment Pla AX04, BX04, CX04, DX04, EX04, and WX04 test events.	ns and Executive Management Review Briefings for budget projects	

- Support target launch services and development for BMDS flight tests contained in budget projects AX04, BX04, CX04, DX04, EX04, and WX04 test events.
- Operate and enhance the change control process to control the content, configuration and schedule of BMDS test events.
- Revise, coordinate and provide regular updates to the IMTP. ٠
- Provide campaign test planning, mapped to knowledge points and fielding decisions identified to the new MDA block construct. •
- Develop Pre-mission Analysis Plans, input to the National Ranges Universal Documentation System (UDS), and JAT Mission Logistics Plans. ٠
- Develop, deliver, and brief Quick Look Briefings (QLB), Executive Quick Look Briefings (EQLB), Mission Data Reviews (MDR), Executive Mission Data Reviews (EMDR), and Final Test Reports.
- Develop Integrated Data Management Plans (IDMP), Data Handling Plans (DHP), Truth Data Requirements Document (TDRD) for budget projects AX04, BX04, CX04, DX04, EX04, and WX04 test events.
- Develop analysis data requirements documents, test objective letters & analysis criteria, data collection/distribution requirements, Analysis Execution Plans, end-to-end pre-test analysis for budget projects: AX04, BX04, CX04, DX04, EX04, and WX04 test events.

		Date		
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		February 2008		
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	06038888C Ballistic Missil	e Defense Test and Targets		
FY09 Planned Program				
 Provide the core contractor support/test teams that execute the BMDS block testing efforts described in budget projects AX04, BX04, CX04, DX04, EX04, and WX04. 				
• Prepare and coordinate the Test Directives for budget projects AX04, BX04,	CX04, DX04, EX04, and	WX04 test events.		
• Develop GT requirements and scenarios and initial FT scenarios for budget	projects AX04, BX04, CX	04, DX04, EX04, and WX04 test events.		
• Develop and coordinate System Event Test Plans, Element Test Plans, Test I budget projects AX04, BX04, CX04, DX04, EX04, and WX04 test events.	Design Review packages, a	and Mission Requirements Documents for		
• Develop Communication Plans, Certification Packets, Mission Readiness Re Plans, Test Event Launch/Test Constraints documents, Rear Detachment Pla AX04, BX04, CX04, DX04, EX04, and WX04 test events.	e ,	6 6		
• Support target launch services and development for BMDS flight tests conta WX04 test events.				
• Operate and enhance the change control process to control the content, confi	guration and schedule of E	BMDS test events.		
• Revise, coordinate and provide regular updates to the IMTP.				
• Provide campaign test planning, mapped to knowledge points and fielding de	ecisions identified to the ne	ew MDA block construct.		
• Develop Pre-mission Analysis Plans, input to the National Ranges UDS, and	JAT Mission Logistics Pl	ans.		
• Develop, deliver, and brief Quick Look Briefings (QLB), Executive Quick L Mission Data Review (EMDR), and Final Test Reports.	ook Briefings (EQLB), M	ission Data Review (MDR), Executive		
• Develop Integrated Data Management Plans (IDMP), Data Handling Plans (A projects AX04, BX04, CX04, DX04, EX04, and WX04 test events.	DHP), Truth Data Require	ments Document (TDRD) for budget		
• Develop analysis data requirements documents, test objective letter & analysis Execution Plans, end-to-end pre-test analysis for budget projects: AX04, BX		1		

	CLASSIF			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Instifi	cation	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) R603888C Ballistic Missile Defense Test and Targets				d Targets
		2007	EX 2000	EX 2000
Facilities, Siting & Environmental	FY	2007	FY 2008 3,557	FY 2009 3,67
RDT&E Articles (Quantity)		0	0	5,07
The Facilities, Siting and Environmental (FS&E) Program is compr	and of two	9	ů	
support for the BMDS. The Civil Engineering Division also oversee construction programs. The Environmental Management Division is prevention, National Environmental Policy Act process support, and environmental compliance of all BMDS activities with Federal, state FY08/09 Planned Program:	the function	hal area for BM	DS environmental planning s. The Environmental Mana	and compliance, pollutio gement Division ensures
 Civil Engineering Division will: Provided oversight for real property acquisition of the Military O Support the MDA facility requirements and programming in the Support the construction award and execution of the BRAC Vor Support construction of a Flexible Target Family Single Integrat Support completion of construction of facilities required for AN Support design and construction award of Targets Program facil Support operations and maintenance of MDA-assigned facilities Support Wake Island facility requirements and scheduled test ca Support bed down actions and facility project design activities re Support the MDA facility requirements in the 2005 BRAC proce Support the RFP development and construction contract award f Belvoir, VA. 	2005 BRAC Braun Com ion Facility /TPY-2 (FB) ities at RTS at USAKA. mpaign. elated to the ess including	C and in the FY plex III project Complex, Cour Radar at Shari and Vandenber KI test facilitie	10/11 PB. on Redstone Arsenal, AL. tland, AL. ki, Japan. g AFB. s. on Redstone Arsenal, AL an	

		Date			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif		February 2008			
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets					
• Support the construction completion for AN/TPY-2 radar in Alaska.					
• Support MDA requirements to transition from RDT&E construction to MIL	CON starting in FY 09.				
• Support site survey and bed-down approval process, launch facilities designs	s, and award of construction	on contracts.			
• Participate in pre-campaign test missions meetings.					
Environmental Management Division will:					
• Manage and execute MDA's activities and assets in a proactive and environment	nentally sound manner to s	sustain our national defense mission.			
• Use the vision, mission, and goals of the MDA's Strategic Plan for Environm					
environmental goals and objectives, to guide MDA's environmental manage		F			
• Use MDA's environmental management system (EMS) in mission planning	•	vironmental compliance across all MDA			
operations and activities.					
 Plan, program, and budget to achieve, monitor, and maintain compliance with 	th all applicable environme	ental requirements			
 Integrate environmental factors, issues, and values in MDA's acquisition dec 	11	A			
to cost, schedule, and performance while protecting the environment.	ision-making process uno	defiour a system's me eyere to mitigate fisk			
 Comply with applicable U.S. laws and regulations, DoD and Service regulat 	ions and policies. Executiv	ve Orders (E Ω) binding international			
agreements, host-nation requirements, and other requirements that seek to pr	A 1				
 Plan for continual improvement of MDA's management of environmental iss 	1				
of progress towards meeting these goals and objectives.	sues through the setting of	goals and objectives and the annual review			
	has a fMDA's acquisiti	on mission and provide appropriate training			
 Promote awareness and understanding of environmental management in all p to all MDA personnal 	phases of MDA's acquisitio	on mission and provide appropriate training			
to all MDA personnel.	eres at Statement (DEIS)				
• Issue the Record of Decision for the BMDS Programmatic Environmental Ir	npact Statement (PEIS).				
• Prepare / provide oversight on the following EAs:					
• KEI Environmental Assessment.					
• Flexible Target Family Environmental Assessment.					
• FBX-T Radar #2 OCONUS Deployment Environmental Review.					
• Complete numerous RECs, AF 813s, and MRFs for programs/tests including	g: KEI, Aegis FIM events	, GMD FIG events, FIF Targets, THAAD			
events, NFIRE, STSS, MKV, Micro Satellites, and CMCM-4.					
• Continue developing and utilizing a GIS for the Pacific Ocean Region.					
• Validate the GMD Extended Test Range EIS findings.					

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E P	Project Justif	ication	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (A	ACD&P)	R-1 NOMENCLAT 0603888C Ballist	URE <mark>ic Missile Defense Test and T</mark>	argets
 Continue to prepare quarterly Environmental Liabilities Reports. Continue implementation of MDA's Corrective Action Plan for er Continue preparation of the Presidential Budget Special Exhibit 2 Continue developing and monitoring MDA's Green Procurement 2 	28 "Funds I	Budgeted for Envir	conmental Quality".	
	F	7 2007	FY 2008	FY 2009
Test Policy and Strategy		0	42,312	47,011
RDT&E Articles (Quantity)		0	0	0
software testing; establishing standardized documentation for test plat assessment of the BMDS throughout its life-cycle via the BMDS Cap BMDS via Operational Test Agency (OTA) participation; developing test mission assurance; and developing strategic Planning and strategy of funding which supports the OTA activities.	bability Ass g target acc	sessment (BCA) te reditation reports	am; providing for operationate of the second s	al assessments of the ojectives; providing for
 FY08 Planned Program: Prepare Target Accreditation Reports for appropriate major flight Continue to integrate mission assurance and best practices and less certification plans. Continue communications and interaction between the BMDS dev BMDS Operational Assessment Efforts. 	ssons learn velopment	ed into test policy, community and O	processes, procedures and the perational Test Agencies (O	TA). Continue funding
 Continue the development and implementation of test policy, stan Continue to update transition of test functions from the NCR to H 	Iuntsville a	nd Colorado Sprin	gs and fund relocations (BR	-

BCA team will continue to update the non-advocate assessment of the BMDS readiness and investigate BMDS performance issues and propose ٠ mitigation plans.

			i	Date	
			February 2008		
APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE			ATURE	20010019 2000	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets					d Targets
FY09 Planned Program					
• Prepare Target Accreditation Reports for appropriate major flight tests in Exhibit R-4 for FY09 and early FY10.					
• Continue to integrate mission assurance and best practices and le	essons learne	d into test polic	cy, processe	es, procedures an	d training and
certification plans.					
• Continue communications and interaction between the BMDS de	evelopment	community and	OTA. Con	tinue funding BN	MDS Operational
Assessment Efforts.					
• Continue the development and implementation of test policy, sta		· .		0	-
• Continue to update transition of test functions from the NCR to D		-	0	,	
• BCA team will continue to update the non-advocate assessment	of the BMD	S readiness and	I investigate	e BMDS perform	ance issues and propose
mitigation plans.					
FY 2007 FY 2008 FY 2009					FY 2009
BMDS Readiness		0		7,079	7,239
RDT&E Articles (Quantity)		0		0	0
The BMDS Readiness program is responsible for improving the qua			•		
programs. The BMDS Readiness program is responsible for assuring	0			0	
risk. The BMDS Readiness program will assess readiness processes increases the efficiency and effectiveness of the BMDS test program		1 0			
Organization (RTO) test program by identifying and improving test					
assessments to provide input on data voids for assessment and unful					
assessment activity; and Mission planning meetings to ensure the pr					compared to support
	1		2		
FY08 Planned Program:					
• Develop processes and metrics that support BMDS evaluation st	trategy.				
• Publish BMDS evaluation strategy.					
• Establish Independent Assessment Team (IAT) for Kinetic Ener	gy Intercepto	or (KEI) and ST	LSS.		
• Identify options for processes that are missing or deficient.					
• Track issues to ensure processes are developed and implemented					
• Complete development and implementation of a DT/DF Risk M	anagement F	rogram.			

Project: YX04 Test & Evaluation

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		Date	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Jus APPROPRIATION/BUDGET ACTIVITY	tification February 2008 R-1 NOMENCLATURE		
DT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets			
 FY09 Planned Program: Assess processes and metrics that support readiness to test, integrate and field in the second /li>	ield.		
• Establish additional IAT's as needed.			
	EV 2007	EV 2009	EX 2000
Test Planning and Design	FY 2007 0	FY 2008 8,123	FY 2009 8,346
RDT&E Articles (Quantity)	0	<u> </u>	8,346
 adjudication of test objectives from MDA System Engineering, the OTAs and of test resource requirements, the establishment of a baseline test campaign tir representatives. These efforts culminate in the development and publication th BMDS test environment, supporting test organizations, developmental and op FY08 Planned Program: Coordinate, revise and provide quarterly updates to the BMDS Integrated 1 Provide campaign test planning, mapped to knowledge points and fielding Development, and Sustainment. Provide test scenario designs for the IMTP, requirements for long-range te Generate test event data for planning, performance analysis prediction and 	neline, and the interfac le IMTP. The IMTP is erational test programs Master Test Plan (IMT decisions identified for est architecture and ope	ce with collocated OTA and the overarching document to s, and management of MDA (TP). FP). For the new block construct, of erational comparison analys	l Advanced Systems that describes the A test resources. Capability
 FY09 Planned Program: Coordinate, revise and provide quarterly updates to the BMDS Integrated 1 Provide campaign test planning, mapped to knowledge points and fielding Development, and Sustainment. Generate test event data for planning, performance analysis predictions, and Provide test scenario designs for the IMTP, requirements for long-range test 	decisions identified for ad feasibility test studio	or the new block construct, or the new block construct, or set of MDA elements.	
Project: YX04 Test & Evaluation Line Item 78 - 68 of	262	MDA	Exhibit R-2A (PE 0603888C)

			Date		
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			February 2008		
APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE		ATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile		istic Missile Defense Test and	d Targets		
	FY 2007 F		FY 2008	FY 2009	
Fielding and Integration	0		0	7,064	
RDT&E Articles (Quantity)	0		0	0	
Prior to FY09, Fielding and Integration content and related funding was included within the Management Headquarters Program Element 0901598C.					

The Fielding and Integration program's mission is to manage and direct the integration of the BMDS including developing, testing and sustaining the fielded BMDS. This is accomplished by conducting BMDS integration planning and execution in support of the BMDS Program Directive via the Integration and Synchronization Center (ISC). The Fielding and Integration program also executes the Change Control Management process for the six components of the BMDS Baseline. Additionally, the Fielding and Integration program coordinates the execution of the Master Fielding Plan. The Fielding and Integration program is organized into three mutually supporting teams focused on Integration and Synchronization Center Operations and Change Management, Block Integration and Fielding and Strategic Integration Opportunities.

FY09 Planned Program:

- Continue conducting integrated BMDS integration planning and execution.
- Continue updating of the BMDS Master Fielding Schedule and Master Fielding Plan.
- Continue to execute the BMDS Change Management process.

	FY 2007	FY 2008	FY 2009
MDA Infrastructure	0	0	12,682
RDT&E Articles (Quantity)	0	0	0

This project supports Infrastructure efforts in the areas of Information Technology, Quality Assurance, and common Threat Engineering efforts.

FY09 Planned Program:

- Provide Quality, Safety, and Mission Assurance to BMD test program.
- Provide Dedicated Information Technology services for mission specific research and test efforts to include classified and unclassified networks, software licenses, sustainment and information assurance certification..
- Provide Common Threat Engineering data to support BMDS test and assessment planning to include (trajectory and signature data to directly support system and sub-system requirements).

			· T		Date Eabr			
Missile Defense Agency (MDA)	Exhibit R-2A R	DT&E Projec		OMENCLAT		uary 2008		
RDT&E, DW/04 Advanced Component Develop	nent and Prot	otypes (ACD	&P) 0603	888C Ballisti	c Missile Defe	ense Test and	Targets	
C. Other Program Funding Summary								
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the Missile Defense Agency's (MDA) capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding thought the use of blocks and capability development. The RTO directs a team of various internal staff (Government and SETA), executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, Federally Funded Research and Development Centers (FFRDC), and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

Minaila	Defense Asses	(MDA) EL:L:4 D 2		t Coat Anolusia		Date Februa	mr 2008		
APPROPRIATION/BUDGET		y (MDA) Exhibit R-3	KD I &E Proje		OMENCLATUR		ry 2008		
RDT&E , DW/04 Advanced Component Development and Prototypes (ACD&P)					0603888C Ballistic Missile Defense Test and Targets				
I. Product Development	Cost (\$ in '	Thousands)						~	
					FY 2008		FY 2009		
	Contract	Performing	Total		Award/		Award/		
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total	
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	
Subtotal Product Development									
Remarks	•					L. C.			
II. Support Costs Cost	(\$ in Thousa	ands)							
					FY 2008		FY 2009		
	Contract	Performing	Total		Award/		Award/		
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total	
		Location	Cost	Cost	Date	Cost	Date	Cost	
Cost Categories:	& Type	Location	0000						
Cost Categories: Subtotal Support Costs	& Type	Location	0000						
Subtotal Support Costs	& Type	Location							
-	& Type								
Subtotal Support Costs Remarks									
Subtotal Support Costs					EY 2008		EX 2009		
Subtotal Support Costs Remarks	Cost (\$ in '	Thousands)			FY 2008 Award/		FY 2009 Award/		
Subtotal Support Costs Remarks	Cost (\$ in Contract	Thousands) Performing	Total		Award/	EX 2009	Award/	Total	
Subtotal Support Costs Remarks III. Test and Evaluation	Cost (\$ in Contract Method	Thousands) Performing Activity &	Total PYs	FY 2008	Award/ Oblg	FY 2009 Cost	Award/ Oblg	Total	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories:	Cost (\$ in Contract	Thousands) Performing	Total		Award/	FY 2009 Cost	Award/	Total Cost	
Subtotal Support Costs Remarks III. Test and Evaluation	Cost (\$ in Contract Method	Thousands) Performing Activity & Location	Total PYs	FY 2008	Award/ Oblg		Award/ Oblg		
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources	Cost (\$ in Contract Method & Type	Thousands) Performing Activity & Location Army, Air Force/	Total PYs Cost	FY 2008 Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories:	Cost (\$ in Contract Method	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN,	Total PYs	FY 2008	Award/ Oblg		Award/ Oblg		
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources	Cost (\$ in Contract Method & Type	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN, Various/	Total PYs Cost	FY 2008 Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources Ground Test Facilities	Cost (\$ in ' Contract Method & Type Various	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN, Various/ CA, HI, NM,	Total PYs Cost 0	FY 2008 Cost 15,747	Award/ Oblg Date 1Q	Cost 12,631	Award/ Oblg Date	Cost 28,378	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources	Cost (\$ in Contract Method & Type	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN, Various/ CA, HI, NM, Marshall Is, Alaska	Total PYs Cost	FY 2008 Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources Ground Test Facilities	Cost (\$ in ' Contract Method & Type Various	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN, Various/ CA, HI, NM, Marshall Is, Alaska L3	Total PYs Cost 0	FY 2008 Cost 15,747	Award/ Oblg Date 1Q	Cost 12,631	Award/ Oblg Date	Cost 28,378	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources Ground Test Facilities Ranges and Instrumentation	Cost (\$ in Contract Method & Type Various Various	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN, Various/ CA, HI, NM, Marshall Is, Alaska L3 Communications/	Total PYs Cost 0	FY 2008 Cost 15,747 113,495	Award/ Oblg Date 1Q 1Q	Cost 12,631 66,655	Award/ Oblg Date 1Q 1Q	Cost 28,378 180,150	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources Ground Test Facilities	Cost (\$ in ' Contract Method & Type Various	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN, Various/ CA, HI, NM, Marshall Is, Alaska L3 Communications/ CA, OK, NM	Total PYs Cost 0	FY 2008 Cost 15,747	Award/ Oblg Date 1Q	Cost 12,631	Award/ Oblg Date	Cost 28,378	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Resources Ground Test Facilities Ranges and Instrumentation	Cost (\$ in Contract Method & Type Various Various	Thousands) Performing Activity & Location Army, Air Force/ AL, FL, MD, TN, Various/ CA, HI, NM, Marshall Is, Alaska L3 Communications/	Total PYs Cost 0	FY 2008 Cost 15,747 113,495	Award/ Oblg Date 1Q 1Q	Cost 12,631 66,655	Award/ Oblg Date 1Q 1Q	Cost 28,378 180,150	

Project: YX04 Test & Evaluation

MDA Exhibit R-3 (PE 0603888C)

		y (MDA) Exhibit R-3	RDT&E Project			Februar	ry 2008	
APPROPRIATION/BUDGET A					1 NOMENCLATUR			
RDT&E, DW/04 Advanced	Component 1	Development and P	rototypes (ACI	D&P) 06	038888C Ballistic	Missile Defense	e Test and Targ	ets
	Contract	Performing	Total		FY 2008 Award/		FY 2009 Award/	
	Method	Activity &	PYs	FY 2008	Award/ Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Targets	Various	Various	0	9,82		9,791	N/A	19,616
Test Policy and Strategy	, unous	, unous	Ŭ	,,02		,,,,1	10/11	19,010
Test Foney and Strategy		Various/						
BCA	Various	NJ, CA, MD, MA	0	9,43	7 1Q	9,615	1Q	19,052
Operational Test Agency Participation in System Test	Various	OTAs/Various	0	12,10	3 1Q	13,734	1Q	25,837
		USASMDC/						
Target Certification	Various	Huntsville, AL	0	63	6 1Q	659	1Q	1,295
BMDS Readiness								
Continuous Process Improvement	Various	Various	0	3,70	0 1Q	3,365	1Q	7,065
Independent Assessment	Various	Various	0	1,42	6 N/A	1,545	N/A	2,971
Test Planning and Design								
Test Planning & Design			0	8,12	3 1Q	8,346	1Q	16,469
MDA Infrastructure								
MDA Infrastructure	C/Various		0		0 N/A	6,048	1Q	6,048
		Advanced Systems Development/						
HSV IT O&M	C/CPAF	Huntsville, AL	0		0 N/A	3,197	1Q	3,197
Defend Systems & Networks	C/CPAF	Northrop Grumman/CO	0		0 N/A	1,478	2Q	1,478
		Advanced Systems Development/						
Service/IM/IT	MIPR	Huntsville, AL	0		0 N/A	896	1Q	896
	GEEE	General Dynamics Information						1.0.55
Information Assurance C&A	CPFF	Technology/VA	0		0 N/A	1,063	3Q	1,063
Subtotal Test and Evaluation			0	207,32	1	171,813		379134

		Date
Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Ar	nalysis	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

Test Resources Notes:

- Ground Test Facility (GTF) Funding is issued from MDA to the Army and Air Force. The services provide funds to the Army Missile Optical Range (AMOR) in AL, the Kinetic Hardware in-the-loop (HITL) Simulator in FL, and the Arnold Engineering Development Center in TN. Each Facility then places funds on contract and/or retains funding to support on-site personnel.
- Ranges and Instrumentation funding is distributed to executing agents through the services and issued directly from MDA. The Army (SMDC) issues MDA funds for the Mobile Launch Platform (MLP) and MIPRs funds to the Reagan Test Site in the Marshall Islands for range operations, instrumentation upgrades, and various PRST efforts. The Air Force issues funding to Wake Island for test operations support. The remaining funds are issued directly from MDA. Funds are MIPRed to members of the Pacific Range Support Team (PRST) (Patrick AFB, Vandenberg AFB, Pacific Missile Range Facility, Naval Air Warfare Center/Patuxent River & Pt Mugu, White Sands Missile Range, and Sandia National Labs), MIT/LL (Airborne Sensor support, Test Infrastructure support, Flexible Target Family support, and XTR-1 development), NRL (BMDS Test Communications and NP-3D upgrades), and DOT/Maritime Administration (Texas Clipper Activation). Funds are placed directly on an MDA contract with the Alaska Aerospace Development Corporation (AADC) for Kodiak Launch Complex Operations and Sustainment.
- Data Center Funding is issued from MDA to the Army, Air Force, Navy, and the Joint National Integration Center (JNIC). The services provide funds to the Army Missile Signature Center in TN, Naval Surface Warfare/Weapons Center (Corona) in CA, Missile Defense Data Center in AL. The Data Centers place the funds on contract and/or retain funding to support on-site personnel.
- Project includes Congressional additions in FY08 for test and training range support and upgrades.

I TTunugement Bei Tees	0000 (\$ m	(Inousunus)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Test Resources								
		USASMDC/						
SMDC Government Salaries	ТМ	Huntsville, AL	0	2,425	1Q	0	4Q	2,425
		Northrop Grumman/						
Support Contracts	C/FFP	Arlington, VA	0	11,300	1Q	12,611	1Q	23,911
BMDS CTF Core								
		USASMDC/						
SMDC Government Salaries	ТМ	Huntsville, AL	0	656	1Q	659	1Q	1,315

IV. Management Services Cost (\$ in Thousands)

Project: YX04 Test & Evaluation

Line Item 78 -

74 of 262 UNCLASSIFIED MDA Exhibit R-3 (PE 0603888C)

R-1 NOMENCLATU			
0603888C Ballistic	Missile Defense		gets
FY 2008 Award/		FY 2009 Award/	
008 Oblg	FY 2009	Oblg	Total
t Date	Cost	Date	Cost
38,344 1Q	39,270	1Q	77,614
3,557 N/A	3,678	N/A	7,235
11,028 1Q	13,028	1Q	24,056
5 150			14042
7,172 1Q	7,771	1Q	14,943
1,162 1Q	1,287	1Q	2,449
774 4Q	917	4Q	1,691
1,953 1Q	2,329	1Q	4,282
0 N/A	924	1Q	924
0	6 140	10	6,140
		IQ	166985
10,3/1	88,014		100985
0 0 78,371	N/A N/A		N/A 6,140 1Q
85,692	2	2 260,427	2 260,427

Line Item 78 -

75 of 262 UNCLASSIFIED

Missile Defense A	Ageno	cy (N	1DA) Ex	hibit	: R-4	Sch	edul	e Pr	ofile								Da Fe		ary	200	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evel	opm	ent	and	Pro	toty	pes	(AC	D&	P)					LAT llisti			e De	efen	se T	est	and	Tar	gets				
Fiscal Year		20	007			20	008			20)09			20	010			20)11			20	012			20)13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Planned COCOM and BMDS Exercises															•						-							
Exercise Global Lightning 08					Δ																							
Exercise Series ASSURED RESPONSE 07B					Δ																							
Exercise Vigilant Shield 08					Δ																							
Exercise Series ASSURED RESPONSE 08-1						Δ																						
Exercise TERMINAL FURY 08						Δ																						
Exercise ARDENT SENTRY 08							Δ																					
Exercise Eagle Resolve 08							Δ																					\square
Exercise Global Storm 08							Δ																					
Exercise KEEN EDGE Bridge Event 08							Δ																					\square
Exercise NIMBLE TITAN 08							Δ																					
Exercise Series ASSURED RESPONSE 08-2							Δ																					
Exercise Global Thunder 08								Δ																				\square
Exercise JPOA/JPOW X								Δ																				\square
			M ile Elen Syst	stone nent T em Le	t Eve e Deci est (d evel T e Activ	ision comp est (c	(com lete)	olete)			egei			M ile Elem Syst	ificant stone nent T em Le nned A	Deci est (p evel T	ision (planne est (p	(plann ed)	ied)									

Missile Defense	Ager	ncy (MD	A) E	Exhil	bit R	-4 S	ched	lule	Prof	ïle								Dat Fel	e b ru a	ary 2	200	8					
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component	Deve	lopr	nen	t an	d P	roto	type	es (A	CD)&P)				NCLA Balli			ssile	e De	fens	se T	est	and	Tar	gets	5		
Fiscal Year		20	007			20	800			20)09			20	010			20	11			20)12			20)13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Planned COCOM and BMDS Exercises					-												-								-			
Exercise Series ASSURED RESPONSE 09-1									Δ																			
Exercise TERMINAL FURY 09										Δ																		
Exercise ARDENT SENTRY 09											Δ																	
Exercise Eagle Resolve 09											Δ																	
Exercise JUNIPER COBRA 09									4			\Box																
Exercise Series ASSURED RESPONSE 10-1													Δ															
Exercise TERMINAL FURY 10														Δ														
Exercise ARDENT SENTRY 10															Δ													
Exercise Eagle Resolve 10															Δ													
Exercise NIMBLE TITAN 10															Δ													
Exercise Series ASSURED RESPONSE 10-2															Δ													
Exercise Series ASSURED RESPONSE 11-1																	Δ											
Exercise TERMINAL FURY 11																		Δ										
										Ĺ	ege																	
						nt (co ision (7		ificant stone													
						comp		- (-)				<	>		nent T			· ·	.1)									
					evell Activ	est (c vity	ompl	lete)							em Le ned A			lanne	d)									

Missile Defense A	Agen	cy (ľ	MDA	() Ex	hibi	t R-4	4 Scl	hedu	le P	rofil	e								ate ' ebr u	uary	y 20	08							
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D											F			IENC				sile I	Defe	nse	Test	t and	d T:	arge	ts				
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Fiscal Year		20)07			200	08			20)09			20	10			20)11			20)12			20	13		
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Planned COCOM and BMDS Exercises																													l
Exercise ARDENT SENTRY 11		\Box'			\Box	\Box													Δ										l
Exercise Eagle Resolve 11		Ē_'		Ē															Δ							Ē			I
Exercise Series ASSURED RESPONSE 11-2		\square'											1						Δ				L				Щ		I
Exercise JUNIPER COBRA 11		\square'															Δ_			_∆							Щ		l
Exercise Series ASSURED RESPONSE 12-1		\square'		\square		\square															Δ								l
Exercise TERMINAL FURY 12	<u> </u>	\square'	\square	\square		\square	\square	\square														Δ	L				\square		l
Exercise ARDENT SENTRY 12	ļ!	∟′	\square	\square		\square	\square	\square															Δ				\square		l
Exercise Eagle Resolve 12	ļ!	\square'	\square	\square		\square	\square	\square															Δ				\square	<u> </u>	l
Exercise NIMBLE TITAN 12		└ _'	\square	\square	\square	\square	\square	\square															Δ				\square	<u> </u>	l
Exercise Series ASSURED RESPONSE 12-2																							Δ						l
Exercise Series ASSURED RESPONSE 13-1		$\lfloor _'$																							Δ				l
Exercise TERMINAL FURY 13		\Box																								Δ			l
Exercise ARDENT SENTRY 13		\Box																									Δ		I
			Miles Elem Syste	ificant stone nent Te em Le nplete	e Decis Test (co evel Te	ision (d comple est (co	(comp lete)	plete)			eger		7	Miles Elem Syste	stone ient T em Le	t Ever Deci est (p evel T Activit	ision (planne est (p	(plann ed)	ied)										

Missile Defense	Age	ncy ((MD)A) F	Exhil	bit R	-4 S	chec	lule	Prof	ïle								Dat Fel	ie b rua	ary 2	2008	3					
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component															NCL Ball			issile	e De	efens	se T	est a	and	Tar	gets	5		
													1															
Fiscal Year		20)07			20	008			20)09			20	010			20)11			20)12			20)13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Planned COCOM and BMDS Exercises	-	-	1	-			1	T	ī		-	T	-					T	1		7	1		T	ī	-	-	
Exercise Eagle Resolve 13																											Δ	
Exercise Series ASSURED RESPONSE 13-2																											Δ	
Exercise JUNIPER COBRA 13																									Δ_			_∆_
System Ground Tests				_		_	_				_		_				_					-						
GTD-02					$\mathbf{\nabla}$																							
GTG-03a					\diamond																							
GTX-03a						∇																						
GTI-03							∇																					
GTD-03/GTG-03b.2								∇																				
GTX-09a									∇																			
GTX-09b										∇																		
GTI-09											∇																	
GTD-09												∇																
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					Fest (evel T			ete)							nent T tem Le				yd)									
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Missile Defense	Agenc	ey (N	/IDA) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Dat Fe	te bru a	ary	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	Develo	opm	ent	and	Pro	toty	pes	(AC	D&	P)		-1 N 6038						e De	efens	se T	'est a	and	Tar	gets				
Fiscal Year		20	007			20	08			20)09			20	010			20)11			20)12			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Ground Tests	_	1										<u> </u>								1								
GTX-10a	Т		1		Γ				Γ				∇															\square
GTX-10b														∇														\square
GTI-10																												\square
GTD-10																∇												
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GTX-12a		1																			∇							
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					Test (d] <	>				olanne											
	Δ_		Con	nplete	evel T e Activ	est (c ∕ity	omp	iete)							ned A		est (p y	lanne	ea)			-						

Missile Defense A	genc	y (M	DA)) Ex	hibit	: R-4	l Scl	hedul	e Pr	ofile								Da Fe	te bru	ary	200	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Do											R				LAT llisti								l Tai	get	5			
Fiscal Year		200	07			20	008			20	09			20	010			20)11			2	2012			20)13	
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System Ground Tests																					-							
GTX-13b					l			Τ															Т	Γ				
GTI-13																							1				∇	'
GTD-13																												∇
System Flight Tests				<u> </u>		<u> </u>					<u> </u>	<u> </u>			·				<u>. </u>	<u>. </u>		<u> </u>		<u> </u>		<u> </u>		
FTM-13					\diamond																							
FTT-08					\diamond																							
JFTM-01					\diamond																							
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NFIRE-2b						▲	\downarrow	4																				
AST-13							\Box	7																				
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ATM-48								\Box																				
					it Eve			ete) nplete)		L	ege	nd Z	1		ificani stone													
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Missile Defense A	genc	y (M	IDA)) Exl	hibit	R-4	Sche	edul	e Pro	ofile								Da Fe	te bru a	ary 1	200	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	opmo	ent a	and	Pro	toty	pes (AC	D &	P)					LAT llisti			e De	efen	se T	est	and	Tar	gets				
Fiscal Year		20	07			20	008			20	09			20	010			20	11			20	012			20	13	
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System Flight Tests																												
FTG-05								Δ																				
FTT-10								∇																				
PAC3 7-2								\diamond																				\square
JFTM-02									\diamond																			
FTG-06										∇																		
FTM-14										\Box																		
FTS-01										Δ																		
FTX-04										\Box																		
PAC3 7-3										\diamond																		
FTK-01											\diamond																	
FTS-02											\square																	
FTT-11											\diamond																	
PAC/Caravan-2											D																	
			Mile: Elem Syste	stone nent T em Le	e Deci Test (d	sion comp est (c	mpleto (comp lete) comple	lete)		Le	egeı		> 7	Mile: Elerr Syste	stone nent T	e Deci est (p evel T	nt (pla ision (planne est (p	plann ed)	ied)									
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	Ageno	cy (N	ÍDA) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe	te brua	ary :	200	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component	Devel	opm	ent	and	Pro	toty	pes	(AC	D&	P)		-1 N 6038						e De	efens	se T	'est	and	Tar	gets				
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Fiscal Year		20	007			20	008			20	09			20	010			20	11			20	012			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests																												
FTG-07												\Box																
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JFTM-03													\Box															
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FTL-02														∇														
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FTT-13														\diamond														
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					it Evei e Deci								7				nt (pla ision (-						
			Elerr	nent T	Test (d	comp	lete)						>	Elem	nent T	est (p	olanne	ed)				1						
		-			evel T		omp	lete)				_ ⊂					est (p	lanne	ed)									
	Δ_		Con	nplete	Activ	/ity						Δ_		Plan	ined A	ctivit	y											

Missile Defense A	genc	y (N	/IDA) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Dat Fe	te brua	ary 2	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evelo	opm	ent	and	Pro	toty	pes	(AC	D&	P)				ENCI C Ba				e De	efens	se T	'est a	and	Tar	gets				
	_																											
Fiscal Year		20	007			20	08			20	09			20	010			20	11			20	012			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests		<u> </u>		<u> </u>						I								I				1						
FTT-14			Τ												∇													
FTX-06/FTS-03															∇													
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FTT-15 (pending to be combined with another																		∇										
test)											egei	nd						_										
					t Evei						- <u>9</u>	/	7				nt (pla											
					e Deci Test (d			plete)				イイ		Elem	nent T	est (ision planne	ed)										
					evel T e Activ		ompl	lete)					7			evel T Activit	est (p	lanne	ed)			-						
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Project: YX04 Test & Evaluation																						N	ИDА	Exhi	bit R-	-4 (PI	E 060	3888C)

Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets	
Fiscal Year 2007 2008 2009 2010 2011 2012 2013	
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3	4
System Flight Tests	
Δ DS-03	
FTG-11	
FTM-17	
FTX-07	
FTK-03	
FTG-12	
FTP-03	
FTT-16 (pending to be combined with another	
test)	
FTL-06	
FTM-18	
FTG-13	
FTL-07	
FTX-08	
Legend ▲ Significant Event (complete) ▲ Significant Event (planned)	
★ Milestone Decision (complete) ★ Milestone Decision (planned)	
System Level Test (complete) System Level Test (planned)	
Complete Activity American Planned Activity	
Project: YX04 Test & Evaluation MDA Exhibit R-4 (PE 0	

Missile Defense A	Ageno	ev (N	/IDA) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe		ary í	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D											R	-1 N											Tar	aota				
KD1&E, DW/04 Advanced Component D	even	Jhii	lent	anu	FTO	loty	pes	(AC	Dα	r)	U	0030	000	, Da	msu		15511	e De	eren	se I	est a	anu	Tar	gets				
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Fiscal Year			007				008			1	09)10			20					012			20		
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FTG-14																										∇		
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FTT-17 (pending to be combined with another																										∇		
test)	_			-				-																			_	
FTL-08																											Δ	
FTM-19																											∇	
FTG-15																												∇
FTL-09																												∇
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Measurement Tests																												
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FTC-06																		Δ										
FTC-07																						Δ						
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					it Evei e Deci							4	7		ifican stone							-						
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					evel T e Activ		comp	lete)					↗.		em Le ined A			lanne	ed)									
			Con	piere	ACIN	'ny								Fian	ineu A	Clivit	y											
Project: YX04 Test & Evaluation																						N	MDA	Exhi	bit R-	-4 (PF	E 060)3888C)

Missile Defense A	genc	y (M	ÍD A) Ex	hibit	: R-4	Sch	edul	e Pro	ofile								Da Fe	te bru a	ary i	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evelo	opm	ent	and	Pro	toty	pes	(AC	D &]	P)		-1 N(5 038						e D	efen	se T	'est a	and	Tar	gets				
Fiscal Year		20	007			20	08			20)09			20	010			20)11			20)12			20	13	
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Measurement Tests					-						-										-		-					
FTC-08																										Δ		
Glory Trips (USAF Operational)/Potential B	MDS	Tes	ts							1										<u> </u>		1		<u> </u>				
GT-196						Δ																						
GT-197							Δ																					
GT-198								Δ																				
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					evel T Activ	est (c	ompl	ete)							em Le ined A		est (p	lanne	ed)									
			Con	nplete	Acti	/ity						Δ <u>—</u>	<u>-</u> 2	Plan	ined A	Ctivit	У											

Missile Defense A	genc	y (N	1DA) Ex	hibit	R-4	Sch	edul	e Pro	ofile								Da Fe	te brua	ary	200	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	opm	ent	and	Pro	toty	pes	(AC	D &:	P)					LAT I llist i			e D	efen	se T	est	and	Tar	gets				
Fiscal Year		20	007			20	08			20	09			20	010			20)11			20	012			20)13	
	1	2	1	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Glory Trips (USAF Operational)/Potential BN	/DS			1		<u> </u>							I	<u> </u>	1	<u> </u>		<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>			<u> </u>	I	
GT-XX (GT-207)																						Γ		Δ				\square
GT-XX (GT-208)																											Δ	
Test Asset Upgrades																												
NP3 Upgrades												$\mathbf{\nabla}$																
X-Band Trans Radar (XTR-1) Complete						Δ																						
Radar Ship Delivery												Δ																
																					1							
																						1						
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Missile Defense	Agency (MDA) Exhi	bit R-4A Schedul	e Detail			Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY				R-1 NO	MENCLATURE			
RDT&E, DW/04 Advanced Component I	Development and I	Prototypes (ACL)&P)	060388	8C Ballistic Mis	sile Defense Tes	t and Targets	
Schedule Profile	FY 2007	FY 2008	FY	2009	FY 2010	FY 2011	FY 2012	FY 2013
Planned COCOM and BMDS Exercises								
Exercise Global Lightning 08		1Q						
Exercise Series ASSURED RESPONSE 07B		1Q						
Exercise Vigilant Shield 08		1Q						
Exercise Series ASSURED RESPONSE 08-1		2Q						
Exercise TERMINAL FURY 08		2Q						
Exercise ARDENT SENTRY 08		3Q						
Exercise Eagle Resolve 08		3Q						
Exercise Global Storm 08		3Q						
Exercise KEEN EDGE Bridge Event 08		3Q						
Exercise NIMBLE TITAN 08		3Q						
Exercise Series ASSURED RESPONSE 08-2		3Q						
Exercise Global Thunder 08		4Q						
Exercise JPOA/JPOW X		4Q						
Exercise Series ASSURED RESPONSE 09-1				1Q				
Exercise TERMINAL FURY 09			2	2Q				
Exercise ARDENT SENTRY 09				3Q				
Exercise Eagle Resolve 09			-	3Q				
Exercise JUNIPER COBRA 09			10	Q-4Q				
Exercise Series ASSURED RESPONSE 10-1					1Q			
Exercise TERMINAL FURY 10					2Q			
Exercise ARDENT SENTRY 10					3Q			
Exercise Eagle Resolve 10					3Q			
Exercise NIMBLE TITAN 10					3Q			
Exercise Series ASSURED RESPONSE 10-2					3Q			
Exercise Series ASSURED RESPONSE 11-1						1Q		
Exercise TERMINAL FURY 11						2Q		
Exercise ARDENT SENTRY 11			1			3Q		
Exercise Eagle Resolve 11			1			3Q		
Exercise Series ASSURED RESPONSE 11-2			1			3Q		

Missile Defense A	gency (MDA) Exhi	bit R-4A Schedu	le Detail			Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D					MENCLATURE 3C Ballistic Mi s	sile Defense Tes		
Schedule Profile	FY 2007	FY 2008	FY 2	.009	FY 2010	FY 2011	FY 2012	FY 2013
Exercise JUNIPER COBRA 11						1Q-4Q		
Exercise Series ASSURED RESPONSE 12-1							1Q	
Exercise TERMINAL FURY 12							2Q	
Exercise ARDENT SENTRY 12							3Q	
Exercise Eagle Resolve 12							3Q	
Exercise NIMBLE TITAN 12							3Q	
Exercise Series ASSURED RESPONSE 12-2							3Q	
Exercise Series ASSURED RESPONSE 13-1								1Q
Exercise TERMINAL FURY 13								2Q
Exercise ARDENT SENTRY 13								3Q
Exercise Eagle Resolve 13								3Q
Exercise Series ASSURED RESPONSE 13-2								3Q
Exercise JUNIPER COBRA 13								1Q-4Q
System Ground Tests								
GTD-02		1Q						
GTG-03a		1Q						
GTX-03a		2Q						
GTI-03		3Q						
GTD-03/GTG-03b.2		4Q						
GTX-09a			10	2				
BMDS Overlay 09 - Juniper Cobra			1Q-	4Q				
GTX-09b			20	2				
GTI-09			30	2				
GTD-09			40	2				
GTX-10a		l .			1Q			
GTX-10b		1			2Q			
GTI-10		1			3Q			
GTD-10					4Q			
GTX-11a						1Q		
GTX-11b						2Q		
BMDS Overlay 11-2						3Q,4Q		

Missile Defense A	Agency (MDA) Exhi	ibit R-4A Schedul	e Detail			Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component I					MENCLATURE 8C Ballistic Mis	sile Defense Tes		
Schedule Profile	FY 2007	FY 2008	FY	2009	FY 2010	FY 2011	FY 2012	FY 2013
GTI-11						3Q		
GTD-11						4Q		
GTX-12a							1Q	
GTX-12b							2Q	
GTI-12							3Q	
GTD-12							4Q	
GTX-13a								1Q
GTX-13b								2Q
GTI-13								3Q
GTD-13								4Q
System Flight Tests								
FTM-13		1Q						
FTT-08		1Q						
JFTM-01		1Q						
FTG-04		2Q						
NFIRE-2b		2Q-3Q						
AST-13		3Q						
FTB-01		3Q						
FTT-09		3Q						
(PAC) 7-2		4Q						
ATM-48		4Q						
FTG-05		4Q						
FTT-10		4Q						
PAC3 7-2		4Q						
JFTM-02				1Q				
FTG-06				2Q				
FTM-14				2Q				
FTS-01				2Q				
FTX-04				2Q				
PAC3 7-3				2Q				
FTG 08-4				3Q				

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Missile Defense Ag	ency (MDA) Exhi	bit R-4A Schedule	e Detail		Date February 200)8	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Dev			R-1 NC	MENCLATURE 88C Ballistic Mis			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
FTK-01			3Q				
FTS-02			3Q				
FTT-11			3Q				
PAC/Caravan-2			3Q				
FTG-07			4Q				
FTL-01			4Q				
FTM-15			4Q				
FTT-12			4Q				
FTX-05			4Q				
PATRIOT 16-2			4Q				
JFTM-03				1Q			
DS-01				2Q			
FTG-08				2Q			
FTL-02				2Q			
FTP-01				2Q			
FTT-13				2Q			
FTL-03				3Q			
FTT-14				3Q			
FTX-06/FTS-03				3Q			
DS-02				4Q			
FTG-09				4Q			
FTM-16				4Q			
FTK-02					1Q		
FTL-04					1Q		
JFTM-04					1Q		
FTG-10					2Q		
FTL-05					2Q		
FTP-02					2Q		
FTS-04					2Q		
FTT-15 (pending to be combined with another test)					2Q		
DS-03					3Q		

Project: YX04 Test & Evaluation

MDA Exhibit R-4A (PE 0603888C)

Missile Defense Age	nev (MDA) Fyhi	hit R-11 Schodu	o Dotail			Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Dev					MENCLATURE 8C Ballistic Mis	sile Defense Tes		
Schedule Profile	FY 2007	FY 2008	FY	2009	FY 2010	FY 2011	FY 2012	FY 2013
FTG-11						3Q		
FTM-17						3Q		
FTX-07						4Q		
FTK-03							1Q	
FTG-12							2Q	
FTP-03							2Q	
FTT-16 (pending to be combined with another test)							2Q	
FTL-06							3Q	
FTM-18							3Q	
FTG-13							4Q	
FTL-07							4Q	
FTX-08							4Q	
FTG-14								2Q
FTK-04								2Q
FTP-04								2Q
FTT-17 (pending to be combined with another test)								2Q
FTL-08								3Q
FTM-19								3Q
FTG-15								4Q
FTL-09								4Q
FTX-09								4Q
Measurement Tests								
FTC-04		3Q						
FTC-05					3Q			
FTC-06						2Q		
FTC-07							2Q	
FTC-08								2Q
Glory Trips (USAF Operational)/Potential BMDS Tests								
GT-196		2Q						
GT-197		3Q						

FY 2013
FY 2013
3Q

				Date			
Missile Defense Agency (MDA) Exhibit R-2A R	DT&E Project Justif	fication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and Prote	otypes (ACD&P)	0603888C	Ballistic Mis	ssile Defense	Test and Ta	argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0804 Test & Evaluation Block 2006	120,381	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
Note					•		

Note:

Starting in FY08, funding for all content (with the exception of Test Planning and Design and Targets) in budget projects 0804 and 0904 is included within budget projects AX04, BX04, CX04, EX04, and WX04. Budget project DX04 contains funding for 3rd Site and Two-Stage Booster Testing starting in FY10. Starting in FY08, funding for Test Planning and Design is included within budget project YX04.

A. Mission Description and Budget Item Justification

Test & Evaluation (T&E) Block Testing:

The Missile Defense Agency (MDA) T&E program has six primary purposes: 1) to collect data to demonstrate and assess the Ballistic Missile Defense System (BMDS); 2) to collect data to demonstrate and assess the block capability; 3) to identify areas where technology can increase overall system performance; 4) to identify BMDS Issues; 5) to provide anchoring and validation data for modeling and simulation (M&S) tools; and 6) to support early, partial, and full capability readiness decisions.

MDA structures the BMDS T&E program around two-year, capability-based block increments with upgrades and fielding opportunities for new capabilities occurring throughout the block. These blocks are focused on a specific threat scenario that may be encountered in defending the US and its allies against ballistic missile threats. The T&E activities to be performed in each block are determined by progress made toward developing BMDS capabilities in previous blocks, with each block offering more complex and more realistic scenarios for system-level tests. Beginning in FY08 a new block construct has been developed which is described in budget projects AX04, BX04, CX04, DX04, EX04, and WX04.

The BMDS developmental and operational test program encompasses all T&E activities associated with technology developments, demonstrations, experiments, research, deployment, and maintenance activities. The T&E program describes test methods and approaches that the CTF uses to test element capabilities to meet the system-necessary capabilities delineated in the System Specification Documents and Interface Design Documents. The MDA T&E program provides test data to support assessments used to document and determine BMDS effectiveness. The BMDS testing approach addresses the system wide test objective development process, Engagement Sequence Group (ESG) test environments, testing methodologies (i.e., M&S, ground testing, flight testing), and identifies the test resources (e.g., Test Bed, M&S tools, targets, ranges) required to provide test data, that when combined with analysis of data from multiple sources, will contribute to verification of the BMDS capability.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets
T&E Block Funding: Funding levels identified support all BMDS Flight Tests (FTs) (to include any C and Ground Tests (GT)). Funding provides manpower, range and logistics suppo execution, data collection, analysis and range and auxiliary sensor support. Fund and Risk Reduction/Target of Opportunity (TOO) FTs.	ort to perform specific system FT and GT planning, integration,
Test Operations: Test Operations consists of the FT and GT execution teams which perform detail BMDS test program events, the staffing, management and execution of BMDS T Review requirements and interface with collocated Operational Test Agency (OT currently consists of five distinct TFs: TF A (Ground-based ESG FT), TF B (Aeg TF D (BMDS GT) and TF E (Emerging Technologies). Test Operation products documentation, Operations Requirements (ORs), Test Directives, Executive Test	Task Forces (TF), ensuring the fulfillment of all Executive Test ΓA) representatives. Under the BMDS TF construct Test Operations gis & THAAD ESG FT), TF C (Lower Tier and Characterization), include, but not limited to, detailed test planning and execution

System FTs:

System FTs examine the capability of the BMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects will also provide analysis of each system test event through the Joint Analysis Team (JAT). BMDS FT events also include:

- TOOs: Events (e.g., Minuteman FT, Air Force Space Command operations, or approved foreign launches) that afford the opportunity to exercise some portion of BMDS, to conduct on-board and off-board experiments, and to gather phenomenology data on representative objects and events. These events can be categorized as domestic, foreign cooperative, or non-cooperative tests. TOOs support developmental risk reduction for BMDS FTs through early identification of test integration issues. Specifically, TOOs provide a cost-effective means of exercising and collecting data on component interfaces in a real-time environment; communication links and connectivity, real-time element loading, timing, cueing, tracking capabilities, algorithm development, and test checklists for the Integrated Test Team.
- Critical Measurements and Counter Measures (CMCM) FTs: Events that provide a venue for risk reduction for BMDS block testing, addressing phenomenology, countermeasures and counter-countermeasures requirements, providing critical measurements to support development and validation of algorithms, M&S, discrimination, and new technology demonstrations. CMCM FTs augment various MDA and elements test programs and ensure a coherent, complete, cost effective, and disciplined approach to collecting data/measurements to support characterization of the BMDS mission space (i.e., provide an understanding of how the BMDS visible, infrared and radar sensors perform when observing ballistic missile targets and countermeasures during flight). Requirements are allocated to specific tests.

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

• The CTF Lethality Program seeks to characterize the effectiveness of BMDS engagements and assure 10 USC 2366 requirements for BMDS lethality Live Fire Test and Evaluation are achieved, and to investigate how successful a given BMDS engagement will be in destroying the incoming warhead. Laboratory GTs and FTs tests are defined and executed in response to the MDA system engineer's requirement for data on the resultant space, atmospheric debris and ground effects of engaging high explosive and weapon of mass destruction payloads. FTs data requirements are achieved by leveraging planned BMDS intercept or Measurements Program test events with alternative targets, supplemental payloads and ancillary sensor coverage. The CTF integrates lethality testing across MDA and coordinates with related programs (e.g. PAC-3) to establish an efficient, requirements-driven approach to BMDS lethality characterization. Requirements are allocated to specific test events.

System GTs:

A vigorous System GT program brings together a variety of controllable and flexible testing venues to include high fidelity hardware in the loop tests and nondestructive tests performed in a controlled, repeatable environment. BMDS GT consist of the following:

- BMDS Integrated GTs (GTI) are test event integration exercises that use a test environment to determine the impact of specific threats on a wide variety of proposed engagement scenarios and to provide data for multiple ESGs and multiple threats across a range of environmental conditions. Within the performance and threat space envelope, GTIs provide a wider range of data than can be obtained from flight testing for integration, characterization, verification, and assessment. In addition, data from the GTIs support FT risk reduction and benchmarking of existing M&S that provide insight for improvements of the models used for end-to-end system level performance assessment.
- BMDS Distributed GTs (GTD) are test events that typically follow a GTI where they combine the fielded hardware and software of BMDS Elements to exercise the BMDS communication networks and communication links. During GTDs, actual element sensors are stimulated where possible to obtain data to evaluate both the element and system test objectives. Since GTDs can closely represent the actual BMDS, it is possible that following a GTD and corresponding quick look report some ESGs will become candidates for early delivery to the warfighter.
- BMDS Focused GTs Other (GTX) are typically short duration integration exercises that focus on specific ESGs or functionality. A GTX can test a subset of the BMDS configuration, focusing on specific ESGs with only the required elements participating in the test. Typically, one or more GTXs will precede a GTI as a risk reduction test for the GTI. Additionally, a GTX can be used to test a new capability that was not available during the previous GTI. Since GTXs are intended to be smaller, less complex events, they will be more responsive to schedule adjustments and unplanned test requirement needs.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD) B. Accomplishments/Planned Program Test Operations BMDS Flight Tests (Block 2006) RDT&E Articles (Quantity) FT's examine the capability of the BMDS to detect, track, and engage targe verification of more complex ESGs. These projects also provide analysis of CMCM FT's, and the CTF Lethality Program. FT's are planned and executed to provide anchoring data for M&S tools, to BMDS operational capability in whole or in part. Even though FT's are consystem verification requirements, they only examine a single scenario/vigit FY07 Accomplishments: Planned and executed, the following tests to include but not limited to FTM-12, FTT-08 (1Q FY08), FTM-11a, GT-193, FTT-05, FTT-06, R Conducted planning for FY07 BMDS FT's, included but not limited to 03, GT-198, and FTG-05.	&P) FY ets. Mo of each o collea nducte nette a : FTM	R-1 NOMENCLATUI 0603888C Ballistic Y 2007 51,503 0 Iore advanced tests at h system test event th ect test data to further ed in realistic operation and parts of ESGs and 1-11, FTX-02, FTT-0	Missile Defense Test and FY 2008 0 0 0 0 re planned that will provement the JAT. BMDS re characterize the BMDS onal environments and d do have environmentation 07, FTM-11 Event 4, FT	FY 2009 0 vide data to support S FTs also include TOOs, S, and to demonstrate are critical to achieving al and safety constraints.
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD-B. Accomplishments/Planned Program Test Operations BMDS Flight Tests (Block 2006) RDT&E Articles (Quantity) FTs examine the capability of the BMDS to detect, track, and engage targed verification of more complex ESGs. These projects also provide analysis of CMCM FTs, and the CTF Lethality Program. FTs are planned and executed to provide anchoring data for M&S tools, to BMDS operational capability in whole or in part. Even though FTs are consystem verification requirements, they only examine a single scenario/vigor FY07 Accomplishments: • Planned and executed, the following tests to include but not limited to FTM-12, FTT-08 (1Q FY08), FTM-11a, GT-193, FTT-05, FTT-06, R • Conducted planning for FY07 BMDS FTs, included but not limited to provide and planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, included but not limited to provide planning for FY07 BMDS FTs, include but not limited to pla	&P) FY ets. Mo of each o collea nducte nette a : FTM	R-1 NOMENCLATUI 0603888C Ballistic Y 2007 51,503 0 Iore advanced tests at h system test event th ect test data to further ed in realistic operation and parts of ESGs and 1-11, FTX-02, FTT-0	RE Missile Defense Test and FY 2008 0 0 re planned that will prov brough the JAT. BMDS c characterize the BMDS onal environments and d do have environmenta 07, FTM-11 Event 4, FT	FY 2009 0 vide data to support S FTs also include TOOs, S, and to demonstrate are critical to achieving al and safety constraints.
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 RDT&E Articles (Quantity) FTs examine the capability of the BMDS to detect, track, and engage target verification of more complex ESGs. These projects also provide analysis of CMCM FTs, and the CTF Lethality Program. FTs are planned and executed to provide anchoring data for M&S tools, to BMDS operational capability in whole or in part. Even though FTs are consystem verification requirements, they only examine a single scenario/vigit FY07 Accomplishments: Planned and executed, the following tests to include but not limited to FTM-12, FTT-08 (1Q FY08), FTM-11a, GT-193, FTT-05, FTT-06, R Conducted planning for FY07 BMDS FTs, included but not limited to the following tests for the following tests for the following tests for the following for FY07 BMDS FTs, included but not limited to the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to for the following for FY07 BMDS FTs, included but not limited to following for FY07 BMDS FTs, included but not limited to following for FY07 BMDS FTs, included but not limited to following for FY07 BMDS FTs, included but not limited to following followin	of each o collea nducte nette a	0 Iore advanced tests and h system test event the ect test data to further ed in realistic operation and parts of ESGs and 1-11, FTX-02, FTT-0	o re planned that will pro- nrough the JAT. BMDS c characterize the BMD onal environments and d do have environmenta 07, FTM-11 Event 4, FT	vide data to support S FTs also include TOOs, S, and to demonstrate are critical to achieving al and safety constraints.
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 Planned and executed, the following tests to include but not limited to: FTM-12, FTT-08 (1Q FY08), FTM-11a, GT-193, FTT-05, FTT-06, R Conducted planning for FY07 BMDS FTs, included but not limited to: 				ГG-03 (No test), FTG-03a,
03, 01-198, and 110-03.				ATM-48, FTG-04, FTX-
• Supported BMDS elements in execution of their FY07 program-specif	ic FTs	s and planning of FY	′ 08 FTs.	
• Coordinated planning and integration of multiple elements and compo	nents i	into BMDS level FT	events.	
Refined scenario designs for BMDS FTs to support ESGs identified in	the B	3MDS Integrated Ma	ster Test Plan (IMTP).	
 Provided system-level range support, mission assurance, logistics supp equipment, and pre-mission analysis and studies. 			· · ·	
 Completed development of Kill Assessment Fireball Sensor (KAFS) a planning, reduction and analysis of data measurements collected by the 				and Imager measurements
 Coordinated targets requirements/design to support launch services an Populated the BMDS Test Database with test data to support capability OTAs, and provided validation data for M&S. 				0
OTAS, and provided validation data for M&S.				

t and Targets
FY 2009
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ting functional block ration, and exploration of cation and efficient correction trajectories, geometries, and
gr ic

of performance anomalies based on the capability to test all ESGs using digital representations of realistic threat types, trajectories, geometries, and raid sizes that would be cost prohibitive to do in flight testing. A robust GT program brings together a variety of controllable and flexible testing venues to include high fidelity hardware in the loop tests and nondestructive tests performed in a controlled, repeatable environment. BMDS GTs consist of BMDS Integrated GTs (GTI), BMDS Distributed GTs (GTD), and BMDS GTs Other (GTX).

FY07 Accomplishments:

- Planned and executed the following major GTs, to include but not limited to: GTD-01, GTI-02, GTX-02a and began GTD-02.
- Planned and executed in 1Q FY08 GTD-02, a fully integrated BMDS GT using operational assets [GMD, AN/TPY-2, 2 Aegis Ships, Space-Based Infrared Systems (SBIRS) and 3 Command and Control, Battle Management, Communication (C2BMC) nodes] as well as HWIL assets (PATRIOT, THAAD).
- Supported Warfighter requirements during GTI-02 (including 94th Army Air and Missile Defense Command) with a Cheyenne Mountain Operations Center representation.
- Planned and conducted a GTX-02a that focused on the integration of the THAAD Hardware-in-the-Loop (HWIL) representation into the BMDS.
- Conducted first fully integrated GT (GTD-01) with operational assets (GMD, AN/TPY-2, 2 Aegis ships, SBIRS and 3 C2BMC nodes).
- Refined scenario designs for BMDS GTs to support ESGs identified in the BMDS Integrated Master Test Plan (IMTP).
- Performed detailed planning for GT-03 test campaign.
- Populated the BMDS Test Database with test data to support capability assessments by Systems Engineering, JTAMDO/STRATCOM, and OTAs, and provided validation data for M&S.

			Date						
Missile Defense Agency (MDA) Exhib									
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATU	RE						
RDT&E, DW/04 Advanced Component Development	and Prototypes (ACD&P)	0603888C Ballistic	Missile Defense Test and Tar	rgets					
	FY	7 2007	FY 2008	FY 2009					
Test Analysis and Reporting (Block 2006)		18,797	0	0					
RDT&E Articles (Quantity)		0	0	0					
The CTF Test Analysis and Reporting (TA&R) divis FTs, GTs and TOOs. Maintains and executes all criti									

delivery of TA&R products within a single, integrated, standardized reporting process.

Functional Products and Processes:

- JATs Establish, plan, schedule, and conduct JATs for system tests to coordinate and integrate all component and system analysis and reporting activities. Develop, deliver, and brief all TA&R products to senior leadership: Quick Look Briefing (QLB), Executive Quick Look Briefing (EQLB), Mission Data Review (MDR), Executive Mission Data Review (EMDR), and Final Test Report.
- Data Management Develop and publish Integrated Data Management Plans (IDMP), coordinating and documenting all component and system data products and requests. Develop Data Handling Plans and provide event specific data distribution reports, synchronized with Missile Defense Data Center, to ensure timely and complete data distribution in accordance with (IAW) IDMP. Provide inputs to the National Test Ranges Universal Documentation System to ensure availability of critical data supporting TA&R conduct.
- Data Collection Enables collaboration and leveraging of element and system level data collection assets to create efficiencies in availability and distribution of IDMP products addressing system analysis requirements.
- Data Processing Process all raw data files and test configurations into integrated TA&R databases to support truth and system analysis and reporting activities. Deliver databases (Integrated System Configuration Database, Truth Data Package (TDP), and Integrated Analysis Data Package) to OTA, BMDS Capability Assessment, C2BMC, and element primes IAW IDMP.
- Truth Data Develop Truth Data Requirements Document (TDRD) to ensure that auxiliary sensor data collection to support truth data analysis and TDP creation are captured in the IDMP, OR, and test resource documentation. The TDRD defines and documents mission specific auxiliary sensor data collection requirements and provides truth requirements for mission architecture development. Develop pre-mission prediction packages (metric, optical, and radar) and deliver to truth sensors in support of their pre-mission test support planning. Develop and deliver post-mission TDP to data requestors as captured in the IDMP as an integrated truth source to anchor post-mission analysis activities. Plan, schedule, and execute post mission truth summits to coordinate auxiliary sensor inputs to post-mission executive briefs and data reviews. Conduct post-mission truth sensor data quality assessments to determine the quality and quantity of data sources with respect to truth analysis requirements, and capture lessons learned for future truth data collection and analysis activities.

Project: 0804 Test & Evaluation Block 2006

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		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

• Analysis - Develop analysis data requirements documents to ensure IDMP contains all products required to support analysis of system test objectives (e.g., Systems Engineering Behavioral Objectives, ESG, Characterization Points and System Performance Parameters). Develop Analysis Execution Plans to document analysis process, timelines, and areas of responsibility. Develop analysis processes to capture test sequences, analysis observations, and Tactics, Techniques, and Procedure execution for use in test analysis. Develop and deliver all post test analysis reports (Final Test Report, BMDS Characterization Brief/Report). Develop and deliver analysis content in support of the QLB, EQLB, MDR, and EMDR. Develop and submit system level Test Incident Reports found during TA&R process.

Distributed Analysis Tools and Infrastructures:

Develop, integrate, test, train, deploy, and operate spiral releases of software tools to automate and enhance the TA&R process of the evolving BMDS test program and associated data products. Tools include: Data Management System for data management, Checklist for Online Observation and Reporting for test analysis observations, All Sensors Truth Evaluation and Reporting for truth analysis, Modular Analysis and Reporting Suite for system analysis and PHOENIX for common tool framework.

Develop, coordinate, implement, and maintain requirements and capabilities for distributed and virtual data architectures, to include the Joint Data Analysis Center (JDAC), supporting timely data distribution, processing, and analysis across a distributed TA&R community; [i.e., JDAC, Missile Defense Integration and Operations Center (MDIOC), test ranges, (Federally Funded Research and Development Centers (FFRDCs), etc.]. Develop and maintain System Security Authorization Agreements for all test TA&R tools and nodes to ensure risk mitigation IAW latest BMDS information assurance guidance and continued authority to operate in support of on ongoing TA&R operations. Maintain hardware and software configuration management of all TA&R tools and systems.

FY07 Accomplishments:

- Provided TA&R product development and delivery to include but not limited to the following tests: GTD-01, FTM-11 Event 4, FTM-11a, GT-193, FTX-02, FTT-07, GTG-04-3, GTX-02a, FTG-03, FTG-03a, NFIRE 2a and GTI-02.
- Planned, scheduled and facilitated the integration of BMDS analysis activities within joint venues.
- Continued standardization of TA&R tools and processes.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justif	ïcation	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)	R-1 NOMENCL 0603888C Bal	.ATURE <mark>listic Missile Defense Test</mark> ar	nd Targets
	FY	¥ 2007	FY 2008	FY 2009
Test Planning and Design (Block 2006)		5,249	0	0
RDT&E Articles (Quantity)		0	0	0
Note: Starting in FY08, funding for Test Planning and Design is inc	luded within	n budget project	YX04.	
Test Planning and Design includes campaign-level planning and des adjudication of test objectives from MDA System Engineering, the of test resource requirements, the establishment of a baseline test ca representatives. These efforts culminate in the development and pub	OTAs and th mpaign time	ne Warfighters, eline, and the in	validation of test venues an terface with collocated OTA	d test scenarios, definition A and Advanced Systems

FY07 Accomplishments:

- Continued to revise and fully coordinate the BMDS IMTP.
- Completed a major revision of the BMDS IMTP that expanded the document to cover two years. Also, initiated a major revision to the IMTP including incorporation of the new MDA block structure, establishment of test campaigns mapped to the Director's knowledge points and fielding decisions, and also restructured to a FY timeline covering FY08-FY09.

BMDS test environment, supporting test organizations, developmental and operational test programs, and management of MDA test resources.

• Performed test planning and design to include but not limited too the GT Campaign 3 (GT-03) and FTG-04 FT, FTX-05, PATRIOT participation in THAAD and Aegis BMDS FT at PMRF, Space Tracking Survelliance System TOO FTs, and Discrimination FTs.

								Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense								
Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888

C. Other Program Funding Summary

Project: 0804 Test & Evaluation Block 2006

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Missile Defense Agency (MDA)	Exhibit R-2A F	CDT&E Projec	t Justificat	on	Date Feb	ruary 2008		
APPROPRIATION/BUDGET ACTIVITY				1 NOMENCLAT				
RDT&E, DW/04 Advanced Component Develop	nent and Prot	totypes (ACD	&P) 0	6038888C Ballist	ic Missile Def	ense Test and	l Targets	
								Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,14	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,8	7 500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889 413,934 432,20		62 482,947	605,219	561,947	571,498	3,493,696	
PE 0603891C Special Programs - MDA	347,377	196,892	288,3	5 304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,78	3 1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402 231,528 242		242,44	1 266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,45	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0 16,552		29,7'	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,27	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,95	5 55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,98	32 73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations								
Center	104,389	78,557	96,40	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0		0 0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,97	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243		0 0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0		0 0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,73	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,4	70,355	69,855	69,855	69,855	540,115

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding through the use of two year blocks. The RTO directs a team of various internal staff (Government and Scientific, Engineering and Technical Assistance (SETA)), executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDC and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

Missile	Defense Agenc	y (MDA) Exhibit R-3	RDT&F Projec	t Cost Analysis		Date Februa	rv 2008				
APPROPRIATION/BUDGET A		y (MDA) Exilibit K-5	KD I GE I I Ojec		NOMENCLATUR		19 2000				
RDT&E, DW/04 Advanced	Component	Development and P	rototypes (AC	D&P) 0603	8888C Ballistic	Missile Defens	e Test and Targ	ets			
I. Product Development Cost (\$ in Thousands)											
		Í			FY 2008		FY 2009				
	Contract Performing		Total		Award/		Award/				
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total			
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost			
Subtotal Product Development											
Remarks											
II. Support Costs Cost (\$ in Thousa	nds)									
II					FY 2008		FY 2009				
	Contract	Performing	Total		Award/		Award/				
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total			
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost			
Subtotal Support Costs											
Remarks III. Test and Evaluation											
111. Lest and Evaluation	Cost (\$ in	Thousands)									
III, Test and Evaluation	<u>Cost (\$ 1n '</u>	Thousands)			FY 2008		FY 2009				
III. Test and Evaluation	Cost (\$ in Contract	Performing	Total		FY 2008 Award/		FY 2009 Award/				
111, 1 est anu Evaluation			Total PYs	FY 2008		FY 2009		Total			
	Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost			
Cost Categories: Test Operations BMDS Flight	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg				
Cost Categories: Test Operations BMDS Flight Tests (Block 2006)	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg				
Cost Categories: Test Operations BMDS Flight Tests (Block 2006)	Contract Method & Type	Performing Activity & Location USASMDC, WSMR, MITLL, JNIC, & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost			
Cost Categories: Test Operations BMDS Flight Tests (Block 2006) BMDS FT	Contract Method	Performing Activity & Location USASMDC, WSMR, MITLL, JNIC, & VAFB/ AL, NM, MA, HI & CA	PYs Cost 98,146	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost 98,146			
Cost Categories: Test Operations BMDS Flight Tests (Block 2006) BMDS FT BMDS Risk/ECPS	Contract Method & Type	Performing Activity & Location USASMDC, WSMR, MITLL, JNIC, & VAFB/ AL, NM, MA, HI	PYs Cost 98,146 3,824	Cost 0 0	Award/ Oblg Date	Cost 0 0	Award/ Oblg Date	Cost 98,146 3,824			
Cost Categories: Test Operations BMDS Flight	Contract Method & Type Various	Performing Activity & Location USASMDC, WSMR, MITLL, JNIC, & VAFB/ AL, NM, MA, HI & CA	PYs Cost 98,146	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost 98,146			

APPROPRIATION/BUDGET A	CTIVITY			R-1	NOMENCLATU	RE									
RDT&E, DW/04 Advanced	Component 2	Development and H	Prototypes (AC	D&P) 060	3888C Ballistic	Missile Defense	le Defense Test and Targets								
					FY 2008		FY 2009								
	Contract	Performing	Total		Award/		Award/								
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total							
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost							
		JNIC/			1										
		Colorado Springs,													
BMDS GT/MDIE	Various	CO	131,678	0	N/A	0	N/A	131,678							
		JNIC/				Т	T								
		Colorado Springs,	17 500	0	37/4		37/4	17.500							
Exercise Overlays	Various	CO	17,529	0	N/A	0	N/A	17,529							
Test Analysis and Reporting (Block 2006)															
		USASMDC/													
FTC-02/FTX-05	Various	Huntsville, AL	15,719	0	N/A	0	N/A	15,719							
		CTF TA&R/													
Test Analysis and Reporting		Huntsville, AL	19,987	0	N/A	0	N/A	19,987							
Test Planning and Design (Block 2006)															
		Boeing/													
Test Planning and Design	Various	Huntsville, AL	7,311	0		0	N/A	7,311							
Subtotal Test and Evaluation			319,085	0		0		319085							
Remarks IV. Management Services	Cost (\$ in	n Thousands)			FY 2008		FY 2009								
	Contract	Performing	Total		Award/		Award/								
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total							
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost							
Subtotal Management Services				2.550				2000							
Remarks	I				<u> </u>										
Project Total Cost			319,085	0		0		319,085							
Remarks	•	• •			• • •	ŀ									

Missile D APPROPRIATION/BUDGET ACTIVIT	efense Agenc	ey (N	ÍD A) Ex	hibi	t R-4	Sch	edul	e Pr	ofile		1 NC	JME	NCI				Fel	orua	ary 2	2008	8						—	
													DMENCLATURE 88C Ballistic Missile Defense Test and Targets																
Fiscal Year		20	007			20	008			20	009			2010					2011			2012					2013		
		2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
System Flight Tests									_				_				_				_				_				
FTM-11 (Test Failure)																													
P6L-2																													
P6L-3																													
P6L-1																												Γ	
AST-11																												Γ	
AST-12		\diamond																										Γ	
FTT-06		\diamond																											
FTX-02																												Γ	
GEM ATM 46 c/d		\diamond																											
RDC-01c		\diamond																										Γ	
FTG-03 (No Test)			∇																									Γ	
FTM-11 Event 4			∇																									Γ	
FTM-12																													
										L	egen													-					
							omple (com				_	∆ ☆	2	Signi Miles	ificant stone	Ever Deci	nt (pla sion (inned) plann	ed)										
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				tem L nplete			comp	lete)							em Le ned A			lanne	d)										

Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile														Date February 2008															
														 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets 															
Fiscal Year		20)07		2008					20)09	09			2010			2011				2012				2013			
	1 2 3 4				1	2	3	4	1	2	I	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
System Flight Tests														<u> </u>															
FTT-05				· [Γ						
FTT-07			∇	'																									
PAC3 7-1																													
FTG-03a																													
FTM-11a																												\square	
NFIRE-2a																													
RDC-01d																													
Glory Trips (USAF Operational)/Potential BMDS Tests																													
GT-193																													
System Ground Tests																													
GTD-01																													
GTX-02a																													
GTG 04-3			\diamond																										
	Legend Significant Event (complete) △ Significant Event (plan													1			_												
		Significant Event (complete) Milestone Decision (complete)										<u> </u> 	2	Mile	stone	e Deci	ision (planr											
					Fest (d			oto)				<			nent T														
		System Level Test (complete)												nned A			planned)												

Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile														Date February 2008														
APPROPRIATION/BUDGET ACTIVITY														 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets 														
Fiscal Year		20	07		2008					20	09)9		2010			2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Ground Tests																												
GTG 04-4.a			\diamond																									
GTI-02																												
GTD-02																												
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		System Level Test (complete)										7				est (p	lanne	ed)			-							
	▲	_	Complete Activity									Δ_	<u> </u>	Plar	ned A	ctivit	у											
Project: 0804 Test & Evaluation Block 2006																						Ν	MDA	Exhi	bit R-	4 (PF	E 060)3888C)

ency (MDA) Exhi	hit R-4A Schedul	le Detail			Date February 20	08	
FY 2007	FY 2008	FY 2	2009	FY 2010	FY 2011	FY 2012	FY 2013
112007	112000	112	.007	112010	112011	1 1 2012	112015
10							
3Q							
3Q							
3Q							
4Q							
4Q							
4Q							
4Q							
2Q							
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2Q							
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	FY 2007 1Q 1Q 1Q 1Q 1Q 2Q 2Q 2Q 2Q 2Q 3Q 2Q 2Q 3Q 3Q 3Q 3Q 3Q 3Q 2Q 3Q 3Q 3Q 3Q 3Q 3Q 3Q	FY 2007 FY 2008 1Q 1 2Q 2 2Q 2 2Q 2 3Q 3 3Q 3 3Q 3 3Q 3 3Q 3 3Q 3 4Q 4 2Q <td>FY 2007 FY 2008 FY 2 1Q 1 2Q 1 2Q 1 2Q 1 3Q 1 4Q 1 4Q 1 4Q 1 4Q 1 2Q 1 1Q 1 2Q 1 3Q 1 4Q 1 4Q 1 1Q 1 2Q 1 <</td> <td>R-1 NOM 0603888 FY 2007 FY 2008 FY 2009 1Q </td> <td>R-1 NOMENCLATURE 0603888C Ballistic Miss FY 2007 FY 2008 FY 2009 FY 2010 1Q </td> <td>Figure (MDA) Exhibit R-4A Schedule Detail R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test Revelopment and Prototypes (ACD&P) R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 1Q </td> <td>February 2008 February 2008 R-1 NOMENCLATURE 603888C Ballistic Missile Defense Test and Targets FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2010 FY 2011 FY 2012 FY 2011 I</td>	FY 2007 FY 2008 FY 2 1Q 1 2Q 1 2Q 1 2Q 1 3Q 1 4Q 1 4Q 1 4Q 1 4Q 1 2Q 1 1Q 1 2Q 1 3Q 1 4Q 1 4Q 1 1Q 1 2Q 1 <	R-1 NOM 0603888 FY 2007 FY 2008 FY 2009 1Q	R-1 NOMENCLATURE 0603888C Ballistic Miss FY 2007 FY 2008 FY 2009 FY 2010 1Q	Figure (MDA) Exhibit R-4A Schedule Detail R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test Revelopment and Prototypes (ACD&P) R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 1Q	February 2008 February 2008 R-1 NOMENCLATURE 603888C Ballistic Missile Defense Test and Targets FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2009 FY 2010 FY 2011 FY 2012 IQ FY 2010 FY 2011 FY 2012 FY 2011 I

Project: 0804 Test & Evaluation Block 2006

Missile Defens	se Agency (MDA) Exh	ibit K-4A Schedul	e Detail	R-1 NOM	MENCLATURE	February 20	08	
DT&E, DW/04 Advanced Componen	t Development and	Prototypes (ACE)&P)			sile Defense Tes	t and Targets	
chedule Profile	FY 2007	FY 2008		2009	FY 2010	FY 2011	FY 2012	FY 2013
GTI-02	4Q							
GTD-02		1Q						

				Date			
Missile Defense Agency (MDA) Exhibit R-2A RDT	&E Project Justi	fication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	ENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototy	pes (ACD&P)	0603888C	Ballistic Mi	ssile Defense	Test and Ta	argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0904 Test & Evaluation Block 2008	36,282	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
Note:	•	•	•		•		

Note:

Starting in FY08, funding for all content (with the exception of Test Planning and Design and Targets) in budget projects 0804 and 0904 is included within budget projects AX04, BX04, CX04, EX04, and WX04. Budget project DX04 contains funding for 3rd Site and Two-Stage Booster Testing starting in FY10. Starting in FY08, funding for Test Planning and Design is included within budget project YX04.

A. Mission Description and Budget Item Justification

Test & Evaluation (T&E) Block Testing:

The Missile Defense Agency (MDA) T&E program has six primary purposes: 1) to collect data to demonstrate and assess the Ballistic Missile Defense System (BMDS); 2) to collect data to demonstrate and assess the block capability; 3) to identify areas where technology can increase overall system performance; 4) to identify BMDS Issues; 5) to provide anchoring and validation data for modeling and simulation (M&S) tools; and 6) to support early, partial, and full capability readiness decisions.

MDA structures the BMDS T&E program around two-year, capability-based block increments with upgrades and fielding opportunities for new capabilities occurring throughout the block. These blocks are focused on a specific threat scenario that may be encountered in defending the US and its allies against ballistic missile threats. The T&E activities to be performed in each block are determined by progress made toward developing BMDS capabilities in previous blocks, with each block offering more complex and more realistic scenarios for system-level tests. Beginning in FY08 a new block construct has been developed which is described in budget projects AX04, BX04, CX04, DX04 EX04, and WX04.

The BMDS developmental and operational test program encompasses all T&E activities associated with technology developments, demonstrations, experiments, research, deployment, and maintenance activities. The T&E program describes test methods and approaches that the CTF uses to test element capabilities to meet the system-necessary capabilities delineated in the System Specification Documents and Interface Design Documents. The MDA T&E program provides test data to support assessments used to document and determine BMDS effectiveness. The BMDS testing approach addresses the system wide test objective development process, Engagement Sequence Group (ESG) test environments, testing methodologies (i.e., M&S, ground testing, flight testing), and identifies the test resources (e.g., Test Bed, M&S tools, targets, ranges) required to provide test data, that when combined with analysis of data from multiple sources, will contribute to verification of the BMDS capability.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	ication	Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missil	e Defense Test and Targets
T&E Block Funding: Funding levels identified support all BMDS Flight Tests (FTs) (to include any C and Ground Tests (GT)). Funding provides manpower, range and logistics support execution, data collection, analysis and range and auxiliary sensor support. Fund and Risk Reduction/Target of Opportunity (TOO) FTs.	ort to perform specific syst	em FT and GT planning, integration,
Test Operations: Test Operations consists of the FT and GT execution teams which perform detail BMDS test program events, the staffing, management and execution of BMDS T Review requirements and interface with collocated Operational Test Agency (Of currently consists of five distinct TFs: TF A (Ground-based ESG FT), TF B (Aeg TF D (BMDS GT) and TF E (Emerging Technologies). Test Operation products documentation, Operations Requirements (ORs), Test Directives, Executive Test	Task Forces (TF), ensuring TA) representatives. Unde gis & THAAD ESG FT), ' include, but not limited to	g the fulfillment of all Executive Test r the BMDS TF construct Test Operations TF C (Lower Tier and Characterization), o, detailed test planning and execution

System FTs:

System FTs examine the capability of the BMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects will also provide analysis of each system test event through the Joint Analysis Team (JAT). BMDS FT events also include:

- TOOs: Events (e.g., Minuteman FT, Air Force Space Command operations, or approved foreign launches) that afford the opportunity to exercise some portion of BMDS, to conduct on-board and off-board experiments, and to gather phenomenology data on representative objects and events. These events can be categorized as domestic, foreign cooperative, or non-cooperative tests. TOOs support developmental risk reduction for BMDS FTs through early identification of test integration issues. Specifically, TOOs provide a cost-effective means of exercising and collecting data on component interfaces in a real-time environment; communication links and connectivity, real-time element loading, timing, cueing, tracking capabilities, algorithm development, and test checklists for the Integrated Test Team.
- Critical Measurements and Counter Measures (CMCM) FTs: Events that provide a venue for risk reduction for BMDS block testing, addressing phenomenology, countermeasures and counter-countermeasures requirements, providing critical measurements to support development and validation of algorithms, M&S, discrimination, and new technology demonstrations. CMCM FTs augment various MDA and elements test programs and ensure a coherent, complete, cost effective, and disciplined approach to collecting data/measurements to support characterization of the BMDS mission space (i.e., provide an understanding of how the BMDS visible, infrared and radar sensors perform when observing ballistic missile targets and countermeasures during flight). Requirements are allocated to specific tests.

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

• The CTF Lethality Program seeks to characterize the effectiveness of BMDS engagements and assure 10 USC 2366 requirements for BMDS lethality Live Fire Test and Evaluation are achieved, and to investigate how successful a given BMDS engagement will be in destroying the incoming warhead. Laboratory GTs and FTs tests are defined and executed in response to the MDA system engineer's requirement for data on the resultant space, atmospheric debris and ground effects of engaging high explosive and weapon of mass destruction payloads. FTs data requirements are achieved by leveraging planned BMDS intercept or Measurements Program test events with alternative targets, supplemental payloads and ancillary sensor coverage. The CTF integrates lethality testing across MDA and coordinates with related programs (e.g. PAC-3) to establish an efficient, requirements-driven approach to BMDS lethality characterization. Requirements are allocated to specific test events.

System GTs:

A vigorous System GT program brings together a variety of controllable and flexible testing venues to include high fidelity hardware in the loop tests and nondestructive tests performed in a controlled, repeatable environment. BMDS GT consist of the following:

- BMDS Integrated GTs (GTI) are test event integration exercises that use a test environment to determine the impact of specific threats on a wide variety of proposed engagement scenarios and to provide data for multiple ESGs and multiple threats across a range of environmental conditions. Within the performance and threat space envelope, GTIs provide a wider range of data than can be obtained from flight testing for integration, characterization, verification, and assessment. In addition, data from the GTIs support FT risk reduction and benchmarking of existing M&S that provide insight for improvements of the models used for end-to-end system level performance assessment.
- BMDS Distributed GTs (GTD) are test events that typically follow a GTI where they combine the fielded hardware and software of BMDS Elements to exercise the BMDS communication networks and communication links. During GTDs, actual element sensors are stimulated where possible to obtain data to evaluate both the element and system test objectives. Since GTDs can closely represent the actual BMDS, it is possible that following a GTD and corresponding quick look report some ESGs will become candidates for early delivery to the warfighter.
- BMDS Focused GTs Other (GTX) are typically short duration integration exercises that focus on specific ESGs or functionality. A GTX can test a subset of the BMDS configuration, focusing on specific ESGs with only the required elements participating in the test. Typically, one or more GTXs will precede a GTI as a risk reduction test for the GTI. Additionally, a GTX can be used to test a new capability that was not available during the previous GTI. Since GTXs are intended to be smaller, less complex events, they will be more responsive to schedule adjustments and unplanned test requirement needs.

Missile Defense Agency (MDA) Exhibit R-2A RDT&	E Project Justif	ication	February 2008	
PPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLAT	URE	
RDT&E, DW/04 Advanced Component Development and Prototype	es (ACD&P)	0603888C Ballist	c Missile Defense Test a	nd Targets
3. Accomplishments/Planned Program		·		
	F	Y 2007	FY 2008	FY 2009
est Operations BMDS Ground Tests (Block 2008)		12,536	0	
DT&E Articles (Quantity) TS, using M&S that have been validated using anchoring data fro		0	0	
enues to include high fidelity hardware in the loop tests and nondonsist of BMDS GTIs, BMDS GTDs, and BMDS GTXs.	lestructive tes	ts performed in a c	ontrolled, repeatable env	vironment. BMDS GTs
Y07 Accomplishments: Conducted planning activities for GTX-03a, a test focusing on Conducted initial planning activities for GTI-03, a fully integra Refined scenario designs for BMDS Ground Tests to support H Supported elements in planning FY-08 ground tests. Began planning and coordinating element participation in GT-	ated ground te Engagement S 09 (in FY09)	est and the subseque equence Groups (E campaign.	ent distributed test GTD SGs) in the Integrated I	Master Test Plan (IMTP).
Conducted planning activities for GTX-03a, a test focusing on Conducted initial planning activities for GTI-03, a fully integra Refined scenario designs for BMDS Ground Tests to support H Supported elements in planning FY-08 ground tests. Began planning and coordinating element participation in GT-	ated ground te Engagement S 09 (in FY09)	est and the subsequed equence Groups (Fe campaign.	ent distributed test GTD ESGs) in the Integrated I FY 2008	Master Test Plan (IMTP). FY 2009
 Conducted planning activities for GTX-03a, a test focusing on Conducted initial planning activities for GTI-03, a fully integra Refined scenario designs for BMDS Ground Tests to support I Supported elements in planning FY-08 ground tests. 	ated ground te Engagement S 09 (in FY09)	est and the subseque equence Groups (E campaign.	ent distributed test GTD SGs) in the Integrated I	Master Test Plan (IMTP). FY 2009

FTs are planned and executed to provide anchoring data for M&S tools, to collect test data to further characterize the BMDS, and to demonstrate BMDS operational capability in whole or in part. Even though FTs are conducted in realistic operational environments and are critical to achieving system verification requirements, they only examine a single scenario/vignette and parts of ESGs and do have environmental and safety constraints.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Proje	ect Justification	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (AC	R-1 NOMENCLA		argets
 FY07 Accomplishments: Supported and continued coordination efforts / integration activities FY07 program specific FTs. Continued planning for FY08 FTs. Completed and integrated a Instrumented Lethality package into the Installed telemetry receiver for PAC-3 FT 7-2 and provided initial pl Collected and assessed debris from THAAD LFT&E sled tests (high Refined scenario designs for BMDS Flight Tests to support Engager Support target planning and development for future flight tests. 	MBRV-3 RV for use on lanning and integration for h-fidelity test articles).	PAC-3 FT 7-2 Associated Op or PAC-3 FT 7-2 AO.	eration (AO).
	FY 2007	FY 2008	FY 2009
Test Analysis and Reporting (Block 2008) RDT&E Articles (Quantity)	2,107	0	(
The CTF Test Analysis and Reporting (TA&R) division develops, integr	ÿ	Ŭ	Demonified system
FTs, GTs, and TOOs. Maintains and executes all critical path TA&R fur delivery of TA&R products within a single, integrated, standardized rep- Functional Products and Processes:	nctions, tools, processes,	-	
 JATs - Establish, plan, schedule, and conduct JATs for system tests to activities. Develop, deliver and brief all TA&R products to senior leas (EQLB), Mission Data Review (MDR), Executive Mission Data Review Data Management - Develop and publish Integrated Data Management data products and requests. Develop Data Handling Plans and provide 	adership: Quick Look Br view (EMDR), and Final ent Plans (IDMP), coordi	iefing (QLB), Executive Quick Test Report. nating and documenting all co	k Look Briefing

- Data Products and requests. Develop Data Handling Plans and provide event specific data distribution reports, synchronized with Missile Defend Data Center, to ensure timely and complete data distribution in accordance with (IAW) IDMP. Provide inputs to the National Test Ranges Universal Documentation System to ensure availability of critical data supporting TA&R conduct.
- Data Collection Enables collaboration and leveraging of element and system level data collection assets to create efficiencies in availability and distribution of IDMP products addressing system analysis requirements.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi		Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603888C Ballistic Missil	le Defense Test and Targets
 Data Processing - Process all raw data files and test configurations into integreporting activities. Deliver databases [Integrated System Configuration Data Package] to OTA, BMDS Capability Assessment, C2BMC, and Element Pri Truth Data - Develop Truth Data Requirements Document (TDRD) to ensure and TDP creation are captured in the IDMP, OR, and test resource document sensor data collection requirements and provide truth requirements for missip packages (metric, optical, and radar) and deliver to truth sensors in support or mission TDP to data requestors as captured in the IDMP as an integrated trutt and execute post mission truth summits to coordinate auxiliary sensor inputs mission truth sensor data quality assessments to determine the quality and qu capture lessons learned for future truth data collection and analysis activities Analysis - Develop analysis data requirements documents to ensure IDMP co objectives (e.g., Systems Engineering Based Objectives, ESG, Characterizati Execution Plans to document test analysis process, timelines, and areas of re analysis reports (Final Test Report, BMDS Characterization Brief/Report). If MDR, and EMDR. Develop and submit system level Test Incident Reports for analysis for the system for the system level Test Incident Reports for the system	abase, Truth Data Package mes IAW IDMP. e that auxiliary sensor data tation. The TDRD defines on architecture development of their pre-mission test sur- th source to anchor post- to post-mission executive antity of data sources with ontains all products requir- ion Points and System Per- sponsibility. Develop anal use in post test analysis p Develop and deliver analysis	e (TDP), and Integrated Analysis Data a collection to support truth data analysis and documents mission specific auxiliary ent. Develop pre-mission prediction pport planning. Develop and deliver post- nission analysis activities. Plan, schedule, e briefs and data reviews. Conduct post- h respect to truth analysis requirements, and red to support analysis of system test formance Parameters). Develop Analysis lysis processes to capture test sequences, rocess. Develop and deliver all post test sis content in support of the QLB, EQLB,
Distributed Analysis Tools and Infrastructures: Develop, integrate, test, train, deploy, and operate spiral releases of software too BMDS test program and associated data products. Tools include: Data Managen and Reporting for test analysis observations, All Sensors Truth Evaluation and R for system analysis and PHOENIX for common tool framework.	nent System for data mana	agement, Checklist for Online Observation
Develop, coordinate, implement, and maintain requirements and capabilities for Analysis Center (JDAC), supporting timely data distribution, processing, and an JDAC, Missile Defense Integration and Operations Center (MDIOC), test ranges etc.]. Develop and maintain System Security Authorization Agreements for all T information assurance guidance and continued authority to operate in support of configuration management of all TA&R tools and systems.	alysis across a distributed s, Federally Funded Resea A&R tools and nodes to e	test analysis and reporting community [i.e., arch and Development Center (FFRDC), ensure risk mitigation IAW latest BMDS
Project: 0904 Test & Evaluation Block 2008		MDA Exhibit R-2A (PE 0603888C)

Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justification	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	R-1 NOMENCE		Targets
 FY07 Accomplishments: Developed and integrated a remote TA&R facility at the MDIO distributed flight and ground test analysis workforce. Planned, scheduled and facilitated integration of BMDS analysi Continued standardization of TA&R tools and processes. Supported data analysis and data products for GT-02 and GT-03 	s activities within joint ven	C	e analysis across the
	FY 2007	FY 2008	FY 2009
Test Planning and Design (Block 2008)	1,381	0	0
RDT&E Articles (Quantity)	0	0	0
Note: Starting in FY08, funding for Test Planning and Design is includes campaign-level planning and de			

Test Planning and Design includes campaign-level planning and design functions for the BMDS Test Program to include the collection and adjudication of test objectives from MDA System Engineering, the OTAs and the Warfighters, validation of test venues and test scenarios, definition of test resource requirements, the establishment of a baseline test campaign timeline, and the interface with collocated OTA and Advanced Systems representatives. These efforts culminate in the development and publication the IMTP. The IMTP is the overarching document that describes the BMDS test environment, supporting test organizations, developmental and operational test programs, and management of MDA test resources.

FY07 Accomplishments:

- Completed a major revision of the BMDS IMTP that expanded the document to cover two years. Also, initiated a major revision to the IMTP including incorporation of the new MDA block structure, establishment of test campaigns mapped to the Director's knowledge points and fielding decisions, and also restructured to a FY timeline covering FY08-FY09.
- Performed test planning and design to include but not limited too the GT Campaign (GT-3) and GBI LO AN/TPY-2, PATRIOT at PMRF, FTX-05 (Fylingdales characterization test), FY08 flight tests, and discrimination FT Campaign.
- Initiated coordination of GT threat data production.

Missile Defense Assess (MDA)		DT & F Drusto of	T		Date			
Missile Defense Agency (MDA)	Exhibit K-2A K	DI &E Project		IOMENCLATI		uary 2008		
RDT&E, DW/04 Advanced Component Develop	nent and Prot	otypes (ACD			c Missile Defe	ense Test and	Targets	
C. Other Program Funding Summary								
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

Project: 0904 Test & Evaluation Block 2008

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		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ïcation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding through the use of two year blocks. The RTO directs a team of various internal staff (Government and Scientific, Engineering and Technical Assistance (SETA)), executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDC and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

						Date		
Missile I	Defense Agency	(MDA) Exhibit R-3	RDT&E Projec	t Cost Analysis		Februa	ry 2008	
APPROPRIATION/BUDGET A					OMENCLATUR	ЯЕ		
RDT&E, DW/04 Advanced	Component I	Development and P	rototypes (AC	D&P) 0603	888C Ballistic I	Missile Defens	e Test and Targ	ets
I. Product Development	Cost (\$ in 7	housands)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks								
II. Support Costs Cost (\$ in Thousa	nds)						
				1	FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								
Remarks	1							
Remarks							1	
Remarks						I		
	0		I			l		
	Cost (\$ in 7	Thousands)						
Remarks III. Test and Evaluation		, ,			FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
III. Test and Evaluation	Contract Method	Performing Activity &	PYs	FY 2008	Award/ Oblg	FY 2009	Award/ Oblg	Total
III. Test and Evaluation Cost Categories:	Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
III. Test and Evaluation	Contract Method	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
III. Test and Evaluation Cost Categories: Test Operations BMDS Ground Tests (Block 2008)	Contract Method	Performing Activity & Location JNIC/Colorado	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
III. Test and Evaluation Cost Categories: Test Operations BMDS Ground	Contract Method	Performing Activity & Location JNIC/Colorado Springs, CO	PYs		Award/ Oblg		Award/ Oblg	
III. Test and Evaluation Cost Categories: Test Operations BMDS Ground Tests (Block 2008) BMDS GT/MDIE	Contract Method	Performing Activity & Location JNIC/Colorado Springs, CO JNIC/Colorado	PYs Cost 3,630	Cost 0	Award/ Oblg Date N/A	Cost 0	Award/ Oblg Date	Cost 3,630
III. Test and Evaluation Cost Categories: Test Operations BMDS Ground Tests (Block 2008) BMDS GT/MDIE Exercise Overlays	Contract Method	Performing Activity & Location JNIC/Colorado Springs, CO	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
III. Test and Evaluation Cost Categories: Test Operations BMDS Ground Tests (Block 2008) BMDS GT/MDIE	Contract Method	Performing Activity & Location JNIC/Colorado Springs, CO JNIC/Colorado	PYs Cost 3,630	Cost 0	Award/ Oblg Date N/A	Cost 0	Award/ Oblg Date	Cost 3,630
III. Test and Evaluation Cost Categories: Test Operations BMDS Ground Tests (Block 2008) BMDS GT/MDIE Exercise Overlays Test Operations BMDS Flight	Contract Method	Performing Activity & Location JNIC/Colorado Springs, CO JNIC/Colorado Springs, CO	PYs Cost 3,630	Cost 0	Award/ Oblg Date N/A	Cost 0	Award/ Oblg Date	Cost 3,630
III. Test and Evaluation Cost Categories: Test Operations BMDS Ground Tests (Block 2008) BMDS GT/MDIE Exercise Overlays Test Operations BMDS Flight	Contract Method	Performing Activity & Location JNIC/Colorado Springs, CO JNIC/Colorado Springs, CO	PYs Cost 3,630	Cost 0	Award/ Oblg Date N/A	Cost 0	Award/ Oblg Date	Cost 3,630

Project: 0904 Test & Evaluation Block 2008

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APPROPRIATION/BUDGET A RDT&E, DW/04 Advanced		Development and E	Prototypes (ACI		OMENCLATUR		e Test and Targ	ots
KD1 &E, DW/04 Auvanceu		Development and F	Tototypes (ACI	D&F) 0003	FY 2008	viissile Delense	FY 2009	els
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
cost cutegories.	a Type	MDA/	Cost	Cost	Dute	Cost	Dute	031
Targets		Washington, D.C.	19,790	0	N/A	0	N/A	19,790
BMDS Risk/ECPs	Various	Various	312	0	N/A	0	N/A	312
Test Analysis and Reporting (Block 2008)								
		CTF TA&R/						
Test Analysis and Reporting	Various	Huntsville, AL	2,347	0	N/A	0	N/A	2,347
Test Planning and Design (Block 2008)								
		CTF TP&D/						
Test Planning and Design		Huntsville, AL	2,053	0	N/A	0	N/A	2,053
Subtotal Test and Evaluation			2,053 44,987	0	N/A	0	N/A	2,053 44987
Subtotal Test and Evaluation Remarks IV. Management Services	Contract Method	Huntsville, AL Thousands) Performing Activity &	44,987 Total PYs	0 FY 2008	N/A FY 2008 Award/ Oblg Date	0 FY 2009	N/A FY 2009 Award/ Oblg Date	44987 Total
Subtotal Test and Evaluation Remarks IV. Management Services Cost Categories:	Contract	Huntsville, AL Thousands) Performing	44,987 Total	0	FY 2008 Award/ Oblg	0	FY 2009 Award/ Oblg	44987
Subtotal Test and Evaluation Remarks IV. Management Services	Contract Method	Huntsville, AL Thousands) Performing Activity &	44,987 Total PYs	0 FY 2008	FY 2008 Award/ Oblg	0 FY 2009	FY 2009 Award/ Oblg	44987 Total
Subtotal Test and Evaluation Remarks IV. Management Services Cost Categories: Subtotal Management Services	Contract Method	Huntsville, AL Thousands) Performing Activity &	44,987 Total PYs	0 FY 2008	FY 2008 Award/ Oblg	0 FY 2009	FY 2009 Award/ Oblg	44987 Total

Missile Defense A	genc	ey (M	1DA)) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe	te bru :	ary	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evelo	opm	ent a	and	Pro	toty	pes	(AC	D&	P)				ENCI C Ba				e De	efen	se T	'est a	and	Tar	gets				
Fiscal Year		20	007			20	008			20)09			20	010			20)11			20)12			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests												<u> </u>	<u> </u>			<u> </u>												
FTM-13					\diamond																						Т	
FTT-08					\diamond																							
JFTM-01					\diamond																							
FTG-04						∇																						
FTB-01							D																					
ATM-48								∇																				
FTG-05								\Box																				
FTT-10								∇																				
PAC3 7-2								\diamond																				
Glory Trips (USAF Operational)/Potential BM	ADS	Tes	ts		_								_								-							
GT-198								Δ																				
System Ground Tests				-	_	-														_								
			Signi	ifican	it Evei	nt (co	mplet	te)		L	egei		\	Sign	ifican	t Eve	nt (nla	nned)									
			Mile	stone	e Deci	sion	(com					4		Mile	stone	Deci	sion (planr										
			Syste	em Le	Test (d evel T	est (c		ete)					7	Syst	nent T em Le	evel T	est (p		ed)									
	▲		Com	plete	Activ	/ity						Δ_		Plan	ined A	ctivit	у											
Project: 0904 Test & Evaluation Block 2008																						Ν	1DA	Exhi	bit R-	4 (PE	0603	3888C)

Missile Defense A	geno	y (N	1DA) Ex	hibit	: R-4	Sch	edul	e Pro	ofile								Da Fe	te brua	ary	200	8							
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D											R				LAT llist i								Tar	gets					
Fiscal Year		20)07			20)08			20	09			20	010			20)11			20	012			20	13		
	1	2	1	4	1	2	3	4	1	2		4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
System Ground Tests	<u> </u>	<u> </u>	<u> </u>	1	<u></u>	<u>I</u>	<u> </u>	<u> </u>	<u>I</u>	<u> </u>	I	<u>I</u>	II	<u> </u>	<u> </u>	I		<u> </u>	<u>I</u>	<u>I</u>	-	<u> </u>	<u> </u>	<u> </u>	II		L		
GTX-02a																						Ι	Γ					\square	
GTI-02	1			∇																									
GTD-02					∇																								
GTX-03a						∇																							
GTI-03							∇																						
GTD-03								∇																					
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				nplete			comp	ete)							ined A			nanne	ea)			-							

Missile Defense Age	ency (MDA) Exhi	bit R-4A Schedul	e Detail			Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY					MENCLATURE			
RDT&E, DW/04 Advanced Component Dev	elopment and I	Prototypes (ACI	D&P)	0603888	8C Ballistic Mis	sile Defense Tes	t and Targets	
Schedule Profile	FY 2007	FY 2008	FY 2	2009	FY 2010	FY 2011	FY 2012	FY 2013
System Flight Tests								
FTM-13		1Q						
FTT-08		1Q						
JFTM-01		1Q						
FTG-04		2Q						
FTB-01		3Q						
ATM-48		4Q						
FTG-05		4Q						
FTT-10		4Q						
PAC3 7-2		4Q						
Glory Trips (USAF Operational)/Potential BMDS Tests								
GT-198		4Q						
System Ground Tests								
GTX-02a	2Q							
GTI-02	4Q							
FTM-13		1Q						
GTD-02		1Q						
GTX-03a		2Q						
GTI-03		3Q						
GTD-03		4Q						

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification February 2008 APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets										
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013			
AX04 Test & Evaluation Block 1.0	0	40,082	27,936	0	0	0	C			
RDT&E Articles Qty	0	0	0	0	0	0	0			
Note: 1. Funding for content in budget project AX04 (FY08 thru FY13) w 0904, 0004, R104, and R204.	as previousl <u>.</u>	y included (v	where applic	cable) in FY	07 within bi	udget project	ts 0804,			

2. Block 1.0 fielding and development efforts are directed toward defending the U.S. from limited North Korean long-range threats. The Combined Test force (CTF) supports the developmental and integration efforts thru test and assessment of ESGs attributed to Block 1.0.

A. Mission Description and Budget Item Justification

Test & Evaluation (T&E) Block Testing: The Missile Defense Agency (MDA) T&E program has six primary purposes: 1) to collect data to demonstrate and assess the Ballistic Missile Defense System (BMDS); 2) to collect data to demonstrate and assess the block capability; 3) to identify areas where technology can increase overall system performance; 4) to identify BMDS issues; 5) to provide anchoring and validation data for modeling and simulation (M&S) tools; and 6) to support early, partial, and full capability readiness decisions.

The BMDS developmental and operational test program encompasses all T&E activities associated with technology developments, demonstrations, experiments, research, deployment, and maintenance activities. The T&E program describes test methods and approaches that the CTF uses to test element capabilities to meet the system-necessary capabilities delineated in the System Specification Documents and Interface Design Documents. The MDA T&E program provides test data to support assessments used to document and determine BMDS effectiveness. The BMDS testing approach addresses the system wide test objective development process, ESG test environments, testing methodologies [i.e., M&S, Flight Test (FT), ground tests (GT)], and identifies the test resources (e.g., Test Bed, M&S tools, targets, ranges) required to provide test data that when combined with analysis of data from multiple sources, will contribute to verification of the BMDS capability.

T&E Block 1.0 Funding:

Funding levels identified in this task support all BMDS FT and GTs in support of Block 1.0 efforts to defend the U.S. from limited North Korean long-range threats. Funding provides manpower, range and logistics support to perform system FT and GT planning, integration, execution, data collection, and analysis and range and auxiliary sensor support. Funding supports overlaying system-level objectives onto element FTs.

Project: AX04 Test & Evaluation Block 1.0

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		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets
System ETs:		

System FTs:

System FTs examine the capability of the BMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects will also provide analysis of each system test event through the Joint Analysis Team (JAT). BMDS FT events also include the Integrated Measurements Program which is a combination of previous Lethality and Kill Assessment programs and seeks to characterize the effectiveness of BMDS engagements and assure 10 USC 2366 requirements for BMDS lethality Live Fire Test and Evaluation are achieved, and to investigate how successful a given BMDS engagement will be in destroying the incoming warhead.

System GTs:

A vigorous System GT program brings together a variety of controllable and flexible testing venues to include high fidelity hardware-in-the-loop (HWIL) tests and nondestructive tests performed in a controlled, repeatable environment. BMDS GT campaigns will encompass multiple blocks consisting of the following:

- BMDS Integrated GTs (GTI) are test event integration exercises that use a test environment to determine the impact of specific threats on a wide variety of proposed engagement scenarios and to provide data for multiple ESGs and multiple threats across a range of environmental conditions. Within the performance and threat space envelope, GTIs provide a wider range of data than can be obtained from flight testing for integration, characterization, verification, and assessment. In addition, data from the GTIs support FT risk reduction and benchmarking of existing M&S that provide insight for improvements of the models used for end-to-end system level performance assessment.
- BMDS Distributed GTs (GTD) are test events that typically follow a GTI where they combine the fielded hardware and software of BMDS Elements to exercise the BMDS communication networks and communication links. During GTDs, actual element sensors are stimulated where possible to obtain data to evaluate both the element and system test objectives. Since GTDs can closely represent the actual BMDS, it is possible that following a GTD and corresponding quick look report some ESGs will become candidates for early delivery to the warfighter.
- BMDS Focused GTs Other (GTX) are typically short duration integration exercises that focus on specific ESGs or functionality. A GTX can test a subset of the BMDS configuration, focusing on specific ESGs with only the required elements participating in the test. Typically, one or more GTXs will precede a GTI as risk reduction test for the GTI. Additionally, a GTX can be used to test a new capability that was not available during the previous GTI. Since GTXs are intended to be smaller, less complex events, they will be more responsive to schedule adjustments and unplanned test requirement needs.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification Pade February 2008 APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&T) R-1 NOMENCLATURE 003888C Ballistic Missile Defense Test and Targets B. Accomplishments/Planned Program 0 9,809 FY 2009 Test Operations BMDS Hight Tests (Block 1.0) FY 2007 FY 2008 FY 2009 10,88 Test Operations BMDS Hight Tests (Block 1.0) 0 0 9,899 10,88 Type of the DMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects also provide analysis of each system test event through the JAT. FTs are planned and executed to provide anchoring data for M&S tools, to collect test data to further characterize the BMDS, and to demonstrate BMDS operational capability in whole or in part. Even though FTs are conducted in realistic operational environments and are critical to achieving system verification requirements, they only examine a single scenario/vignette and parts of ESGs and do have environmental and safety constraints. FY08 Planned Program for budget project AX04: Complete detailed test planning and execute FY08 major BMDS system level test events for budget project AX04. Support BMDS elements in planning and execute FY08 major BMDS system level test events for budget project AX04. Refine scenario designs for BMDS FTs to support ESGs identified in BMDS IMTP. Provide system-leve		CLASSIF			
APPROPRIATION/BUDGET ACTIVITY R1 NOMENCLATURE B. Accomplishments/Planned Program 6003888C Ballistic Missile Defense Test and Targets B. Accomplishments/Planned Program FY 2007 FY 2008 FY 2009 Test Openations BMDS Flight Tests (Block 1.0) 0 9,899 10.88 BTAEE Arrides (Quantity) 0 9,899 10.88 FTS examine the capability of the BMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects also provide analysis of each system test event through the JAT. FTS are planned and executed to provide or in part. Even though FTS are conducted in realistic operational environments and are critical to achieving system verification requirements, they only examine a single scenario/vignette and parts of ESGs and do have environmental and safety constraints. FY08 Planned Program for budget project AX04: 0	Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Proiect Justifi	cation		
B. Accomplishments/Planned Program FY 2007 FY 2008 FY 2009 Test Operations BMDS Flight Tests (Block 1.0) 0	APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCL	ATURE	nd Targata
FY 2007 FY 2008 FY 2009 Test Operations BMDS Flight Tests (Block 1.0) 0 0 9,899 10.88 RDT&E Articles (Quantity) 0 0 0 0 0 0 0.889 10.88 RDT&E Articles (Quantity) 0 0 0 0 0 0 0 0 0 0 0 0.889 10.88 RDT&E Articles (Quantity) 0 0 0 0 0 0 0 0 0.899 10.88 RDT&E Articles (Quantity) 0 0 0 0 0 0 0 0 0 0 0 0 0.899 10.88 Provide anchoring data for M&S tools, to collect test data to further characterize the BMDS, and to demonstrate BMDS operational capability in whole or in part. Even though FT's are conducted in realistic operational environments and are critical to achieving system verification requirements, they only examine a single scenario/vignette and parts of ESGs and do have environmental and safety constraints. EY08 Planned Program for budget project AX04: Support BMDS elements in planning and execution of their budget project AX04 program specific FTs. Conducte		(ACD&F)	0003000C Dall	istic missile Defense Test al	iu Targets
Test Operations BMDS Flight Tests (Block 1.0) 0 <td< td=""><td>B. Accomplishments/Planned Program</td><th>FY</th><th>2007</th><td>FY 2008</td><td>FY 2009</td></td<>	B. Accomplishments/Planned Program	FY	2007	FY 2008	FY 2009
RDT&E Articles (Quantity) 0 0 0 FTs examine the capability of the BMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects also provide analysis of each system test event through the JAT. FTs are planned and executed to provide anchoring data for M&S tools, to collect test data to further characterize the BMDS, and to demonstrate BMDS operational capability in whole or in part. Even though FTs are conducted in realistic operational environments and are critical to achieving system verification requirements, they only examine a single scenario/vignette and parts of ESGs and do have environmental and safety constraints. FY08 Planned Program for budget project AX04: • Complete detailed test planning and execute FY08 major BMDS system level test events for budget project AX04. • Support BMDS elements in planning and execution of their budget project AX04 program specific FTs. • Conduct early planning for FY09 major BMDS system level test events. • Conduct early planning in FY05 major BMDS system level test events. • Condinate integration of multiple elements, OTA and Warfighter into BMDS IMTP. • Provide system-level range support, mission assurance, logistics support, test specific support personnel, test specific communication, support equipment, and permission analysis and studies. • Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S. FY09 Planned Program for budget	Test Operations BMDS Flight Tests (Block 1.0)				
 verification of more complex ESGs. These projects also provide analysis of each system test event through the JAT. FTs are planned and executed to provide anchoring data for M&S tools, to collect test data to further characterize the BMDS, and to demonstrate BMDS operational capability in whole or in part. Even though FTs are conducted in realistic operational environments and are critical to achieving system verification requirements, they only examine a single scenario/vignette and parts of ESGs and do have environmental and safety constraints. FY08 Planned Program for budget project AX04: Complete detailed test planning and execution of their budget project AX04 program specific FTs. Conduct early planning for FY09 major BMDS system level test events. Coordinate integration of multiple elements, OTA and Warfighter into BMDS tests. Refine scenario designs for BMDS Test os support ESGs identified in BMDS IMTP. Provide system-level range support, mission assurance, logistics support, test specific support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S. FY09 Planned Program for budget project AX04: Complete detailed test planning and execute FY09 major BMDS system level test events for budget project AX04. Support BMDS elements in planniaes and studies. Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S. FY09 Planned Program for budget project AX04: Support BMDS elements in planning and execution of their budget project AX04 program specific FTs. Conduct early planning of FY10 major BMDS system level test events for budget project AX04. Support BMDS elements in planning and execution of their budget project AX04 program specific FTs. Conduct early planning of FY10 major BMDS system level test events.			0	,	,
 FY09 Planned Program for budget project AX04: Complete detailed test planning and execute FY09 major BMDS system level test events for budget project AX04. Support BMDS elements in planning and execution of their budget project AX04 program specific FTs. Conduct early planning for FY10 major BMDS system level test events. Coordinate integration of multiple elements, OTA and Warfighter into BMDS tests. Refine scenario designs for BMDS FTs to support ESGs identified in BMDS IMTP. Provide system-level range support, mission assurance, logistics support, test specific support personnel, test specific communication, support 	 whole or in part. Even though FTs are conducted in realistic operations of the property only examine a single scenario/vignette and parts of ESGs and FY08 Planned Program for budget project AX04: Complete detailed test planning and execute FY08 major BMDS Support BMDS elements in planning and execution of their budget conduct early planning for FY09 major BMDS system level test Coordinate integration of multiple elements, OTA and Warfight Refine scenario designs for BMDS FTs to support ESGs identified for the provide system-level range support, mission assurance, logistics equipment, and permission analysis and studies. Continue to populate the BMDS Test Database with most current studies. 	onal environ do have env S system leve get project A t events. er into BMD ied in BMDS s support, tes	ments and are c ironmental and el test events for X04 program s S tests. IMTP. t specific suppo	ritical to achieving system safety constraints. budget project AX04. pecific FTs. rt personnel, test specific co	verification requirements,
equipment, and permission analysis and studies.	 FY09 Planned Program for budget project AX04: Complete detailed test planning and execute FY09 major BMDS Support BMDS elements in planning and execution of their budget. Conduct early planning for FY10 major BMDS system level test Coordinate integration of multiple elements, OTA and Warfight Refine scenario designs for BMDS FTs to support ESGs identified 	get project A t events. er into BMD ied in BMDS	X04 program s S tests. IMTP.	pecific FTs.	ommunication, support

				Date	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justifi	ication		February 2008	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCL	ATURE		
RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)	0603888C Bal	listic Missil	e Defense Test and	d Targets
• Continue to populate the BMDS Test Database with most currer and provide validation data for M&S.	nt test data to	support capabi	ility assessi	ments by Systems	Engineering and OTAs,
	FY	2007]	FY 2008	FY 2009
Test Operations BMDS Ground Tests (Block 1.0)		0		18,513	11,827
RDT&E Articles (Quantity)		0		0	0
GT, using M&S that have been validated using anchoring data from capability. GTs are conducted to collect data for BMDS characterize scenarios where flight testing is either impractical or impossible. GT of performance anomalies based on the capability to test all ESGs u raid sizes that would be cost prohibitive to do in flight testing. A rol venues to include high fidelity HWIL tests and nondestructive tests encompass multiple blocks consisting of BMDS Integrated GTs (GT	ation and ass f allows examples sing digital r pust GT prog performed ir	essment, comp mination of mat epresentations ram brings tog a controlled, r	onent and e ture designation of realistic ether a vari epeatable e	element integratio s and identification threat types, traje ety of controllable environment. BMI	n, and exploration of on and efficient correction ctories, geometries, and e and flexible testing DS GTs campaigns will
FY08 Planned Program for budget project AX04:					

- Plan and execute budget project AX04 BMDS GTs.
- Continue to execute the GT-3 campaign.
- Integrate element representation and the test support team for system GT.
- Support Warfighter's requirements during GT-3 campaign.
- Conduct fully integrated GT campaign (GT-3) with all MDA Elements represented via HWIL.
- Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S.

FY09 Planned Program for budget project AX04:

- Plan and execute budget project AX04 BMDS GTs.
- Execute the GT-9 campaign.
- Continue to integrate element representation and the test support team for system GT
- Support Warfighter's requirements during GT-9 campaign.
- Conduct fully integrated GT campaign (GT-9) with all MDA Elements represented via HWIL.

Project: AX04 Test & Evaluation Block 1.0

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Minil Defense Area (MDA) Felilit D 24 DDT0 F	D	4 •	Date	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E I APPROPRIATION/BUDGET ACTIVITY	Project Justin	R-1 NOMENCLA	February 2008	
RDT&E, DW/04 Advanced Component Development and Prototypes ((ACD&P)		istic Missile Defense Test and '	Targets
• Continue to populate the BMDS Test Database with most curren and provide validation data for M&S.	it test data to	support capabil	ity assessments by Systems I	Engineering and OTAs,
	FY	2007	FY 2008	FY 2009
Test Analysis and Reporting (Block 1.0)		0	11,670	5,22
RDT&E Articles (Quantity)		0	0	
 Note: FY08 funding includes Radar Data Exploitation efforts. Starting within a new budget project named WX02 Hercules Capability Deversional Products and Processes: JATs - Establish, plan, schedule, and conduct JATs for system terms 	elopment wi	thin the Program	n Element 0603897C.	
 JATS - Establish, plan, schedule, and conduct JATS for system te activities. Develop, deliver, and brief all TA&R products to senie (EQLB), Mission Data Review (MDR), Executive Mission Data Data Management - Develop and publish Integrated Data Manag data products and requests. Develop Data Handling Plans and products and requests. Develop Data Handling Plans and products all Center, to ensure timely and complete data distribution in a Universal Documentation System to ensure availability of critica Data Collection - Enables collaboration and leveraging of element distribution of IDMP products addressing system analysis requir Data Processing - Process all raw data files and test configuration reporting activities. Deliver databases (Integrated System Config Package) to OTA, BMDS Capability Assessment, C2BMC, and TDP creation are captured in the IDMP, OR, and test resource sensor data collection requirements and provide truth requirements 	or leadership Review (EN gement Plans ovide event accordance v al data support at and system rements. ns into integ guration Data element prin RD) to ensur- ce document	p: Quick Look B MDR), and Final s (IDMP), coord specific data dis with (IAW) IDM orting TA&R co- m level data coll rated TA&R data abase, Truth Data nes IAW IDMP e that auxiliary s tation. The TDR	briefing (QLB), Executive Qu Test Report. inating and documenting all d stribution reports, synchronize P. Provide inputs to the Nation nduct. ection assets to create efficient tabases to support truth and sy ta Package (TDP), and Integration sensor data collection to supp D defines and documents mission	iick Look Briefing component and system ed with Missile Defense onal Test Ranges ncies in availability and ystem analysis and ated Analysis Data ort truth data analysis ssion specific auxiliary
Project: AX04 Test & Evaluation Block 1.0 Line Item 78 -	129 of 2 UNCLASSIFIE	262 2 D	ME	DA Exhibit R-2A (PE 06038880

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

packages (metric, optical, and radar) and deliver to truth sensors in support of their pre-mission test support planning. Develop and deliver postmission TDP to data requestors as captured in the IDMP as an integrated truth source to anchor post-mission analysis activities. Plan, schedule, and execute post mission truth summits to coordinate auxiliary sensor inputs to post-mission executive briefs and data reviews. Conduct postmission truth sensor data quality assessments to determine the quality and quantity of data sources with respect to truth analysis requirements, and capture lessons learned for future truth data collection and analysis activities.

• Analysis - Develop analysis data requirements documents to ensure IDMP contains all products required to support analysis of system test objectives [e.g., Systems Engineering Behavioral Objectives, ESG, Characterization Points and System Performance Parameters. Develop Analysis Execution Plans to document analysis process, timelines, and areas of responsibility. Develop analysis processes to capture test sequences, analysis observations, and Tactics, Techniques, and Procedure execution for use in test analysis. Develop and deliver all post test analysis reports (Final Test Report, BMDS Characterization Brief/Report). Develop and deliver analysis content in support of the QLB, EQLB, MDR, and EMDR. Develop and submit system level Test Incident Reports found during TA&R process.

Distributed Analysis Tools and Infrastructures:

- Develop, integrate, test, train, deploy, and operate spiral releases of software tools to automate and enhance the TA&R process of the evolving BMDS test program and associated data products. Tools include: Data Management System for data management, Checklist for Online Observation and Reporting for test analysis observations, All Sensors Truth Evaluation and Reporting for truth analysis, Modular Analysis and Reporting Suite for system analysis and PHOENIX for common tool framework.
- Develop, coordinate, implement, and maintain requirements and capabilities for distributed and virtual data architectures, to include the Joint Data Analysis Center (JDAC), supporting timely data distribution, processing, and analysis across a distributed TA&R community; [i.e., JDAC, Missile Defense Integration and Operations Center (MDIOC), test ranges, (Federally Funded Research and Development Centers (FFRDCs), etc.]. Develop and maintain System Security Authorization Agreements for all test TA&R tools and nodes to ensure risk mitigation IAW latest BMDS information assurance guidance and continued authority to operate in support of on ongoing TA&R operations. Maintain hardware and software configuration management of all TA&R tools and systems.

FY08 Planned Program for budget project AX04:

- Provide TA&R product development and delivery for budget project AX04 test events.
- Develop and facilitate requirements and implementation of virtual TA&R nodes enabling distributed, collaborative analysis across all block nodes.
- Plan, schedule, and facilitate the integration of BMDS analysis activities within joint venues.
- Standardize TA&R tools and processes.

Project: AX04 Test & Evaluation Block 1.0

130 *of* 262 UNCLASSIFIED MDA Exhibit R-2A (PE 0603888C)

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justific	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missile	e Defense Test and Targets

- Develop and deliver products for JAT, data management, data processing, truth data, and analysis as identified above for test events in budget project AX04.
- Develop, integrate, test, train, deploy, and operate spiral releases of software tools as identified above for test events in budget project AX04.
- Continue the Radar Exploitation (RDE) efforts to support BMDS data collection objectives, conduct mission planning, perform data analysis on BMDS tests conducted during FY08, explore phenomenology to improve future BMD systems and new mission areas, and provide characterization and assessment for Measurements and BMDS flight test programs.

FY09 Planned Program for budget project AX04:

- Provide TA&R product development and delivery for budget project AX04 test events.
- Develop and facilitate requirements and implementation of virtual TA&R nodes enabling distributed, collaborative analysis across all block nodes.
- Plan, schedule, and facilitate the integration of BMDS analysis activities within joint venues.
- Standardize TA&R tools and processes.
- Develop and deliver products for JAT, data management, data processing, truth data, and analysis as identified above for test events in budget project AX04.
- Develop, integrate, test, train, deploy, and operate spiral releases of software tools as identified above for test events in budget project AX04.

								Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620

C. Other Program Funding Summary

Project: AX04 Test & Evaluation Block 1.0

131 of 262 UNCLASSIFIED MDA Exhibit R-2A (PE 0603888C)

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification Date February 2008												
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Develop	ment and Prot	otypes (ACD		NOMENCLAT 3888C Ballisti		ense Test and	Targets					
		otypes (neb	(u 1) 00	Joooc Damst		ense rest and	Targets	Total				
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost				
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696				
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353				
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559				
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928				
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906				
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623				
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954				
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060				
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	2 73,997	77,205	80,168	81,948	482,527				
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505				
PE 0603905C BMD Concurrent Test and Operations	21,870	0	(0	0	0	0	21,870				
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757				
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	(0	0	0	0	165,243				
PE 0605502C Small Business Innovative Research - MDA	142,510	0	() 0	0	0	0	142,510				
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430				
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115				

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding thought the use of Blocks and capability development. The RTO directs a team of various internal staff (Government and Scientific, Engineering and Technical Assistance (SETA)), executing agents, including DoD agencies, Service Organizations, Laboratories and Program Offices, FFRDC, and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

Missile I	Defense Agenc	y (MDA) Exhibit R-3	RDT&E Proje	ct Cost Analysis		Date Februa	ry 2008	
APPROPRIATION/BUDGET A	ACTIVITY			R-1 N	IOMENCLATU	RE	-	
RDT&E, DW/04 Advanced	1	1	rototypes (AC	CD&P) 0603	888C Ballistic	Missile Defens	e Test and Targ	jets
I. Product Development	Cost (\$ in 7	Fhousands)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks								
II. Support Costs Cost (\$ in Thousa	unds)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								
Remarks								
Remarks								
	Cost (fin)	Thousands)						
	Cost (\$ in 7	Thousands)			EV 2008	1	EX 2000	
			Total		FY 2008		FY 2009	
	Contract	Performing	Total	EV 2009	Award/	EV 2000	Award/	
III. Test and Evaluation	Contract Method	Performing Activity &	PYs	FY 2008	Award/ Oblg	FY 2009	Award/ Oblg	Total
III. Test and Evaluation Cost Categories:	Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight Tests (Block 1.0)	Contract Method	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Contract Method	Performing Activity & Location USASMDC,	PYs		Award/ Oblg		Award/ Oblg	
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Contract Method	Performing Activity & Location USASMDC, WSMR, MITLL,	PYs		Award/ Oblg		Award/ Oblg	
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Contract Method	Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/	PYs		Award/ Oblg		Award/ Oblg	
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight Tests (Block 1.0)	Contract Method	Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight Tests (Block 1.0) BMDS FT	Contract Method & Type	Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/	PYs Cost		Award/ Oblg		Award/ Oblg	
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight Tests (Block 1.0) BMDS FT Test Operations BMDS Ground	Contract Method & Type	Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Contract Method & Type	Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost

(Block 1.0)CCCCCCTest Analysis and ReportingVariousHuntsville, AL011,6701Q5,2281Q16,898Subtotal Test and Evaluation0040,08227,93668018RemarksIV. Management ServicesCost (\$ in Thousands)IV. Management ServicesCost (\$ in Thousands)FY 2008FY 2009ContractPerformingTotalAward/Award/MethodActivity & PYsFY 2008OblgFY 2009OblgCost Categories:& TypeLocationCostCostCostDate
Contract Method Performing Activity & & Total Total PYs FY 2008 Cost FY 2009 Award/ Award/ Award/ Cost Categories: & Type Location Cost Cost Cost Date Cost Cost Block 1.0) CTF TA&R/ Image: Cost Categories Image: Cost Categories CTF TA&R/ Image: Cost Categories
Contract MethodPerforming Activity & & TypeTotal PYsAward/ FY 2008Award/ OblgAward/ OblgAward/ OblgTotal OblgCost Categories:& TypeLocationCostCostCostDateCostDateCostCostTest Analysis and Reporting (Block 1.0)CTF TA&R/ Huntsville, AL011,6701Q5,2281Q16,898Subtotal Test and EvaluationCost040,08227,93668018FY 2008 (ContractFY 2008 PerformingFY 2009 Award/FY 2009 Award/FY 2008 Cost (\$ in Thousands)FY 2008FY 2008 Award/FY 2009 Award/Contract (ContractPerforming PerformingTotalCost Categories:Contract K TypePerforming LocationTotalCost Categories:& TypeLocationCostCostKethod
Test Analysis and Reporting (Block 1.0) CTF TA&R/ CTF TA&R/ Image: CTF TA&R/ Test Analysis and Reporting Various Huntsville, AL 0 11,670 1Q 5.228 1Q 16,898 Subtotal Test and Evaluation 0 40,082 27,936 68018 Remarks Image: Contract Method Performing Total FY 2008 FY 2009 FY 2009 Contract Performing Total Award/ Cost Categories: K Type Location Cost Cost Cost Date Cost Cost Date Cost
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RemarksIV. Management ServicesCost (\$ in Thousands)IV. Management ServicesCost (\$ in Thousands)IV. Management ServicesFY 2008FY 2009IV. Management ServicesCost (\$ in Thousands)IV. Management ServicesPerformingIV. Management ServicesFy 2008IV. Management ServicesFy 2009IV. Management ServicesFy 2009
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ContractPerformingTotalAward/Award/MethodActivity &PYsFY 2008OblgFY 2009OblgTotalCost Categories:& TypeLocationCostCostDateCostDateCost
Cost Categories: & Type Location Cost Cost Date Cost Date Cost
Subtotal Management Services
Remarks
Project Total Cost 0 40,082 27,936 68,018
Remarks

Missile Defense A	Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile										Date February 2008																	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	opm	ent	and	Pro	toty	pes	(AC	D&	P)					LAT llisti			le D	efen	se T	est	and	Tar	gets				
Fiscal Year		20	2007 2008					20	09			20	010		2011			2012			2 2013		13					
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System Flight Tests	_				_				_				_				_								_			
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FTG-05								\Box																				
FTG-06										\Box																		
FTS-01										∇																		
FTS-02											∇																	
FTG-07												∇																
System Ground Tests																•												
GTX-03a						∇																						
GTI-03							\Box																					
GTD-03								∇																				
GTX-09b										∇																		
GTI-09											∇																	
GTD-09												∇																
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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile													Da Fe	te bru	ary	2008	8												
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Do	APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)							P)	 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets 																				
																													_
Fiscal Year		20	07			20	08			20)09			20	010			20)11			2	012			20	13		
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		k			t Evei e Deci							 	2				nt (pla ision												
			Elem	nent T	est (o	comp	lete)					2	>	Elen	nent T	est (planne	ed)											
					evel T		ompl	ete)					Ζ.				est (p	olanne	ed)										
	Δ_		Con	plete	Activ	/ity						Δ_		Plar	nned A	ctivi	ty												

BOT & E, DW/04 Advanced Component Development and Prototypes (ACD & Pro	APPROPRIATION/BUDGET ACTI	<mark>le Defense Agency (MDA) Exhi</mark> IVITY			MENCLATURE	•								
System Flight TestsImage: system Flight TestsGTD-03GTD GTD GTD GTD GT			Prototypes (ACD	&P) 060388										
System Flight TestsImage: system Flight TestsGTD-03GTD GTD GTD GTD GT														
FTG-04 2Q 1 1 1 1 FTG-05 4Q 2Q 1 1 1 FTG-06 2Q 2Q 1 1 1 FTS-01 1 2Q 1 1 1 FTS-02 1 3Q 1 1 1 FTG-07 1 4Q 1 1 1 System Ground Tests 1 4Q 1 1 1 GTD-02 1Q 1Q 1 1 1 1 GTX-03a 2Q 1 1 1 1 1 1 GTD-03 4Q 1 <td< th=""><th>Schedule Profile</th><th>FY 2007</th><th>FY 2008</th><th>FY 2009</th><th>FY 2010</th><th>FY 2011</th><th>FY 2012</th><th>FY 2013</th></td<>	Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013						
FTG-05 4Q Constraint of the second seco	System Flight Tests													
FTG-06 2Q 2Q 100 100 FTS-01 2Q 2Q 100 100 100 FTS-02 3Q 3Q 100 <t< td=""><td>FTG-04</td><td></td><td>2Q</td><td></td><td></td><td></td><td></td><td></td></t<>	FTG-04		2Q											
FTS-01 2Q	FTG-05		4Q											
FTS-023Q3Q100100FTG-074Q4Q100100System Ground Tests1Q100100100GTD-021Q2Q100100100GTX-03a2Q100100100100GT1-033Q100100100100GTD-034Q100100100100GTX-09b2Q2Q100100100GT1-091003Q3Q100100	FTG-06			2Q										
FTG-07 4Q 4Q 60 60 60 System Ground Tests 60 1Q 60 60 60 60 GTD-02 1Q 1Q 60 60 60 60 60 60 GTX-03a 2Q 60	FTS-01			2Q										
System Ground TestsImage: Constraint of the system Ground TestsImage: Constraint of the system Ground TestsGTD-021Q1QImage: Constraint of the system Ground TestsImage: Constraint of the system Ground TestsGTX-03a2QImage: Constraint of the system Ground Tests2QImage: Constraint of the system Ground TestsGT1-033QImage: Constraint of the system Ground Tests4QImage: Constraint of the system Ground TestsGTD-034QImage: Constraint of the system Ground Tests4QImage: Constraint of the system Ground TestsGTX-09b1mage: Constraint of the system Ground Tests2QImage: Constraint of the system Ground TestsGT1-091mage: Constraint of the system Ground Tests3QImage: Constraint of the system Ground Tests	FTS-02			3Q										
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GTX-03a 2Q	System Ground Tests													
GTI-03 3Q Image: Constraint of the system of the syst	GTD-02		1Q											
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GTX-09b 2Q GTI-09 3Q	GTI-03		3Q											
GTI-09 3Q 3Q	GTD-03		4Q											
	GTX-09b			2Q										
GTD-09 4Q 4Q	GTI-09			3Q										
	GTD-09			4Q										

				Date			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justi	fication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes	s (ACD&P)	0603888C	Ballistic Mis	ssile Defense	e Test and Ta	argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
BX04 Test & Evaluation Block 2.0	0	35,227	28,333	3,968	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
Note:							

1. Funding for content in budget project BX04 (FY08 thru FY13) was previously included (where applicable) in FY07 within budget projects 0804, 0904, 0004, R104, and R204.

2. Block 2.0 fielding and development efforts are directed toward defending U.S. allies from and deployed forces from short-to-medium range threats in one region/theater. The Combined Test Force (CTF) supports the developmental and integration efforts thru test and assessment of ESGs attributed to Block 2.0.

A. Mission Description and Budget Item Justification

Test & Evaluation (T&E) Block Testing: The Missile Defense Agency (MDA) T&E program has six primary purposes: 1) to collect data to demonstrate and assess the Ballistic Missile Defense System (BMDS), 2) to collect data to demonstrate and assess the block capability, 3) to identify areas where technology can increase overall system performance, 4) to identify BMD System Issues, 5) to provide anchoring and validation data for modeling and simulation (M&S) tools, and 6) to support early, partial, and full capability readiness decisions.

The BMDS developmental and operational test program encompasses all T&E activities associated with technology developments, demonstrations, experiments, research, deployment, and maintenance activities. The T&E program describes test methods and approaches that the CTF uses to test element capabilities to meet the system-necessary capabilities delineated in the System Specification Documents and Interface Design Documents. The MDA T&E program provides test data to support assessments used to document and determine BMDS effectiveness. The BMDS testing approach addresses the system wide test objective development process, ESG test environments, testing methodologies [i.e., M&S, Flight Test (FT), ground tests (GT)], and identifies the test resources (e.g., Test Bed, M&S tools, targets, ranges) required to provide test data that when combined with analysis of data from multiple sources, will contribute to verification of the BMDS capability.

T&E Block 2.0 Funding:

Funding levels identified in this task support all BMDS FT and GTs in support of Block 2.0 efforts to defend U.S. allies and deployed forces from short-to-medium range threats in one region/theater. Funding provides manpower, range and logistics support to perform system FT and GT

Project: BX04 Test & Evaluation Block 2.0

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	Date February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE	le Defense Test and Targets
planning, integration, execution, data collection, and analysis and range and aux objectives onto element FTs.	iliary sensor support. Fund	ding supports overlaying system-level
System FTs: System FTs examine the capability of the BMDS to detect, track, and engage tar support verification of more complex ESGs. These projects will also provide an (JAT). BMDS FT events also include the Integrated Measurements Program wh programs and seeks to characterize the effectiveness of BMDS engagements and Test and Evaluation are achieved, and to investigate how successful a given BM	alysis of each system test ich is a combination of prod d assure 10 USC 2366 requ	event through the Joint Analysis Team evious Lethality and Kill Assessment uirements for BMDS lethality Live Fire
 System GTs: A vigorous System GT program brings together a variety of controllable and flet (HWIL) tests and nondestructive tests performed in a controlled, repeatable environsisting of the following: BMDS Integrated GTs (GTI) are test event integration exercises that use a tervariety of proposed engagement scenarios and to provide data for multiple E Within the performance and threat space envelope, GTIs provide a wider rar characterization, verification, and assessment. In addition, data from the GT provide insight for improvements of the models used for end-to-end system BMDS Distributed GTs (GTD) are typically test events that typically follow BMDS Elements to exercise the BMDS communication networks and comm where possible to obtain data to evaluate both the element and system test of possible that following a GTD and corresponding quick look report some ES BMDS Focused GTs Other (GTX) are short duration integration exercises the of the BMDS configuration, focusing on specific ESGs with only the required will precede a GTI as risk reduction test for the GTI. Additionally, a GTX caprevious GTI. Since GTXs are intended to be smaller, less complex events, the test requirement needs. 	ironment. BMDS GT cam est environment to determine ESGs and multiple threats a nge of data than can be obto Is support FT risk reduction level performance assesses a GTI where they combine nunication links. During G bjectives. Since GTDs can SGs will become candidate nat focus on specific ESGs ed elements participating i an be used to test a new can	paigns will encompass multiple blocks ine the impact of specific threats on a wide across a range of environmental conditions. tained from flight testing for integration, on and benchmarking of existing M&S that nent. TDs, actual element sensors are stimulated closely represent the actual BMDS, it is es for early delivery to the warfighter. s or functionality. A GTX can test a subset n the test. Typically, one or more GTXs upability that was not available during the
Project: BX04 Test & Evaluation Block 2.0 Line Item 78 - 139 of UNCLASSIFIE	262 E D	MDA Exhibit R-2A (PE 0603888C)

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			Date					
Missile Defense Agency (MDA) Exhibit R-2A RDT&E I	Project Justif		February 2008					
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLATU						
RDT&E, DW/04 Advanced Component Development and Prototypes ((ACD&P)	0603888C Ballistic	Missile Defense Test and T	argets				
B. Accomplishments/Planned Program	EX	2007	FY 2008	FY 2009				
Test Operations BMDS Flight Tests (Block 2.0)	Г	0	13,143	12,9				
RDT&E Articles (Quantity)		0	13,143	12,5				
Ts examine the capability of the BMDS to detect, track, and engage		· ·		1				
 BMDS operational capability in whole or in part. Even though FTs a system verification requirements, they only examine a single scenari FY08 Planned Program for budget project BX04: Complete detailed test planning and execute FY08 major BMDS Support BMDS elements in planning and execution of their budg Conduct early planning for FY09 major BMDS system level test Coordinate integration of multiple elements, OTA and Warfighte Refine scenario designs for BMDS FTs to support ESGs identifie Provide system-level range support, mission assurance, logistics equipment, and permission analysis and studies. Continue to populate the BMDS Test Database with most current 	o/vignette a system leve get project E events. er into BMD ed in BMDS support, tes	and parts of ESGs and el test events for bud BX04 program specif OS tests. 5 IMTP. t specific support pe	d do have environmental a get project BX04. ïc FTs. rsonnel, test specific comr	nd safety constraints				
 and provide validation data for M&S. FY09 Planned Program for budget project BX04: Complete detailed test planning and execute FY09 major BMDS Support BMDS elements in planning and execution of their budg Conduct early planning for FY10 major BMDS system level test Coordinate integration of multiple elements, OTA and Warfighte Refine scenario designs for BMDS FTs to support ESGs identified 	get project E events. er into BME	3X04 program specif 9S tests.						

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justifi	cation	Date February 2	2008						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)	R-1 NOMENCL 0603888C Ball	ATURE l istic Missile Defense T e	est and Targets						
 Provide system-level range support, mission assurance, logistics support, test specific support personnel, test specific communication, support equipment, and permission analysis and studies. Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S. 										
	FY	2007	FY 2008	FY 20)09					
Test Operations BMDS Ground Tests (Block 2.0)		0	1	0,214	9,19					
RDT&E Articles (Quantity)		0		0						
GT, using M&S that have been validated using anchoring data from FTs, is the primary method for verifying and validating functional block capability. GTs are conducted to collect data for BMDS characterization and assessment, component and element integration, and exploration of scenarios where flight testing is either impractical or impossible. GT allows examination of mature designs and identification and efficient correction of performance anomalies based on the capability to test all ESGs using digital representations of realistic threat types, trajectories, geometries, and raid sizes that would be cost prohibitive to do in flight testing. A robust GT program brings together a variety of controllable and flexible testing venues to include high fidelity HWIL tests and nondestructive tests performed in a controlled, repeatable environment. BMDS GTs campaigns will encompass multiple blocks consist of BMDS Integrated GTs (GTI), BMDS Distributed GTs (GTD), and BMDS GTs Other (GTX).										
FY08 Planned Program:Plan and execute budget project BX04 BMDS GTs.										

- Continue to execute the GT-3 campaign.
- Integrate element representation and the test support team for system GTs.
- Support Warfighter's requirements during GT-3 campaign.
- Conduct fully integrated GT campaign (GT-3) with all MDA Elements represented via HWIL.
- Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S.

FY09 Planned Program:

- Plan and execute budget project BX04 BMDS GTs.
- Execute the GT-9 campaign.
- Integrate element representation and the test support team for system GTs.

Project: BX04 Test & Evaluation Block 2.0

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justi APPROPRIATION/BUDGET ACTIVITY	fication R-1 NOMENCL	Date February 2008				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missile Defense Test and Targets					
 Support Warfighter's requirements during GT-9 campaign. Conduct fully integrated GT campaign (GT-9) with all MDA Elements repr Continue to populate the BMDS Test Database with most current test data t and provide validation data for M&S. 			s Engineering and OTAs,			
F	Y 2007	FY 2008	FY 2009			
Test Analysis and Reporting (Block 2.0)	0	11,870	6,218			
RDT&E Articles (Quantity)	0	0	0			

The CTF Test Analysis and Reporting (TA&R) division develops, integrates, and delivers all BMDS TA&R products for IMTP specified system FTs GTs, and TOOs. Maintain and execute all critical path TA&R functions, tools, processes, and infrastructures supporting development and delivery of TA&R products within a single, integrated, standardized reporting process.

Functional Products and Processes:

- JATs Establish, plan, schedule, and conduct JATs for system tests to coordinate and integrate all component and system analysis and reporting activities. Develop, deliver, and brief all TA&R products to senior leadership: Quick Look Briefing (QLB), Executive Quick Look Briefing (EQLB), Mission Data Review (MDR), Executive Mission Data Review (EMDR), and Final Test Report.
- Data Management Develop and publish Integrated Data Management Plans (IDMP), coordinating and documenting all component and system data products and requests. Develop Data Handling Plans and provide event specific data distribution reports, synchronized with Missile Defense Data Center, to ensure timely and complete data distribution in accordance with (IAW) IDMP. Provide inputs to the National Test Ranges Universal Documentation System to ensure availability of critical data supporting TA&R conduct.
- Data Collection Enables collaboration and leveraging of element and system level data collection assets to create efficiencies in availability and distribution of IDMP products addressing system analysis requirements.
- Data Processing Process all raw data files and test configurations into integrated TA&R databases to support truth and system analysis and reporting activities. Deliver databases (Integrated System Configuration Database, Truth Data Package (TDP), and Integrated Analysis Data Package) to OTA, BMDS Capability Assessment, C2BMC, and element primes IAW IDMP.
- Truth Data Develop Truth Data Requirements Document (TDRD) to ensure that auxiliary sensor data collection to support truth data analysis and TDP creation are captured in the IDMP, OR, and test resource documentation. The TDRD defines and documents mission specific auxiliary sensor data collection requirements and provide truth requirements for mission architecture development. Develop pre-mission prediction packages (metric, optical, and radar) and deliver to truth sensors in support of their pre-mission test support planning. Develop and deliver post-

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justi	fication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets
		8

mission TDP to data requestors as captured in the IDMP as an integrated truth source to anchor post-mission analysis activities. Plan, schedule, and execute post mission truth summits to coordinate auxiliary sensor inputs to post-mission executive briefs and data reviews. Conduct post-mission truth sensor data quality assessments to determine the quality and quantity of data sources with respect to truth analysis requirements, and capture lessons learned for future truth data collection and analysis activities.

• Analysis - Develop analysis data requirements documents to ensure IDMP contains all products required to support analysis of system test objectives [e.g., Systems Engineering Behavioral Objectives, ESG, Characterization Points and System Performance Parameters. Develop Analysis Execution Plans to document analysis process, timelines, and areas of responsibility. Develop analysis processes to capture test sequences, analysis observations, and Tactics, Techniques, and Procedure execution for use in test analysis. Develop and deliver all post test analysis reports (Final Test Report, BMDS Characterization Brief/Report). Develop and deliver analysis content in support of the QLB, EQLB, MDR, and EMDR. Develop and submit system level Test Incident Reports found during TA&R process.

Distributed Analysis Tools and Infrastructures:

- Develop, integrate, test, train, deploy, and operate spiral releases of software tools to automate and enhance the TA&R process of the evolving BMDS test program and associated data products. Tools include: Data Management System for data management, Checklist for Online Observation and Reporting for test analysis observations, All Sensors Truth Evaluation and Reporting for truth analysis, Modular Analysis and Reporting Suite for system analysis and PHOENIX for common tool framework.
- Develop, coordinate, implement, and maintain requirements and capabilities for distributed and virtual data architectures, to include the Joint Data Analysis Center (JDAC), supporting timely data distribution, processing, and analysis across a distributed TA&R community; [i.e., JDAC, Missile Defense Integration and Operations Center (MDIOC), test ranges, (Federally Funded Research and Development Centers (FFRDCs), etc.]. Develop and maintain System Security Authorization Agreements for all test TA&R tools and nodes to ensure risk mitigation IAW latest BMDS information assurance guidance and continued authority to operate in support of on ongoing TA&R operations. Maintain hardware and software configuration management of all TA&R tools and systems.

FY08 Planned Program:

- Provide TA&R product development and delivery for budget project BX04 test events.
- Develop and facilitate requirements and implementation of virtual TA&R nodes enabling distributed, collaborative analysis across all block nodes.
- Plan, schedule, and facilitate the integration of BMDS analysis activities within joint venues.
- Standardize TA&R tools and processes.

			4 T 4°C° 4°		Date			
Missile Defense Agency (MDA)	Exhibit R-2A R	DT&E Projec		n NOMENCLATI		ruary 2008		
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603888C Ballistic Missile Defense Test and Targets				
• Develop and deliver products for JAT, data project BX04.			0	•				C
• Develop, integrate, test, train, deploy, and o	perate spiral i	releases of so	oftware tool	s as identified	above for te	st events in b	udget project	BX04.
 FY09 Planned Program: Provided TA&R product development and c Develop and facilitate requirements and imp nodes. Plan, schedule, and facilitate the integration Standardize TA&R tools and processes. Develop and deliver products for JAT, data project BX04. 	of BMDS an management,	of virtual TA alysis activiti data process	&R nodes ies within j sing, truth c	enabling distri oint venues. lata, and analy:				
 Develop, integrate, test, train, deploy, and operation C. Other Program Funding Summary 	perate spiral i	eleases of so	ftware tool	s as identified	above for tes	st events in b	udget project	BX04.
 Develop, integrate, test, train, deploy, and o C. Other Program Funding Summary 	perate spiral r	releases of so	ftware tool	s as identified	above for tes	st events in b	udget project	
	perate spiral i FY 2007	FY 2008	ftware tool	s as identified FY 2010	above for tes	st events in b FY 2012	udget project FY 2013	BX04. Total Cost
C. Other Program Funding Summary				FY 2010				Total Cost
	FY 2007	FY 2008	FY 2009	FY 2010 6 61,931	FY 2011	FY 2012	FY 2013	Total
C. Other Program Funding Summary PE 0207998C BRAC PE 0603175C Ballistic Missile Defense Technology PE 0603881C Ballistic Missile Defense Terminal Defense Segment	FY 2007	FY 2008 103,219	FY 2009 159,938	FY 2010 6 61,931 5 115,234	FY 2011 8,724	FY 2012 0	FY 2013	Total Cost 333,812 903,746
C. Other Program Funding Summary PE 0207998C BRAC PE 0603175C Ballistic Missile Defense Technology PE 0603881C Ballistic Missile Defense Terminal Defense Segment PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	FY 2007 0 183,849	FY 2008 103,219 108,423	FY 2009 159,938 118,718	FY 2010 6 61,931 7 115,234 795,659	FY 2011 8,724 120,152	FY 2012 0 127,012	FY 2013 0 130,358	Total Cost 333,812 903,746 5,650,344
C. Other Program Funding Summary PE 0207998C BRAC PE 0603175C Ballistic Missile Defense Technology PE 0603881C Ballistic Missile Defense Terminal Defense Segment PE 0603882C Ballistic Missile Defense Midcourse Defense Segment PE 0603883C Ballistic Missile Defense Boost Defense Segment	FY 2007 0 183,849 1,082,454 2,985,140 622,218	FY 2008 103,219 108,423 1,045,276	FY 2009 159,938 118,718 1,019,073 2,209,262 421,229	FY 2010 61,931 7115,234 795,659 2,276,848 423,927	FY 2011 8,724 120,152 719,847	FY 2012 0 127,012 548,283 946,437 799,792	FY 2013 0 130,358 439,752 1,103,532 991,839	Total Cost 333,812 903,746 5,650,344 13,149,690 4,421,888
C. Other Program Funding Summary PE 0207998C BRAC PE 0603175C Ballistic Missile Defense Technology PE 0603881C Ballistic Missile Defense Terminal Defense Segment PE 0603882C Ballistic Missile Defense Midcourse Defense Segment PE 0603883C Ballistic Missile Defense Boost Defense Segment PE 0603884C Ballistic Missile Defense Sensors	FY 2007 0 183,849 1,082,454 2,985,140	FY 2008 103,219 108,423 1,045,276 2,243,213	FY 2009 159,938 118,718 1,019,073 2,209,262	FY 2010 61,931 7115,234 795,659 2,276,848 423,927	FY 2011 8,724 120,152 719,847 1,385,258	FY 2012 0 127,012 548,283 946,437	FY 2013 0 130,358 439,752 1,103,532	Total Cost 333,812 903,746 5,650,344 13,149,690 4,421,888
C. Other Program Funding Summary PE 0207998C BRAC PE 0603175C Ballistic Missile Defense Technology PE 0603881C Ballistic Missile Defense Terminal Defense Segment PE 0603882C Ballistic Missile Defense Midcourse Defense Segment PE 0603883C Ballistic Missile Defense Boost Defense Segment PE 0603884C Ballistic Missile Defense Sensors PE 0603886C Ballistic Missile Defense System Interceptors	FY 2007 0 183,849 1,082,454 2,985,140 622,218 514,989 341,358	FY 2008 103,219 108,423 1,045,276 2,243,213 510,241 586,121 340,107	FY 2009 159,938 118,718 1,019,073 2,209,262 421,229 1,221,143 386,817	FY 2010 6 61,931 115,234 795,659 2,276,848 423,927 4 1,184,280 5 500,966	FY 2011 8,724 120,152 719,847 1,385,258 652,642 1,099,649 708,803	FY 2012 0 127,012 548,283 946,437 799,792 1,077,632 815,433	FY 2013 0 130,358 439,752 1,103,532 991,839 823,583 553,136	Total Cost 333,812 903,746 5,650,344 13,149,690 4,421,888 6,507,397 3,646,620
C. Other Program Funding Summary PE 0207998C BRAC PE 0603175C Ballistic Missile Defense Technology PE 0603881C Ballistic Missile Defense Terminal Defense Segment PE 0603882C Ballistic Missile Defense Midcourse Defense Segment PE 0603883C Ballistic Missile Defense Boost Defense Segment PE 0603884C Ballistic Missile Defense Sensors PE 0603886C Ballistic Missile Defense System Interceptors PE 0603890C Ballistic Missile Defense System Core	FY 2007 0 183,849 1,082,454 2,985,140 622,218 514,989	FY 2008 103,219 108,423 1,045,276 2,243,213 510,241 586,121	FY 2009 159,938 118,718 1,019,073 2,209,262 421,229 1,221,143	FY 2010 6 61,931 115,234 795,659 2,276,848 423,927 4 1,184,280 5 500,966	FY 2011 8,724 120,152 719,847 1,385,258 652,642 1,099,649	FY 2012 0 127,012 548,283 946,437 799,792 1,077,632	FY 2013 0 130,358 439,752 1,103,532 991,839 823,583	Total Cost 333,812
C. Other Program Funding Summary PE 0207998C BRAC	FY 2007 0 183,849 1,082,454 2,985,140 622,218 514,989 341,358	FY 2008 103,219 108,423 1,045,276 2,243,213 510,241 586,121 340,107	FY 2009 159,938 118,718 1,019,073 2,209,262 421,229 1,221,143 386,817	FY 2010 61,931 115,234 795,659 2,276,848 423,927 1,184,280 500,966 482,947	FY 2011 8,724 120,152 719,847 1,385,258 652,642 1,099,649 708,803	FY 2012 0 127,012 548,283 946,437 799,792 1,077,632 815,433	FY 2013 0 130,358 439,752 1,103,532 991,839 823,583 553,136	Total Cost 333,812 903,746 5,650,344 13,149,690 4,421,888 6,507,397 3,646,620

Project: BX04 Test & Evaluation Block 2.0

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Missile Defense Agency (MDA)	Exhibit R-2A F	XDT&E Projec	t Justificatie)n	Date Feb	ruary 2008		
APPROPRIATION/BUDGET ACTIVITY			R-1	1 NOMENCLAT	URE			
RDT&E, DW/04 Advanced Component Develop	ment and Prot	totypes (ACD	&P) 06	038888C Ballisti	ic Missile Def	ense Test and	l Targets	
								Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	1 266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	5 488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	1 41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	7 287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	5 55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	2 73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	4 100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	(0 0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	8 4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0 0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	(0 0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	4 5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	3 70,355	69,855	69,855	69,855	540,115

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding thought the use of Blocks and Capability Development. The RTO 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, FFRDC, and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

						Date		
		y (MDA) Exhibit R-3	RDT&E Proje			Februa	ry 2008	
APPROPRIATION/BUDGET A		.			NOMENCLATU			
RDT&E, DW/04 Advanced	Component	Development and P	rototypes (A	CD&P) 060	3888C Ballistic	Missile Defense	e Test and Tar	gets
I. Product Development	Cost (\$ in 7	Thousands)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks		· ·		•		·		
II. Support Costs Cost (\$ in Thouse	nds)						
n. Support Costs Cost (1					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								
Remarks								
Kellial KS								
	O (d • 1							
III. Test and Evaluation	Cost (\$ in	Thousands)						
					EV. 2 000	i	EV. 2 000	1
	a		T . 1		FY 2008		FY 2009	
	Contract	Performing	Total	EN 2000	Award/	EV 2000	Award/	
	Method	Activity &	PYs	FY 2008	Award/ Oblg	FY 2009	Award/ Oblg	Total
Cost Categories:		-		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
Test Operations BMDS Flight	Method	Activity &	PYs		Award/ Oblg		Award/ Oblg	
))	Method	Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
Test Operations BMDS Flight	Method	Activity & Location USASMDC,	PYs		Award/ Oblg		Award/ Oblg	
Test Operations BMDS Flight	Method	Activity & Location USASMDC, WSMR, MITLL,	PYs		Award/ Oblg		Award/ Oblg	
Test Operations BMDS Flight	Method	Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/	PYs		Award/ Oblg		Award/ Oblg	
Test Operations BMDS Flight	Method	Activity & Location USASMDC, WSMR, MITLL,	PYs		Award/ Oblg		Award/ Oblg	
Test Operations BMDS Flight Tests (Block 2.0)	Method & Type	Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
Test Operations BMDS Flight Tests (Block 2.0) BMDS FT Test Operations BMDS Ground	Method & Type	Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
Test Operations BMDS Flight Tests (Block 2.0) BMDS FT Test Operations BMDS Ground	Method & Type	Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI & CA	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost

Project: BX04 Test & Evaluation Block 2.0

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Compon Contra Methor Cost Categories: & Typ	ent Development and H	Prototypes (ACI		IOMENCLATUR				
Contra Metho		Prototypes (ACl				e Test and Targ		
Metho	ct Performing							
	-	Total PYs Cost	FY 2008 Cost	FY 2008 Award/ Oblg Date	FY 2009 Cost	FY 2009 Award/ Oblg Date	Total Cost	
Test Analysis and Reporting (Block 2.0)								
Test Analysis and Reporting Vario	CTF TA&R/ us Huntsville, AL	0	11,870	1Q	6,218	1Q	18,088	
Subtotal Test and Evaluation		0	35,227		28,333		63560	
IV. Management Services Cost (\$ in Thousands)			FY 2008		FY 2009		
			1	FY 2008		FY 2009		
Contra	act Performing	Total		Award/		Award/		
Metho	od Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total	
Cost Categories: & Typ	pe Location	Cost	Cost	Date	Cost	Date	Cost	
Subtotal Management Services								
Remarks								
Project Total Cost		0	35,227		28,333		63,560	
Remarks	I	I	1			I		

APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evelo	opm	ent	and	Pro	totv	pes		D&	P)				ENCI L B al				e De	fen	se T	est :	and	Tar	gets				
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Fiscal Year		I	007			1	08			20							2011		2012		2013							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests	r		1	r –		—			<u> </u>			_	-			1			_		-		<u> </u>	—	-	1		_
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FTT-10								\Box																				L
FTM-14										∇																		
FTX-04										∇																		
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FTT-13														\diamond														
FTT-14															∇													Γ
System Ground Tests							<u> </u>													<u> </u>								
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Missile Defense A	genc	y (N	1DA) Ex	hibit	R-4	Sche	edul	e Pr	ofile								Da Fe	te bru a	ary	200	8							
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	pm	ent	and	Pro	toty	pes (AC	D&	P)			ОМЕ 888С					e Do	efen	se T	'est	and	Tar	gets					
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Fiscal Year		20	007			20	008			20	09			20	010			20)11			20	012			20)13		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
System Ground Tests																													
GTX-03a						∇																							
GTI-03							∇																						
GTD-03/GTG-03b.2								Δ																					
GTX-09a									\Box																				
GTI-09											∇																		
GTD-09												\Box																	
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Project: BX04 Test & Evaluation Block 2.0

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Flight Tests	F1 2007	F1 2008	F1 2009	F1 2010	F1 2011	FT 2012	F1 2013
FTM-13		1Q					
FTT-08		1Q 1Q					
FTB-01		3Q					
FTT-09		3Q 3Q					
FTT-10		4Q					
FTM-14		· · · · · · · · · · · · · · · · · · ·	2Q				
FTX-04			2Q				
FTT-11			3Q				
FTM-15			4Q				
FTT-12			4Q				
FTT-13				2Q			
FTT-14				3Q			
ystem Ground Tests							
GTX-03a		2Q					
GTI-03		3Q					
GTD-03/GTG-03b.2		4Q					
GTX-09a			1Q				
GTI-09			3Q				
GTD-09			4Q				

				Date			
Missile Defense Agency (MDA) Exhibit R-2A RDT&H	E Project Justi	fication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototype	0603888C	Ballistic Mis	ssile Defense	e Test and Ta	argets		
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
CX04 Test & Evaluation Block 3.0	0	14,211	38,802	53,938	45,048	46,979	49,068
RDT&E Articles Qty	0	0	0	0	0	0	0
Note:							

1. Funding for content in budget project CX04 (FY08 thru FY13) was previously included (where applicable) in FY07 within budget projects 0804, 0904, 0004, R104, and R204.

2. Block 3.0 fielding and development efforts are directed toward expanding defense of the U.S. to include limited Iranian long-range threats. The Combined Test Force (CTF) supports the developmental and integration efforts thru test and assessment of ESGs attributed to Block 3.0.

A. Mission Description and Budget Item Justification

The Missile Defense Agency (MDA) T&E program has six primary purposes: 1) to collect data to demonstrate and assess the Ballistic Missile Defense System (BMDS), 2) to collect data to demonstrate and assess the block capability, 3) to identify areas where technology can increase overall system performance, 4) to identify BMD System issues, 5) to provide anchoring and validation data for modeling and simulation (M&S) tools, and 6) to support early, partial, and full capability readiness decisions.

The BMDS developmental and operational test program encompasses all T&E activities associated with technology developments, demonstrations, experiments, research, deployment, and maintenance activities. The T&E program describes test methods and approaches that the CTF uses to test element capabilities to meet the system-necessary capabilities delineated in the System Specification Documents and Interface Design Documents. The MDA T&E program provides test data to support assessments used to document and determine BMDS effectiveness. The BMDS testing approach addresses the system wide test objective development process, ESG, test environments, testing methodologies [i.e., M&S, Flight Test (FT), ground test (GT)], and identifies the test resources (e.g., Test Bed, M&S tools, targets, ranges) required to provide test data that when combined with analysis of data from multiple sources, will contribute to verification of the BMDS capability.

T&E Block 3.0 Funding:

Funding levels identified in this task support all BMDS FT and GTs in support of Block 3.0 efforts directed toward expanding defense of the U.S. to include limited Iranian long-range threats. Funding provides manpower, range and logistics support to perform system FT and GT planning, integration, execution, data collection, and analysis and range and auxiliary sensor support. Funding supports overlaying system-level objectives onto element FTs.

Project: CX04 Test & Evaluation Block 3.0

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		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets
System ETs:		

System FTs:

System FTs examine the capability of the BMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects will also provide analysis of each system test event through the Joint Analysis Team (JAT). BMDS FT events also include the Integrated Measurements Program which is a combination of previous Lethality and Kill Assessment programs and seeks to characterize the effectiveness of BMDS engagements and assure 10 USC 2366 requirements for BMDS lethality Live Fire Test and Evaluation are achieved, and to investigate how successful a given BMDS engagement will be in destroying the incoming warhead.

System GTs:

A vigorous System GT program brings together a variety of controllable and flexible testing venues to include high fidelity hardware-in-the-loop (HWIL) tests and nondestructive tests performed in a controlled repeatable environment. BMDS GT campaigns will encompass multiple blocks consisting of the following:

- BMDS Integrated GTs (GTI) are test event integration exercises that use a test environment to determine the impact of specific threats on a wide variety of proposed engagement scenarios and to provide data for multiple ESGs and multiple threats across a range of environmental conditions. Within the performance and threat space envelope, GTIs provide a wider range of data than can be obtained from flight testing for integration, characterization, verification, and assessment. In addition, data from the GTIs support FT risk reduction and benchmarking of existing M&S that provide insight for improvements of the models used for end-to-end system level performance assessment.
- BMDS Distributed GTs (GTD) are test events that typically follow a GTI where they combine the fielded hardware and software of BMDS Elements to exercise the BMDS communication networks and communication links. During GTDs, actual element sensors are stimulated where possible to obtain data to evaluate both the element and system test objectives. Since GTDs can closely represent the actual BMDS, it is possible that following a GTD and corresponding quick look report some ESGs will become candidates for early delivery to the warfighter.
- BMDS Focused GTs Other (GTX) are typically short duration integration exercises that focus on specific ESGs or functionality. A GTX can test a subset of the BMDS configuration, focusing on specific ESGs with only the required elements participating in the test. Typically, one or more GTXs will precede a GTI as risk reduction test for the GTI. Additionally, a GTX can be used to test a new capability that was not available during the previous GTI. Since GTXs are intended to be smaller, less complex events, they will be more responsive to schedule adjustments and unplanned test requirement needs.

	CLASSI		Date					
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification February 2008 APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets								
B. Accomplishments/Planned Program								
	F	Y 2007	FY 2008	FY 2009				
Test Operations BMDS Flight Tests (Block 3.0) RDT&E Articles (Quantity)		0	2,100	12,15				
 FTs examine the capability of the BMDS to detect, track, and engage verification of more complex ESGs. These projects also provide ana provide anchoring data for M&S tools, to collect test data to further whole or in part. Even though FTs are conducted in realistic operation they only examine a single scenario/vignette and parts of ESGs and of FY08 Planned Program: Complete detailed test planning and execute FY08 major BMDS Support BMDS elements in planning and execution of their budg Conduct early planning for FY09 major BMDS system level test Coordinate integration of multiple elements, OTA and Warfighte Refine scenario designs for BMDS FTs to support ESGs identifie Provide system-level range support, mission assurance, logistics equipment, and permission analysis and studies. Continue to populate the BMDS Test Database with most curren and provide validation data for M&S. 	lysis of each characterize onal enviror do have env system lev get project (events. er into BMI ed in BMD support, tes	h system test even e the BMDS, and ments and are cri vironmental and s el test events for CX04 program sp OS system tests. S IMTP. st specific support	nt through the JAT. FTs are to demonstrate BMDS ope tical to achieving system v afety constraints. budget project CX04. ecific FTs.	e planned and executed to erational capability in verification requirements,				
 FY09 Planned Program: Complete detailed test planning and execute FY09 major BMDS Support BMDS elements in planning and execution of their budg Conduct early planning for FY10 major BMDS system level test Coordinate integration of multiple elements, OTA and Warfighte Refine scenario designs for BMDS FTs to support ESGs identifie Provide system-level range support, mission assurance, logistics equipment, and permission analysis and studies. 	get project (events. er into BMI ed in BMDS	CX04 program sp DS system tests. S IMTP.	ecific FTs.	ommunication, support				

		Date					
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justifi	ication	February 200	8			
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCL	ATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes	s (ACD&P)	0603888C Ball	istic Missile Defense Test	and Targets			
Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S.							
	FY	2007	FY 2008	FY 2009			
Test Operations BMDS Ground Tests (Block 3.0)		0	10,21	20,821			
RDT&E Articles (Quantity)		0		0 0			
GT, using M&S that have been validated using anchoring data from capability. GTs are conducted to collect data for BMDS characteriz scenarios where flight testing is either impractical or impossible. G of performance anomalies based on the capability to test all ESGs u raid sizes that would be cost prohibitive to do in flight testing. A rol venues to include high fidelity HWIL tests and nondestructive tests encompass multiple blocks consisting of BMDS Integrated GTs (G	cation and ass T allows exanusing digital r bust GT prog performed in	essment, compo- mination of mat representations of ram brings togen a controlled, r	onent and element integra ure designs and identification of realistic threat types, treather a variety of controll epeatable environment. B	ation, and exploration of ation and efficient correction ajectories, geometries, and able and flexible testing MDS GT campaigns will			

FY08 Planned Program:

- Plan and execute budget project CX04 BMDS GTs.
- Continue to execute the GT-3 campaign.
- Integrate element representation and the test support team for system GT.
- Support Warfighter's requirements during GT-3 campaign.
- Conduct fully integrated GT campaign (GT-3) with all MDA Elements represented via HWIL.
- Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S.

FY09 Planned Program:

- Plan and execute budget project CX04 BMDS GTs.
- Execute the GT-9 campaign.
- Integrate element representation and the test support team for system GTs.
- Support Warfighter's requirements during GT-9 campaign.
- Conduct fully integrated GT campaign (GT-9) with all MDA Elements represented via HWIL.

Project: CX04 Test & Evaluation Block 3.0

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Missile Defense Agency (MDA) Exhibit R-2A RDT&	E Project Justif	cation	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototyp	es (ACD&P)	R-1 NOMENCLA 0603888C Ballis	TURE stic Missile Defense Test and	l Targets
• Continue to populate the BMDS Test Database with most curr and provide validation data for M&S.	ent test data to	support capabili	ty assessments by Systems	Engineering and OTAs,
	FY	2007	FY 2008	FY 2009
Test Analysis and Reporting (Block 3.0)		0	1,897	5,824
RDT&E Articles (Quantity)		0	0	С
 Functional Products and Processes: JATs - Establish, plan, schedule, and conduct JATs for system activities. Develop, deliver, and brief all TA&R products to se (EQLB), Mission Data Review (MDR), Executive Mission Data 	nior leadershi	p: Quick Look B	riefing (QLB), Executive Q	
 Data Management - Develop and publish Integrated Data Man data products and requests. Develop Data Handling Plans and Data Center, to ensure timely and complete data distribution in Universal Documentation System to ensure availability of crit 	agement Plans provide event accordance v ical data suppo	s (IDMP), coordi specific data dist with (IAW) IDMI orting TA&R con	nating and documenting all ribution reports, synchroniz P. Provide inputs to the National duct.	zed with Missile Defense ional Test Ranges
 Data Collection - Enables collaboration and leveraging of eler distribution of IDMP products addressing system analysis requ Data Processing - Process all raw data files and test configurat reporting activities. Deliver databases (Integrated System Con 	uirements. ions into integ	rated TA&R data	abases to support truth and	system analysis and
reporting activities. Deliver databases (Integrated System Con Package) to OTA, BMDS Capability Assessment, C2BMC, ar	-		a rackage (TDP), and Integ	rateu Allarysis Data

Truth Data - Develop Truth Data Requirements Document (TDRD) to ensure that auxiliary sensor data collection to support truth data analysis and TDP creation are captured in the IDMP, OR, and MD test resource documentation. The TDRD defines and documents mission specific auxiliary sensor data collection requirements and provide truth requirements for mission architecture development. Develop pre-mission prediction packages (metric, optical, and radar) and deliver to truth sensors in support of their pre-mission test support planning. Develop and deliver post-mission TDP to data requestors as captured in the IDMP as an integrated truth source to anchor post-mission analysis activities. Plan, schedule, and execute post mission truth summits to coordinate auxiliary sensor inputs to post-mission executive briefs and data reviews. Conduct

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

post-mission truth sensor data quality assessments to determine the quality and quantity of data sources with respect to truth analysis requirements, and capture lessons learned for future truth data collection and analysis activities.

Analysis - Develop analysis data requirements documents to ensure IDMP contains all products required to support analysis of system test
objectives [e.g., Systems Engineering Behavioral Objectives, ESG, Characterization Points and System Performance Parameters. Develop
Analysis Execution Plans to document analysis process, timelines, and areas of responsibility. Develop analysis processes to capture test
sequences, analysis observations, and Tactics, Techniques, and Procedure execution for use in test analysis. Develop and deliver all post test
analysis reports (Final Test Report, BMDS Characterization Brief/Report). Develop and deliver analysis content in support of the QLB, EQLB,
MDR, and EMDR. Develop and submit system level Test Incident Reports found during TA&R process.

Distributed Analysis Tools and Infrastructures:

- Develop, integrate, test, train, deploy, and operate spiral releases of software tools to automate and enhance the TA&R process of the evolving BMDS test program and associated data products. Tools include: Data Management System for data management, Checklist for Online Observation and Reporting for test analysis observations, All Sensors Truth Evaluation and Reporting for truth analysis, Modular Analysis and Reporting Suite for system analysis and PHOENIX for common tool framework.
- Develop, coordinate, implement, and maintain requirements and capabilities for distributed and virtual data architectures, to include the Joint Data Analysis Center (JDAC), supporting timely data distribution, processing, and analysis across a distributed TA&R community; [i.e., JDAC, Missile Defense Integration and Operations Center (MDIOC), test ranges, (Federally Funded Research and Development Centers (FFRDCs), etc.]. Develop and maintain System Security Authorization Agreements for all test TA&R tools and nodes to ensure risk mitigation IAW latest BMDS information assurance guidance and continued authority to operate in support of on ongoing TA&R operations. Maintain hardware and software configuration management of all TA&R tools and systems.

FY08 Planned Program:

- Provided TA&R product development and delivery for budget project CX04 test events.
- Develop and facilitate requirements and implementation of virtual TA&R nodes enabling distributed, collaborative analysis across all block nodes.
- Plan, schedule, and facilitate the integration of BMDS analysis activities within joint venues.
- Standardize TA&R tools and processes.
- Develop and deliver products for JAT, data management, data processing, truth data, and analysis as identified above for test events in budget project CX04.
- Develop, integrate, test, train, deploy, and operate spiral releases of software tools as identified above for test events in budget project CX04.

Project: CX04 Test & Evaluation Block 3.0

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Missile Defense Agency (MDA)	Exhibit R-2A F	RDT&E Projec				bruary 2008		
APPROPRIATION/BUDGET ACTIVITY	(1D			NOMENCLAT		e m i i		
RDT&E, DW/04 Advanced Component Develop	nent and Pro	totypes (ACD	(ÅP) 06)3888C Ballisti	c Missile De	tense Test and	Targets	
FY09 Planned Program:								
 Provided TA&R product development and c 	lelivery for b	udget project	CX04 test	events.				
• Develop and facilitate requirements and imp	olementation	of virtual TA	&R nodes	enabling distri	buted, colla	borative analy	sis across all	block
nodes.				e	·			
• Plan, schedule, and facilitate the integration	of BMDS an	alvsis activit	ies within	oint venues.				
 Standardize TA&R tools and processes. 								
 Develop and deliver products for JAT, data 	managamant	data process	sing truth	lata and analy	eie as ident	fied above for	· tast avants i	a budget
• Develop and deriver products for JAT, data project CX04.	management	, data process	sing, uuul	iaia, and analy	515 as iucili.			uugei
1 0			C 4		-1£. (4		CV04
• Develop, integrate, test, train, deploy, and o	perate spiral	releases of sc	oftware too	is as identified	above for t	est events in b	udget project	CX04.
C. Other Program Funding Summary					[I	
	EV 2007	EX 2009	EV 2000	EX 2010	EV 2011	EX 2012	EX 2012	Total
PE 0207998C BRAC	FY 2007 0	FY 2008 103,219	FY 2009 159,93	FY 2010 61,931	FY 2011 8,724	FY 2012	FY 2013 0	Cost 333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	103,219	118,71		120,152		130,358	903,746
PE 060381/5C Ballistic Missile Defense Technology PE 0603881C Ballistic Missile Defense Terminal Defense	105,047	100,425	110,71	115,254	120,152	127,012	150,550	203,740
Segment	1,082,454	1,045,276	1,019,07	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense		, ,	, ,	,				, ,
Segment	2,985,140	2,243,213	2,209,26	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense								
Segment	622,218	510,241	421,22		652,642		991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,14		1,099,649		823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,81		708,803	<i>´</i>	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,26		605,219		571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,31		538,050		786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,78		1,078,539		1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,44		560,130		938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,45		649,632		879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,77		56,199		157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,27		270,762		259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,95	5 55,289	56,400	51,902	52,784	371,060

Project: CX04 Test & Evaluation Block 3.0

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Missile Defense Agency (MDA)	Exhibit R-2A I	RDT&E Projec	t Justificati)n	Date Feb	ruary 2008		
APPROPRIATION/BUDGET ACTIVITY				I NOMENCLAT				
RDT&E, DW/04 Advanced Component Develop	ment and Pro	totypes (ACD	0&P) 06	038888C Ballist	ic Missile Def	ense Test and	l Targets	
								Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,98	2 73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations								
Center	104,389	78,557	96,40	4 100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0		0 0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,97	3 4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243) 0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0		0 0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,73	4 5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,45	3 70,355	69,855	69,855	69,855	540,115

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding thought the use of Blocks and Capability Development. The RTO 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, FFRDC, and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

Missile	Defense Agenc	y (MDA) Exhibit R-3	RDT&F Proje	et Cost Analysis		Date Februa	rv 2008	
APPROPRIATION/BUDGET		y (MDA) Exhibit K-5	KD I &E I I Uje		NOMENCLATUI		1 y 2000	
RDT&E, DW/04 Advanced	Component	Development and F	Prototypes (AC	CD&P) 0603	8888C Ballistic	Missile Defens	e Test and Targ	ets
I. Product Development	Cost (\$ in 7	Fhousands)						
•					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks								
II. Support Costs Cost (\$ in Thousa	nds)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Cost Categories.	Jr-							
0								
Subtotal Support Costs								
Subtotal Support Costs								
Subtotal Support Costs Remarks								
Subtotal Support Costs Remarks					FY 2008		FY 2009	
Subtotal Support Costs Remarks		Thousands)	Total		FY 2008 Award/		FY 2009 Award/	
Subtotal Support Costs Remarks	Cost (\$ in '	Thousands) Performing	Total PYs	FY 2008	Award/	FY 2009	Award/	Total
Subtotal Support Costs Remarks III. Test and Evaluation	Cost (\$ in ' Contract Method	Thousands)		FY 2008 Cost		FY 2009 Cost		Total Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories:	Cost (\$ in '	Fhousands) Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Cost (\$ in ' Contract Method	Fhousands) Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Cost (\$ in ' Contract Method	Thousands) Performing Activity & Location USASMDC,	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Cost (\$ in ' Contract Method	Thousands) Performing Activity & Location USASMDC, WSMR, MITLL,	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight	Cost (\$ in ' Contract Method	Thousands) Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight Tests (Block 3.0)	Cost (\$ in ' Contract Method & Type	Thousands) Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight Tests (Block 3.0) BMDS FT	Cost (\$ in ' Contract Method	Thousands) Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Test Operations BMDS Flight Tests (Block 3.0) BMDS FT Test Operations BMDS Ground	Cost (\$ in ' Contract Method & Type	Thousands) Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories:	Cost (\$ in ' Contract Method & Type	Thousands) Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost

Project: CX04 Test & Evaluation Block 3.0

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M Cost Categories: & Test Analysis and Reporting Block 3.0)	ntract Peterson A ethod A Type I	pment and Pro	Total PYs Cost		060388	MENCLATUR 8C Ballistic I FY 2008 Award/ Oblg Date		e Test and Targ FY 2009 Award/ Oblg Date	gets Total Cost
Cost Categories: & Test Analysis and Reporting (Block 3.0)	ntract Pe ethod A Type I	erforming cetivity &	Total PYs	FY 2008		FY 2008 Award/ Oblg	FY 2009	FY 2009 Award/ Oblg	Total
M Cost Categories: & Test Analysis and Reporting (Block 3.0)	ethod A Type I	ctivity &	PYs			Award/ Oblg		Award/ Oblg	
M Cost Categories: & Test Analysis and Reporting (Block 3.0)	ethod A Type I	ctivity &	PYs		5	Oblg		Oblg	
Cost Categories: & Test Analysis and Reporting (Block 3.0)	Type I	•			,	e		e	
Test Analysis and Reporting (Block 3.0)		Location	Cost	Cost		Date	Cost	Date	
(Block 3.0)	C								Cost
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Test Analysis and Reporting Va		TF TA&R/							
	arious Hui	ntsville, AL	0) 1,	897	1Q	5,824	1Q	7,721
Subtotal Test and Evaluation			0) 14,	211		38,802		53013
Remarks									
IV. Management Services Cos	<u>st (\$ in Thou</u>	isands)			•				
						FY 2008		FY 2009	
		erforming	Total			Award/		Award/	
		ctivity &	PYs	FY 2008		Oblg	FY 2009	Oblg	Total
-	Type I	Location	Cost	Cost		Date	Cost	Date	Cost
Subtotal Management Services									
Remarks									
Project Total Cost			0) 14,	211		38,802		53,013
Remarks									

RDT&E, DW/04 Advanced Componen	t Develo	opm	ent a	and	Pro	toty	pes	(AC	D &	P)	00	6038	888C	Bal	llisti	ic M	issil	e Def	fens	se T	est a	and	Tar	gets				
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	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests	-				_				_				_				_				_				_			
FTX-05												∇																
FTG-08														∇														
FTX-06/FTS-03															∇													
FTG-11																			∇									Γ
FTG-12																						∇						
FTG-13																								∇				Γ
FTX-08																								∇				
FTG-14																										∇		
FTG-15																												7
System Ground Tests				<u> </u>					-	<u> </u>						<u> </u>	•											
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Missile Defense A	Ageno	cy (N	MDA) Ex	hibit	: R- 4	Sch	edul	e Pr	ofile								Da Fe	te bru a	ary	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evel	opm	nent	and	Pro	toty	pes	(AC	D&	P)					LAT Illist			le Do	efen	se T	'est a	and	Tar	gets				
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	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Ground Tests		<u> </u>										<u> </u>		•											-			
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Missile Defense A	genc	y (N	ÍDA) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe	te brua	ary 1	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	opm	ent	and	Pro	toty	pes	(AC	D&	P)		-1 N 6038						e D	efens	se T	est a	and	Tar	gets				
Fiscal Year		20	007			20	08			20)09			20	010			20)11			20	012			20	13	
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System Ground Tests	-				_				_				_				_								_			
GTD-13																												∇
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Project: CX04 Test & Evaluation Block 3.0

	e Defense Agency (MDA) Exhi	DIT K-4A Schedule				February 20	60	
APPROPRIATION/BUDGET ACTI RDT&E, DW/04 Advanced Con		Prototypes (ACD			AENCLATURE	sile Defense Tes	t and Targets	
KD1 &E, DW/04 Auvanceu Con	iponent Development and I	Tototypes (ACD	a 1)	0003000	C Damstie Wils	she Delense Tes	t and Targets	
Schedule Profile	FY 2007	FY 2008	FY 2	009	FY 2010	FY 2011	FY 2012	FY 2013
System Flight Tests								
FTX-05			40	2				
FTG-08					2Q			
FTX-06/FTS-03					3Q			
FTG-11						3Q		
FTG-12							2Q	
FTG-13							4Q	
FTX-08							4Q	
FTG-14								2Q
FTG-15								4Q
System Ground Tests								
GTI-03		3Q						
GTD-03		4Q						
GTX-09b			20	2				
GTI-09			30	2				
GTD-09			40	2				
GTX-10a					1Q			
GTI-10					3Q			
GTD-10					4Q			
GTX-11a						1Q		
GTI-11						3Q		
GTD-11						4Q		
GTX-12a							1Q	
GTI-12							3Q	
GTD-12							4Q	
GTX-13a								1Q
GTI-13								3Q
GTD-13								4Q

				Date			
Missile Defense Agency (MDA) Exhibit R-2A RDT&	E Project Justi	fication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototyp	es (ACD&P)	0603888C	Ballistic Mis	ssile Defense	Test and Ta	rgets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
DX04 Test & Evaluation Block 4.0	0	0	0	6,518	24,854	28,061	32,748
RDT&E Articles Qty	0	0	0	0	0	0	0
Note:							

1. Funding for content in budget project AX04 (FY08 thru FY13) was previously included (where applicable) in FY07 within budget projects 0804, 0904, 0004, R104, and R204.

2. Block 4.0 3rd Site Testing efforts are directed toward defending U.S allies and deployed forces in Europe against limited Iranian long-range missile threats while simultaneously expanding protection of the U.S homeland. The Combined Test Facility (CTF) supports the developmental and integration efforts thru test and assessment of ESGs attributed to Block 4.0.

A. Mission Description and Budget Item Justification

Test & Evaluation (T&E) Block Testing: The Missile Defense Agency (MDA) T&E program has six primary purposes: 1) to collect data to demonstrate and assess the Ballistic Missile Defense System (BMDS), 2) to collect data to demonstrate and assess the block capability, 3) to identify areas where technology can increase overall system performance, 4) to identify BMD System issues, 5) to provide anchoring and validation data for modeling and simulation (M&S) tools, and 6) to support early, partial, and full capability readiness decisions.

The BMDS developmental and operational test program encompasses all T&E activities associated with technology developments, demonstrations, experiments, research, deployment, and maintenance activities. The T&E program describes test methods and approaches that the CTF uses to test element capabilities to meet the system-necessary capabilities delineated in the System Specification Documents and Interface Design Documents. The MDA T&E program provides test data to support assessments used to document and determine BMDS effectiveness. The BMDS testing approach addresses the system wide test objective development process, ESG test environments, testing methodologies [i.e., M&S, Flight Test (FT), ground test (GT)], and identifies the test resources (e.g., Test Bed, M&S tools, targets, ranges) required to provide test data that when combined with analysis of data from multiple sources, will contribute to verification of the BMDS capability.

The European Component (EC) of the BMDS is comprised of a third interceptor site, a European Midcourse Radar (EMR), and a European Forwardbased Radar (EFBR). The European Interceptor Site will be comprised of a two-stage variant of the Ground-based Interceptor fielded in Alaska and California. The EMR will be the Ground-based Radar-Prototype unit from the Reagan Test Site (RTS) re-located to the European host site. The EFBR will be a forward-deployed AN/TPY-2 (FBM) unit. BMDS testing of the EC will involve vigorous ground testing of the European elements

					Dat			
Missile Defense Agency (MDA)	Exhibit R-2A F	RDT&E Projec				oruary 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Develops	ment and Pro	totypes (ACD		NOMENCLA 3888C Ballis	TURE s tic Missile De	fense Test and	l Targets	
combining the focused exercise of the elements as the development of the OVB-2 Booster as re-		0	cise of the I	EC capabilit	y. Funding in	this block sup	pports EC test	ing as well
B. Accomplishments/Planned Program								
			FY 2007		FY 20	08	FY 2	2009
Funding Begin in FY 2010				0		0		0
RDT&E Articles (Quantity)				0		0		0
C. Other Program Funding Summary				1				Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0207998C BRAC	0	103,219	159,938	61,93	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,23	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,65	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,84	3 1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,92		799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,28	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,96		815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,94		561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,23		818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,22		1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,50	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,29	4 649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,63		133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,19	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,28	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,99	7 77,205	80,168	81,948	482,527

Project: DX04 Test & Evaluation Block 4.0

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Missile Defense Agency (MDA) APPROPRIATION/BUDGET ACTIVITY	Exhibit R-2A H	RDT&E Projec		on I NOMENCLAT		ruary 2008		
RDT&E, DW/04 Advanced Component Develop	nent and Pro	totypes (ACD		038888C Ballist		ense Test and	l Targets	
								Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0603904C Missile Defense Integration & Operations								
Center	104,389	78,557	96,40	4 100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0		0 0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,97	3 4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243		0 0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0		0 0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,73	4 5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,45	3 70,355	69,855	69,855	69,855	540,115

D. Acquisition Strategy

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

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		(MDA) Exhibit R-3	8 KDT&E Proj				ary 2008	
APPROPRIATION/BUDGET A RDT&E, DW/04 Advanced		avalanment and l	Prototypos (A		-1 NOMENCLATU 603888C Ballistic		so Tost and Tor	aota
,			rototypes (A	(Dar) U	busoool Damstic	wiissne Delen	se rest and rar	gels
I. Product Development	Cost (\$ in T	housands)		-i		i		
		D ()	T . 1		FY 2008		FY 2009	
	Contract	Performing	Total	EN/ 2000	Award/	EX 2000	Award/	T (1
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks								
II. Support Costs Cost (\$ in Thousar	nds)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								
					l.			
Remarks	-1						· · · ·	
Remarks	Cost (\$ in T	housands)						
Remarks	Cost (\$ in T	'housands)			FY 2008		FY 2009	
Remarks	Contract	Performing	Total		Award/		FY 2009 Award/	
Remarks III. Test and Evaluation	Contract Method	Performing Activity &	Total PYs	FY 2008		FY 2009		Total
Remarks III. Test and Evaluation Cost Categories:	Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
Remarks III. Test and Evaluation Cost Categories:	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg Date		Award/ Oblg Date	
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location Thousands)	PYs Cost		Award/ Oblg Date		Award/ Oblg Date	
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location Thousands) Performing	PYs Cost Total	Cost	Award/ Oblg Date FY 2008 Award/	Cost	Award/ Oblg Date FY 2009 Award/	Cost
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Service	Contract Method & Type s Cost (\$ in Contract Method	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Service Cost Categories:	Contract Method & Type	Performing Activity & Location Thousands) Performing	PYs Cost Total	Cost	Award/ Oblg Date FY 2008 Award/	Cost	Award/ Oblg Date FY 2009 Award/	Cost
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Services Cost Categories: Subtotal Management Services	Contract Method & Type s Cost (\$ in Contract Method	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Services Cost Categories: Subtotal Management Services	Contract Method & Type s Cost (\$ in Contract Method	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost
Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Service Cost Categories: Subtotal Management Services Remarks Project Total Cost	Contract Method & Type s Cost (\$ in Contract Method	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost

Project: DX04 Test & Evaluation Block 4.0

Missile Defense A	genc	y (N	IDA) Exl	hibit	: R-4	Sch	edul	e Pro	ofile								Da Fe		ary	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	opm	ent	and	Pro	toty	pes	(AC	D &	P)					LAT llist i			e De	efen	se T	est a	and	Tar	gets				
Fiscal Year		20	07			20	008			20	09			20	010			20)11			20)12			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests																												
FTG-09																∇												
FTG-10																		\Box										
FTX-07																				∇								
System Ground Tests																												
GTX-11a																	∇											
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GTX-12a																					∇							
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	e Defense Agency (MDA) Exhi	idit K-4A Schedule D			February 2008							
APPROPRIATION/BUDGET ACTI RDT&E, DW/04 Advanced Con		Ductotypes (ACD 8-)		MENCLATURE	ailo Dofondo Tod	t and Tangata						
KDI & E, DW/04 Auvanceu Con	nponent Development and I	Prototypes (ACD&	() 000388	0603888C Ballistic Missile Defense Test and Targets								
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013					
System Flight Tests												
FTG-09				4Q								
FTG-10					2Q							
FTX-07					4Q							
System Ground Tests												
GTX-11a					1Q							
GTI-11					3Q							
GTD-11					4Q							
GTX-12a						1Q						
GTI-12						3Q						
GTD-12						4Q						
GTX-13a							1Q					
GTI-13							3Q					
GTD-13							4Q					

				Date			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justif	fication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)	0603888C	Ballistic Mis	ssile Defense	Test and Ta	argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
EX04 Test & Evaluation Block 5.0	0	9,576	17,712	31,526	41,189	45,267	40,901
RDT&E Articles Qty	0	0	0	0	0	0	0
Note:							

1. Funding for content in budget project EX04 (FY08 thru FY13) was previously included (where applicable) in FY07 within budget projects 0804, 0904, 0004, R104, and R204.

2. Block 5.0 fielding and development efforts are directed toward expanding defense of allies and deployed forces from short-to-intermediate range threats in two regions/theaters. The Combined Test Facility (CTF) supports the developmental and integration efforts thru test and assessment of ESGs attributed to Block 5.0.

A. Mission Description and Budget Item Justification

Test & Evaluation (T&E) Block Testing: The MDA T&E program has six primary purposes: 1) to collect data to demonstrate and assess the Ballistic Missile Defense System (BMDS), 2) to collect data to demonstrate and assess the block capability, 3) to identify areas where technology can increase overall system performance, 4) to identify BMD System issues, 5) to provide anchoring and validation data for modeling and simulations (M&S) tools, and 6) to support early, partial, and full capability readiness decisions.

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T&E Block 5.0 Funding:

Funding levels identified in this task support all BMDS FT and GTs in support of Block 5.0 efforts directed toward expanding defense of allies and deployed forces from short-to-intermediate range threats in two regions/theaters. Funding provides manpower, range and logistics support to perform

Project: EX04 Test & Evaluation Block 5.0

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justificat APPROPRIATION/BUDGET ACTIVITY	Date
	tion February 2008
	R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets
system FT and GT planning, integration, execution, data collection, and analysis ar system-level objectives onto element FTs.	nd range and auxiliary sensor support. Funding supports overlaying
System FTs: System FTs examine the capability of the BMDS to detect, track, and engage targe support verification of more complex ESGs. These projects will also provide analy (JAT). BMDS FT events also include the Integrated Measurements Program which programs and seeks to characterize the effectiveness of BMDS engagements and as Test and Evaluation are achieved, and to investigate how successful a given BMDS	vsis of each system test event through the Joint Analysis Team is a combination of previous Lethality and Kill Assessment ssure 10 USC 2366 requirements for BMDS lethality Live Fire
 System GTs: A vigorous System GT program brings together a variety of controllable and flexib (HWIL) tests and nondestructive tests performed in a controlled, repeatable environ consisting of the following: BMDS Integrated GTs (GTI) are test event integration exercises that use a test variety of proposed engagement scenarios and to provide data for multiple ESC Within the performance and threat space envelope, GTIs provide a wider range characterization, verification, and assessment. In addition, data from the GTIs s provide insight for improvements of the models used for end-to-end system lev BMDS Distributed GTs (GTD) are test events that typically follow a GTI wher Elements to exercise the BMDS communication networks and communication possible to obtain data to evaluate both the element and system test objectives. that following a GTD and corresponding quick look report some ESGs will bec BMDS Focused GTs Other (GTX) are typically short duration integration exerc a subset of the BMDS configuration, focusing on specific ESGs with only the r GTXs will precede a GTI as risk reduction test for the GTI. Additionally, a GT during the previous GTI. Since GTXs are intended to be smaller, less complex unplanned test requirement needs. 	onment. BMDS GT campaigns will encompass multiple blocks environment to determine the impact of specific threats on a wide Gs and multiple threats across a range of environmental conditions. e of data than can be obtained from flight testing for integration, support FT risk reduction and benchmarking of existing M&S that vel performance assessment. re they combine the fielded hardware and software of BMDS links. During GTDs, actual element sensors are stimulated where Since GTDs can closely represent the actual BMDS, it is possible come candidates for early delivery to the warfighter. rcises that focus on specific ESGs or functionality. A GTX can test required elements participating in the test. Typically, one or more TX can be used to test a new capability that was not available

	CLABBI		<u>_</u>	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justifi	cation	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)	R-1 NOMENCL 0603888C Bal	ATURE listic Missile Defense Test an	d Targets
B. Accomplishments/Planned Program				
	FY	2007	FY 2008	FY 2009
Test Operations BMDS Flight Tests (Block 5.0)		0	0	2,966
RDT&E Articles (Quantity)		0	0	0
whole or in part. Even though FTs are conducted in realistic operative they only examine a single scenario/vignette and parts of ESGs and FY09 Planned Program:			.	vermenten requirements,
0	S system law	1 tast avants fo	r budget project EV04	
 Complete detailed test planning and execute FY09 major BMDS Support BMDS elements in planning and execution of their bud Conduct early planning for FY10 major BMDS system level tes Coordinate integration of multiple elements, OTA and Warfight Refine scenario designs for BMDS FTs to support ESGs identified 	get project E t events. er into BMD	X04 program s S system tests.	pecific FTs.	
• Provide system-level range support, mission assurance, logistics	s support, tes	t specific suppo	ort personnel, test specific co	ommunication, support

- equipment, and permission analysis and studies.Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs,
- and provide validation data for M&S.

	CLASSIF	IED	_	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E I	Project Justif	ication	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLAT		
RDT&E, DW/04 Advanced Component Development and Prototypes ((ACD&P)	06038888C Ballisti	c Missile Defense Test and Ta	argets
	FY	2007	FY 2008	FY 2009
Test Operations BMDS Ground Tests (Block 5.0)		0	9,576	13,34
RDT&E Articles (Quantity) GT, using M&S that have been validated using anchoring data from		0	0	
 scenarios where flight testing is either impractical or impossible. GT of performance anomalies based on the capability to test all ESGs us raid sizes that would be cost prohibitive to do in flight testing. A rob venues to include high fidelity HWIL tests and nondestructive tests pencompass multiple blocks consisting of BMDS Integrated GTs (GT FY08 Planned Program: Plan and execute budget project EX04 BMDS GTs. Continue to execute the GT-3 campaign. Integrate element representation and the test support team for system Support Warfighter's requirements during GT-3 campaign. Conduct fully integrated GT campaign (GT-3) with all MDA Ele Continue to populate the BMDS Test Database with most current and provide validation data for M&S. 	sing digital r pust GT prog performed in TI), BMDS I stem GT.	epresentations of regram brings togethen a controlled, repe Distributed GTs (G	ealistic threat types, trajector er a variety of controllable ar atable environment. BMDS TD), and BMDS GTs Other	ries, geometries, and nd flexible testing GT campaigns wil (GTX).
 Plan and execute budget project EX04 BMDS GTs. 				
 Execute the GT-9 campaign. 				
 Integrate element representation and the test support team for system 	stem GTc			
 Support Warfighter's requirements during GT-9 campaign. 	JUIII 0 1 5.			
 Support warrighter's requirements during GT-9 campaign. Conduct fully integrated GT campaign (GT-9) with all MDA Ele 	mente repro	cented via HW/II		
	-		accomments by Systems En	aincoring and OTAs
 Continue to populate the BMDS Test Database with most current 	i iesi dala to	support capability	assessments by Systems En	igneering and OTAS

• Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S.

			Date	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justif	ication	February 2008	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCI	LATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes	s (ACD&P)	0603888C Bal	llistic Missile Defense Test an	nd Targets
	FY	2007	FY 2008	FY 2009
Test Analysis and Reporting (Block 5.0)		0	0	1,401
RDT&E Articles (Quantity)		0	0	0
The CTE Test Analysis and Reporting (TA & R) division develops	intogratas on	d dolivora all P	MDS TA & P products for I	MTD enonified exetem

The CTF Test Analysis and Reporting (TA&R) division develops, integrates, and delivers all BMDS TA&R products for IMTP specified system FTs, GTs, and TOOs. Maintains and executes all critical path TA&R functions, tools, processes, and infrastructures supporting development and delivery of TA&R products within a single, integrated, standardized reporting process.

Functional Products and Processes:

- JATs Establish, plan, schedule, and conduct JATs for system tests to coordinate and integrate all component and system analysis and reporting activities. Develop, deliver, and brief all TA&R products to senior leadership: Quick Look Briefing (QLB), Executive Quick Look Briefing (EQLB), Mission Data Review (MDR), Executive Mission Data Review (EMDR), and Final Test Report.
- Data Management Develop and publish Integrated Data Management Plans (IDMP), coordinating and documenting all component and system data products and requests. Develop Data Handling Plans and provide event specific data distribution reports, synchronized with Missile Defense Data Center, to ensure timely and complete data distribution in accordance with (IAW) IDMP. Provide inputs to the National Test Ranges Universal Documentation System to ensure availability of critical data supporting TA&R conduct.
- Data Collection Enables collaboration and leveraging of element and system level data collection assets to create efficiencies in availability and distribution of IDMP products addressing system analysis requirements.
- Data Processing Process all raw data files and test configurations into integrated TA&R databases to support truth and system analysis and reporting activities. Deliver databases (Integrated System Configuration Database, Truth Data Package (TDP), and Integrated Analysis Data Package) to OTA, BMDS Capability Assessment, C2BMC, and element primes IAW IDMP.
- Truth Data Develop Truth Data Requirements Document (TDRD) to ensure that auxiliary sensor data collection to support truth data analysis and TDP creation are captured in the IDMP, OR, and test resource documentation. The TDRD defines and documents mission specific auxiliary sensor data collection requirements and provide truth requirements for mission architecture development. Develop pre-mission prediction packages (metric, optical, and radar) and deliver to truth sensors in support of their pre-mission test support planning. Develop and deliver post-mission TDP to data requestors as captured in the IDMP as an integrated truth source to anchor post-mission analysis activities. Plan, schedule, and execute post mission truth summits to coordinate auxiliary sensor inputs to post-mission executive briefs and data reviews. Conduct post-mission truth sensor data quality assessments to determine the quality and quantity of data sources with respect to truth analysis requirements, and capture lessons learned for future truth data collection and analysis activities.
- Analysis Develop analysis data requirements documents to ensure IDMP contains all products required to support analysis of system test objectives [e.g., Systems Engineering Behavioral Objectives, ESG, Characterization Points and System Performance Parameters. Develop

Project: EX04 Test & Evaluation Block 5.0

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

Analysis Execution Plans to document analysis process, timelines, and areas of responsibility. Develop analysis processes to capture test sequences, analysis observations, and Tactics, Techniques, and Procedure execution for use in test analysis. Develop and deliver all post test analysis reports (Final Test Report, BMDS Characterization Brief/Report). Develop and deliver analysis content in support of the QLB, EQLB, MDR, and EMDR. Develop and submit system level Test Incident Reports found during TA&R process.

Distributed Analysis Tools and Infrastructures:

- Develop, integrate, test, train, deploy, and operate spiral releases of software tools to automate and enhance the TA&R process of the evolving BMDS test program and associated data products. Tools include: Data Management System for data management, Checklist for Online Observation and Reporting for test analysis observations, All Sensors Truth Evaluation and Reporting for truth analysis, Modular Analysis and Reporting Suite for system analysis and PHOENIX for common tool framework.
- Develop, coordinate, implement, and maintain requirements and capabilities for distributed and virtual data architectures, to include the Joint Data Analysis Center (JDAC), supporting timely data distribution, processing, and analysis across a distributed TA&R community; [i.e., JDAC, Missile Defense Integration and Operations Center (MDIOC), test ranges, (Federally Funded Research and Development Centers (FFRDCs), etc.]. Develop and maintain System Security Authorization Agreements for all test TA&R tools and nodes to ensure risk mitigation IAW latest BMDS information assurance guidance and continued authority to operate in support of on ongoing TA&R operations. Maintain hardware and software configuration management of all TA&R tools and systems.

FY09 Planned Program:

- Provided TA&R product development and delivery for budget project EX04 test events.
- Develop and facilitate requirements and implementation of virtual TA&R nodes enabling distributed, collaborative analysis across all block nodes.
- Plan, schedule, and facilitate the integration of BMDS analysis activities within joint venues.
- Standardize of TA&R tools and processes.
- Develop and deliver products for JAT, data management, data processing, truth data, and analysis as identified above for test events in budget project EX04.
- Develop, integrate, test, train, deploy, and operate spiral releases of software tools as identified above for test events in budget project EX04.

Missile Defense Assess (MDA)		DT & F Drusto of	T		Date			
Missile Defense Agency (MDA)	Exhibit K-2A K	DI &E Project		IOMENCLATI		uary 2008		
RDT&E, DW/04 Advanced Component Develop	nent and Prot	otypes (ACD			c Missile Defe	ense Test and	Targets	
C. Other Program Funding Summary								
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

Project: EX04 Test & Evaluation Block 5.0

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		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ïcation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding thought the use of Blocks and Capability Development. The RTO 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, FFRDC, and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

Missile	Defense Agenc	y (MDA) Exhibit R-3	RDT&E Proie	ct Cost Analys	is	Date Februa	ry 2008	
APPROPRIATION/BUDGET A RDT&E, DW/04 Advanced	ACTIVITY			R-	I NOMENCLATUI	RE	•	gets
I. Product Development	*	*		,				, ,
A	Contract Method	Performing Activity &	Total PYs	FY 2008	FY 2008 Award/ Oblg	FY 2009	FY 2009 Award/ Oblg	Total
Cost Categories: Subtotal Product Development	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Remarks II. Support Costs Cost (s in Thousa	unds)				I		
	Contract Method	Performing Activity &	Total PYs	FY 2008	FY 2008 Award/ Oblg	FY 2009	FY 2009 Award/ Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								
Remarks III. Test and Evaluation	Cost (\$ in '	Thousands)						
III Test und Livuldution					EV 2008	İ	EV 2000	
	Contract	Performing	Total PVs	EV 2008	FY 2008 Award/	EV 2000	FY 2009 Award/	Total
	Contract Method	Performing Activity &	PYs	FY 2008 Cost	Award/ Oblg	FY 2009 Cost	Award/ Oblg	Total Cost
Cost Categories: Test Operations BMDS Flight	Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
Cost Categories: Test Operations BMDS Flight Tests (Block 5.0)	Contract Method & Type	Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/ AL, NM, MA, HI	PYs Cost	Cost	Award/ Oblg Date	Cost	Award/ Oblg Date	Cost
Cost Categories: Test Operations BMDS Flight	Contract Method	Performing Activity & Location USASMDC, WSMR, MITLL, MDOIC & VAFB/	PYs		Award/ Oblg Date		Award/ Oblg	

Project: EX04 Test & Evaluation Block 5.0

APPROPRIATION/BUDGET ACT RDT&E, DW/04 Advanced Co		(MDA) Exhibit K-5	3 RDT&E Projec			Februar	ry 2008	
in i al, b iii of iiu incea co)evelopment and F	Prototynes (AC		NOMENCLATUR		e Test and Targ	ets
	Inponent L	cveropment and I	Tototypes (AC)		FY 2008	issue Derense	FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Test Analysis and Reporting (Block 5.0)								
		CTF TA&R/						
Test Analysis and Reporting	Various	Huntsville, AL	0	0	N/A	1,401	1Q	1,401
Subtotal Test and Evaluation			0	9,576		17,712		27288
IV. Management Services (Cost (\$ in	Thousands)						
TV. Management Services		Thousanus)	t	i	FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Management Services								
Remarks								
Project Total Cost			0	9,576		17,712		27,288

Missile Defense A	genc	y (M	(DA)) Exl	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe	te bru a	ary	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Do	evelo	opme	ent a	and	Pro	toty	pes	(AC	D&	P)				ENCI L Ba l				le Do	efen	se T	'est a	and	Tar	gets				
Fiscal Year		20	07			20	08			20)09			20	10			20)11			20)12			20)13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests																			-									
PAC/Caravan-2											∇																	
FTM-15												∇																
FTM-16																∇												
FTT-15 (pending to be combined with another test)																												
FTM-17																			∇									
FTT-16 (pending to be combined with another test)																						∇						
FTM-18																							∇					
FTT-17 (pending to be combined with another test)																										∇		
FTM-19																											∇	
FTX-09																												\Box
System Ground Tests										-	-					-	-						-					
GTX-03a						∇																						
GTI-03							\Box																					
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			Signi M iles		t Eve Deci							 	7	Signi Miles														
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			Syste Com		evel T e Activ		ompl	ete)						Syste Plan				blanne	ed)									
						,																						

Missile Defense A	genc	ey (N	/IDA) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe	te brua	ary	2008	8						
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	pm	ent	and	Pro	toty	pes	(AC	D&	P)			OME 888C					e Do	efens	se T	'est a	and	Tar	gets				
Fiscal Year		20	007			20	08			20)09			20	010			20)11			20	012			20	13	
	1	2	1	4	1	2	3	4	1	2		4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Ground Tests	1	2	5	<u> </u>	1	2	5			2	5	<u> </u>	1	2	5	-	1	2	5	-	1	2	5		1	2	5	
GTD-03			Γ		1						Γ												Γ					\Box
GTX-09a									∇																			
GTX-09b										∇																		\square
GTI-09																												
GTX-10b														∇														
GTI-10															∇													
GTD-10																∇												
GTX-11b																		∇										
GTI-11																			∇									\square
GTD-11																				∇								\square
GTX-12b																						∇	'					
GTI-12																												
GTD-12																								∇				
			M ile Elen Syst	stone nent T em Le	it Ever e Deci Fest (o evel T e Activ	sion comp est (c	(com lete)	plete)			ege	nd Z	>	Mile: Elem Syste	stone nent T	e Deci est (p evel T	nt (pla sion (planne est (p y	(plann ed)	ned)				-					

APPROPRIATION/8/UDGET ACTIVITY RP1 Advanced Component Development and Prototypes (ACDA®) R-1 NOMENCLATURE 003888C Ballistic Missile Defense Test and Targets Fiscal Year 2007 2008 2009 2010 2011 2012 2012 2012 2011 2012	Missile Defense A	genc	ey (M	IDA) Ex	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe	te bru a	ary	2008	8						
1 2 3 4 1 2 3		evelo	opm	ent	and	Pro	toty	pes	(AC	D&:	P)								e D	efen	se T	est	and	Tar	gets				
1 2 3 4 1 2 3																													
System Ground Tests GTX-13b Image: Colspan=16 and the colspan=16 and the	Fiscal Year		20	007			20	08			20)09			20	010			20)11			20	012			20	13	
GTX-13b GTI-13 Image: Constraint of the second		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
GTI-13 I <td>System Ground Tests</td> <td></td>	System Ground Tests																												
GTD-13 I <td>GTX-13b</td> <td></td> <td>∇</td> <td></td> <td></td>	GTX-13b																										∇		
	GTI-13																											∇	
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Milestone Decision (complete)				Sign	ifican	t Ever	nt (co	mplet	e)		L	egei		\	Sign	ifican	t Ever	nt (pla	anned)			-						
								• •	olete)				7	Y						ned)									
Image: System Level Test (complete) Image: System Level Test (complete) Image: System Level Test (planned) Image: System Level Test (complete) Image: System Level Test (planned) Image: System Level Test (planned)									ete)											d)			-						
Complete Activity America (complete) Planned Activity			4					ompi	010)											,u)			-						

Project: EX04 Test & Evaluation Block 5.0

Missile Defense Age	nev (MDA) Exhi	bit R-44 Schedule	- Detail		Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Dev			R-1 NO	MENCLATURE 8 C Ballistic Mis	sile Defense Tes		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Flight Tests							
PAC/Caravan-2			3Q				
FTM-15			4Q				
FTM-16				4Q			
FTT-15 (pending to be combined with another test)					2Q		
FTM-17					3Q		
FTT-16 (pending to be combined with another test)						2Q	
FTM-18						3Q	
FTT-17 (pending to be combined with another test)							2Q
FTM-19							3Q
FTX-09							4Q
System Ground Tests							
GTX-03a		2Q					
GTI-03		3Q					
GTD-03		4Q					
GTX-09a			1Q				
GTX-09b			2Q				
GTI-09			3Q				
GTX-10b				2Q			
GTI-10				3Q			
GTD-10				4Q			
GTX-11b					2Q		
GTI-11					3Q		
GTD-11					4Q		
GTX-12b						2Q	
GTI-12						3Q	
GTD-12						4Q	
GTX-13b							2Q
GTI-13							3Q
GTD-13							4Q

MDA Exhibit R-4A (PE 0603888C)

				Date			
Missile Defense Agency (MDA) Exhibit R-2A RDT&	E Project Justif	ication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototype	es (ACD&P)	0603888C	Ballistic Mis	sile Defense	Test and Ta	rgets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
WX04 Test & Evaluation Capability Development	0	5,329	15,522	42,143	40,276	45,364	46,579
RDT&E Articles Qty	0	0	0	0	0	0	0
technologies, functionalities and capabilities not mature enough for one of the five blocks. The Combined Test force (CTF) supports th Engagement Sequence Groups (ESGs) attributed to budget projec	e developmen						ot support
A. Mission Description and Budget Item Justification							

support early, partial, and full capability readiness decisions.

The BMDS developmental and operational test program encompasses all T&E activities associated with technology developments, demonstrations, experiments, research, deployment, and maintenance activities. The T&E program describes test methods and approaches that the CTF uses to test element capabilities to meet the system-necessary capabilities delineated in the System Specification Documents and Interface Design Documents. The MDA T&E program provides test data to support assessments used to document and determine BMDS effectiveness. The BMDS testing approach addresses the system wide test objective development process, ESG test environments, testing methodologies [i.e., M&S, Flight Testing (FT), GT], and identifies the test resources (e.g., Test Bed, M&S tools, targets, ranges) required to provide test data that when combined with analysis of data from multiple sources, will contribute to verification of the BMDS capability.

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

T&E Capability Development Funding:

Funding levels identified in this task support all BMDS FT in support of Capability Development efforts. Capability development efforts addresses technologies, funtionalities and capabilities not mature enough for fielding under the Block Construct, are experimental in nature or do not support one of the five blocks. Funding provides manpower, range and logistics support to perform system FT planning, integration, execution, data collection, and analysis and range and auxiliary sensor support. Funding supports overlaying system-level objectives onto element FTs where appropriate and non-element specific testing. Funding levels also support BMDS Flight Test Targets of Opportunity and experimental flight tests to support Capability Development.

System FTs:

System FTs in Capability Development related to such programs as STSS, ABL, Arrow, KEI, etc.. examine the capability of the BMDS to detect, track, and engage targets. More advanced tests are planned that will provide data to support verification of more complex ESGs. These projects will also provide analysis of each system test event through the Joint Analysis Team (JAT). In addition, BMDS Flight Tests related to Capability Devlopment also include but are not limited too:

- Targets of Opportunity (TOO)s: Events (e.g., Minuteman FT, Air Force Space Command operations, or approved foreign launches) that afford the opportunity to exercise some portion of BMDS, to conduct on-board and off-board experiments, and to gather phenomenology data on representative objects and events. These events can be categorized as domestic, foreign co-operative, or non-cooperative tests. TOOs support developmental risk reduction for BMDS FTs through early identification of test integration issues. Specifically, TOOs provide a cost-effective means of exercising and collecting data on component interfaces in a real-time environment; communication links and connectivity, real-time element loading, timing, cueing, tracking capabilities, algorithm development, and test checklists for the Integrated Test Team.
- Critical Measurements and Counter Measures (CMCM) FTs: Events that provide a venue for risk reduction for BMDS block testing, addressing phenomenology (understanding the physics of what was observed during a test event and its effects on BMDS sensors), countermeasures and counter-countermeasures requirements, providing critical measurements to support development and validation of algorithms, M&S, discrimination, and new technology demonstrations. CMCM FTs augment various MDA and elements test programs and ensure a coherent, complete, cost effective, and disciplined approach to collecting data/measurements to support characterization of the BMDS mission space (i.e., provide an understanding of how the BMDS visible, infrared and radar sensors perform when observing ballistic missile targets and countermeasures during flight). These tests are planned beginning in FY10.
- The Integrated Measurements Program is a combination of previous Lethality and Kill Assessment programs and seeks to characterize the effectiveness of BMDS engagements (i.e., determining the fate of threat targets post-engagement) and assure 10 USC 2366 requirements for BMDS lethality Live Fire Test and Evaluation are achieved, and investigate how successful a given BMDS engagement will be in destroying the incoming warhead. Laboratory GTs and FTs tests are defined and executed in response to the MDA system engineer's requirement for data on the

Missile Defense Agency (MDA) Exhibit R-2A RDT&	E Project Justification	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototype	R-1 NOMENCLATU es (ACD&P) 0603888C Ballisti	JRE c Missile Defense Test and Ta	argets
resultant space, atmospheric debris and ground affects of engage requirements are achieved by leveraging planned BMDS interco payloads and ancillary sensor coverage. The CTF integrates let establish an efficient, requirements-driven approach to BMDS	cept or Measurements Program te thality testing across MDA and c	st events with alternative tar	gets, supplemental
<u>B. Accomplishments/Planned Program</u>	FY 2007	FY 2008	FY 2009
	-	FY 2008 2,800	FY 2009 10,466

verification of more complex ESGs. These projects also provide analysis of each system test event through the JAT. BMDS Capability Development FTs also include TOOs, CMCM FTs, and the CTF Integrated Measurements Program.

FTs are planned and executed to provide anchoring data for M&S tools, to collect test data to further characterize the BMDS, and to demonstrate BMDS operational capability in whole or in part. Even though FTs are conducted in realistic operational environments and are critical to achieving system verification requirements, they only examine a single scenario/vignette and parts of ESGs and do have environmental and safety constraints.

FY08 Planned Program:

- Complete detailed test plans and execute FY08 major BMDS System Level Capability Development Flight Test events for Budget Project WX04.
- Support BMDS elements in planning and execution of their budget project WX04 program specific FTs.
- Conduct early planning for FY09 major BMDS System Level Capability Development test events.
- Coordinate integration of multiple elements, OTA and Warfighter into BMDS tests.
- Refine scenario designs for BMDS FTs to support ESGs identified in BMDS Integrated Master Test Plan (IMTP).
- Provide system-level range support, mission assurance, logistics support, test specific support personnel, test specific communication, support equipment, and permission analysis and studies.
- Continue to populate the BMDS Test Database with most current test data to support capability assessments by Systems Engineering and OTAs, and provide validation data for M&S.

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E				
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes		NOMENCLATUR	E Iissile Defense Test and Ta	raota
	(ACDAI) 00	JoooC Damstic IV	lissue Deleuse Test and Tal	Igeis
FY09 Planned Program:				
 Complete detailed test plans and execute FY09 major BMDS System 	• 1	• 1	6	Budget Project WX04
• Support BMDS elements in planning and execution of their bud	lget project WX0	4 program specifi	c FTs.	
• Conduct early planning for FY10 major BMDS System Level C	Capability Develo	pment test events		
• Coordinate integration of multiple elements, OTA and Warfight		-		
• Refine scenario designs for BMDS FTs to support ESGs identif				
• Provide system-level range support, mission assurance, logistics			sonnel test specific comm	inication support
equipment, and permission analysis and studies.	s support, tost sp	enne support pen	sonner, test speerne commi	incution, support
 Conduct planning for CMCM test. 				
 Support target launch services and development specifically relations 	ated to Conshilit	Dovelopment to	ate and experiments	
		-	±	
• Continue to populate the BMDS Test Database with most current	nt test data to sup	port capability as	sessments by Systems Eng	ineering and OTAs,
and provide validation data for M&S.				
	FY 200'		FY 2008	FY 2009
Test Analysis and Reporting (Capability Development)		0	2,529	5,056
RDT&E Articles (Quantity)	1	0	0	(
The CTF Test Analysis and Reporting (TA&R) division develops, i	integrates, and de	livers all BMDS '	TA&R products for IMTB	specified system
FTs, GTs and TOOs. Maintains and executes all critical path TA&I	•		1	
delivery of TA&R products within a single, integrated, standardized		• ·		P
convery of these products whill a single, integrated, standardized	a reporting proce			
Functional Products and Processes:				
 IATs - Establish plan schedule and conduct IATs for system t 	· · · · · · · · · · · · · · · · · · ·		a a man a mant and a sustain an	alevaia and non-antina

- JATs Establish, plan, schedule, and conduct JATs for system tests to coordinate and integrate all component and system analysis and reporting activities. Develop, deliver, and brief all TA&R products to senior leadership: Quick Look Briefing (QLB), Executive Quick Look Briefing (EQLB), Mission Data Review (MDR), Executive Mission Data Review (EMDR), and Final Test Report.
- Data Management Develop and publish Integrated Data Management Plans (IDMP), coordinating and documenting all component and system data products and requests. Develop Data Handling Plans and provide event specific data distribution reports, synchronized with Missile Defense Data Center, to ensure timely and complete data distribution in accordance with (IAW) IDMP. Provide inputs to the National Test Ranges Universal Documentation System to ensure availability of critical data supporting TA&R conduct.

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	Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	action	Date February 2008
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	PROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RI	DT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	06038888C Ballistic Missile	e Defense Test and Targets
•	Data Collection - Enables collaboration and leveraging of element and system	n level data collection asso	ets to create efficiencies in availability and
-	distribution of IDMP products addressing system analysis requirements.	in level data concerton ass	ets to create enferencies in availability and
•	Data Processing - Process all raw data files and test configurations into integ		
	reporting activities. Deliver databases (Integrated System Configuration Data	base, Truth Data Package	: (TDP), and Integrated Analysis Data
	Package) to OTA, BMDS Capability Assessment, C2BMC, and element prin	nes IAW IDMP.	
•	Truth Data - Develop Truth Data Requirements Document (TDRD) to ensure		a collection to support truth data analysis
_	and TDP creation are captured in the IDMP, OR, and test resource document	•	
			1 0
	sensor data collection requirements and provide truth requirements for missi	-	
	packages (metric, optical, and radar) and deliver to truth sensors in support of	f their pre-mission test sup	pport planning. Develop and deliver post-
	mission TDP to data requestors as captured in the IDMP as an integrated trut	h source to anchor post-m	ission analysis activities. Plan, schedule,
	and execute post mission truth summits to coordinate auxiliary sensor inputs	-	
	mission truth sensor data quality assessments to determine the quality and qu	-	
		-	respect to truth analysis requirements, and
	capture lessons learned for future truth data collection and analysis activities		
•	Analysis - Develop analysis data requirements documents to ensure IDMP co	ontains all products require	ed to support analysis of system test
	objectives [e.g., Systems Engineering Behavioral Objectives, ESG, Characte	rization Points and System	a Performance Parameters. Develop
	Analysis Execution Plans to document analysis process, timelines, and areas	of responsibility. Develor	analysis processes to capture test
	sequences, analysis observations, and Tactics, Techniques, and Procedure ex	1 1 1	
	analysis reports (Final Test Report, BMDS Characterization Brief/Report). I	vevelop and deliver analys	is content in support of the QLB, EQLB,

MDR, and EMDR. Develop and submit system level Test Incident Reports found during TA&R process.

Distributed Analysis Tools and Infrastructures:

- Develop, integrate, test, train, deploy, and operate spiral releases of software tools to automate and enhance the TA&R process of the evolving BMDS test program and associated data products. Tools include: Data Management System for data management, Checklist for Online Observation and Reporting for test analysis observations, All Sensors Truth Evaluation and Reporting for truth analysis, Modular Analysis and Reporting Suite for system analysis and PHOENIX for common tool framework.
- Develop, coordinate, implement, and maintain requirements and capabilities for distributed and virtual data architectures, to include the Joint Data Analysis Center (JDAC), supporting timely data distribution, processing, and analysis across a distributed TA&R community; [i.e., JDAC, Missile Defense Integration and Operations Center (MDIOC), test ranges, (Federally Funded Research and Development Centers (FFRDCs), etc.]. Develop and maintain System Security Authorization Agreements for all test TA&R tools and nodes to ensure risk mitigation IAW latest

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		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justi	fication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missi	le Defense Test and Targets
BMDS information assurance guidance and continued authority to operate i software configuration management of all TA&R tools and systems.	n support of on ongoing T	A&R operations. Maintain hardware and
FY08 Planned Program:		
• Provide TA&R product development and delivery for budget project WX04	test events.	
• Develop and facilitate requirements and implementation of virtual TA&R n		collaborative analysis across all block
nodes.	des endoning distributed,	condorida ve diarysis deross dir block
 Plan, schedule, and facilitate the integration of BMDS analysis activities wi 	thin joint vonuos	
 Standardize TA&R tools and processes. 	unn joint venues.	
1		land find all and fair to at any static lands of
 Develop and deliver products for JAT, data management, data processing, to project WX04. 	ruth data, and analysis as i	dentified above for test events in budget
• Develop, integrate, test, train, deploy, and operate spiral releases of software	e tools as identified above	for test events in budget project WX04.
FY09 Planned Program:		
• Provide TA&R product development and delivery for budget project WX04	test events.	
• Develop and facilitate requirements and implementation of virtual TA&R n		collaborative analysis across all block
nodes.	des endoning distributed,	condorative analysis across an crock
• Plan, schedule, and facilitate the integration of BMDS analysis activities wi	thin joint venues.	
• Standardize TA&R tools and processes.		
• Develop and deliver products for JAT, data management, data processing, the project WX04.	ruth data, and analysis as i	dentified above for test events in budget
• Develop, integrate, test, train, deploy, and operate spiral releases of software	e tools as identified above	for test events in budget project WX04.

Missile Defense Agency (MDA)	D-14:14:10 24 D	DT & E Droiog	t Justification		Date Febr	uary 2008		
Missile Defense Agency (MDA) APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Develop			R-1]	NOMENCLATU 8888C Ballisti	URE	-	Targets	
C. Other Program Funding Summary			/				0	
<u>_</u>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justif	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

D. Acquisition Strategy

The Responsible Test Organization (RTO) acquisition strategy is consistent with the MDA capabilities based acquisition strategy that emphasizes testing, spiral development, evolutionary acquisition, and knowledge based funding thought the use of Blocks and Capability Development. The RTO 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, FFRDC, and other MDA programs to execute the various diverse efforts within the BMDS test program. When a specific effort/activity being conducted, acquired, or maintained, requires the use of an executing agent the acquisition strategy that conform to their respective headquarters regulations are utilized. This combination of organizations forms an integrated team to accomplish the necessary testing for BMDS.

Missile D	afansa Aganci	y (MDA) Exhibit R-3	PDT&F Proje	et Cost Analys	le le	Date Februa	ry 2008	
APPROPRIATION/BUDGET A		y (MDA) Exhibit K-3	KDT&L FT0je		NOMENCLATU		ly 2008	
RDT&E, DW/04 Advanced		Development and P	rototypes (AC		3888C Ballistic		e Test and Targ	ets
I. Product Development	Cost (\$ in]	Thousands)	V I · · ·					
_					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks								
II. Support Costs Cost (\$ in Thousa	nds)						
	1				FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								
Remarks	·	· · ·				·		
III. Test and Evaluation	Cost (\$ in '	Thousands)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Test Operations BMDS Flight Tests (Capability Development)								
· • • • /	1	USASMDC,						
		WSMR, MITLL,						
		MDOIC/						
		VAFB/AL, NM,						
BMDS FT	Various	MA, HI & CA	0	2,800	1Q	10,466	1Q	13,266
Test Analysis and Reporting (Capability Development)								
		CTF TA&R/						
				2.520	10	5.056	10	
Test Analysis and Reporting Subtotal Test and Evaluation	Various	Huntsville, AL	0	2,529	-	5,056	1Q	7,585 20851

Project: WX04 Test & Evaluation Capability Development

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						Date			
		y (MDA) Exhibit R-3	3 RDT&E Projec	ct Cost Ar			ary 2008		
APPROPRIATION/BUDGET A					R-1 NOMENCLAT		_		
RDT&E, DW/04 Advanced	Component I	Development and 1	Prototypes (AC	CD&P)	0603888C Ballisti	c Missile Defen	se Test and Tar	gets	
Remarks									
IV. Management Services	Cost (\$ in	Thousands)							
		, , , , , , , , , , , , , , , , , , ,			FY 2008		FY 2009]
	Contract	Performing	Total		Award/		Award/		
	Method	Activity &	PYs	FY 20	5	FY 2009	Oblg	Total	
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost	
Subtotal Management Services									
Remarks									
Project Total Cost			0		5,329	15,522		20,851	1
Remarks					·				-
Project: WX04 Test & Evaluation Ca	apability Develop	pment					MDA	Exhibit R-3 (PE 06)3888C)
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Missile Defense APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Componen											R-			ENCI Bal				e De		ary 2 se T			Tar	gets				
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	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	2
System Flight Tests																												
JFTM-01					\diamond																							
NFIRE-2b						▲		_																				
AST-13							∇																					Γ
ATM-48								∇																				
PAC3 7-2								\diamond																				T
JFTM-02									\diamond																			Γ
FTS-01										∇																		T
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FTK-01											\diamondsuit																	Γ
FTS-02											∇																	Γ
FTL-01												\diamond																
PATRIOT 16-2												\diamond																T
JFTM-03													∇															Γ
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D											R		OMI 8880										Tar	gets				
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	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests																												
DS-01		Τ			Ī			Γ				Ι		Δ								Γ						
FTL-02														∇														
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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evel	opm	ent	and	Pro	toty	pes	(AC	D&	P)					LAT llisti			le D	efen	se T	'est a	and	Tar	gets				
Fiscal Year		20	007			20	008			20)09			20	010			20)11			20)12			20	13	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
System Flight Tests																												
FTK-03					I																\diamond							
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FTL-06																							∇					
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FTK-04																										\diamond		
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Project: WX04 Test & Evaluation Capability Development

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Do	evelo	opmo	ent	and	Pro	toty	pes	(AC	D &]	P)		-1 N(5 038						e Do	efen	se T	est	and	Tar	gets				
Fiscal Year		20	07			20	08			20	09			20	010			20)11			20	012			20	13	
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Glory Trips (USAF Operational)/Potential BN	/DS			<u> </u>					<u> </u>	<u> </u>			L	<u> </u>	<u> </u>	<u> </u>				<u> </u>		1	1 -	<u> </u>				
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Project: WX04 Test & Evaluation Capability Development

Missile Defense A	genc	y (N	ÍDA) Exl	hibit	R-4	Sch	edul	e Pr	ofile								Da Fe	te brua	ary i	2008	8							
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component De	evelo	pm	ent	and	Pro	toty	pes	(AC	D&	P)					LAT llist i			e De	efen	se T	'est a	and	Tar	gets					
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Project: WX04 Test & Evaluation Capability Development

Missile Defense A	gency (MDA) Exhi	bit R-4A Schedul	e Detail		Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evelopment and I	Prototypes (ACI		NOMENCLATURE 3888C Ballistic Mis	sile Defense Tes	t and Targets	
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
System Flight Tests	112007	112000	112007	1 1 2010	112011	1 1 2012	112015
JFTM-01		1Q					
NFIRE-2b		2Q-4Q					
AST-13		3Q					
ATM-48		4Q					
PAC3 7-2		4Q					
JFTM-02		עי	1Q				
FTS-01			2Q				
PAC3 7-3			2Q				
FTK-01			3Q				
FTS-02			3Q 3Q				
FTL-01			4Q				
PATRIOT 16-2			4Q				
JFTM-03				1Q			
DS-01				2Q			
FTL-02				2Q			
FTP-01				2Q			
FTL-03				3Q			
FTX-06/FTS-03				3Q			
DS-02				4Q			
FTK-02				~	1Q		
FTL-04					1Q		
JFTM-04					1Q		
FTL-05					2Q		
FTP-02					2Q		
FTS-04					2Q		
DS-03			1		3Q		
FTK-03					-	1Q	
FTP-03						2Q	
FTL-06						3Q	

Project: WX04 Test & Evaluation Capability Development

MDA Exhibit R-4A (PE 0603888C)

RDT&E, DW/04 Advanced Component De	velopment and I	Prototypes (ACl	D&P)	0603888	BC Ballistic Mis	sile Defense Tes	t and Targets	
Schedule Profile	FY 2007	FY 2008	FY	2009	FY 2010	FY 2011	FY 2012	FY 2013
FTL-07							4Q	
FTK-04								2Q
FTP-04								2Q
FTL-08								3Q
FTL-09								4Q
Measurement Tests								
FTC-05					3Q			
FTC-06						2Q		
FTC-07							2Q	
FTC-08								2Q
Glory Trips (USAF Operational)/Potential BMDS Tests								
GT-196		2Q						
GT-197		3Q						
GT-198		4Q						
GT-199				IQ				
GT-200				3Q				
GT-201				ŧQ				
GT-202					3Q			
GT-203					4Q			
GT-204						1Q		
GT-205						2Q		
GT-206						4Q		
GT-207							4Q	
GT-208								3Q

Missile Defense Agency (MDA) Exhibit R-2A RDT&	E Project Justi	fication		Date Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototyp	es (ACD&P)	. –	NCLATURE Ballistic Mis	ssile Defense	e Test and Ta	argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
COST (\$ in Thousands) XX04 Concurrent, Test, Training & Ops (CTTO)	FY 2007	FY 2008 41,359	FY 2009 37,701	FY 2010 35,722	FY 2011 32,969	FY 2012 8,946	FY 2013 9,047

Note: Funding for content in budget project XX04 (FY08 thru FY13) was previously included in FY07 within budget projects 0817, 0917, 0017, and R117.

A. Mission Description and Budget Item Justification

The purpose of the BMDS Concurrent Test, Training, and Operations (CTTO) effort is to address the Unified Combatant Commanders high priority requirement for a capability to sustain BMDS operations while simultaneously supporting concurrent research, development, test, and evaluation; maintenance; training; and system upgrade activities without degrading the ability to defend the United States, its deployed forces, friends, and allies. CTTO will enable continued BMDS incremental and spiral development and testing while providing the Unified Combatant Commanders the ability to maintain their operational capability, participate in exercises, train, and rehearse mission scenarios while the system is in an operational state or "on alert." The functions of the CTTO are to:

- 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.
- 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.
- Aid in AEGIS Ballistic Missile Defense, Terminal High Altitude Air 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.

			Date	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justif	ication	February 2008	
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCLAT	URE	
RDT&E, DW/04 Advanced Component Development and Prototypes	s (ACD&P)	0603888C Ballisti	c Missile Defense Test and	Targets
B. Accomplishments/Planned Program				
	FY	¥ 2007	FY 2008	FY 2009
DMETS		0	12,757	10,793
RDT&E Articles (Quantity)		0	0	0
DMETS will specifically address the high priority Unified Combata	ant Comman	ders requirement to	o conduct distributed, high	fidelity, and end-to-end
training for missile defense operations that incorporates missile was				
soluble testing of the PMDS over the operational erabitation of w		•	-	

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; safely separate training venues from real-world activities; and inject high-fidelity simulations to run realistic scenarios on operational equipment and networks.

FY08 Planned Program:

- Operate & Sustain DMETS training and exercise suites and associated hardware and software at 50 hours per week. Continue providing BMD training events across the Unified Combatant Commands while maintaining the existing architecture.
- Expand the integrated training audience coordinate and field system hardware/software at scheduled Unified Combatant Commanders locations. Complete AEGIS Phase 2 (pierside) connectivity to interface AEGIS at pierside for Pacific Fleet to include providing truth injection to Aegis to provide a common integrated truth picture. Integrate THAAD and PATRIOT training facilities. Install Global Engagement Manager server and associated computer network equipment at the MDIOC to provide training for USPACOM crews. Establish connectivity with BMDS Training and Education Center. Integrate National Guard units.
- Improve training availability add the necessary equipment, i.e. servers, workstations to increase training availability for Unified Combatant Commanders. A DMETS integration Environment will be built with the capability of integrating DMETS scenarios and integration activities with Element trainers. A second DMETS Control Center will be built at the MDIOC to execute two concurrent training events. An additional GMD Fire Control (GFC) training capability will be interfaced with DMETS and DMETS GFC and Aegis White Cells will be built at the MDIOC DMETS Control Center. Automated training configuration will be implemented within the Run Time Infrastructure (RTI) to establish a secure training session.
- Improve training effectiveness deploy system enhancements to include continued RTI development and a capability to replay training sessions to support assessments of human control interactions.
- Improve realism, to include cross-mission functionality add more dynamic features to provide realistic training for the Unified Combatant Commanders. Improvement to the RTI will allow for dynamic changes to scenarios. Identify requirements for enhancements to Element stimulators and simulations and submit such requirements to their sponsors.

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets
• Improve operability and reliability - provide additional capabilities to mitiga Commercial Off-The-Shelf (COTS)-based Network Management System (N	•	6
monitoring and automated alerting of network performance issues.		

• Explore pathfinders for future capabilities - leverage and participate existing wargames, exercises and experiments to increase training opportunity for the use of DMETS. Coordinate with C2BMC X-Lab personnel to propose feasibility demonstrations and experiments to be performed on the DMETS.

FY09 Planned Program:

- Operate & Sustain 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.
- Expand the integrated training audience coordinate and field system hardware/software at scheduled Unified Combatant Commanders locations. Implement AEGIS Phase 3 capability to include integrating DMETS to Aegis ships at sea (underway). Provide truth injection to enable integrated training with Aegis Maritime BMD at pier side for Atlantic Fleet. Integrate radar sensors such as UEWR and SBX into the DMETS architecture. Establish an interface at the MDIOC to send tagged-as-training threat messages over the Integrated Broadcast Service to other systems at Unified Combatant Commander and Operations Centers sites for integrated training sessions.
- Improve training availability adding the necessary equipment to increase training availability for the Unified Combatant Commanders. Provide a USPACOM enclave to allow stand alone training addressing their Area of Responsibility mission. Coordinate with GMD to identify the data and voice training networks and equipment, functions, and Concept of Operations for support of support GMD training with the third fire control node.
- Improve training effectiveness enhance the performance of the system over a broad spectrum. Continue RTI development and C2BMC Spiral 8.2 will be added to one of the DMETS C2BMC servers.
- Improve realism, to include cross-mission functionality identify requirements for enhancements to Element stimulators and simulations and submit such requirements to their sponsors.
- Improve operability and reliability provide additional capabilities to mitigate system malfunctions and failed training runs. Leverage the MDA¿s Voice Over Internet Protocol (VOIP) system to plan and implement a VOIP system to support training coordination among DMETS participating locations.
- Improve the quality of integrated training build an integrated training operator handbook and related training course materials for DMETS operators and warfighters to use the DMETS web-based training submission program and training control with the RTI.

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Miggila Defense Ageney (MDA) Exhibit D 24 DDT 9 E D	Ducioat Inclif	action		Date February 2008	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E P APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCL		U U	
RDT&E, DW/04 Advanced Component Development and Prototypes (A	(ACD&P)	0603888C Bal	listic Missile	e Defense Test and	l Targets
• Explore pathfinders for future capabilities - leverage and participal opportunity for the use of DMETS. Coordinate with C2BMC X-L performed on the DMETS. Conduct a pathfinding experiment in t	Lab personr	el to propose fe	easibility de	emonstrations and	
	FY	2007	F	Y 2008	FY 2009
СТТО		0		28,602	26,90
RDT&E Articles (Quantity)		0		0	
CTTO will safely separate test, evaluation, and training venues from a realistic scenarios on operational equipment and networks. CTTO will operators to exercise any or all BMDS elements, as needed.				0	•
 FY08 Planned Program: Coordinate and integrate BMDS CTTO Element-level activities a Finalize CTTO requirements and prepare a Concept Description, Align Ground-based Midcourse Defense Simultaneous Training a products for the Command, Control, Battle Management, and Con Standardize the BMDS CTTO System States and Modes. Standard CTTO approach with Safety and Information Assurance. 	Design Do and Operation	cument, and spe	ructure and	investment strateg	1
• Prototype the Truth Interface Unit (TIU) for the AN/TPY-2 radar		ons Parallel Stag			Certify the BMDS
		ons Parallel Stag			Certify the BMDS

Conduct a phased implementation for Data Labeling.Prototype on-site stimulation for AN/TPY-2.

		UNULI						
Missile Defense Agency (MDA)	Exhibit R-2A F	RDT&E Projec	t Justification		Date Febr	ruary 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Develop	ment and Pro	totypes (ACD		NOMENCLATI 8888C Ballisti		ense Test and	Targets	
 Demonstrate redundant Command and Contines. Prototype a dynamic asset control capability domains/networks. Prototype an improved truth network in ord C. Other Program Funding Summary 	y that will allo	ow element c	omponents t	o be assigned	to the opera			pid recall
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense	1 082 454	1 045 276	1 019 073	795 659	719 847	548 283	439 752	5 650 344

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense								
Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense								
Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense								
Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations								
Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870

Project: XX04 Concurrent, Test, Training & Ops (CTTO)

206 *of* 262 **UNCLASSIFIED** MDA Exhibit R-2A (PE 0603888C)

Missile Defense Agency (MDA)	Exhibit R-2A I	RDT&E Projec	ct Justific	ation		Dat Fel	e oruary 2008				
APPROPRIATION/BUDGET ACTIVITY R-1 NOMENCLATURE RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) R603888C Ballistic Missile Defense Test and Targets											
									Total		
	FY 2007	FY 2008	FY 200	09	FY 2010	FY 2011	FY 2012	FY 2013	Cost		
PE 0603906C Regarding Trench	0	1,986	2	2,978	4,964	4,963	8,933	8,933	32,757		
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243		0	0	0	0	0	165,243		
PE 0605502C Small Business Innovative Research - MDA	142,510	0		0	0	0	0	0	142,510		
PE 0901585C Pentagon Reservation	15,527	6,019	19	9,734	5,040	5,284	5,370	5,456	62,430		
PE 0901598C Management Headquarters - MDA	93,350	80,392	86	5,453	70,355	69,855	69,855	69,855	540,115		

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 contract structures, established a CTTO Project Office, determine BMDS CTTO requirements and standardization, determine 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. Led by a flag/general officer steering group, the CTTO Project Office task force will be comprised of government representative from the MDA Elements and Joint Functional Component Command for Integrated Missile Defense; defense industry partners; and Systems Engineering and Technical Assistance defense contractor(s). The intent is to develop a fully capable CTTO 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.

	C A						Date Eabras	2009	
Missile D APPROPRIATION/BUDGET A		y (MDA) Exhibit R-3	RDT&E Projec	t Cost Ar		OMENCLATUR	Februa	ry 2008	
RDT&E, DW/04 Advanced		Development and P	rototypes (AC	D&P)				e Test and Tar	zets
I. Product Development	-	<u>*</u>	jr (/					
	Contract Method	Performing Activity &	Total PYs	FY 200	08	FY 2008 Award/ Oblg	FY 2009	FY 2009 Award/ Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost		Date	Cost	Date	Cost
DMETS									
Integrated Training Operation and Sustainment	C/CPAF	JJNIC/GM/BOEIN G/MNTB/ Colorado Springs, CO/Huntsville, AL/Arlington, VA	0		7,199	1/4Q	7,093	1/4Q	14,292
Expand Integration Training Audience	C/CPAF	JNIC/MNTB/Color ado Springs, CO/Arlington, VA	0		1,300	1/4Q	1,000	1/4Q	2,300
Improve Training Availability	C/CPAF	JNIC/MNTB/Color ado Springs, CO/Arlington, VA	0		1,958	2/3Q	1,400	2/3Q	3,358
Improve Training Effectiveness	C/CPAF	JNIC/MNTB/Color ado Springs, CO/Arlington, VA	0		2,000	2/3Q	1,000	2/3Q	3,000
Improve Training Quality	C/CPAF	JNIC/MNTB/Color ado Springs, CO/Arlington, VA	0		300	1/4Q	300	1/4Q	600
СТТО		JJNIC/GM/BOEIN G/MNTB/							
Integrated Training Operation and Sustainment	C/CPAF	Colorado Springs, CO/Arlington, VA/Huntsville, AL	0		7,901	1/4Q	7,790	1/4Q	15,691
Expanded Integration Training Audience	C/CPAF	JNIC/MNTB/Color ado Springs, CO/Arlington, VA	0		5,100	1/4Q	4,818	1/4Q	9,918
Improve Training Availability	C/CPAF	JNIC/MNTB/Color ado Springs, CO/Arlington, VA	0		3,300	2/3Q	3,100	2/3Q	6,400

.						Date Eabraight	2009	
Missile I APPROPRIATION/BUDGET A		y (MDA) Exhibit R-3	RDT&E Projec		IOMENCLATU	Februar	ry 2008	
RDT&E, DW/04 Advanced		Development and P	rototypes (AC				e Test and Targ	ets
			<u>1000, pos (110</u>		FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
	51	MNTB/Arlington,						
Improve Training Effectiveness	C/CPAF	VA	0	7,300	2/3Q	6,500	2/3Q	13,800
		JNIC/MNTB/Color						
		ado Springs,						
Improve Training Quality	C/CPAF	CO/Arlington, VA	0	1,301	1/4Q	1,200	1/4Q	2,501
Improve Operability and		MNTB/Arlington,		2 500		2 400		1.000
Reliability	C/CPAF	VA	0	2,500	1/4Q	2,400	1/4Q	4,900
Pathfinders	C/CPAF	GM/BOEING/Hunt sville, AL	0	1,200	1/4Q	1,100	1/4Q	2,300
Subtotal Product Development	C/CFAF	sville, AL	0	41,359	1/4Q	37,701	1/4Q	79060
			0	41,559		57,701		/9060
Remarks			I	I		·		
•	\$ in Thousa	nds)			FY 2008		FY 2009	
Remarks	\$ in Thousa Contract	nds) Performing	Total		FY 2008 Award/		FY 2009 Award/	
Remarks			Total PYs	FY 2008	Award/	FY 2009		Total
Remarks	Contract	Performing		FY 2008 Cost		FY 2009 Cost	Award/	Total Cost
Remarks II. Support Costs Cost (Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Remarks II. Support Costs Cost (Cost Categories:	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg Date		Award/ Oblg Date	
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type	Performing Activity & Location	PYs Cost		Award/ Oblg Date		Award/ Oblg Date	
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type Cost (\$ in 7 Contract	Performing Activity & Location Thousands) Performing	PYs Cost Total	Cost	Award/ Oblg Date FY 2008 Award/	Cost	Award/ Oblg Date FY 2009 Award/	Cost
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks III. Test and Evaluation	Contract Method & Type Cost (\$ in 7 Contract Method	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories:	Contract Method & Type Cost (\$ in 7 Contract	Performing Activity & Location Thousands) Performing	PYs Cost Total	Cost	Award/ Oblg Date FY 2008 Award/	Cost	Award/ Oblg Date FY 2009 Award/	Cost
Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type Cost (\$ in 7 Contract Method	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost

Project: XX04 Concurrent, Test, Training & Ops (CTTO)

APPROPRIATION/BUDGET					NOMENCLATU		T () T	
RDT&E, DW/04 Advanced			Prototypes (AC	D&P) 0603	8888C Ballistic	Missile Defens	se Test and Tar	gets
V. Management Service	s Cost (\$ in	Thousands)	i	1		t .	· · · · · ·	
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/	EV. 2 000	Award/	T . 1
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories: Subtotal Management Services	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
emarks								
		i		41.000		07 701	,	70.040
Project Total Cost Remarks			0	41,359		37,701		79,060

Line Item 78 -

RDT&E, DW/04 Advanced Component D		- <u>F</u>					1	<u> </u>		/			888C					-						0				
Fiscal Year		20	007			20)08	-		20	009	-		20	10	-		20)11			20)12	1		20	13	1
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
СТТО						_					_							_										
Exp and Integration Training Audience					⊾																							
Improve Training Effectiveness					ᇫ																							
Integrated Training Operation & Sustainment					⊿																							
Improve Training Availability						∆₌																						
Sustain Training Capability					∆₌																							Ļ
CTTO Rapid Prototyping					┢											5												
Initial CTTO Staging and Integration												Δ-																
Initial Training with Operations and Test															Δ-													
Initial CTTO Fielding to COCOM`s															Δ													
CTTO Fielding Complete																						Δ						
	-					I				L	.ege	nd						I					I					
				ifican stone									۲ ۲					anned (planr										
			Elerr	nent T	est (comp	lete)					<	>	Elem	ent T	est (p	olann	ed)										
				em Le iplete			compl	lete)				_ ∇	7		em Le ned A			olanne	ed)									
	Δ_		Con	nplete	Activ	vity						Δ=	<u> </u>	Plan	ned A	ctivit	У											

Missile Defense A	Agency (MDA) Exhi	bit R-4A Schedul	e Detail		Date February 20	08	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component D	evelopment and F		MENCLATURE 8C Ballistic Mis	sile Defense Tes	t and Targets		
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
СТТО							
Expand Integration Training Audience		1Q-4Q	1Q-4Q				
Improve Training Effectiveness		1Q-4Q	1Q-4Q				
Integrated Training Operation & Sustainment		1Q-4Q	1Q-4Q				
Improve Training Availability		2Q-4Q	1Q-3Q				
Sustain Training Capability		1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
CTTO Rapid Prototyping		1Q-4Q	1Q-4Q	1Q-4Q			
Initial CTTO Staging and Integration			4Q	1Q-4Q			
Initial Training with Operations and Test				3Q-4Q	1Q-4Q		
Initial CTTO Fielding to COCOM's				3Q-4Q	1Q-4Q		
CTTO Fielding Complete						2Q-4Q	1Q-4Q

Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justif	fication		Date Februar	ry 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)		NCLATURE Ballistic Mi	ssile Defense	e Test and Ta	argets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0305 Targets & Countermeasures Core	20,272	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
<i>Note: Starting in FY08, funding for all content within budget projec</i> <i>block structure.</i>	ct 0305 is inc	cluded withi	n budget pro	oject YXUS i	n accordanc	e with MDA	's revised
<u>A. Mission Description and Budget Item Justification</u> Targets & Countermeasures Core Support included program office development, product improvement, and qualification testing of Ba		* 11			0	U 1	

Program Management costs associated with Targets and Countermeasures Block development, no article quantities are reported.

The Accomplishments and Planned Program efforts identified below are on-going level of effort activities, which are cyclical and occur every year.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Program Operations	20,272	0	0
RDT&E Articles (Quantity)	0	0	0

FY07 Accomplishments:

- Funded government personnel salaries for program management, project support, project costs and travel.
- Supported activities for on-site Targets and Countermeasures field activity personnel to include rent, equipment, travel, security and base infrastructure necessary to conduct daily operations.

Missile Defense Assess (MDA)		DT & F Drusto of	T		Date			
Missile Defense Agency (MDA)	Exhibit K-2A K	DI &E Project		IOMENCLATI		uary 2008		
RDT&E, DW/04 Advanced Component Develop	nent and Prot	otypes (ACD			c Missile Defe	ense Test and	Targets	
C. Other Program Funding Summary								
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

Project: 0305 Targets & Countermeasures Core

214 of 262 UNCLASSIFIED MDA Exhibit R-2A (PE 0603888C)

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification February 2008	
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missile Defense Test and Targets	

D. Acquisition Strategy

Because the majority of activities funded in this Project 0305 are considered direct government costs necessary to maintain and sustain Targets and Countermeasures personnel in the field, a particular acquisition strategy is not applicable. Funds are sent directly to government Targets and Countermeasures receiving entities in the field and executed accordingly. A minimal amount of Firm Fixed Price and Cost Plus Award Fee contracts are in place for administrative, computer, logistics, program management, and systems engineering support activities.

						Date	••••	
		(MDA) Exhibit R-	3 RDT&E Projec			Februa	ry 2008	
APPROPRIATION/BUDGET		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets						
RDT&E, DW/04 Advance	<u> </u>	*	Prototypes (AC	D&P) 0603	888C Ballistic	Missile Defense	e Test and Targ	ets
I. Product Development	t Cost (\$ in T	housands)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Product Development								
Remarks								
II. Support Costs Cost	(\$ in Thousar	nds)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Cost Categories:	a rype							
Cost Categories: Subtotal Support Costs	a Type							
Subtotal Support Costs								
Subtotal Support Costs Remarks		bougonds)						
Subtotal Support Costs		'housands)			EV 2008		EV 2000	
Subtotal Support Costs Remarks	n Cost (\$ in T	,	Total		FY 2008		FY 2009	
Subtotal Support Costs Remarks	n Cost (\$ in T Contract	Performing	Total PVc	EV 2008	Award/	EX 2009	Award/	Total
Subtotal Support Costs Remarks III. Test and Evaluation	Cost (\$ in T Contract Method	Performing Activity &	PYs	FY 2008	Award/ Oblg	FY 2009	Award/ Oblg	Total
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories:	n Cost (\$ in T Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation	Cost (\$ in T Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories:	Cost (\$ in T Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg Date		Award/ Oblg Date	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location Thousands)	PYs Cost		Award/ Oblg Date		Award/ Oblg Date	
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location Thousands) Performing	PYs Cost Total	Cost	Award/ Oblg Date FY 2008 Award/	Cost	Award/ Oblg Date FY 2009 Award/	Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Servic	Contract Method & Type	Performing Activity & Location Thousands)	PYs Cost	Cost FY 2008	Award/ Oblg Date	Cost FY 2009	Award/ Oblg Date	Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks	Contract Method & Type	Performing Activity & Location Thousands) Performing	PYs Cost Total	Cost	Award/ Oblg Date FY 2008 Award/	Cost	Award/ Oblg Date FY 2009 Award/	Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Servic	Contract Method & Type	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost
Subtotal Support Costs Remarks III. Test and Evaluation Cost Categories: Subtotal Test and Evaluation Remarks IV. Management Servic Cost Categories:	Contract Method & Type	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost

Project: 0305 Targets & Countermeasures Core

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			UIUL				Date			
		y (MDA) Exhibit R-3	RDT&E Projec	t Cost Ar			Februar	ry 2008		
APPROPRIATION/BUDGET A						1 NOMENCLATURE				
RDT&E, DW/04 Advanced	Component l	Development and I	Prototypes (AC	D&P)	0603	888C Ballistic I	Missile Defense	e Test and Targ	ets	
						FY 2008		FY 2009		
	Contract	Performing	Total			Award/		Award/		
	Method	Activity &	PYs	FY 20		Oblg	FY 2009	Oblg	Total	
Cost Categories:	& Type	Location	Cost	Cost		Date	Cost	Date	Cost	
Government Support	C/FFP	SPARTA/ Wash., DC	5,382		0	N/A	0	N/A	5,382	
		Various/Kirtland AFB, NM/								
Field Activity Support	C/CPAF	Huntsville, AL	3,997		0	N/A	0	N/A	3,997	
Subtotal Management Services			20,272		0		0		20272	
	1	, ,				1	- 1		1	
Project Total Cost			20,272		0		0		20,272	

Missile Defense Agency (MDA) Exhibit R-2A	RDT&E Project Justif	fication		Date Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)			NCLATURE Ballistic Mi	ssile Defense	e Test and Ta	rgets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0805 Targets & Countermeasures Block 2006	157,126	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
		1 1 1 •.1 •	1 1 /	·	1	·1 MDA	, .

Note: Starting in FY08, funding for all content within budget project 0805 is included within budget project YX05 in accordance with MDA's revised block structure.

The content in this budget project for FY07 supports the master system level test schedule which is included in the R-4 section of budget project 0304. The master system level test schedule for FY08-FY13 in budget project YX04 is provided as reference only.

A. Mission Description and Budget Item Justification

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

The targets prime contractor will develop all future target configurations with an emphasis on developing product lines of common target components, rather than unique individual target systems. The Prime Contract will maximize the use of existing government furnished equipment, to include the use of Foreign Material Acquisitions (FMA's) when appropriate, while minimizing the number of new developments. The Prime Contract will optimize the use of existing designs, provide capability-based and common component upgrades, and pursue target portfolio commonality in booster stages, inter stages, avionics, launch support equipment, counter-measures, and re-entry vehicles. It is anticipated this product line approach and target component commonality will reduce both cycle time (e.g., concept definition to launch) and cost.

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	D	* 4 *	Date					
Missile Defense Agency (MDA) Exhibit R-2A RDT&E APPROPRIATION/BUDGET ACTIVITY	Project Justif		February 20	800				
RDT&E , DW/04 Advanced Component Development and Prototypes		R-1 NOMENCLA		st and Targate				
B. Accomplishments/Planned Program	E	¥ 2007	FY 2008	FY 2009				
Systems Engineering	1.1	88,525	11 2008	0	0			
RDT&E Articles (Quantity)		0		0	0			
This effort provided the Missile Defense Agency (MDA) with Targe	et Program 7	echnical Directi	on and analyzed target	requirements cost sche	ماييل			
 and technical performance of target systems development. This effor developments. Conducted functional allocation to product lines, pro- conductibility of design reviews. Performed target system analysis v controls flight test configuration, and conducted pre and post-flight a developed plans for issue resolution. Development of the Flexible T of components that span across target system representations within tests. Accordingly, FTF will be composed of Target Sets that exhibit characteristics and features that present flexible target behavior to te FY07 Accomplishments: Spiral I Updated development to Spiral I FTF system specifications Completed Spiral I Development of Enhanced Capability Products, • Final Loads Cycle analysis for FTF I (Closure) Break-up Analysis of Spiral I FTF Upgraded to Payload Deployment Module, final design to accon Re-Entry Vehicle Adaptor with High Delta - Velocity Separation Spiral II Continued Spiral II Development of Enhanced Capability Products, LV-2 Two-stage Strategic Target System Common Avionics System Common Support Equipment 	duct line spe with new con analysis and arget Family the family of t various de est the multip including th nmodate ins n System De	ecifications/interf neepts to verify sy documentation. y (FTF) is an init of target sets that grees of threat en ple Ballistic Miss e following: trumented counter esign	Faces and established g ystem performance. De Identified treaty and en iative that emphasized can be rapidly integra nulation and have a bro- bile Defense System (B	uidelines for the efined target program ba nvironmental issues and commonality and modu ted to support MDA flig oad range of performance	seline larity nt			
Project: 0805 Targets & Countermeasures Block 2006	210 - 6	262		MDA Exhibit R-2A (PE 06	03888C			
Line Item 78 -	219 of	262						

		Date	
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Ju		February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P	R-1 NOMENCL	ATURE listic Missile Defense Test ar	d Tangata
	0005000C Dai	nstie wissile Derense Test af	iu Targets
Common Transporter Erector			
Universal Payload Deployment Module			
New suite of countermeasures			
FTF Strategic Air-Launched Target System			
Conducted Integrated Baseline Reviews (IBR) on effort placed on contract in	FY07, including	he following:	
Modified Ballistic Re-Entry Vehicle-2 (MBRV-2)			
AEGIS FTM-12 Flight Mission			
FTF LV-2 Effort			
• Modified Ballistic Re-Entry Vehicle-3 (MBRV-3)			
 Continued development of advanced instrumentation and telemetry concepts Sensor Pointing Platform (SPP) Spatial Distribution Sensor Wireless Local Area Network (LAN) system 			
	FY 2007	FY 2008	FY 2009
Launch Vehicles	5,697	0	0
RDT&E Articles (Quantity)	0	0	0
 This effort provided MDA with all launch delivery vehicles including booster included conducting decomposition for booster, interstage and avionics requiavionics. Conducted necessary design reviews. Ensured boosters, interstages FY07 Accomplishments: Procured two (2) SR19 Flexseals for future BMDS flight missions Performed studies/analysis and future LV capabilities designs Established contract for Caster IVb motors from ATK Began acquisition, development and qualification of FTF 72" launch vehicles 	rements, character and avionics adhe	izing and qualifying booste	rs, interstages, and

	CLASSI			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justif	ication	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY				St and Targets FY 2009 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
RDT&E, DW/04 Advanced Component Development and Prototypes	t Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets FY 2007 FY 2008 FY 2009 575 0 0 0 am management and development of: 1) unique target instrumentation as well as optical on-target data gorithm development/evaluation, intercept viewing and payload characterization; 2) development of Midcour flight units for BMDS testing; and 3) development of advanced instrumentation systems/techniques to incluiques.	Targets		
,,,,,,,,,,,,		ct Justification February 2008 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets FY 2007 FY 2008 FY 2009 575 0 0 0 0 0 0 0 0 of: 1) unique target instrumentation as well as optical on-target data tercept viewing and payload characterization; 2) development of Midcourse 3) development of advanced instrumentation systems/techniques to include FY 2007 FY 2008 FY 2009 3,850 0 0 0 c countermeasure systems used to test the capability space of the BMDS; cterization and ground testing of countermeasure systems. Supported		
Data and Instrumentation		575	0	0
RDT&E Articles (Quantity)		0	0	0
This effort provided funding for program management and develop	ment of: 1) u	nique target instr	umentation as well as optica	al on-target data
Fly Along Sensor Package (M-FASP) flight units for BMDS testing data collection and transmission techniques.FY07 Accomplishments:These efforts have been moved to Systems Engineering Programs	; and 3) dev	elopment of adva	nced instrumentation system	ns/techniques to include
Constant	FY			
Countermeasures RDT&E Articles (Quantity)			0	0
	- 4 4 -	0		
	haracterizati ermeasures a	on and ground test ctivities. Program	sting of countermeasure sys	tems. Supported
FY07 Accomplishments:				
• Solved interface issues to insure new countermeasure designs fro Family vehicles.	om National	Labs are compati	ble with the Prime Contrac	tor Flexible Target
• Developed the FTF Payload Deployment Module to Countermea	asure Interfa	ce Control Docur	nent (ICD).	
• Developed techniques, materials, and processes for new prototyp				
• Completed Radar Cross Section measurements to characterize th				

Completed Radar Cross Section measurements to characterize the Family 2D countermeasure.
Conducted the Preliminary Design Reviews for the Family 1C and 2D countermeasures. Developed an execution path to CDR.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E l	Project Justification	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (R-1 NOMENC	, i i i i i i i i i i i i i i i i i i i	d Targets
	FY 2007	FY 2008	FY 2009
Logistics	30,692	0	
RDT&E Articles (Quantity)	0	0	
 This effort provided MDA with inventory, launch support equipmen BMDS testing. These efforts were essential in providing a dependab for the success of their interceptor program. This task included integ facilities, inventory maintenance, spare parts, aging and surveillance hazardous material handling. This task provided management and ex Provided all required facilities and monitored for explosive storage a FY07 Accomplishments: Stored, maintained and conducted aging and surveillance program 14 Polaris A-3 motors, 6 Orbus motors, Minuteman motors, 11 F motors. Maintained existing support equipment and facilities at Redstone Missile Range Facility. Stored and maintained Trident C-4 motor hardware for future tar Took custody of eight (8) GEM 40 rocket motors from BV+ Program Took custody of sixteen (16) ORBUS 1A rocket motors from BV 	ble and accurate target syste grated logistics support for e, as well as special testing xecution of the Consolidate and Foreign Military Asset m for 84 Pershing II Reent FMA's, 72 Terrier motors, 2 e Arsenal, White Sands Mi rget use. ogram for future flight test.	em that BMDS has come to a all targets and countermeasur for target rocket motor prope ed Missile Asset Reuse for Ta s fuel calibration and storage ry Vehicles and other compo 2 MLRS motors, 1 MBRV w ssile Range, Kodiak Launch	nd continues to rely on re material, including ellants and other argets (CMART) Program 5. onents, 94 Lance Missiles rarhead and 4 Castor IVB

	CLABBI						
Miggila Dofence Agency (MDA) Exhibit D 24 DDT&F	Ducient Instif	ination	Date February 2	008			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E APPROPRIATION/BUDGET ACTIVITY	Project Justif			008			
RDT&E , DW/04 Advanced Component Development and Prototypes	R-1 NOMENCLATUREes (ACD&P)0603888C Ballistic Missile Defense Test and Targets						
KD1 &E, D W/04 Advanced Component Development and 1 Tototypes	(ACD&I)	0003000C Dall	isue wiissne Delense Te	st and Targets			
	F	7 2007	FY 2008	FY 2009			
Integration		11,088		0 0			
RDT&E Articles (Quantity)		0		0 0			
 included developing of flight safety documentation; conducting traje Integrated product line components into designated target configurat launch services for mission assurance. FY07 Accomplishments: Provided mission assurance for hardware integration for all BMI Managed integration services of Prime contract. Provided support for the Single Integration Capability, located a Managed target integration services on legacy contracts. Provided target studies, analysis support, and launch vehicle components 	tion and test DS element t Courtland,	s systems. Provi targets in suppo	ded schedule status, fin				
	F	2007	FY 2008	FY 2009			
Mission Management		13,026		0 0			
RDT&E Articles (Quantity)		0		0 0			
 This effort provided MDA with target mission management and exe documentation, development of scenario plans in accordance with m modifications) in support of BMDS and Element testing. Conducted and conducted target Mission readiness reviews and monitored environments: FY07 Accomplishments: Conducted any remaining retrograde or analysis activities associated Prepared for, conducted, or analyzed: Aegis-BMD target mission (FTM-11). 	nission requi l safety oper ronmental e	rements. Contro ations specific to xecution.	olled target managemen	t (scheduling, configuration			
Project: 0805 Targets & Countermeasures Block 2006				MDA Exhibit P.2A (PE 06038880)			

			Date				
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Pr	roject Justifi		February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (A		R-1 NOMENCLATURE D&P) 0603888C Ballistic Missile Defense Test and Targets					
	(CDul)	ooosooc Dunist	te missine Derense Test and	141500			
• GMD target missions (FTX-02, FTG-3a, FTG-4).							
• STSS missions (NFIRE-2a, NFIRE-2b).							
• THAAD target missions (FTT-06, RDC-1c, FTT-07, FTT-08, RD	IC- 1d).						
	FY	2007	FY 2008	FY 2009			
Re-entry Vehicles		3,673	0				
RDT&E Articles (Quantity)		0	0				
This effort included Re-Entry (RV) and Payload Deployment Module	e (PDM) rec	uirements decom	position and analysis; RV	and PDM			
characterization, qualification, and performance measurements; missi		-					
standardization and ensured product adherence to interface specificati	11 '	1 1	5				
RV and PDM design reviews and supported other product design revi		U		r			
 Coordinated buildup and delivery of: Five (5) MBRV-3s for FT-7-02, FTT-06, FTT-07, FTT-08 and FT One (1) GROW RV with Payload Deployment Module (PDM) for Three (3) new design MBRV-2s for FTM-14, FTS-01, and JFTM- Executed contractual action for procurement of three (3) MBRV-1 Supported Spiral Development activities with Lockheed Martin Spiral 	r FTG-03a. -2. 1s supportir	ng THAAD and A	EGIS testing.				

Line Item 78 -

			· T /•0• /•		Date					
Missile Defense Agency (MDA) APPROPRIATION/BUDGET ACTIVITY	Exhibit R-2A R	DT&E Projec		NOMENCLATU		ruary 2008				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and Targets										
C. Other Program Funding Summary										
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost		
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812		
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746		
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344		
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690		
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888		
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397		
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620		
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696		
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353		
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559		
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928		
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906		
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623		
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954		
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060		
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527		
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505		
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870		
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757		
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243		
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510		
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430		
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115		

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

D. Acquisition Strategy

Targets and Countermeasures will follow the Missile Defense Agency's capability-based acquisition strategy that emphasized testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The targets prime contractor will continue to emphasize target product lines that develop target components such as booster stages, avionics, countermeasures, etc. As target developments and existing contracts are completed under Project 0705 (Block 2004), the prime contractor will optimize target designs and developments completed for Block 2004 and incorporate them as necessary to support Block 2006 development. The prime contractor will also continue to provide capability-based and commonality target upgrades, as well as pursue target portfolio commonality in order to reduce cycle time and cost of BMDS target systems. Under this Project (0805), the four year base period of performance will expire. The government will either exercise the first option to continue with the prime, or re-compete the effort. As with Project 0705 (Block 2004), the government will continue to maintain system responsibility and will ensure successful management of targets execution.

							Date	2009		
Missile I APPROPRIATION/BUDGET A		y (MDA) Exhibit R-3	RDT&E Projec	et Cost Ar		OMENCLATUR	Februar	ry 2008		
		Development and L	Prototypes (AC	D&D)				a Tast and Tar	nate	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)0603888C Ballistic Missile Defense Test and TargetsI. Product DevelopmentCost (\$ in Thousands)										
1. 1 Toduct Development		nousanus)				FY 2008		FY 2009		
	Contract	Performing	Total			Award/		Award/		
	Method	Activity &	PYs	FY 20	08	Oblg	FY 2009	Oblg	Total	
Cost Categories:	& Type	Location	Cost	Cost		Date	Cost	Date	Cost	
Systems Engineering										
		Lockheed Martin/								
System Engineering	C/CPAF	Denver, CO	80,614		0	N/A	0	N/A	80,614	
System Engineering Support	C/FFRDC	John Hopkins Applied Research Lab/Maryland	2,462		0	N/A	0	N/A	2,462	
System Engineering Support	C/CPAF	Kelly AFB/AEDC/NAW C/SMC/Lakeland AFB/Arnold AFB/China Lake, CA	1,401		0	N/A	0	N/A	1,401	
		Sandia National	,						,	
System Engineering	C/FFRDC	Lab/Albuquerque, NM	3,948		0	N/A	0	N/A	3,948	
Field Activity Support	C/CPAF	JNIC /Colorado	100		0	N/A	0	N/A	100	
Launch Vehicles										
Launch Vehicles	C/CPAF	Northrop Grumman/ Albuquerque, NM	5,000		0	N/A	0	N/A	5,000	
		Northrop Grumman/								
Launch Vehicles	C/CPAF	Ogden, UT	697		0	N/A	0	N/A	697	
Data and Instrumentation										
Data & Instrumentation	C/MIPR	DoD/WHS/ Washington, DC	18		0	N/A	0	N/A	18	
Data & Instrumentation	C/CPFF	Boeing/ Huntsville, AL	57		0	N/A	0	N/A	57	

							Date	2000			
Missile APPROPRIATION/BUDGET A		y (MDA) Exhibit R-3	RDT&E Project	t Cost Ar		OMENCLATUR	Februar	y 2008			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)						0603888C Ballistic Missile Defense Test and Targets					
	ContractPerformingTotalMethodActivity &PYs		PYs	s FY 200		U	FY 2009	FY 2009 Award/ Oblg	Total		
Cost Categories:	& Type	Location Sandia National Lab/	Cost	Cost		Date	Cost	Date	Cost		
Data & Instrumentation	C/FFRDC	Albuquerque, NM	500		0	N/A	0	N/A	500		
Countermeasures	_										
		Sandia National Lab/									
Countermeasures Development	C/FFRDC	Albuquerque, NM	3,600		0	N/A	0	N/A	3,600		
Countermeasures Development	C/CPFF	Signature Research Associates/ Huntsville, AL	250		0	N/A	0	N/A	250		
Logistics	C/CPFF	Huntsville, AL	230		0	IN/A	0	IN/A	230		
Logistics	C/CPFF	Battelle/ Kennesaw, GA	3,955		0	N/A	0	N/A	3,955		
Logistics	SS/CPFF	Alliant Techsystems/ Magna, UT	617		0	N/A	0	N/A	617		
202.000		Physical Science Laboratory/									
Logistics	SS/CPFF	Las Cruces, NM	1,108		0	N/A	0	N/A	1,108		
		Teledyne Solutions, Inc./									
Logistics	C/FP	Huntsville, AL	5,234		0	N/A	0	N/A	5,234		
Logistics	C/MIPR	Various/Various	1,854		0	N/A	0	N/A	1,854		
Logistics	C/Various	Various/ Albuquerque, NM	2,993		0	N/A	0	N/A	2,993		
Logistics	C/CPAF	Locheed Martin/ Denver, CO	13,081		0	N/A	0	N/A	13,081		
Logistics	C/MIPR	SWFPAC/ Bangor, WA	610		0	N/A	0	N/A	610		

Miccile	Dofonso Agono	y (MDA) Exhibit R-3	BDT&F Projec	et Cost An	olvcic		Date Februa	rv 2008	
APPROPRIATION/BUDGET		y (WIDA) Exhibit K-5	KD1&E110jec	i Cost All		OMENCLATUR		l y 2000	
RDT&E, DW/04 Advanced		Development and P	rototypes (AC	D&P)				e Test and Targ	ets
	Contract	Performing	Total			FY 2008 Award/		FY 2009 Award/	
Cost Categories:	Method & Type	Activity & Location	PYs Cost	FY 200 Cost	8	Oblg Date	FY 2009 Cost	Oblg Date	Total Cost
Logistics	C/MIPR	AMCOM/ Huntsville, AL	1,240		0	N/A	0	N/A	1,240
Integration		,							,
		Northrop Grumman/							
Integration	C/CPAF	Albuquerque, NM	9,258		0	N/A	0	N/A	9,258
Integration	C/FP	Teledyne Solutions, Inc./Huntsville, AL	1,830		0	N/A	0	N/A	1,830
Mission Management									
		Teledyne Solutions, Inc./							
Mission Management	C/FP	Huntsville, AL	13,026		0	N/A	0	N/A	13,026
Re-entry Vehicles									
		Teledyne Solutions, Inc./							
Re-Entry Vehicles	C/FP	Huntsville, AL	3,308		0	N/A	0	N/A	3,308
Re-Entry Vehicles	C/CPAF	NASA/ MSFC, AL	365		0	N/A	0	N/A	365
Subtotal Product Development			157,126		0		0		157126
Remarks II. Support Costs Cost (\$ in Thousa	ands)							
	Contract	Performing	Total			FY 2008 Award/		FY 2009 Award/	
	Method	Activity &	PYs	FY 200	8	Oblg	FY 2009	Oblg	Total
	1	-		Cast		Date	Cost	Date	Cost
Cost Categories:	& Type	Location	Cost	Cost		Date	Cost	Date	Cost

Project: 0805 Targets & Countermeasures Block 2006

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APPROPRIATION/BUDGET		_			1 NOMENCLATU		_	
RDT&E, DW/04 Advance	d Component D	evelopment and	Prototypes (AC	D&P) 06	038888C Ballistic	Missile Defens	se Test and Tar	gets
III. Test and Evaluation	Cost (\$ in T	housands)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Test and Evaluation								
Remarks								
IV. Management Servic	os Cost (\$ in	Thousands)						
r • • • • • • • • • • • • • • • • • • •		invusanus j			FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Management Services								
Remarks								
Remarks								
			157,126	(0	0		157,126
Project Total Cost						I		
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-								
Project Total Cost Remarks								
-								
-								

Missile Defense Agency (MDA) Exhibit R-2A RI	DT&E Project Justi	fication		Date Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Proto	otypes (ACD&P)		NCLATURE Ballistic Mi	ssile Defense	e Test and Ta	rgets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0905 Targets & Countermeasures Block 2008	17,898	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
	· · · · · · · ·	1 1 1	1 1 .	·	1	·1 MDA	, .

Note: Starting in FY08, funding for all content within budget project 0905 is included within budget project YX05 in accordance with MDA's revised block structure.

The content in this budget project for FY07 supports the master system level test schedule which is included in the R-4 section of budget project 0304. The master system level test schedule for FY08-FY13 in budget project YX04 is provided as reference only.

A. Mission Description and Budget Item Justification

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

7 Ducient Instif	lastion	Date Fabruary 2008	
1 Project Justin		l l	
s (ACD&P)			d Targets
FY		FY 2008	FY 2009
	11,401	0	0
	\$	•	0
e spiral develo ifications/inte erify system po mentation. Ide of Target Sets ble target beh contract in FY ducts) ignatures for 1	opment process f rfaces and estab erformance. Def entified treaty ar that exhibit vari avior to test the 707 including th Re-Entry Vehicl	for long-range plans initiati lished guidelines for condu ined target program baselir nd environmental issues and ous degrees of threat emula multiple Ballistic Missile I e following:	ng new developments. actibility of design he, controlled flight test d developed plans for ation and have a broad Defense System
	s (ACD&P) FY ram Technica e spiral develo ifications/inte rify system po mentation. Ido f Target Sets ble target beh contract in FY lucts) ignatures for 1	s (ACD&P) 0603888C Balli FY 2007 11,401 11,401 0 ram Technical Direction and a e spiral development process f ifications/interfaces and estab rify system performance. Def mentation. Identified treaty and f Target Sets that exhibit variable target behavior to test the contract in FY07 including th lucts)	E Project Justification February 2008 R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test an FY 2007 FY 2008 11,401 0 0 0 ram Technical Direction and analyzed target requirement e spiral development process for long-range plans initiati ifications/interfaces and established guidelines for condu- rify system performance. Defined target program baseline mentation. Identified treaty and environmental issues and f Target Sets that exhibit various degrees of threat emula ble target behavior to test the multiple Ballistic Missile I ble target behavior to test the multiple Ballistic Missile I

RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P) 0603888C Ballistic Missile Defense Test and the second seco		-1 NOMENCLATURE		APPROPRIATION/BUDGET ACTIVITY
Countermeasures6,4970	and Targets	503888C Ballistic Missile Defense Test and	types (ACD&P)	RDT&E, DW/04 Advanced Component Development and P
Countermeasures6,4970				
	FY 2009	07 FY 2008	FY	
RDT&E Articles (Quantity) 0 0	0 (6,497 0		Countermeasures
	0 (0 0		RDT&E Articles (Quantity)
This effort provides program management and development of various countermeasure systems for BMDS flight testing, in	including characterization	sure systems for BMDS flight testing, inc	f various countern	This effort provides program management and developme

FY07 Accomplishments:

- Conducted initial electrical interface testing between the countermeasures and the FTF PDM electrical/communications system.
- Developed materials and processes for new prototype countermeasures to support BMDS Block 08 system testing. Trade studies completed and countermeasure designs down-selected to prototype build and flight qualification to support Block 08 system tests.
- Completed the Preliminary Design Reviews for the Family 1C and 2D countermeasures. Path to CDR defined and implemented to support FY08 CDR dates.

								Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
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PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928

C. Other Program Funding Summary

Project: 0905 Targets & Countermeasures Block 2008

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Missile Defense Agency (MDA)	Exhibit R-2A F	ADT&E Projec	t Justificatic	'n	Date Feb	ruary 2008						
APPROPRIATION/BUDGET ACTIVITY												
RDT&E, DW/04 Advanced Component Develop	nent and Prot	&P) 06(0603888C Ballistic Missile Defense Test and Targets									
								Total				
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Cost				
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	5 488,294	649,632	708,582	879,385	3,443,906				
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623				
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954				
PE 0603897C BMD Hercules	46,268	52,462	55,955	5 55,289	56,400	51,902	52,784	371,060				
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	2 73,997	77,205	80,168	81,948	482,527				
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	4 100,437	100,366	101,512	102,840	684,505				
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0) 0	0	0	0	21,870				
PE 0603906C Regarding Trench	0	1,986	2,978	3 4,964	4,963	8,933	8,933	32,757				
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	() 0	0	0	0	165,243				
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0) 0	0	0	0	142,510				
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	4 5,040	5,284	5,370	5,456	62,430				
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	3 70,355	69,855	69,855	69,855	540,115				

D. Acquisition Strategy

Targets and Countermeasures will follow the Missile Defense Agency's capability-based acquisition strategy that emphasized testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The targets prime contractor will continue to develop targets for use in MDA BMDS testing, with a continued emphasis on product line development and target component commonality. It is expected that the prime contractor will continue to refine and streamline the activities for which it is under contract, and as described in Section A of this Project. Under this Project (0905) the Prime Contractor's first two year option period will expire, and the government will either exercise a second two year option, or re-compete the effort. As with Project 0805 (Block 2006), the government will continue to maintain system responsibility and will ensure successful management of targets execution.

Missile I	Defense Agency	y (MDA) Exhibit R-3	RDT&E Proje	ct Cost Ar	nalysis		Date Februa	ry 2008		
APPROPRIATION/BUDGET ACTIVITYR-1 NOMENCLATURE RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)R-1 NOMENCLATURE0603888C Ballistic Missile Defense Test and Targets										
I. Product Development	Cost (\$ in 7	Thousands)								
	Contract Method	Performing Activity &	Total PYs	FY 200	08	FY 2008 Award/ Oblg	FY 2009	FY 2009 Award/ Oblg	Total	
Cost Categories:	& Type	Location	Cost	Cost		Date	Cost	Date	Cost	
Systems Engineering	1			i						
System Engineering	C/CPAF	Lockheed Martin Space Systems/ Denver, CO	11,401		0	N/A	0	N/A	11.401	
Countermeasures				í		11/11			11,701	
		Sandia National Lab/								
Countermeasures Development	C/FFRDC	Albuquerque, NM	6,497	I	0	N/A	0	N/A	6,497	
Subtotal Product Development			17,898		0		0		17898	
Domorks		· · · ·	·		· · · ·		· · ·	· · ·		

Remarks

Integration Various - The Program Office intends to award the Low Cost Assessment Target efforts to a Prime Contractor in Fiscal Year 07.

II. Support Costs Cost (\$ in Thousands)

					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Support Costs								

Remarks

III. Test and Evaluation Cost (\$ in Thousands)

					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Test and Evaluation								

Remarks

Project: 0905 Targets & Countermeasures Block 2008

		(MDA) Exhibit R-3	8 RDT&E Proje			Februa	ary 2008	
PPROPRIATION/BUDGET A	CTIVITY			R-1	NOMENCLATU			
RDT&E, DW/04 Advanced			Prototypes (AC	CD&P) 060.	3888C Ballistic	e Missile Defens	se Test and Tar	gets
V. Management Services	s Cost (\$ in	Thousands)						
					FY 2008		FY 2009	
	Contract	Performing	Total	EX 2000	Award/	EX 2000	Award/	T (1
Cost Categories:	Method & Type	Activity & Location	PYs Cost	FY 2008 Cost	Oblg Date	FY 2009 Cost	Oblg Date	Total Cost
ubtotal Management Services	æ Type	Location	Cost	Cost	Date	Cost	Date	Cost
emarks								
roject Total Cost		i	17,898	0	1	0	r	17,898
Remarks			17,898	0		0		17,898

				Date			
Missile Defense Agency (MDA) Exhibit R-	2A RDT&E Project Justif	fication		Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and	Prototypes (ACD&P)	0603888C	Ballistic Mis	ssile Defense	Test and Ta	rgets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0005 Targets & Countermeasures Block 2010	2,659	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
\mathbf{N} (\mathbf{C} (\mathbf{C}) \mathbf{C} (\mathbf{D}) \mathbf{D}) \mathbf{C} (\mathbf{D}) \mathbf{D}) \mathbf{C} (\mathbf{D}) \mathbf{D}) \mathbf{D}) \mathbf{D} (\mathbf{D}) \mathbf	1	1 1 1	1 1 4	\cdot $VV05$	1	UL MDA	1 1

Note: Starting in FY08, funding for all content within budget project 0005 is included within budget project YX05 in accordance with MDA's revised block structure.

The content in this budget project for FY07 supports the master system level test schedule which is included in the R-4 section of budget project 0304. The master system level test schedule for FY08-FY13 in budget project YX05 is provided as reference only.

A. Mission Description and Budget Item Justification

The Targets and Countermeasures program provided capability-based targets to support Block 2010 integrated and layered Ballistic Missile Defense System (BMDS) testing. Targets developed under this project tested and enhanced the BMDS capability by providing short, medium, and long range capability based targets with more complex payloads. Based on systems engineering assessments of possible threat scenarios, the targets and countermeasures program supported the Engagement Sequence Group (ESG) by launching targets to test the performance of the BMDS, ultimately enabling a weapon to engage a target.

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

		UNCLA		, ,				
Missile Defense Agency (MDA)	E	DT & F Drustant	Tratificatio		Date	ruary 2008		
Missile Defense Agency (MDA) APPROPRIATION/BUDGET ACTIVITY	EXHIDIL K-2A F	di al Project		n NOMENCLAT		ruary 2006		
RDT&E, DW/04 Advanced Component Develop	ment and Pro	totypes (ACD&		3888C Ballist		ense Test and	l Targets	
B. Accomplishments/Planned Program	incint and 110	totypes (nebe	(1)	5000C Dunist		ense rest und	Turgets	
D. Accomplishments/Traineu Trogram			FY 2007		FY 2008 FY 200			.009
Countermeasures				2,659		0		0
RDT&E Articles (Quantity)				0		0		0
 This effort provided funding for program manage characterization and ground testing of those courterization and ground testing of the second testing of the second testing of the second testing of the second testing and ground testing of the second testing of test	ses for new p prresponding	systems. rototype coun manufacturing	termeasur g techniqu	es. es) that will e	xpand the co	untermeasure	capability sp	
C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938		8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718		120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143		1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817		708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262		605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315		538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783		1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928

Project: 0005 Targets & Countermeasures Block 2010

Missile Defense Agency (MDA)	Exhibit R-2A F	CDT&E Projec	t Justificat	on		Date Feb	ruary 2008		
APPROPRIATION/BUDGET ACTIVITY			R	R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				03888C Ball	stic Missil	e Def	ense Test and	l Targets	
									Total
	FY 2007	FY 2008	FY 2009	FY 2010	FY 20	11	FY 2012	FY 2013	Cost
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,45	65 488,29	649	9,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,77	41,63	38 56	5,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,27	287,19	04 270),762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,95	55 55,28	39 56	5,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,98	32 73,99	77 77	,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,40	04 100,43	37 100),366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	·	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,97	78 4,90	54 4	1,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243		0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0		0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,73	34 5,04	0 5	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,45	53 70,33	5 69	9,855	69,855	69,855	540,115

D. Acquisition Strategy

Targets and Countermeasures will follow the Missile Defense Agency's capability-based acquisition strategy that emphasized testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The targets prime contractor will continue to develop targets for use in MDA BMDS testing, with a continued emphasis on product line development and target component commonality. It is expected that the prime contractor will continue to refine and streamline the activities for which it is under contract. Under this Project (0005), the second two year option period of performance, for the prime contractor will expire, and the government will either exercise a third two year option, or recompete the effort. As with Projects 0805 (Block 2006) and 0905 (Block 2008), the government will continue to maintain system responsibility and will ensure successful management of targets execution.

RDT&E, DW/04 Advanced	Component	Development and P	rototypes (AC	D&P) 0603	888C Ballistic I	Missile Defense	e Test and Targ	ets
I. Product Development	Cost (\$ in 7	Fhousands)						
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Countermeasures								
		Sandia National						
		Lab/Albuquerque,						
Countermeasures Development	C/FFRDC	NM	2,659	0	N/A	0	N/A	2,659
Subtotal Product Development			2,659	0		0		2659
I. Support Costs Cost	\$ in Thousa	nds)						
II. Support Costs Cost (\$ in Thousa	nds)						
II. Support Costs Cost (\$ in Thousa	nds)			FY 2008		FY 2009	
II. Support Costs Cost (\$ in Thousa Contract	Performing	Total		FY 2008 Award/		FY 2009 Award/	
II. Support Costs Cost (Total PYs	FY 2008		FY 2009		Total
	Contract	Performing		FY 2008 Cost	Award/	FY 2009 Cost	Award/	Total Cost
Cost Categories:	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories: Subtotal Support Costs	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories: Subtotal Support Costs	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories: Subtotal Support Costs	Contract Method	Performing Activity &	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type	Performing Activity & Location	PYs		Award/ Oblg		Award/ Oblg	
Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type Cost (\$ in '	Performing Activity & Location Thousands) Performing	PYs		Award/ Oblg Date		Award/ Oblg Date	
Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type Cost (\$ in '	Performing Activity & Location	PYs Cost	Cost FY 2008	Award/ Oblg Date	Cost FY 2009	Award/ Oblg Date	
II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks III. Test and Evaluation	Contract Method & Type Cost (\$ in '	Performing Activity & Location Thousands) Performing	PYs Cost Total	Cost	Award/ Oblg Date FY 2008 Award/	Cost	Award/ Oblg Date FY 2009 Award/	Cost
Cost Categories: Subtotal Support Costs Remarks III. Test and Evaluation	Contract Method & Type Cost (\$ in ' Contract Method	Performing Activity & Location Thousands) Performing Activity &	PYs Cost Total PYs	Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Cost

APPROPRIATION/BUDGET A		(MDA) Exhibit R-3			NOMENCLATU		ary 2008	
RDT&E, DW/04 Advanced		evelopment and I	Prototypes (AC		0603888C Ballistic Missile Defense Test and Targets			
V. Management Service				0000				
	Contract Method	Performing Activity &	Total PYs	FY 2008	FY 2008 Award/ Oblg	FY 2009	FY 2009 Award/ Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
Subtotal Management Services								
Remarks								
Project Total Cost	1		2,659	0		0		2,659
Remarks						•		
Kemarks								
Xemarks								
Xemarks								
Kemarks								
Xemarks								
Cemarks								
Cemarks								

				Date			
Missile Defense Agency (MDA) Exhibit R-2	A RDT&E Project Justif	fication		Februar	February 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOME	NCLATURE				
RDT&E, DW/04 Advanced Component Development and F	Prototypes (ACD&P)	0603888C	Ballistic Mis	ssile Defense	e Test and Ta	rgets	
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
YX05 Targets and Countermeasures Core	0	182,249	219,831	215,203	219,223	233,280	237,330
RDT&E Articles Qty	0	0	0	0	0	0	0
Notes Fronding for content in house density of (EVOQ theme F	V12)			h	0205 09	005 0005 -	

Note: Funding for content in budget project (FY08 thru FY13) was previously included in FY07 within budget projects 0305, 0805, 0905, and 0005.

The content in this budget project for FY08-FY13 supports the master system level test schedule which is included in the R-4 section of budget projects 0304 and YX04. The master system level test schedule for FY08-13 is provided in this budget project as reference only.

A. Mission Description and Budget Item Justification

The Targets and Countermeasures program provides capability-based targets to support layered Ballistic Missile Defense System (BMDS) testing. Targets developed under this project will enhance the BMDS capability by providing short, medium, and long range capability-based targets with enhanced payloads. Based on the Systems Engineering assessments of possible threat scenarios, the targets and countermeasures program supports the Engagement Sequence Group (ESG) by launching targets to test the performance of the BMDS, ultimately enabling a weapon to engage a target. Funding for this program supports the continuation of targets prime contract activities, and the design, prototyping, development, certification, product improvement, and qualification testing of BMDS targets and associated payloads. It also supports the maintenance, aging surveillance, refurbishment, and routine testing of existing Government Furnished Equipment (GFE) boosters, as well as the purchase of long lead material assets and asset management items for short, medium and long-range target components. The targets prime contractor will develop all future target configurations with an emphasis on developing product lines of common target components, rather than unique individual target systems. The Prime Contractor will maximize the use of existing government furnished equipment, to include the use of Foreign Material Acquisitions (FMA's) when appropriate, while minimizing the number of new developments. The Prime Contractor will also optimize the use of existing designs, provide capability-based and common component upgrades, and pursue target portfolio commonality in booster stages, inter stages, avionics, launch support equipment, counter-measures, and re-entry vehicles. It is anticipated this product line approach and target component commonality will reduce both cycle time (e.g., concept definition to launch) and cost.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Project Justif	ication			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	R-1 NOMENCLATURE				
B. Accomplishments/Planned Program					
	FY	2007	FY 2008	FY 2009	
Program Operations (TCO)		0	77,657	91,186	
RDT&E Articles (Quantity)		0	0	0	
This includes the management of design, prototyping, development. System (BMDS) targets in order to complete, verify, and test targets capability. Since this project is comprised of entirely Program Mana no article quantities are reported.	s for the Initi	al Defensive Ca	apability, and enhance the ta	argets to test the BMDS	

FY08 Planned Program:

- Funds government personnel salaries for program management, project support, project costs and travel
- Support activities for on-site Targets and Countermeasures field activity personnel to include rent, equipment, travel, security and base infrastructure necessary to conduct daily operations
- Prime contract program management functions including: program management, systems engineering, product engineering & acquisition management, production and logistics management and test and operations management

FY09 Planned Program:

- Funds government personnel salaries for program management, project support, project costs and travel
- Support activities for on-site Targets and Countermeasures field activity personnel to include rent, equipment, travel, security and base infrastructure necessary to conduct daily operations
- Prime contract program management functions including: program management, systems engineering, product engineering & acquisition management, production and logistics management and test and operations management

	T&E Project Justif	R-1 NOMENCLATU	February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Protot	types (ACD&P)					
	EX	¥ 2007	FY 2008	FY 2009		
52" FTF Targets	11	0	14,152	27,670		
RDT&E Articles (Quantity)		0	0	27,07		
air and ground launch capabilities. Effort includes development planning for integration of prototype countermeasure systems, a management and development of launch vehicles includes cond characterizing and qualifying boosters, interstages, and avionic Performs necessary simulation and modeling efforts; configura and signature analysis. And conduct of necessary design review	re-entry vehicles ducting decomposes. Ensures boostes tion changes to R	(RV), and payload of sition for booster, in ers, interstages and a	deployment modules (PDM terstage and avionics require vionics adhere to interface). Program rements, specifications.		
 FY08 Planned Program: Completion of Critical Design Review Contract development to support production and mission ex Procurement of long lead items Component environmental qualification Range survey/support agreement development FY09 Planned Program: Initiation of production activities Component environmental qualification 	kecution					

Missile Defense Agency (MDA) Exhibit R-2A RD	ication	Date February 2008		
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Proto	0603888C Ball	istic Missile Defense Test and	d Targets	
	F	7 2007	FY 2008	FY 2009
72" FTF Targets (Countermeasures)		0	9,350	8,000
RDT&E Articles (Quantity)		0	0	0
the countermeasures activities. Program reviews and technical post-mission data analysis.	interchange meet	ings are held reg	gularly to ensure mission suc	ccess. Perform pre- and
FY08 Planned Program:				
• Continue developing advanced techniques for prototyping	new countermeas	ures		
• Evolve countermeasures prototypes towards flight qualification environments)	ations based upon	considerable fli	ight qualification test activit	ies (based on FTF
• Build variety of engineering countermeasures prototypes su	upporting BMDS	system testing		

FY09 Planned Program:

- Continue developing advanced techniques for prototyping new countermeasures
- Evolve countermeasures prototypes towards flight qualifications based upon considerable flight qualification test activities (based on FTF environments)
- Build variety of engineering countermeasures prototypes supporting BMDS system testing

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Pr	roject Justif	fication	Date February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets			
	F	Y 2007	FY 2008	FY 2009	
72" FTF Targets (Re-Entry Vehicles)		0	5,862	5,7	
RDT&E Articles (Quantity)		0	0		
 FY08 Planned Program: Coordinate the completion of: One (1) MBRV-2 Two (2) MBRV-3 Two (2) MBRV-1 One (1) GROW RV with PDM Coordinate the development of: 					
 Two (2) MBRV-4 FY09 Program Plan: Coordinate the completion of: Five (5) MBRV-2's to support future BMDS testing Two (2) MBRV-1's to support future BMDS testing Two (2) MBRV-4's to support flight tests 					

				ate		
Missile Defense Agency (MDA) Exhibit R-2A RDT&F	E Project Justif			ebruary 2008		
APPROPRIATION/BUDGET ACTIVITY		R-1 NOMENCL				
RDT&E, DW/04 Advanced Component Development and Prototype	s (ACD&P)	0603888C Bal	listic Missile I	Defense Test and '	Fargets	
	EX	7 2007	EV	2008	FY 2009	
72" FTF Targets (Launch Vehicles)	F1	0	ГІ	7,125	F1 2009	6,5
RDT&E Articles (Quantity)		0		7,125		0,.
This effort provides program management and development of lau	1 1 1 1	5	1	Ů	• (• 1	1
 interstages, and avionics. Conduct necessary design reviews. Ensur FY08 Planned Program: Provide acquisition support, mission management of the prime Perform studies/analysis for future LV capabilities designs 		-		-		
 FY09 Planned Program: Continue to provide acquisition support, mission management of Continue to perform studies/analysis for future LV capabilities 	-	contract with reg	gard to launch	n vehicle develop	ment and product	on
	designs	contract with reg	-	1 vehicle develop 2008	oment and product FY 2009	on
 Continue to provide acquisition support, mission management of Continue to perform studies/analysis for future LV capabilities 	designs		-	-		on
• Continue to provide acquisition support, mission management of	designs	7 2007 0 0	FY	2008 12,400 0	FY 2009	

	ICLASSII			
Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Draigat Instif	ication	Date February 2008	
APPROPRIATION/BUDGET ACTIVITY	Project Justii	R-1 NOMENCL		
RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)		listic Missile Defense Test and	d Targets
	()			
	FY	7 2007	FY 2008	FY 2009
Targets and Countermeasures (Systems Engineering)		0	14,491	48,338
RDT&E Articles (Quantity)		0	0	(
This effort provides the Missile Defense Agency (MDA) with Targe and technical performance of target systems development. This effor	•		•	1
developments. Conducts functional allocation to product lines, prod			1 0 0	1 0
of design reviews. Performs target system analysis with new concep	-		6	•
test configuration, and conducts pre and post-flight analysis and do				
issue resolution. Development of the Flexible Target Family (FTF)				
span across target system representations within the family of target		1	•	• •
will be composed of Target Sets that exhibit various degrees of thre				
that present flexible target behavior to test the multiple Ballistic Mis	ssile Defense	e System (BMD	S) capabilities.	
 FY08 Planned Program: Complete FTF Spiral Product Developments Castor IVB Booster Configuration Ground and Air Launch to C SR19 Booster Configuration Air Launch to CDR Common Test Set for Air Launch upgrades Common Support Equipment/Common Transporter Erector Sys Complete FTF Spiral Product Developments SR19/SR19 Air Launch PDR and CDR LV-2 Air Launch PDR and CDR LV-2 Air Drop from C-5 feasibility Technology transfer of countermeasures, sensors and advanced Complete Advanced Developments Direct Satcom Telemetry Link Wireless Local Area Network Capability Initiate FTF Spiral III Development and Enhancement activities ABL Target Instrumentation 	tem instrumentat	ion		
Project: YX05 Targets and Countermeasures Core			Ν	IDA Exhibit R-2A (PE 0603888C
Line Item 78 -		262		•
	UNCLASSIFI	ED		

Missile Defense Agency (MDA) Exhibit R-2A RDT&E I	Project Justifi	cation		Date February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes ((ACD&P)	R-1 NOMENCL 0603888C Ball		le Defense Test and T		
• Laser Hit Detector system						
 FY09 Planned Program: Initiate FTF Spiral Product Development and Enhancement active Non-Separating LV-2 High Delta-V Modifications LV-2 Ballast Module LV-2 MBRV-4 RV Adaptor (shrouded and unshrouded) LV-2 Nth Stage Attitude Control System & Control Module SW LV-3 Design Countermeasures (CM) 3A and 4A CM Canister/Ejectors 						
	FY	2007		FY 2008	FY 2009	
Logistics (TCL)		0		19,770		10,420
RDT&E Articles (Quantity)		0		0		0
This effort provides MDA with inventory, launch support equipment BMDS testing. These efforts are essential in providing a dependable the success of their interceptor program. This task includes integrated facilities, inventory maintenance, spare parts, aging and surveillance	and accurate d logistics su	e target system apport for all ta	that BMD rgets and c	S has come to and co countermeasure mate	ontinues to rely orial, including	

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 Military Assets fuel calibration and storage.

FY08 Planned Program:

- Continue inventory, storage, maintenance, aging and surveillance program for MDA's rocket motors, ground/launch support equipment and associated hardware
- Continue Government Furnished Equipment tracking, administration and property management
- Continue maintenance of existing support equipment and facilities located at Redstone Arsenal, White Sands Missile Range, Kodiak Launch Complex, Courtland and Pacific Missile Range Facility
- Continue to support equipment for target launches from Reagan Test Site (Meck Island)

Project: YX05 Targets and Countermeasures Core

Missile Defense Agency (MDA) Exhibit R-2A RDT&E	Proiect Justifi	cation		Date February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes		R-1 NOMENCL		e Defense Test an	d Targets
 Continue to store and maintain Trident C-4 motor hardware and Refurbish, assemble, and delivery of target systems for fiscal ye 	0 1	uipment for futu			
• Returbish, assemble, and derivery of target systems for fiscal ye	ai requireme	1115			
FY09 Planned Program:					
 Continue inventory, storage, maintenance, aging and surveillance associated hardware 	e program fo	or MDA's rocke	et motors, g	ground/launch suj	pport equipment and
• Continue Government Furnished Equipment tracking, administr	ation and pro	perty managen	nent		
• Continue maintenance of existing support equipment and faciliti	ies at Redstor	ne Arsenal, Wh	ite Sands N	Missile Range, K	odiak Launch Complex,
Courtland and Pacific Missile Range Facility					
	FY	2007]	FY 2008	FY 2009
Mission Management (TCM) Program Support		0		21,442	21,889
RDT&E Articles (Quantity)	L	0		0	0
This effort provides MDA with target mission management and exe					
development of scenario plans in accordance with mission requirem					
support of BMDS and Element testing. Conduct safety operations sp					
Mission readiness reviews and monitors environmental execution. T	-		0	0	0
services and mission assurance supporting BMDS testing. This task analysis, supporting environmental studies and reviews. Integrates p					
Provides schedule status, final target checkout, target launch service		-) designate	u target configura	ation and tests systems.
Trovides schedule status, iniai target checkout, target launen service	5 101 11155101	i assurance.			
FY08 Planned Program:					
Prepare for, conduct and analyze the following:					
• ABL High Powered system tests and MARTI launches (HPSI La	ance (up to 6) missions, 2 H	PSI MAR	TI missions)	
Aegis BMD target missions	× 1	, ,		,	
LTPO target mission					
• GMD target missions					
THAAD target missions					
• Systems test and countermeasures missions					

Project: YX05 Targets and Countermeasures Core

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	ication	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missi	le Defense Test and Targets
		le Defense Test and Targets
Project: YX05 Targets and Countermeasures Core		MDA Exhibit R-2A (PE 0603888C)

Missile Defense Agency (MDA)	D-14:14:10 24 D	DT & E Droiog	t Justification		Date Febr	uary 2008		
Missile Defense Agency (MDA) APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Develop			R-1]	NOMENCLATU 8888C Ballisti	URE	-	Targets	
C. Other Program Funding Summary			/				0	
<u>_</u>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

		Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justifi	cation	February 2008
APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE	
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603888C Ballistic Missil	e Defense Test and Targets

D. Acquisition Strategy

The Targets and Countermeasures Program provides capability-based targets to support layered Ballistic Missile Defense System (BMDS) testing. Targets developed under this program enhance the BMDS capability by providing short, medium, and long range capability-based targets with enhanced payloads. Based on the Systems Engineering assessments of possible threat scenarios, the Targets and Countermeasures program supports the Engagement Sequence Group (ESG) by launching targets to test the performance of the BMDS, ultimately enabling a weapon to engage a target. Funding for this program supports design, prototyping, development, certification, product improvement, and qualification testing of all BMDS targets. It also supports the maintenance, aging surveillance, refurbishment, and routine testing of existing Government Furnished Equipment (GFE) boosters.

Development of a Flexible Target Family (FTF) that emphasizes target commonality, modularity and reduces target cycle time is the primary acquisition strategy. The FTF will:

- Minimize the set of different booster stages
- Provide common Flight Test System and Instrumentation components
- Provide common vehicle support equipment, launch support equipment, and interfaces
- Pre-qualify for flight on various test ranges used by MDA

		y (MDA) Exhibit R-3	RDT&E Project			Februar	y 2008	
APPROPRIATION/BUDGET A					NOMENCLATUR			
RDT&E, DW/04 Advanced	Component l	Development and P	rototypes (ACI	D&P) 060	3888C Ballistic	Missile Defense	e Test and Targ	ets
I. Product Development	Cost (\$ in 7	Thousands)						
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award/ Oblg Date	FY 2009 Cost	FY 2009 Award/ Oblg Date	Total Cost
Program Operations (TCO)	æ Type	Location	Cost	Cost	Date	COSI	Date	COSt
Government Travel		Wash., DC Wash., DC	0	8,549 1,813	N/A N/A	8,772 1,850	N/A N/A	17,321 3,663
Government Support	C/FFP	Sparta/ Wash., DC	0	5,363	N/A	5,535	N/A	10,898
Field Activity Support	C/FFP	Northrop Grumman /Tecolote/Kirtland AFB, NM	0	6,071	N/A	6,208	N/A	12,279
Field Activity Support	C/FFP	Aero Term Tech/TSI/MilTech/ Huntsville, AL	0	3,672	N/A	9,473	N/A	13,145
Field Activity Support	C/CPAF	Lockheed Martin/ Huntsville, AL	0	52,189	N/A	59,348	N/A	111,537
52" FTF Targets	C/CD4 E	Lockheed Martin Space Systems/		14152	1//0	25 (50)	1//0	41.022
52" FTF Targets 72" FTF Targets (Countermeasures)	C/CPAF	Denver, CO	0	14,152	1/4Q	27,670	1/4Q	41,822
Countermeasures Development	C/FFRDC	Sandia National Lab/ Albuquerque, NM	0	8,900	1/4Q	7,550	1/4Q	16,450
		Signature Research Associates/		5,700	1/-72	1,550	1/TQ	10,100
Countermeasures Development 72'' FTF Targets (Re-Entry Vehicles)	C/CPFF	Huntsville, AL	0	450	1/4Q	450	1/4Q	900

Missile I	efense Agenc	y (MDA) Exhibit R-3	RDT&E Proje	ct Cost Analysi	s	Februar	ry 2008	
APPROPRIATION/BUDGET A					NOMENCLATUR			
RDT&E, DW/04 Advanced	Component	Development and I	Prototypes (AC	CD&P) 060	3888C Ballistic I	Missile Defense	e Test and Targ	ets
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
		Teledyne Solutions, Inc./						
Re-Entry Vehicles	C/FP	Huntsville, AL	0	1,543	1/4Q	1,570	1/4Q	3,113
		Sandia National Lab/						
Re-Entry Vehicles	C/FFRDC	Albuquerque, NM	0	1,230	1/4Q	1,112	1/4Q	2,342
		Lockheed Martin/						
Re-Entry Vehicles	C/CPAF	Denver, CO	0	2,539	1/4Q	2,539	1/4Q	5,078
		Signature Research Associates/						
Re-Entry Vehicles	C/CPFF	Huntsville, AL	0	550	1/4Q	550	1/4Q	1,100
72'' FTF Targets (Launch Vehicles)								
		Northrop Grumman/						
Launch Vehicles	C/CPAF	Albuquerque, NM	0	1,256	1/4Q	1,075	1/4Q	2,331
Launch Vehicles	C/CPAF	Northrop Grumman /Ogden, UT	0	2,681	1/4Q	2,606	1/4Q	5,287
		Aerojet/						
Launch Vehicles	C/FFP	Sacramento, CA	0	3,188	1/4Q	2,876	1/4Q	6,064
72" FTF Targets (Ground Spt Equipment)								
		Lockheed Martin Space Systems/						
Ground Test	C/CPAF	Denver, CO	0	12,400	1/4Q	0	N/A	12,400
Targets and Countermeasures (Systems Engineering)								

Missila	Dofonco Agono	y (MDA) Exhibit R-3	DDT&F Droiog	t Cost Ar	olvaia		Date Februar	rsy 2008	
APPROPRIATION/BUDGET A RDT&E, DW/04 Advanced	ACTIVITY		×		R-1 N	IOMENCLATUR 888C Ballistic I	E	<i>.</i>	vets
				Dui)	0000	FY 2008		FY 2009	
	Contract	Performing	Total			Award/		Award/	
	Method	Activity &	PYs	FY 20		Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost		Date	Cost	Date	Cost
		Northrop Grumman/Tecolote /Aero Therm Tech/TSI/							
TC Systems Engineering	C/FFP	DC/Huntsville/Alb uquerque, NM	0		2,120	1/4Q	4,613	1/4Q	6,733
		John Hopkins Applied Research Lab/			, -		,		
System Engineering	C/FFRDC	Baltimore, MD	0		2,371	1/4Q	2,421	1/4Q	4,792
Curtan Davissonia	C/CPFF	Lockheed Martin Space Systems/ Denver, CO	0	1	0.000	1/40	41 204	1/40	51 204
System Engineering	C/CPFF	Denver, CO	0	1	0,000	1/4Q	41,304	1/4Q	51,304
Logistics (TCL)									
Logistics	C/CPFF	Battelle/ Kennesaw, GA	0		2,061	1/4Q	2,119	N/A	4,180
Logistics	SS/CPFF	Alliant Techsystems/ Magna, UT	0		323	1/4Q	330	1/4Q	653
20510105	55,0111	Physcial Science Lab/			525	1/12		1,12	
Logistics	SS/CPFF	Las Cruces, NM	0		1,116	1/4Q	1,146	1/4Q	2,262
		Teledyne Solutions, Inc./							
Logistics	C/FP	Huntsville, AL	0		5,396	1/4Q	5,517	1/4Q	10,913
Logistics	C/CPFF	Lockheed Martin/ Huntsville, AL	0		9,600	N/A	0	N/A	9,600
200.000	0,0111	AMCOM/	0		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1.1/1		1.1/1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Logistics	C/MIPR	Huntsville, AL	0		1,274	1/4Q	1,308	1/4Q	2,582
Mission Management (TCM) Program Support									

APPROPRIATION/BUDGET A RDT&E, DW/04 Advanced		Development and P	rototypes (AC		IOMENCLATUR 888C Ballistic I		e Test and Targ	ets
					FY 2008		FY 2009	
	Contract	Performing	Total		Award/		Award/	
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost
		Teledyne Solutions, Inc./						
Mission Management	C/FP	Huntsville, AL	0	10,665	1/4Q	10,636	1/4Q	21,301
		Teledyne Solutions, Inc./						
Mission Management	C/FP	Huntsville, AL	0	0	N/A	250	1/4Q	250
Mission Management	C/CPAF	Northrop Grumman /Albuquerque, NM	0	10,777	1/4Q	11,003	1/4Q	21,780
8						010 021		402080
Subtotal Product Development Remarks II. Support Costs Cost ((\$ in Thousa		0 Total	182,249	FY 2008	219,831	FY 2009	402080
Subtotal Product Development Remarks II. Support Costs Cost (Contract Method	Performing Activity &	Total PYs	FY 2008	Award/ Oblg	FY 2009	Award/ Oblg	Total
Subtotal Product Development Remarks II. Support Costs Cost (Cost Categories:	\$ in Thousa Contract	Performing	Total		Award/		Award/	
Subtotal Product Development Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs	Contract Method	Performing Activity &	Total PYs	FY 2008	Award/ Oblg	FY 2009	Award/ Oblg	Total
Subtotal Product Development Remarks	Contract Method & Type	Performing Activity & Location	Total PYs	FY 2008	Award/ Oblg Date	FY 2009	Award/ Oblg Date	Total
Subtotal Product Development Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks	Cost (\$ in 7	Performing Activity & Location	Total PYs Cost	FY 2008	Award/ Oblg Date	FY 2009	Award/ Oblg Date FY 2009	Total
Subtotal Product Development Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type	Performing Activity & Location Thousands) Performing	Total PYs Cost Total	FY 2008 Cost	Award/ Oblg Date FY 2008 Award/	FY 2009 Cost	Award/ Oblg Date FY 2009 Award/	Total Cost
Subtotal Product Development Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks III. Test and Evaluation	Contract Method & Type Cost (\$ in 7 Contract Method	Performing Activity & Location Thousands) Performing Activity &	Total PYs Cost Total PYs	FY 2008 Cost FY 2008	Award/ Oblg Date FY 2008 Award/ Oblg	FY 2009 Cost FY 2009	Award/ Oblg Date FY 2009 Award/ Oblg	Total
Subtotal Product Development Remarks II. Support Costs Cost (Cost Categories: Subtotal Support Costs Remarks	Contract Method & Type	Performing Activity & Location Thousands) Performing	Total PYs Cost Total	FY 2008 Cost	Award/ Oblg Date FY 2008 Award/	FY 2009 Cost	Award/ Oblg Date FY 2009 Award/	Total Cost Total

APPROPRIATION/BUDGET					R-1 NOMENCLATURE					
RDT&E, DW/04 Advanced	l Component D	Development and I	Prototypes (AC	CD&P) 0603	0603888C Ballistic Missile Defense Test and Targets					
V. Management Service	s Cost (\$ in	Thousands)								
	Contract	Performing	Total		FY 2008 Award/		FY 2009 Award/			
	Method	Activity &	PYs	FY 2008	Oblg	FY 2009	Oblg	Total		
Cost Categories:	& Type	Location	Cost	Cost	Date	Cost	Date	Cost		
bubtotal Management Services										
emarks										
Project Total Cost			0	182,249		219,831		402,080		
			0	102.249		219,031		402,080		
Remarks										
Remarks				. , .						
Remarks										
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temarks										
Kemarks										

Missile Defense Agency (MDA) Exhibit R-2A	. RDT&E Project Justif	fication		Date Februar	y 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Pr	ototypes (ACD&P)		NCLATURE Ballistic Mis	e e e e e e e e e e e e e e e e e e e			
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0602 Program-Wide Support	8,142	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0
Note: Efforts within this project continue in FV 2008 under	project 7V10						

Note: Efforts within this project continue in FY 2008 under project ZX40

A. Mission Description and Budget Item Justification

Program-Wide Support provides funding for common non-headquarters support functions across the entire program such as strategic planning, program integration, business management, cost estimating, contracting, and financial management, to include preparation of financial statements, reimbursement of financial services provided by DFAS, internal review and audit, earned-value management, and program assessment. Includes costs for both government civilians performing these functions, as well as outside services and support contractors that augment government staff in these areas. Many of these costs reside within the Missile Defense Agency Executing Agents in the Services: Army Space and Missile Defense Command, Army PEO Space and Missile Defense, Office of Naval Research, and various Air Force laboratory and acquisition activities, although some functions and costs within this program element are performed by MDA employees assigned within the National Capital Region (NCR). Other costs included herein provide facility capabilities for MDA Executing Agent locations, such as physical and technical security, legal services, travel and training, office and equipment leases, utilities and communications, supplies and maintenance, and similar operating expenses. Also includes funding for charges on canceled appropriations in accordance with Public Law 101-510, legal settlements, and foreign currency fluctuation on a limited number of foreign contracts.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Civilian Salaries and Support	8,142	0	0
RDT&E Articles (Quantity)	0	0	0

See Section A: Mission Description and Budget Item Justification

Project: 0602 Program-Wide Support

MDA Exhibit R-2A (PE 0603888C)

Missile Defense Assess (MDA)		DT & F Drusto of	T		Date			
Missile Defense Agency (MDA)	Exhibit K-2A K	DI &E Project		IOMENCLATI		uary 2008		
RDT&E, DW/04 Advanced Component Develop	nent and Prot	otypes (ACD			c Missile Defe	ense Test and	Targets	
C. Other Program Funding Summary								
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115

Project: 0602 Program-Wide Support

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification				Date Februar	Date February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes	(ACD&P)		R-1 NOMENCLATURE 0603888C Ballistic Missile Defense Test and Targets					
COST (\$ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
ZX40 Program-Wide Support	0	8,136	19,181	23,178	19,525	20,359	21,199	
RDT&E Articles Qty	0	0	0	0	0	0	0	

Note: In accordance with the Missile Defense Agency revised block structure, the content previously planned in Project 0602 for FY08-FY13 is now captured in Project ZX40.

A. Mission Description and Budget Item Justification

Program-Wide Support provides funding for common non-headquarters support functions across the entire program such as strategic planning, program integration, business management, cost estimating, contracting, and financial management, to include preparation of financial statements, reimbursement of financial services provided by DFAS, internal review and audit, earned-value management, and program assessment. Includes costs for both government civilians performing these functions, as well as outside services and support contractors that augment government staff in these areas. Many of these costs reside within the Missile Defense Agency Executing Agents in the Services: Army Space and Missile Defense Command, Army PEO Space and Missile Defense, Office of Naval Research, and various Air Force laboratory and acquisition activities, although some functions and costs within this program element are performed by MDA employees assigned within the National Capital Region (NCR). Other costs included herein provide facility capabilities for MDA Executing Agent locations, such as physical and technical security, legal services, travel and training, office and equipment leases, utilities and communications, supplies and maintenance, and similar operating expenses. Also includes funding for charges on canceled appropriations in accordance with Public Law 101-510, legal settlements, and foreign currency fluctuation on a limited number of foreign contracts.

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009	
Civilian Salaries and Support	0	8,136	19,181	
RDT&E Articles (Quantity)	0	0	0	

See Section A: Mission Description and Budget Item Justification

Project: ZX40 Program-Wide Support

Missile Defense Agency (MDA)	D-14:14:10 24 D	DT & E Droiog	t Justification		Date Febr	mary 2008				
					ion February 2008 -1 NOMENCLATURE 603888C Ballistic Missile Defense Test and Targets					
C. Other Program Funding Summary										
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost		
PE 0207998C BRAC	0	103,219	159,938	61,931	8,724	0	0	333,812		
PE 0603175C Ballistic Missile Defense Technology	183,849	108,423	118,718	115,234	120,152	127,012	130,358	903,746		
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,082,454	1,045,276	1,019,073	795,659	719,847	548,283	439,752	5,650,344		
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,985,140	2,243,213	2,209,262	2,276,848	1,385,258	946,437	1,103,532	13,149,690		
PE 0603883C Ballistic Missile Defense Boost Defense Segment	622,218	510,241	421,229	423,927	652,642	799,792	991,839	4,421,888		
PE 0603884C Ballistic Missile Defense Sensors	514,989	586,121	1,221,143	1,184,280	1,099,649	1,077,632	823,583	6,507,397		
PE 0603886C Ballistic Missile Defense System Interceptors	341,358	340,107	386,817	500,966	708,803	815,433	553,136	3,646,620		
PE 0603890C Ballistic Missile Defense System Core	425,889	413,934	432,262	482,947	605,219	561,947	571,498	3,493,696		
PE 0603891C Special Programs - MDA	347,377	196,892	288,315	304,234	538,050	818,136	786,349	3,279,353		
PE 0603892C Ballistic Missile Defense Aegis	1,125,426	1,126,337	1,157,783	1,234,220	1,078,539	1,066,712	1,102,542	7,891,559		
PE 0603893C Space Tracking & Surveillance System	311,402	231,528	242,441	266,509	560,130	735,727	938,191	3,285,928		
PE 0603894C Multiple Kill Vehicle	133,615	229,943	354,455	488,294	649,632	708,582	879,385	3,443,906		
PE 0603895C BMD System Space Program	0	16,552	29,771	41,638	56,199	133,915	157,548	435,623		
PE 0603896C BMD C2BMC	249,179	447,616	289,277	287,194	270,762	256,767	259,159	2,059,954		
PE 0603897C BMD Hercules	46,268	52,462	55,955	55,289	56,400	51,902	52,784	371,060		
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527		
PE 0603904C Missile Defense Integration & Operations Center	104,389	78,557	96,404	100,437	100,366	101,512	102,840	684,505		
PE 0603905C BMD Concurrent Test and Operations	21,870	0	0	0	0	0	0	21,870		
PE 0603906C Regarding Trench	0	1,986	2,978	4,964	4,963	8,933	8,933	32,757		
PE 0603907C Sea Based X-Band Radar (SBX)	0	165,243	0	0	0	0	0	165,243		
PE 0605502C Small Business Innovative Research - MDA	142,510	0	0	0	0	0	0	142,510		
PE 0901585C Pentagon Reservation	15,527	6,019	19,734	5,040	5,284	5,370	5,456	62,430		
PE 0901598C Management Headquarters - MDA	93,350	80,392	86,453	70,355	69,855	69,855	69,855	540,115		

Project: ZX40 Program-Wide Support

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