Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Justification	Date February 2008

APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603904C Missile Defense Integration & Operations Center (MDIOC)

COST ($ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	104,389	78,557	96,404	100,437	100,366	101,512	102,840
0204 Joint National Integration Center (JNIC)	100,671	0	0	0	0	0	0
CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0	0	0	22,815	23,343	23,803	0	0
EX22 Missile Defense Integration & Operations Center (MDIOC) - Block 5.0	0	0	0	0	0	22,847	23,089
YX22 Missile Defense Integration & Operations Center (MDIOC) Core	0	74,524	70,810	73,590	73,692	75,715	76,684
0602 Program-Wide Support	3,718	0	0	0	0	0	0
ZX40 Program-Wide Support	0	4,033	2,779	3,504	2,871	2,950	3,067

Note: The content previously planned in 0204 for FY08-13 has been captured in CX22, EX22 and YX22 in accordance with the MDA revised block structure.

A. Mission Description and Budget Item Justification

A.1 System Element Description

The Missile Defense Integration and Operations Center (MDIOC) is MDA's field operating activity in Colorado Springs, CO. It is both a facility and an organization that supports the execution of Agency missions related to the development and test of the BMDS, and that system's operation by designated Combatant Commanders. The MDIOC consists of a highly secure research and development complex and a mission support facility located within a military installation (Schriever AFB) that is adjacent to NORTHCOM and NORAD.

As a facility supporting MDA efforts, the MDIOC hosts and supports the Ground-based Midcourse Defense (GMD)'s Mission Control Center Facility (MCCF) that is utilized for both flight and distributed ground tests; the C2BMC's Integration and Test Centers (BITCs) and Experimentation Laboratories (X-Labs); the Space Tracking and Surveillance System (STSS)'s Missile Defense Space Experimentation Center (MDSEC); the Targets & Countermeasure's JNIC Target Operations Center (JTOC); and the Enterprise Network Operations and Support Center for the Agency's Chief Information Officer (CIO). For the COCOMs, the MDIOC provides infrastructure support for USNORTHCOM's C2BMC Command and Control Center; USSTRATCOM's Joint Functional Component Command-Integrated Missile Defense (JFCC-IMD); and the Missile Defense Element (MDE) manned by the 100th Missile Defense Brigade.

As an organization, the MDIOC directly supports the missions of the Warfighter Support Center, the Combined Test Force-Ground Test, and MDA's BMDS Digital Modeling and Simulation effort to develop applications vital to BMDS wargaming and system testing. The MDIOC provides mission

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APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE 0603904C Missile Defense Integration & Operations Center (MDIOC)

critical system technical capabilities and subject matter expertise in a dedicated and adaptable environment that enables developers, testers, and operators to evolve, assess and quickly deliver the capabilities required for Engagement Sequence Group (ESG) execution and homeland defense.

The MDIOC also provides assured worldwide secure communications connectivity, network health and status monitoring, mission critical restoral capability, and technical expertise for all MDA directed activities and events performed on-site. Additionally, the MDIOC functions (within MDA's capabilities-based acquisition strategy) as the only system-level integration and interoperability facility for BMDS fire control; and it provides the physical interface between the developers and the Combatant Commanders.

A.2 System Element Budget Justification and Contribution to the Ballistic Missile Defense System (BMDS)
The MDIOC contributes to the BMDS by directly supporting the concept of Concurrent Test, Training, and Operations (CTTO) for the BMDS. The MDIOC accomplishes this by providing both MDA-level technical/horizontal integration and BMDS-level operational integration.

The MDIOC provides MDA-level technical/horizontal integration by: developing and implementing the technical event architectures for the models and simulations used to support missile defense planning seminars, wargames, exercises, tests, and analyses; supporting the planning and execution of the only end-to-end operator-in-the-loop/element-in-the-loop missile defense wargames accomplished by the Warfighter Support Center; supporting BMDS Engagement Sequence Group (ESG) testing and analysis by operating the Test Execution Control (TEC) for distributed BMDS ground tests as part of the Combined Test Force-Ground Test; and, providing network operations and information assurance for all on-site integration activities.

The MDIOC provides BMDS-level operational integration by: integrating and sustaining the enabling infrastructure, services, and processes that support the operation of designated elements of the BMDS and resident COCOM operations and/or support centers; providing technical support for the BMDS Watch Officers (BWOs), BMDS Safety Officers (BSOs), and Information Assurance Officers in their efforts to monitor and assess the health and status of the networks and elements that impact BMDS test and operations; operating the Joint Early Warning Laboratory (JEWL) for anomaly resolution; and supporting the Intelligence Support Center (ISC) for critical situational awareness intelligence on worldwide ballistic missile developments that could affect the development and/or operation of the BMDS.

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APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center (MDIOC)**

A.3 Major System Element Goals

Missile Defense Integration and Operations Center (MDIOC) Major Program Goals

- Provide the capabilities and services necessary to support the horizontal integration of on-site activities
- Ensure around the clock support and restoral of designated on-site operational activities
- Improve integration/interface with designated COCOM missile defense activities; host/support the headquarters and operations center for USSTRATCOM's Joint Functional Component Command - Integrated Missile Defense (JFCC-IMD)
- Continue to achieve cost effectiveness and efficiencies through the leveraging of existing MDIOC infrastructure, services, processes, and expertise to support assigned missions
- Maintain and improve as designated the reliability, availability, and maintainability of mission critical systems

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008 PB)	110,629	104,012	106,985
Current President's Budget (FY 2009 PB)	104,389	78,557	96,404
Total Adjustments	-6,240	-25,455	-10,581
Congressional Specific Program Adjustments	0	-24,913	0
Congressional Undistributed Adjustments	0	-542	0
Reprogrammings	-4,555	0	0
SBIR/STTR Transfer	-1,685	0	0
Adjustments to Budget Years	0	0	-10,581

FY07 decrease of $6.240 million includes MDA reprogrammings and funds provided for the SBIR/STTR transfer.

FY08 decrease of $25.455 includes the Congressional specific movement of funds for C2BMC efforts into PE 0306896C and a portion of the Congressional undistributed reduction.

FY09 decrease of $10.581 reflects MDA reprogrammings including movement of funds for Wargaming efforts to PE 0603898C, project YX03.

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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 (ACD&P)**			R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**				
COST ($ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0204 Joint National Integration Center (JNIC)	100,671	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0

Note: The content previously planned in 0204 for FY08-13 has been captured in the CX22, EX22, and YX22 plans in accordance with the MDA revised block structure.

A. Mission Description and Budget Item Justification
The mission of the JNIC is to help develop and support the operation of a robust suite of missile defense wargaming, test and evaluation capabilities, which ensures BMDS elements are acquired and integrated into an interoperable, layered system, while simultaneously supporting warfighter operations of designated BMDS elements.

The JNIC accomplishes this mission of providing MDA with Agency-level technical integration and BMDS-level operational integration products and services by:
- Supporting the definition, development, and test & evaluation of integrated missile defense Engagement Sequence Group capabilities;
- Planning and executing the implementation of BMDS-level modeling and simulation;
- Supporting BMDS developers and warfighters by exercising missile defense readiness, and wargaming command and control procedures, operational concepts, and doctrinal requirements; and
- Providing BMDS operational support and technical reach back to designated program elements and Combatant Commands (COCOMs).

The JNIC maintains a secure facility that includes the computers; communications; networks; flight, ground, and simulation test bed environments; wargaming complex; environmental support; and other fixed cost capabilities essential for the execution of MDA programs. It provides the enabling infrastructure to support both acquisition and warfighter communities.

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APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Infrastructure Development and Support	62,072	0	0
RDT&E Articles (Quantity)	0	0	0

The JNIC supports the technical development and provides the enabling infrastructure for several critical Agency activities. The JNIC supports the Ground-based Midcourse Missile Defense Mission Control Center Facility, as well as the C2BMC Integration and Test Centers and the C2BMC Experimentation Laboratories. It provides infrastructure support for the Satellite Tracking and Surveillance System's Missile Defense Space Experimentation Center; the Targets and Countermeasures' JNIC Target Operations Center; and the developmental support, as directed, of a common satellite ground station and sensor netting test bed for designated BMDS elements. It also plans, conducts, and supports BMDS Engagement Sequence Group testing and analysis with the Combined Test Force through the operation of the Test Execution Control node for distributed BMDS ground tests. The JNIC provides the enabling infrastructure that supports operations of the Missile Defense Element, manned by the 100th Missile Defense Brigade, the USNORTHCOM C2BMC Command and Control Center, and USSTRATCOM's Joint Functional Component Command-Integrated Missile Defense. In addition, the JNIC supports the Operations Support Center, which provides situational awareness of the health and status of the end-to-end BMDS; provides network subject matter expertise; and technical reach back for the program elements and Combatant Commanders. The JNIC maintains a technical repository of BMDS Implementation Architectures for real-time Operation & Maintenance and configuration control; provides both state change management and asset management technical support for the BMDS; and provides the technical environment for BMDS Watch Officers, Safety Officers, and Information Assurance Officers to execute their assigned duties. The JNIC also operates the Joint Early Warning Laboratory, which provides USSTRATCOM with quick response analyses of real-world launches, and rapid anomaly identification and resolution.

The JNIC designs, implements, verifies, operates, maintains and manages secure Information Technology infrastructure(s) and service interfaces, communication circuit connectivity, and tiered service levels on site. It provides additional labor and diagnostic tools for around the clock information management, and facilities operation and maintenance technical support. This technical support, provided outside normal duty hours, is crucial to warfighter mission critical system outage restoration, coordination, and reporting.

FY07 Accomplishments:
- Provided ongoing information management services
- Conducted ongoing environment and facilities O&M
- Initiated environment and facility projects to:
  o Install an electrical backup capability in the Computer Center for servers supporting operational missions

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RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

- o Correct Facility Installation Standards (FIS) and Safety deficiencies identified in the previous fiscal year
- o Implement the Emergency Voice System upgrade (Phase II)
- o Replace the Research and Development Complex (Building 720) Roofing system
- o Extend Video Teleconferencing and Classified LAN capabilities into the Consolidated Support Facility (CSF) Tower
- o Replace Steam and Chilled Water Valves, and Missing/Damaged Pipe Insulation
- o Implement freeze prevention of Building 720 Evaporative Cooler (EC) coils (replace steam pre-heat coils)
- Completed buildout of the Digital Modeling and Simulation (M&S) Center
- Reconfigured the Consolidated Support Facility (CSF) 2nd Floor to accommodate the Warfighter Support Center (MDA/DFO)
- Reconfigured 3300 Quadrant of the Research and Development Complex (Building 720) to accommodate mission growth
- Converted property management system into a Unique Identifier (UID) lifecycle management system
- Executed ongoing systems engineering of mission critical systems
- Provided continuing media support in the areas of graphics, photography, and video production
- Executed continuing public affairs and protocol activities in support of MDA and the JNIC
- Continued to provide an enabling infrastructure that supports MDA RDT&E efforts at the JNIC for the:
  - o GMD Mission Control Center Facility
  - o C2BMC Integration and Test Centers, and the C2BMC Experimentation Laboratories
  - o STSS Missile Defense Space Experimentation Center
  - o JNIC Target Operations Center
  - o Joint Warfighter Support Program
  - o Combined Test Force-JNIC
- Continued to provide an enabling infrastructure that supports BMDS operational capability development for the:
  - o MDE and 100th Missile Defense Brigade
  - o USNORTHCOM C2BMC Command and Control Center
  - o USSTRATCOM Joint Functional Component Command-Integrated Missile Defense (JFCC-IMD) Headquarters and Operations Center
  - o Joint Early Warning Laboratory
- Supported and maintained the MDA Operations Support Center (OSC); and as directed, expand the situational awareness and BMDS monitoring capability of the BWOs, BSOs, and Information Awareness Officers manning the OSC
- Incorporated and supported the MDA Knowledge Centers assigned to the JNIC
- Planned and began, as directed, the consolidation of existing MDA spaces in Colorado Springs into the JNIC

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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)	**0603904C Missile Defense Integration & Operations Center**

	FY 2007	FY 2008	FY 2009
BMDS Test and Analysis	19,349	0	0
RDT&E Articles (Quantity)	0	0	0

The JNIC functions as the core integration activity for exercising, evaluating, analyzing and refining advanced missile defense concepts that can then be used to improve follow-on blocks to the BMDS. It does this by planning, providing technical support, and executing Operator-in-the-Loop and Element-in-the-Loop Wargames; Joint Warfighter Exercises and Experiments; Missile Defense Ground Tests; C2BMC integration testing and experiments, and System Level Missile Defense Analyses. These activities allow the developer, tester, and operator to assess capabilities in the same operationally representative environment.

FY 07 Accomplishments:
- Built out and Upgraded MDIOC C2BMC Testbed facilities to support integration and testing of C2BMC Spiral 6.2 and Spiral 6.4 functionality and architecture
- Supported sustainment testing of Spiral 6.0
- Supported development, experimentation, integration, and testing of Distributed Track Processing
- Initiated requirements capture and preliminary design of the Spiral 6.4 Testbed upgrade.
- Supported experimentation, integration, and testing of the Global Engagement Manager (GEM) component (formerly known as Global Integrated Fire Control) of C2BMC
- Supported development, verification, and validation of improved automated testing and analysis tools and processes
- Supported the integration of missile defense capable deployed USN Aegis ships into the BMDS command and control structure
- Supported Block 06 BMDS-level tests, wargames, and exercises
- Supported interoperability and integration of the BMDS program elements Support integration and testing of the BMDS Network and Parallel Staging Network Tests
- Improved the operational realism of the system test architectures
- Improved the analysis tools, process, and quality of the BMDS system capabilities and performance assessments
- Conducted a thorough system test campaign across the Block 06 architecture Support Combined Test Force (CTF) Test Events: GTX-02a, GTI-02, GTD-02, GTI-03; Distributed Ground Test (DGT): GT04-4a, GT04-4b, GTD-02; GMD Flight Test: FTG-3, FTG-3a; Aegis Flight Test: FTM-11a, FTM-13; Patriot Flight Test: ATM-48; THAAD Tests: FTT-07, FTT-08, FTT-09; SBX Tests: FTX-02, FTX-03; SBIRS 06-2; AR-07, AR-07a Support X-Lab Experiments and Events: FBX-T Tests: GT-193, GT-194, GT-195, GT-196; FTG-02, THAAD SatCom, FTT-07, NECC Pilot Prototype, FTM-13

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APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

- Provided support to the Distributed Multi-Echelon Distributed Training System (DMETS) in the conduct of BMDS-level wargames, exercises, and training
- Provided wargame scenarios to enhance the understanding of current missile defense capabilities, and to investigate options for future capabilities
- Participated in COCOM Exercises:
  o Terminal Fury (TF-06),
  o Ardent Sentry (AS-07), and
  o Vigilant Shield 07 (VS07)
- Installed a second DMETS C2BMC Server Suite to improve training availability
- Planned, collected data, assessed, examine, and reported on MDA directed C2BMC spiral integration testing
- Conducted verification tests of the Spiral 6.2 capabilities Conduct C2BMC X-Lab Events and Experimentation
- Conducted risk reduction tests of the sensor management and advanced battle management capabilities
- Conducted reductions tests of the net-centric architecture
- Continued to conduct MDA critical analysis efforts in support of Interim Capability Assessment Reports (ICAR), BMDS Interface Control Specification Verification, and other MDA System Engineering and Integration directed studies/assessments
- Continued integrating C2BMC with other BMDS Elements and Space-based Sensors: STSS, KEI, ESL, ABL, THAAD
- Improved the distribution of BMDS Situational Awareness information by taking advantage of the GCCS infrastructure and early NECC prototyping efforts
- Matured promising BMDS technology including Hit/Kill Assessment, Weapons Typing, Consequence Mitigation, Discrimination, and Sensor Netting
- Investigated improved BMDS communication and functionality architectures including a service oriented architecture and distributed functionality (such as distributed track processing).

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	FY 2007	FY 2008	FY 2009
BMDS Operational Security	514	0	0
RDT&E Articles (Quantity)	0	0	0

Provides increased reliability, availability and maintainability of the JNIC Electronic Security System as well as improved physical security/anti-terrorism provisions.

FY07 Accomplishments:
- Maintained and operated/monitored the Electronic Security System.
- Implemented required patches for all security hardware/software throughout the JNIC.
- Continued to provide around the clock monitoring/security for designated PL 1 resources/SSL-A areas.

	FY 2007	FY 2008	FY 2009
Special Programs	315	0	0
RDT&E Articles (Quantity)	0	0	0

The JNIC supports the Intelligence Support Center/Special Programs Center for the MDA Director, Security/Intelligence Operations, USSTRATCOM, and the 100th Missile Defense Brigade.

FY07 Accomplishments:
- Provided intelligence support to the BMDS Watch Officers (BWOs), and implement any intelligence hardware/software updates required to support the MTSC.
- Produced credible threat products and engineering trajectories for DoD users
- Operated the threat modeling module within a larger BMDS Simulation tool
- Supported the integration of other threat tools as required
- Prepared and provided ongoing daily intelligence briefings and summaries as directed.
- Maintained and supported the Intelligence Support Center, and (when directed) plan/initiate the installation of any additional intelligence data feeds required to support the BMDS.

Project: 0204 Joint National Integration Center (JNIC) MDA Exhibit R-2A (PE 0603904C)

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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 (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

	FY 2007	FY 2008	FY 2009
Congressional Add	8,250	0	0
RDT&E Articles (Quantity)	0	0	0

The FY07 program contains a Congressional adjustment for High-Fidelity Modeling and Simulation conducted at the JNIC. The JNIC supports consolidated and integrated modeling and simulation development for the Agency. The BMDS Simulation, formerly known as MDWAR, is the only BMD force-on-force simulation with plug & play tactical message interfaces capable of interactive real-time execution. The Missile Defense and Space Warning Tool is the only trusted tool for injecting simulated missile threats into all Combatant Commands over the Integrated Broadcasting System so that theater and strategic early warning systems can be exercised. The Threat Modeling and Simulation System generates integrated, high-fidelity, force level threat scenarios across all threat objects in flight. Together the development and operation of these Modeling & Simulation tools by the JNIC provides MDA and the missile defense community the ability to simulate the current and evolving BMD environment, threat, and systems for wargames, exercises, training, tests, and performance analyses.

FY07 funds were used to expand Modeling and Simulation technical support for BMDS integration, tailor Modeling and Simulation capabilities to emerging Warfighter missile defense needs, and provide Modeling and Simulation support to missile defense bilateral activities with friends and allies.

	FY 2007	FY 2008	FY 2009
BMD Wargaming, Exercises and Analysis	7,206	0	0
RDT&E Articles (Quantity)	0	0	0

The JNIC functions as the core integration activity for exercising, evaluating, analyzing and refining advanced missile defense concepts that can then be used to improve follow-on blocks to the BMDS. It does this by planning, providing technical support, and executing Operator-in-the-Loop and Element-in-the-Loop Wargames; Joint Warfighter Exercises and Experiments; Missile Defense Integration Exercises; C2BMC integration testing and experiments, and System Level Missile Defense Analyses. These activities allow the developer, tester, and operator to assess capabilities in the same operationally representative environment. Additionally, the JNIC facilitates international cooperation and support of the BMDS through the development and execution of missile defense seminars, workshops, wargames, and other multinational activities. It builds and retains a corporate knowledge base comprised of leading technical experts to respond quickly to customer requirements and perform technical MDA missions.

Project: 0204 Joint National Integration Center (JNIC)   MDA Exhibit R-2A (PE 0603904C)

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APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

FY07 Accomplishments:
- Supported fleet demonstrations to prove that deployed Aegis ships are capable of integrating into the BMDS command and control structure, can conduct sensor tracking, and possess limited intercept capabilities
- Provided wargame scenarios to enhance understanding of current missile defense capabilities and investigate options for future capabilities
- Supported the Combined Test Force (CTF) conduct of Ground Test/Missile Defense Integrated Exercise(s)
- Provided Wargaming Support to the Joint Warfighter Support Program by:
  - Developing and producing documentation to support all directed wargaming events
  - Conducting wargames to develop, test, and refine Concept of Operations, Tactics, Techniques and Procedures, and Command and Control plans
  - Providing post-event data collection and analysis support
  - Providing for the operations and maintenance of the Wargaming Enterprise Support Center
  - Managing, as directed, the BMDS Training Center
- Planned, collected data, assessed, examined, and reported on MDA Joint Warfighter Support Program directed missile defense exercises
- Conducted MDA critical analysis efforts in support of Verification Assessment Reports, and other MDA System Engineering and Integration directed studies/assessments
- Conducted Verification & Validation of BMD models as directed
- Provided direct support to the MDA Director for International Support in the form of unique capabilities, tools and resources to enhance international missile defense cooperation (including Czech, Polish, NATO, etc.)
- Incorporated advanced employment concepts into JNIC planning tools, exercises, test activities, and wargames across multiple security levels.

	FY 2007	FY 2008	FY 2009
JNIC Security	2,965	0	0
RDT&E Articles (Quantity)	0	0	0

Provides physical and access control to protect BMDS development capabilities, annual training and education for all assigned personnel, and additional labor and diagnostic tools for around the clock security systems engineering and Security Operations Command Post activities.

FY07 Accomplishments:
- Provided program protection, force protection, and an anti-terrorism posture in compliance with MDA and DoD requirements, capable of supporting various events scheduled at the JNIC.
- Provided an integrated security approach for all new mission areas assigned to the JNIC.

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- Continued to transition the JNIC Classified Document Control Center from a long-term to short-term storage facility by leveraging the MDA electronic repository for all retained material.
- Provided ongoing industrial and physical security, including foreign disclosure, counterintelligence analysis and threat assessment, and guard/response force management.

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 0603888C Ballistic Missile Defense Test and Targets	584,615	621,861	673,691	672,976	690,938	708,991	719,209	4,672,281
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 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

Project: 0204 Joint National Integration Center (JNIC)   MDA Exhibit R-2A (PE 0603904C)

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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 (ACD&P)**					R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**			
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
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 strategy for JNIC mission execution is to employ an integration contract to simultaneously perform all of the BMDS RDT&E tasks with integrated operation and sustainment. The JNIC is operated by missile defense subject matter experts composed of Government military and civilian personnel, Federally Funded Research and Development Center, JNIC Technical Advisory and Assistance Services, and major defense contractors.

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date **February 2008**

APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

I. Product Development   Cost ($ in 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
BMDS Test and Analysis								
JNIC/C2BMC	C/CPAF	Northrup Grumman Mission Systems/ Colorado Springs, CO	19,349	0	N/A	0	N/A	19,349
Congressional Add								
JNIC/BMDS Sim	C/CPAF	Northrup Grumman Mission Systems/ Colorado Springs, CO	8,250	0	N/A	0	N/A	8,250
Subtotal Product Development			27,599	0		0		27599

Remarks

II. Support Costs   Cost ($ in 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
Infrastructure Development and Support								
JNIC	MIPR	JNIC/ 50th Space Wing Schriever AFB, CO	4,206	0	N/A	0	N/A	4,206
JNIC		JNIC/ Colorado Springs, CO	15,818	0	N/A	0	N/A	15,818
Subtotal Support Costs			20,024	0		0		20024

Remarks

Project: 0204 Joint National Integration Center (JNIC)   MDA Exhibit R-3 (PE 0603904C)

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	Date
Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

These funds are for utilities and base communications as specified in the Inter-service Support Agreement with the 50th Space Wing and government salaries.

III. Test and Evaluation Cost ($ in 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
Infrastructure Development and Support								
JNIC	C/CPAF	JNIC/Northrup Grumman Mission Systems/Colorado Springs, CO	176,708	0	N/A	0	N/A	176,708
JNIC	C/FFP	JNIC/SRS/ Colorado Springs, CO	14,370	0	N/A	0	N/A	14,370
JNIC	C/FFRDC	JNIC/Mitre Corp/ Colorado Springs, CO	6,174	0	N/A	0	N/A	6,174
BMDS Operational Security								
JNIC	C/CPAF	JNIC/Northrup Grumman Mission Systems/Colorado Springs, CO	2,667	0	N/A	0	N/A	2,667
Special Programs								
JNIC	C/CPAF	Northrop Grumman Mission Systems/ Colorado Springs, CO	1,231	0	N/A	0	N/A	1,231
BMD Wargaming, Exercises and Analysis								

Project: 0204 Joint National Integration Center (JNIC)   MDA Exhibit R-3 (PE 0603904C)

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					Date			
Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis					**February 2008**			

APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE				
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				**0603904C Missile Defense Integration & Operations Center**				

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
JNIC/Warfighter Support Center	C/CPAF	Northrop Grumman Mission Sys./ Colorado Springs, CO	34,744	0	N/A	0	N/A	34,744
JNIC Security								
JNIC	C/CPAF	JNIC/Northrup Grumman Mission Systems/ Colorado Springs, CO	11,961	0	N/A	0	N/A	11,961
Subtotal Test and Evaluation			247,855	0		0		247855

Remarks

These funds are executed by the JNIC and provide FFRDC and Technical Advisory and Assistance Services employees, for JNIC operations and oversight of the JNIC Research and Development Contractor (JRDC), as well as funding for JRDC work as required by the government.

IV. Management Services   Cost ($ in 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
Subtotal Management Services								

Remarks

Project Total Cost			295,478	0		0		295,478

Remarks

Project: 0204 Joint National Integration Center (JNIC)   MDA Exhibit R-3 (PE 0603904C)

	Date
Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

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
JNIC																												
BE AS-07			▲																									
C2BMC Spiral 6.2 Cycle 4				▲																								
FTT-08				▲																								
GT-195				▲																								
GTG 04-4.b				▲																								
GTI-02				▲																								
GTX-02b				▲																								
N FIRE-2A				▲																								
RDC-01d				▲																								

Legend

▲	Significant Event (complete)	△	Significant Event (planned)
★	Milestone Decision (complete)	☆	Milestone Decision (planned)
◆	Element Test (complete)	◇	Element Test (planned)
▼	System Level Test (complete)	▽	System Level Test (planned)
▲▬	Complete Activity	△▬△	Planned Activity

Project: 0204 Joint National Integration Center (JNIC)

MDA Exhibit R-4 (PE 0603904C)

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail		Date **February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**		R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
JNIC							
BE AS-07	3Q						
C2BMC Spiral 6.2 Cycle 4	4Q						
FTT-08	4Q						
GT-195	4Q						
GTG 04-4.b	4Q						
GTI-02	4Q						
GTX-02b	4Q						
N FIRE-2A	4Q						
RDC-01d	4Q						

Project: 0204 Joint National Integration Center (JNIC)

MDA Exhibit R-4A (PE 0603904C)

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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 (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

COST ($ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0	0	0	22,815	23,343	23,803	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0

Note: The content in CX22 is a continuation of efforts reported in 0204 and was explained in that project in PB08.

A. Mission Description and Budget Item Justification

The C2BMC Element accomplishes block objectives by integrating work across five product lines: BMD Planner, Combatant Command and Control (COCOM/C2), Global Engagement Manager (GEM), Data Services, and Networks so that mature capabilities can be integrated and incrementally delivered to the warfighter. Three incremental delivers, or spirals, are planning in FY08: Spiral 6.2 Operations and Sustainment, Spiral 6.4 development, test, and deployment, and Spiral 8.2 Engineering.

The C2BMC Testbed located at the Missile Defense Integration and Operations Center (MDIOC) supports the program office by providing the test articles, test environment, analysis tools, and communications interfaces to conduct Element Verification, Hardware-in-the-Loop Tests, and Systems Test programs. The testbed provides systems and support to recurring warfighter training, exercises, and war-game events. In addition, the C2BMC Testbed maintains the Experimentation Lab (X-Lab) where advanced concepts, new technology, and risk reduction prototypes are developed and tested. The C2BMC Testbed also provides infrastructure support to the warfighter by managing the requirements and facilities for the C2BMC Control Center (CCC) and the Distributed Multi-echelon Training System (DMETS).

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Wargaming Test Beds	0	0	20,696
RDT&E Articles (Quantity)	0	0	0

The Wargaming Test Beds function as the core integration activity for exercising, evaluating, analyzing and refining advanced missile defense concepts that can then be used to improve follow-on blocks to the BMDS. It does this by planning, providing technical support, and executing Operator-in-the-Loop and Element-in-the-Loop Wargames; Joint Warfighter Exercises and Experiments; Missile Defense Ground Tests; C2BMC integration testing and experiments, and System Level Missile Defense Analyses. These activities allow the developer, tester, and operator to assess capabilities in the same operationally representative environment.

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0   MDA Exhibit R-2A (PE 0603904C)
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	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)	**0603904C Missile Defense Integration & Operations Center**

FY09 Planned Program:

- Support FY09 BMDS tests, wargames, and exercises
- Build out and upgrade MDIOC C2BMC Testbed facilities to support integration and testing of C2BMC Spiral 8.2 and Spiral 8.4 functionality and architecture
- Support integration and testing of Distributed Track Processing · Support integration and testing of the Global Engagement Manager (GEM) component of C2BMC
- Support integration and testing of the BMDS Network and the Parallel Staging Network Tests
- Support integration and testing of the C2BMC Net Centric Architecture
- Continue to support the integration of missile defense elements into the BMDS command and control structure
- Support interoperability and integration of the BMDS program elements · Improve the operational realism of the system test architectures
- Conduct a thorough system test campaign across the Block architecture using the following venues:
    - Combined Test Force (CTF) Test Events
    - COCOM Exercises
    - Distributed Ground Tests (DGT)
    - GMD Flight Tests
    - Aegis Flight Tests
    - Patriot Flight Tests
    - FBX-T Tests
    - THAAD Tests
    - SBX Tests
    - ABL Tests
- Operate the Distributed Multi-Echelon Distributed Training system (DMETS) in the conduct of BMDS-level wargames, exercises, and training
- Plan, collect data, assess, examine, and report on MDA directed C2BMC spiral integration testing
- Continue to conduct MDA critical analysis efforts in support of Interim Capability Assessment Reports (ICAR), BMDS Interface Control Specification Verification, and other MDA System Engineering and Integration directed studies/assessments
- Conduct C2BMC X-Lab Events and Experimentation
- Refine C2BMC interfaces to BMDS Elements and Space-based Sensors:STSS, KEI, ESL, ABL, THAAD, MDSEC
- Continue maturing needed BMDS technologies and transitioning them to development and operations

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0   MDA Exhibit R-2A (PE 0603904C)
Line Item 88 -   20   *of*   52
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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 (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

	FY 2007	FY 2008	FY 2009
Joint Early Warning Laboratory (JEWL)	0	0	2,119
RDT&E Articles (Quantity)	0	0	0

The Joint Early Warning Lab (JEWL) is a computing and analysis resource located at the Missile Defense Integration and Operations Center (MD IOC). The JEWL is used by several tasks to support analysis and studies to assess and improve theater Early Warning (EW) and Ballistic Missile Defense (BMD) performance. The different Technical Requirement Document (TRD) tasks using the JEWL support MDA, United States Strategic Command (USSTRATCOM) and Joint Theater Air and Missile Defense Organization (JTAMDO) with resources and Subject Matter Expertise (SME)s in a wide variety of disciplines including early warning, tactical communications, data links, tactical data processors and theater EW architectures and radar IR integration efforts.

The JEWL is the STRATCOM designated facility for testing all changes or additions to the Theater Event System (TES) architecture. JEWL replicates all known theater EW architecture and maintains a replay capability for fault isolation, anomaly identification, and can modify data to isolate anomalies. JEWL supports BMD system by providing timely analysis and comparisons of BMD and legacy EW data. Quick Reports and Comparison Reports provide MDA/BC timely insight into the ONIR data provided to C2BMC by ground processors and C2BMC reporting. The JEWL brings together the technical and operational EW communities.

 FY09 Planned Program:
- Perform C2BMC display analysis
- Perform BMDS Early Warning test and fielding support
- Perform Joint Early Warning operational assessments and support
- Perform BMDS Guard installation and support Orchestrate C2BMC experiments

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

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0   MDA Exhibit R-2A (PE 0603904C)

			Date				
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification			**February 2008**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**			R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**				

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
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 0603888C Ballistic Missile Defense Test and Targets	584,615	621,861	673,691	672,976	690,938	708,991	719,209	4,672,281
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 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

D. Acquisition Strategy

The strategy for C2BMC mission execution is to employ an integration contract to simultaneously perform all of the BMDS RDT&E tasks with integrated operation and sustainment. The C2BMC at the MDIOC is operated by missile defense subject matter experts composed of Government military and civilian personnel, JNIC Research and Development Contract, Federally Funded Research and Development Center, and JNIC Technical Advisory and Assistance Services.

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0   MDA Exhibit R-2A (PE 0603904C)

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	Date
Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

I. Product Development   Cost ($ in 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
Subtotal Product Development								

Remarks

II. Support Costs   Cost ($ in 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
Subtotal Support Costs								

Remarks

III. Test and Evaluation   Cost ($ in 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
Wargaming Test Beds								
C2BMC Testbed	C/CPFF	MDIOC/Northrop Grumman Mission Systems/ Colorado Springs, CO	0	0	N/A	18,775	1/2Q	18,775
C2BMC Testbed	C/FFP	MDIOC/SRS/ Mantech/ Colorado Springs, Co	0	0	N/A	1,091	N/A	1,091

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0   MDA Exhibit R-3 (PE 0603904C)

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					Date **February 2008**

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis

APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

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
C2BMC Testbed	C/FFRDC	IDA/ Colorado Springs, Co	0	0	N/A	830	N/A	830
Joint Early Warning Laboratory (JEWL)								
JEWL	Various	MULT/ Colorado Springs, CO	0	0	N/A	2,119	1/2Q	2,119
Subtotal Test and Evaluation			0	0		22,815		22815

Remarks

IV. Management Services   Cost ($ in 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
Subtotal Management Services								

Remarks

Project Total Cost			0	0		22,815		22,815

Remarks

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0

MDA Exhibit R-3 (PE 0603904C)

		Date
Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile		**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

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
C2BMC Experimentation																												
C2BMC Suite Spiral 6.4 Upgrade						Δ																						
C2BMC Suite Spiral 8.4 Upgrade											Δ																	
C2BMC Control Center Support																												
CCC Facility Upgrade						Δ				Δ																		
BNOSC Build							Δ				Δ																	
S6.4 Network Connectivity							Δ																					
S8.2 Network Connectivity											Δ																	
C2BMC Testbed																												
BITC Spiral 6.2 Sustainment Upgrade						Δ																						
BITC Spiral 6.4 Sustainment Upgrade											Δ																	
BITC Spiral 6.4 Upgrades					Δ—Δ																							
BITC Spiral 8.2 Upgrades									Δ—Δ																			
Emulated Host Center Services Upgrade Spiral 8.2										Δ																		

Legend			
▲	Significant Event (complete)	Δ	Significant Event (planned)
★	Milestone Decision (complete)	☆	Milestone Decision (planned)
◆	Element Test (complete)	◇	Element Test (planned)
▼	System Level Test (complete)	▽	System Level Test (planned)
▲—▲	Complete Activity	Δ—Δ	Planned Activity

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0

MDA Exhibit R-4 (PE 0603904C)

	Date
Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

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
C2BMC Testbed																												
Emulated host Center Services Upgrade Spiral 6.4						△																						
GEM Test Env #2						△																						
GEM Test Env #3							△																					
System Test Control Room Build (STCR)								△																				
Testbed Spiral 6.4 CNE Upgrade							△																					
Testbed Spiral 8.2 CNE Upgrade											△																	

Legend

▲	Significant Event (complete)	△	Significant Event (planned)
★	Milestone Decision (complete)	☆	Milestone Decision (planned)
◆	Element Test (complete)	◇	Element Test (planned)
▼	System Level Test (complete)	▽	System Level Test (planned)
▲▬▲	Complete Activity	△▬△	Planned Activity

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0   MDA Exhibit R-4 (PE 0603904C)

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail				Date February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**			R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
C2BMC Experimentation							
C2BMC Suite Spiral 6.4 Upgrade		3Q					
C2BMC Suite Spiral 8.4 Upgrade			3Q				
C2BMC Control Center Support							
CCC Facility Upgrade		2Q	2Q				
BNOSC Build		3Q	3Q				
S6.4 Network Connectivity		3Q					
S8.2 Network Connectivity			3Q				
C2BMC Testbed							
BITC Spiral 6.2 Sustainment Upgrade		3Q					
BITC Spiral 6.4 Sustainment Upgrade			3Q				
BITC Spiral 6.4 Upgrades		1Q-2Q					
BITC Spiral 8.2 Upgrades			1Q-2Q				
Emulated Host Center Services Upgrade Spiral 8.2			2Q				
Emulated host Center Services Upgrade Spiral 6.4		2Q					
GEM Test Env #2		2Q					
GEM Test Env #3		3Q					
System Test Control Room Build (STCR)		4Q					
Testbed Spiral 6.4 CNE Upgrade		3Q					
Testbed Spiral 8.2 CNE Upgrade			3Q				

Project: CX22 Missile Defense Integration & Operations Center (MDIOC) - Block 3.0

MDA Exhibit R-4A (PE 0603904C)

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		Date **February 2008**
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		

APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**					

COST ($ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
EX22 Missile Defense Integration & Operations Center (MDIOC) - Block 5.0	0	0	0	0	0	22,847	23,089
RDT&E Articles Qty	0	0	0	0	0	0	0

Note: The content in EX22 is a continuation of the efforts reported in CX22 and 0204 and was explained in 0204 in PB08.

A. Mission Description and Budget Item Justification

The C2BMC Element accomplishes block objectives by integrating work across five product lines: BMD Planner, Combatant Command and Control (COCOM/C2), Global Engagement Manager (GEM), Data Services, and Networks so that mature capabilities can be integrated and incrementally delivered to the warfighter. Three incremental delivers, or spirals, are planning in FY08: Spiral 6.2 Operations and Sustainment, Spiral 6.4 development, test, and deployment, and Spiral 8.2 Engineering. The C2BMC Testbed located at the Missile Defense Integration and Operations Center (MDIOC) supports the program office by providing the test articles, test environment, analysis tools, and communications interfaces to conduct Element Verification, Hardware-in-the-Loop Tests, and Systems Test programs. The testbed provides systems and support to recurring warfighter training, exercises, and war-game events. In addition, the C2BMC Testbed maintains the Experimentation Lab (X-Lab) where advanced concepts, new technology, and risk reduction prototypes are developed and tested. The C2BMC Testbed also provides infrastructure support to the warfighter by managing the requirements and facilities for the C2BMC Control Center (CCC) and the Distributed Multi-echelon Training System (DMETS).

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Not Funded until FY 2012	0	0	0
RDT&E Articles (Quantity)	0	0	0

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

Project: EX22 Missile Defense Integration & Operations Center (MDIOC) - Block 5.0   MDA Exhibit R-2A (PE 0603904C)

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 (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
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 0603888C Ballistic Missile Defense Test and Targets	584,615	621,861	673,691	672,976	690,938	708,991	719,209	4,672,281
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
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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

D. Acquisition Strategy

The strategy for C2BMC mission execution is to employ an integration contract to simultaneously perform all of the BMDS RDT&E tasks with integrated operation and sustainment. The C2BMC at the MDIOC is operated by missile defense subject matter experts composed of Government military and civilian personnel, JNIC Research and Development Contract, Federally Funded Research and Development Center, and JNIC Technical Advisory and Assistance Services.

		Date
Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis		**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

I. Product Development   Cost ($ in 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
Subtotal Product Development								

Remarks

II. Support Costs   Cost ($ in 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
Subtotal Support Costs								

Remarks

III. Test and Evaluation   Cost ($ in 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
Subtotal Test and Evaluation								

Remarks

IV. Management Services   Cost ($ in 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
Subtotal Management Services								

Remarks

Project Total Cost								

Remarks

Project: EX22 Missile Defense Integration & Operations Center (MDIOC) - Block 5.0   MDA Exhibit R-3 (PE 0603904C)

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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 (ACD&P)**		R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

COST ($ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
YX22 Missile Defense Integration & Operations Center (MDIOC) Core	0	74,524	70,810	73,590	73,692	75,715	76,684
RDT&E Articles Qty	0	0	0	0	0	0	0

Note: The content in YX22 is a continuation of the efforts reported in 0204 and was explained in that project in PB08.

A. Mission Description and Budget Item Justification

The mission of the MDIOC is to help develop and support the operation of a robust suite of missile defense wargaming, test and evaluation capabilities, which ensures BMDS elements are acquired and integrated into an interoperable, layered system, while simultaneously supporting warfighter operations of designated BMDS elements.

The MDIOC accomplishes this mission of providing MDA with Agency-level technical integration and BMDS-level operational integration products and services by:
- Supporting the definition, development, and test & evaluation of integrated missile defense Engagement Sequence Group capabilities;
- Providing the technical infrastructure for the planning and implementation of BMDS-level modeling and simulation;
- Supporting BMDS developers and warfighters in exercising missile defense readiness, and wargaming command and control procedures, operational concepts, and doctrinal requirements; and
- Providing BMDS operational support and technical reach back to designated program elements and Combatant Commands (COCOMs).

The MDIOC maintains a secure facility that includes the computers; communications; networks; flight, ground, and simulation test bed environments; wargaming complex; environmental support; and other fixed cost capabilities essential for the execution of MDA programs. It provides the enabling infrastructure to support both acquisition and warfighter communities.

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core
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	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)	**0603904C Missile Defense Integration & Operations Center**

B. Accomplishments/Planned Program

	FY 2007	FY 2008	FY 2009
Infrastructure Development and Support	0	62,731	66,380
RDT&E Articles (Quantity)	0	0	0

The MDIOC supports the technical development and provides the enabling infrastructure for several critical Agency activities. The MDIOC supports the Ground-based Midcourse Missile Defense Mission Control Center Facility, as well as the C2BMC Integration and Test Centers and the C2BMC Experimentation Laboratories. It provides infrastructure support for the Satellite Tracking and Surveillance System's Missile Defense Space Experimentation Center; the Targets and Countermeasures' MDIOC Target Operations Center; and the developmental support, as directed, of a common satellite ground station and sensor netting test bed for designated BMDS elements. It also plans, conducts, and supports BMDS Engagement Sequence Group testing and analysis with the Combined Test Force through the operation of the Test Execution Control node for distributed BMDS ground tests. The MDIOC provides the enabling infrastructure that supports operations of the Missile Defense Element, manned by the 100th Missile Defense Brigade, the USNORTHCOM C2BMC Command and Control Center, and USSTRATCOM's Joint Functional Component Command-Integrated Missile Defense. In addition, the MDIOC supports the MDA Operations Support Center, which provides situational awareness of the health and status of the end-to-end BMDS; provides network subject matter expertise and technical reach back for the program elements and Combatant Commanders. The MDIOC maintains a technical repository of BMDS Implementation Architectures for real-time Operation & Maintenance and configuration control; provides both state change management and asset management technical support for the BMDS; and provides the technical environment for BMDS Watch Officers, Safety Officers, and Information Assurance Officers to execute their assigned duties. The MDIOC also operates the Joint Early Warning Laboratory, which provides USSTRATCOM with quick response analyses of real-world launches, and rapid anomaly identification and resolution.

The MDIOC designs, implements, verifies, operates, maintains and manages secure Information Technology infrastructure(s) and service interfaces, communication circuit connectivity, and tiered service levels on site. It provides additional labor and diagnostic tools for around the clock information management, and facilities operation and maintenance technical support. This technical support, provided outside normal duty hours, is crucial to warfighter mission critical system outage restoration, coordination, and reporting.

FY08 Planned Program:
- Provide ongoing information management services
- Conduct ongoing environment and facilities O&M
- Initiate environment and facility projects:
  - Implement Electrical Preventive Maintenance

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-2A (PE 0603904C)

	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)	**0603904C Missile Defense Integration & Operations Center**

- o Design Redundant Electrical Distribution to Equipment
- o Design Parallel Uninterrupted Power Supply Capabilities
- o Replace Building 720 cooling system
- o Complete Energy Monitoring Control System (EMCS) installation
- Execute ongoing systems engineering of mission critical systems
- Provide continuing media support in the areas of graphics, photography, and video production
- Execute continuing public affairs and protocol activities in support of MDA and the MDIOC
- Continue to provide program management/system engineering oversight.
- Continue process mission assurance and process improvement measures in support of BMDS.
- Continue to provide an enabling infrastructure (to include hardware, software maintenance, licenses, and upgrades) that supports MDA RDT&E efforts at the MDIOC for the:
  - o GMD Mission Control Center Facility
  - o C2BMC Center of Excellence
  - o STSS Missile Defense Space Experimentation Center
  - o MDIOC Target Operations Center
  - o Warfighter Support Center of Excellence
  - o Combined Test Force-Ground Test
  - o Digital Modeling and Simulation Center
- Continue Information Technology sustainment and modernization efforts with the following:
  - o MDIOC high performance computing refresh (MIPS-IRIX)
  - o MDIOC (HPC) (Itanium Linux)
  - o MDIOC MDANet technology plan deployment of legacy replacement
  - o HP XP1024 20TB additional storage
  - o Software refreshment (Upgrade to VISTA)
- Continue to provide an enabling infrastructure that supports BMDS operational capability development for the:
  - o MDE and 100th Missile Defense Brigade
  - o USNORTHCOM C2BMC Command and Control Center
  - o USSTRATCOM JFCC-IMD Headquarters and Operations Center
  - o Joint Early Warning Laboratory
- Support the MDA Operations Support Center

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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)	**0603904C Missile Defense Integration & Operations Center**

- Continue, as directed, the consolidation of existing operations missions onto the 1st floor of the Research building

FY09 Planned Program:
- Provide ongoing information management services
- Conduct ongoing environment and facilities O&M
- Initiate environment and facility projects:
  o Remove and redistribute critical load to newer uninterruptible power supply (UPS)
  o Provide transient voltage surge suppression (TVSS) protection · Replace UPS System A
  o Modernize chilled water system
  o Repair/Replace elevators (Bldg 730)
  o Complete installation of blast shield window protection
  o Facility densification projects, based on tenant departure
  o Plan the build-out of the 1100 Quad for operations support
- Execute ongoing systems engineering of mission critical systems
- Provide continuing media support in the areas of graphics, photography, and video production
- Execute continuing public affairs and protocol activities in support of MDA and the MDIOC
- Continue process mission assurance and process improvement measures in support of BMDS.
- Continue to provide an enabling infrastructure (to include hardware, software maintenance, licenses, and upgrades) that supports MDA RDT&E efforts at the MDIOC for the:
  o GMD Mission Control Center Facility
  o C2BMC Center of Excellence
  o STSS Missile Defense Space Experimentation Center
  o MDIOC Target Operations Center
  o Warfighter Support Center of Excellence
  o Combined Test Force-Ground Test
  o Digital Modeling and Simulation Center
- Continue to provide an enabling infrastructure that supports BMDS operational capability development for the:
  o MDE and 100th Missile Defense Brigade
  o USNORTHCOM C2BMC Command and Control Center
  o USSTRATCOM JFCC-IMD Headquarters and Operations Center

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-2A (PE 0603904C)

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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)	**0603904C Missile Defense Integration & Operations Center**

-    o Joint Early Warning Laboratory
- Support the MDA Operations Support Center
- Continue, as directed, the consolidation of existing operations missions onto the 1st floor of the Research building

	FY 2007	FY 2008	FY 2009
BMDS Operational Security	0	1,514	1,490
RDT&E Articles (Quantity)	0	0	0

Provides increased reliability, availability and maintainability of the MDIOC Electronic Security System as well as improved physical security/anti-terrorism provisions.

FY08 Planned Program:
- Continue replacement of current system and operate/monitor Electronic Security System.
- Implement required patches for all security hardware/software throughout the MDIOC.
- Continue to provide around the clock monitoring/security for designated PL 1 resources/SSL-A areas.

FY09 Planned Program:
- Complete replacement of old system and operate/monitor Electronic Security System.
- Implement required patches for all security hardware/software throughout the MDIOC.
- Continue to provide around the clock monitoring/security for designated PL 1 resources/SSL-A areas.

	FY 2007	FY 2008	FY 2009
Special Programs	0	354	362
RDT&E Articles (Quantity)	0	0	0

The MDIOC supports the Intelligence Support Center/Special Programs Center for the MDA Director, Security/Intelligence Operations, USSTRATCOM, and the 100th Missile Defense Brigade.

FY08 Planned Program:
- Provide intelligence support to the BWOs, and implement any intelligence hardware/software updates required to support the MTSC.
- Continue to produce credible threat products and engineering trajectories for DoD users
- Operate the threat modeling module within a larger BMDS Simulation tool
- Support the integration of other threat tools as required

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core   MDA Exhibit R-2A (PE 0603904C)

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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)	**0603904C Missile Defense Integration & Operations Center**

- Prepare and provide ongoing daily intelligence briefings and summaries as directed.
- Continue the maintenance and operation support of the Intelligence Support Center, and (when directed) plan/initiate the installation of any additional intelligence data feeds required to support the BMDS.

FY09 Planned Program:
- Provide intelligence support to the BWOs, and implement any intelligence hardware/software updates required to support the MTSC.
- Continue to produce credible threat products and engineering trajectories for DoD users
- Operate the threat modeling module within a larger BMDS Simulation tool
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- Prepare and provide ongoing daily intelligence briefings and summaries as directed.
- Continue the maintenance and operation support of the Intelligence Support Center, and (when directed) plan/initiate the installation of any additional intelligence data feeds required to support the BMDS.

	FY 2007	FY 2008	FY 2009
BMD Wargaming, Exercises and Analysis	0	7,363	0
RDT&E Articles (Quantity)	0	0	0

The MDIOC functions as the core integration activity for exercising, evaluating, analyzing and refining advanced missile defense concepts that can then be used to improve the BMDS. It does this by planning, providing technical support, and executing Operator-in-the-Loop and Element-in-the-Loop Wargames; Joint Warfighter Exercises and Experiments; Missile Defense Integration Exercises; C2BMC integration testing and experiments, and System Level Missile Defense Analyses. These activities allow the developer, tester, and operator to assess capabilities in the same operationally representative environment. Additionally, the MDIOC facilitates international cooperation and support of the BMDS through the development and execution of missile defense seminars, workshops, wargames, and other multinational activities. It builds and retains a corporate knowledge base comprised of leading technical experts to respond quickly to customer requirements and perform technical MDA missions.

FY 08 Planned Program
- Continue to support fleet demonstrations to prove that deployed Aegis ships are capable of integrating into the BMDS command and control structure, can conduct sensor tracking, and possess limited intercept capabilities
- Provide wargame scenarios to enhance understanding of current missile defense capabilities and investigate options for future capabilities
- Support the Combined Test Force (CTF) conduct of Ground Test/Missile Defense Integrated Exercise(s)
- Provide Wargaming Support to the Joint Warfighter Support Program by:

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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)	**0603904C Missile Defense Integration & Operations Center**

- o Developing and producing documentation to support all directed wargaming events
- o Conducting wargames to develop, test, and refine Concept of Operations, Tactics, Techniques and Procedures, and Command and Control plans
- o Providing post-event data collection and analysis support
- o Providing for the operations and maintenance of the Wargaming Enterprise Support Center
- o Managing, as directed, the BMDS Training Center
- Plan, collect data, assess, examine, and report on MDA Joint Warfighter Support Program directed missile defense exercises
- Conduct MDA critical analysis efforts in support of Verification Assessment Reports, and other MDA System Engineering and Integration directed studies/assessments
- Conduct Verification & Validation of BMD models as directed
- Provide direct support to the MDA Director for International Support in the form of unique capabilities, tools and resources to enhance international missile defense cooperation
- Incorporate advanced employment concepts into MDIOC planning tools, exercises, test activities, and wargames across multiple security levels.

FY 09 Planned Program
In FY 09, this effort moves to Program Element 0603898C, project Y103.

	FY 2007	FY 2008	FY 2009
JNIC Security	0	2,562	2,578
RDT&E Articles (Quantity)	0	0	0

Provides physical and access control to protect BMDS development capabilities, annual training and education for all assigned personnel, and additional labor and diagnostic tools for around the clock security systems engineering and Security Operations Command Post activities.

FY08 Planned Program:
- Provide program protection, force protection, and an anti-terrorism posture in compliance with MDA and DoD requirements, capable of supporting various events scheduled at the MDIOC.
- Provide an integrated security approach for all new mission areas assigned to the MDIOC.
- Complete transition of the MDIOC Classified Document Control Center from a long-term to short-term storage facility by leveraging the MDA electronic repository for all retained material.

	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)	**0603904C Missile Defense Integration & Operations Center**

- Provide ongoing industrial and physical security, including foreign disclosure, counterintelligence analysis and threat assessment, and guard/response force management.

FY09 Planned Program:
- Provide program protection, force protection, and an anti-terrorism posture in compliance with MDA and DoD requirements, capable of supporting various events scheduled at the MDIOC.
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C. Other Program Funding Summary

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Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core   MDA Exhibit R-2A (PE 0603904C)

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		Date **February 2008**
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification		

APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**		R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total Cost
PE 0603898C BMD Joint Warfighter Support	49,833	49,394	69,982	73,997	77,205	80,168	81,948	482,527
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
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D. Acquisition Strategy

The strategy for MDIOC mission execution is to employ an integration contract to simultaneously perform all of the BMDS RDT&E tasks with integrated operation and sustainment. The MDIOC is operated by missile defense subject matter experts composed of Government military and civilian personnel, Federally Funded Research and Development Center, MDIOC Technical Advisory and Assistance Services, and major defense contractors.

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-2A (PE 0603904C)

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	Date
Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

I. Product Development   Cost ($ in 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
Subtotal Product Development								

Remarks

II. Support Costs   Cost ($ in 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
Infrastructure Development and Support								
MDIOC	MIPR	MDIOC/ 50th Space Wing, Schriever AFB, CO	0	1,149	1Q	1,175	1Q	2,324
MDIOC		MDIOC/ Colorado Springs, CO	0	9,455	1Q	9,813	1Q	19,268
Subtotal Support Costs			0	10,604		10,988		21592

Remarks

These funds are for utilities and base communications as specified in the Inter-service Support Agreement with the 50th Space Wing and government salaries.

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-3 (PE 0603904C)

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					Date **February 2008**		
Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis							
APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**				R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**			

III. Test and Evaluation   Cost ($ in 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
Infrastructure Development and Support								
MDIOC	C/CPAF	MDIOC/Northrup Grumman Mission Systems/ Colorado Springs, CO	0	45,483	1/2Q	48,501	1/2Q	93,984
MDIOC	C/FFP	MDIOC/SRS/ Colorado Springs, CO	0	5,005	1Q	5,119	1Q	10,124
MDIOC	C/FFRDC	MDIOC/Mitre Corp/ Colorado Springs,	0	1,639	1Q	1,772	1Q	3,411
BMDS Operational Security								
MDIOC	C/CPAF	MDIOC/Northrup Grumman Mission Systems/ Colorado Springs, CO	0	1,514	1/2Q	1,490	1/2Q	3,004
Special Programs								
MDIOC	C/CPAF	Northrop Grumman Mission Systems/ Colorado Springs, CO	0	354	1/2Q	362	1/2Q	716
BMD Wargaming, Exercises and Analysis								
MDIOC/Warfighter Support Center	C/CPAF	Northrop Grumman Mission Sys./ Colorado Springs, CO	0	7,363	1/2Q	0	N/A	7,363

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-3 (PE 0603904C)

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					Date **February 2008**

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis

APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

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
JNIC Security								
MDIOC	C/FFP	MDIOC/QinetiQ/ Colorado Springs, CO	0	2,562	1/2Q	2,578	1/2Q	5,140
Subtotal Test and Evaluation			0	63,920		59,822		123742

Remarks

These funds are executed by the MDIOC and provide FFRDC and Technical Advisory and Assistance Services employees, for MDIOC operations and oversight of the JNIC Research and Development Contractor (JRDC), as well as funding for JRDC work as required by the government.

IV. Management Services   Cost ($ in 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
Subtotal Management Services								

Remarks

Project Total Cost			0	74,524		70,810		145,334

Remarks

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core   MDA Exhibit R-3 (PE 0603904C)

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date
	February 2008

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

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
JNIC																												
BE VS-08					△																							
FTM-13					△																							
GTD-02					△																							
GTG-03a					△																							
JFTM-01					△																							
N-FIRE 2b					△																							
Exercise ARDENT SENTRY 08						△																						
FTG-4						△																						
FTX-03 (Stellar X)						△																						
GTG-03b.1						△																						
GTX-03a						△																						
GTX-03b						△																						
C2BMC Spiral 6.4 Cycle 3							△																					

Legend

▲	Significant Event (complete)	△	Significant Event (planned)
★	Milestone Decision (complete)	☆	Milestone Decision (planned)
◆	Element Test (complete)	◇	Element Test (planned)
▽	System Level Test (complete)	▽	System Level Test (planned)
▲—▲	Complete Activity	△—△	Planned Activity

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-4 (PE 0603904C)

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	Date
Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

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
JNIC																												
FTG-5							△																					
FTK-01							△—△																					
FTM-14							△																					
FTT-09							△																					
GTI-03							△																					
C2BMC Spiral 6.4 Cycle 4								△																				
FTG-06								△																				
FTS-01								△																				
FTS-03								△																				
FTT-10								△																				
GTD-03								△																				
GTG-03b.2								△																				
BE VS-09									△																			

Legend

▲	Significant Event (complete)		△	Significant Event (planned)
★	Milestone Decision (complete)		☆	Milestone Decision (planned)
◆	Element Test (complete)		◇	Element Test (planned)
▼	System Level Test (complete)		▽	System Level Test (planned)
▲▲	Complete Activity		△—△	Planned Activity

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-4 (PE 0603904C)

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile	Date February 2008

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

R-1 NOMENCLATURE
0603904C Missile Defense Integration & Operations Center

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
JNIC																												
FTG-7									△																			
FTX-05									△																			
GTM-04									△																			
JFTM-02									△																			
GTX-04a										△																		
GTX-04b										△																		

Legend

▲	Significant Event (complete)	△	Significant Event (planned)
★	Milestone Decision (complete)	☆	Milestone Decision (planned)
◆	Element Test (complete)	◇	Element Test (planned)
▼	System Level Test (complete)	▽	System Level Test (planned)
▲—▲	Complete Activity	△—△	Planned Activity

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-4 (PE 0603904C)

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	Date
Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
JNIC							
BE VS-08		1Q					
FTM-13		1Q					
GTD-02		1Q					
GTG-03a		1Q					
JFTM-01		1Q					
N-FIRE 2b		1Q					
Exercise ARDENT SENTRY 08		2Q					
FTG-4		2Q					
FTX-03 (Stellar X)		2Q					
GTG-03b.1		2Q					
GTX-03a		2Q					
GTX-03b		2Q					
C2BMC Spiral 6.4 Cycle 3		3Q					
FTG-5		3Q					
FTK-01		3Q-4Q					
FTM-14		3Q					
FTT-09		3Q					
GTI-03		3Q					
C2BMC Spiral 6.4 Cycle 4		4Q					
FTG-06		4Q					
FTS-01		4Q					
FTS-03		4Q					
FTT-10		4Q					
GTD-03		4Q					
GTG-03b.2		4Q					
BE VS-09			1Q				
FTG-7			1Q				
FTX-05			1Q				
GTM-04			1Q				
JFTM-02			1Q				

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core

MDA Exhibit R-4A (PE 0603904C)

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	Date
Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail	**February 2008**

APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	**0603904C Missile Defense Integration & Operations Center**

Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
GTX-04a			2Q				
GTX-04b			2Q				

Project: YX22 Missile Defense Integration & Operations Center (MDIOC) Core   MDA Exhibit R-4A (PE 0603904C)

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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 (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

COST ($ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
0602 Program-Wide Support	3,718	0	0	0	0	0	0
RDT&E Articles Qty	0	0	0	0	0	0	0

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	3,718	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 0603904C)

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 (ACD&P)**				R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**				

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 0603888C Ballistic Missile Defense Test and Targets	584,615	621,861	673,691	672,976	690,938	708,991	719,209	4,672,281
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 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

MDA Exhibit R-2A (PE 0603904C)

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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 (ACD&P)	R-1 NOMENCLATURE 0603904C Missile Defense Integration & Operations Center

COST ($ in Thousands)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
ZX40 Program-Wide Support	0	4,033	2,779	3,504	2,871	2,950	3,067
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	4,033	2,779
RDT&E Articles (Quantity)	0	0	0

See Section A: Mission Description and Budget Item Justification

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	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)	**0603904C Missile Defense Integration & Operations Center**

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
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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 0603888C Ballistic Missile Defense Test and Targets	584,615	621,861	673,691	672,976	690,938	708,991	719,209	4,672,281
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 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

MDA Exhibit R-2A (PE 0603904C)

	Date
Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	**February 2008**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE **0603904C Missile Defense Integration & Operations Center**

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Project: ZX40 Program-Wide Support

MDA Exhibit R-2A (PE 0603904C)

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