Missile Defense Agency

Fiscal Year 2008

Program and Budget Review

RDT&E Construction Exhibit

February 2007

MISSILE DEFENSE AGENCY
FY 2008 RDT&E CONSTRUCTION
PROGRAM AND BUDGET REVIEW

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MISSILE DEFENSE AGENCY
FY 2008 RDT&E CONSTRUCTION PROJECT SUMMARY
BY LOCATION

($ in Thousands)

State/Country/Installation/Project	Total Cost	This Request	New/Current Mission	Page No.
Major Construction				
Alaska				
Fort Greely				
Add/Alter Defense Satellite Communication System Phase 4	9,300	600	New	4
Fort Greely				
Ballistic Missile Defense System (BMDS) FGA Power Plant, Phase II	76,000	32,000	New	6
Various Worldwide Locations				
Ballistic Missile Defense System (BMDS) Missile Defense Plan II, OCONUS Phase 2	640,000	40,000	New	8
Fort Greely AK/Vandenberg AFB CA				
Ballistic Missile Defense System (BMDS) Simultaneous Test & Operational Enhancements (STOE), Phase II	204,850	90,780	New	11
Ballistic Missile Defense System (BMDS) AN/TPY-2 #3, Phase 1	28,600	24,400	New	14
TOTAL RDT&E CONSTRUCTION	958,750	187,780		

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
Fort Greely, Alaska	Add/Alter Defense Satellite Communication System Phase 4

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603882C	312	MDA 557	Total Cost $ 9,300 This Request $ 600

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				4,254
HEMP Back-up Power System Pad	LS			(641)
2nd Antenna/Radome Pad	LS			(1,903)
Communications Duct Bank	LS			(560)
Security Upgrades	LS			(1,150)
SUPPORTING FACILITIES				3,860
Electric Service	LS			(1,125)
Water, Sewer, Gas	LS			(156)
Paving, Walks, Curbs and Gutters	LS			(675)
Site Imp (85) /Demo (53)	LS			(138)
Other (Mob/Demob)	LS			(1,766)
ESTIMATED CONTRACT COST				8,114
CONTINGENCY (5.0%)				405
SUBTOTAL				8,519
SUPERVISION, INSPECTION/OH (7.5%)				639
TOTAL CONTRACT COST				9,158
ENGINEERING DURING CONST. (1.0%)				92
TOTAL				9,250
TOTAL REQUEST ROUNDED				9,300
INSTALLED EQPT-OTHER APPROPRIATIONS				(23,850)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: This project expands the Ballistic Missile Defense System (BMDS) Ground-Based Midcourse Defense (GMD) capabilities at Fort Greely, AK. MDA intends to use authority provided by "Public Law 109-364, Subtitle C-Missile Defense Programs, SEC.221 FIELDING OF BALLISTIC MISSILE DEFENSE CAPABILITIES" to complete this construction. The total cost has increased from $5M to $9.3M and was incrementally funded in FY 05 ($0.95M), FY 06 ($2.9M), FY 07 ($4.3M) and FY 08 ($0.06M). The construction provides a second antenna/Radome, back-up (emergency) power to critical communications, and redundant communications duct banks to the existing Defense Satellite Communications System facility. The construction includes foundations for power system and antenna/radome, connecting corridors, relocating 10,000 gallon fuel tank, installing 1000 kVA shielded transformer and relocating security fence. Supporting facilities include: water, sewer, gas and electric service; paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems. Access for the handicapped will be provided.

11. Required: 1 EA Adequate: 0 Substandard: 1

PROJECT: Construct an addition to and alter the Defense Satellite Communication System facility at Fort Greely, Alaska to provide a HEMP-protected back-up power source, a second DSCS terminal (antenna/radome) and a communications duct bank to facilitate communications in support of the Missile Defense Agency's (MDA's) mission.

REQUIREMENT: This project provides a fully HEMP-protected DSCS terminal/facility and fulfills a new MDA and USSTRATCOM requirement established to provide survivable and diverse communications links from FGA to Schriever AFB, Colorado, and Offutt AFB, Nebraska, as soon as possible to meet current threats and further support defensive operations. (New Mission)

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Fort Greely, Alaska

4. PROJECT TITLE	5. PROJECT NUMBER
Add/Alter Defense Satellite Communication System Phase 4	MDA 557

11. REQUIREMENT (CONTINUED)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System to ensure operational equipment and missiles adequately meet technological and threat assessments. This project continues GMD execution of systematic spiral development and evolutionary acquisition through incremental capabilities enhancements. Limited Defensive Operations commenced September 2004 and the DSCS enhancements will ensure critical communications from FGA are uninterrupted.

IMPACT IF NOT PROVIDED: If this project is not provided, planned enhancements of the GMD elements in support of MDA's BMDS will not be available for defensive operations. Ultimately, the full potential to defend the United States against limited ballistic missile attack may not be achieved.

ADDITIONAL INFORMATION: Cost estimates are based upon parametric estimates and similar experience gained during previous construction efforts at Fort Greely and elsewhere. This project is being coordinated with the appropriate physical security plans and required physical security and/or combating terrorism measures being included.

12. SUPPLEMENTAL DATA:

A. Estimated Design Date

(1) Status	
(a) Date Design Started:	DEC 2004
(b) Date 35% Design:	JAN 2005
(c) Date Design Complete:	DEC 2005
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract: Design-Bid-Build	
(2) Basis of Design	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	Fort Greely, AK
(3) Total Cost (000) (c) = (a)+(b) or (d)+(e)	
(a) Production of Plans and Specifications:	$ 252
(b) All other Design Costs:	$ 223
(c) Total Design Costs:	$ 475
(d) Contract:	$ 337
(e) In-house:	$ 138
(4) Construction Contract Award	MAY 2005
(5) Construction Start	JUN 2005
(6) Construction Complete	SEP 2008

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost ($000)
GCN Communication Equipment	RDT&E	2005	7,350
GCN Communication Equipment	RDT&E	2006	6,100
GCN Communication Equipment	RDT&E	2007	5,050
GCN Communication Equipment	RDT&E	2008	5,350
		Total	23,850

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1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION6	4. PROJECT TITLE
Fort Greely , Alaska	Ballistic Missile Defense System (BMDS) FGA Power Plant, Phase II

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603882C	312	MDA 586	Total Cost 76,000 This Request 32,000

9. COST ESTIMATES

ITEM	U/M (M/E)	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				51,342
FGA Upgrade Electronic Security	LS			(1,932)
FGA Add/Alt Readiness & Control Facilities	LS			(587)
FGA Add/Alt Utility Building	LS			(1,428)
FGA Add/Alt Electrical Substation	LS			(168)
FGA Power Plant (HEMP)	LS			(46,735)
FGA Fuel Tank	LS			(492)
SUPPORTING FACILITIES				12,378
Electric Service	LS			(7,238)
Water, Sewer, Gas	LS			(772)
Paving, Walks, Curbs and Gutters	LS			(630)
Site Imp (89)/Demo (104)	LS			(193)
Antiterrorism Force Protection	LS			(2,098)
Other Mob/Demobilization	LS			(1,447)
ESTIMATED CONTRACT COST				63,720
CONTINGENCY PERCENT (5%)				3,186
SUBTOTAL				66,906
SUPERVISION, INSPECTION/OH (7.5 %)				5,018
Design (4%)				4,302
TOTAL CONTRACT COST				76,226
TOTAL REQUEST ROUNDED				76,000
INSTALLED EQUIPMENT - OTHER APPROPRIATIONS				0

10. DESCRIPTION OF PROPOSED CONSTRUCTION: This project enhances and upgrades the Ballistic Missile Defense System (BMDS) Ground-Based Mid-Course Defense (GMD) at Fort Greely, Alaska. GMD is following the Missile Defense Agency capability based acquisition strategy that emphasizes testing, spiral development and evolutionary acquisition that deploys incremental blocks of hardware to provide an additional layer of defense. MDA intends to use authority provided by "Public Law 109-364, Subtitle C-Missile Defense Programs, SEC.221 FIELDING OF BALLISTIC MISSILE DEFENSE CAPABILITIES" to incrementally fund the project in FY 07 ($44M) and FY 08 ($32M). This project constructs a High-altitude Electromagnetic Pulse (HEMP) shielded Power Plant with Emission Controls and a Fuel Oil Storage with ancillary Equipment in order to meet Reliability, Availability and Maintainability (RAM) requirements within the extreme Alaska climate and the active seismic characteristics of the area. This project also enhances power reliability in the Readiness & Control Facility, Utility Building, Electrical Sub-station and upgrades power to the electronic security system. Supporting facilities include: water, sewer, gas and electric service; paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; and telecommunications systems. Access for the handicapped will be provided.

11. REQ: 1 EA ADQT: NONE SUBSTD: NONE

PROJECT: Provides improvements to existing Limited Defensive Operations (LDO) facilities and constructs a HEMP protected Power Plant which increases the availability and dependability of power for mission critical facilities consistent with MDA's missile defense mission.

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Fort Greely, Alaska

4. PROJECT TITLE	5. PROJECT NUMBER
Ballistic Missile Defense System (BMDS) FGA Power Plant, Phase II	MDA 586

REQUIREMENT: This project is required to provide the Ballistic Missile Defense System with reliable and maintainable power for mission critical facilities to improve MDA's ability to conduct and support sustained defensive operations at the Fort Greely (FGA) GMD Site.

CURRENT SITUATION: Missile Defense Agency (MDA) developed a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. This project continues GMD execution of systematic spiral development and evolution acquisition through incremental capability enhancements. Limited Defensive Operations (LDO) commenced in September 2004 and these improvements will supplement the GMD Test Bed Program, Capability Enhancements Limited Defensive Operations 1 (CE1) and Block 2006 Defensive Operations Capability Enhancements 2 (CE2) for the MDS by providing reliable and maintainable power at Fort Greely. Local commercial power is unreliable and does not meet our mission and environmental requirements.

IMPACT IF NOT PROVIDED If this project is not provided, planned power enhancements for the GMD elements in support of MDA's BMDS will not be available for defensive operations. The overall reliability of power at the FGA GMD site will remain below system requirements.

ADDITIONAL INFORMATION: Cost estimates are based on similar experience gained during the construction of Test Bed and Capability Enhancement / Limited Defensive Operations facilities and have been adjusted for anticipated restrictive execution as a result of operational and security concerns. This project is being coordinated with the appropriate physical security plans, and required physical security and/or combating terrorism (CBT/T) measure being included.

12. Supplemental Data:

Estimated Design Date	
(1) Status	
(a) Date Design Started:	*JAN 2006*
(b) Date 35% Designed	*JUN 2007*
(c) Date Design Complete:	*OCT 2007*
(d) Parametric Cost Estimating Used to Develop Costs	*Yes*
(e) Type of Design Contract:	*Design - Build*
(2) Basis of Design	
(a) Standard or Definitive Design	*Yes*
(b) Where Design was most recently used:	*Fort Greely, AK*
(3) Total Cost (000) (c)= (a)+(b) or (d)+(e)	
(a) Production of Plans and Specifications:	*$ 1,071*
(b) All other Design Costs:	*$ 902*
(c) Total Pre-award Design Costs:	*$ 1,973*
(d) Contract:	*$ 1,324*
(e) In-house:	*$ 649*
(4) Construction Contract Award	*MAY 2007*
(5) Construction Start	*JUL 2007*
(6) Construction Complete	*NOV 2008*

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1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION6	4. PROJECT TITLE
OCONUS Location	Ballistic Missile Defense System Missile Defense Plan II, OCONUS Phase 2

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603882C	312	MDA 566	Total Cost 640,000 This Request 40,000

9. COST ESTIMATES

ITEM	U/M (M/E)	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				441,909
Admin/Maint/Storage Facility	LS	-	-	(33,105)
Back-up Power Generators	LS	-	-	(8,381)
DSCS Facility (Dual Antenna)	LS	-	-	(17,325)
EKV Fuel Storage Building	LS	-	-	(2,025)
EKV Oxidizer Storage Building	LS	-	-	(2,025)
Total from Continuation pages				(379,048)
SUPPORTING FACILITIES				125,114
Electric Service	LS	-	-	(27,088)
Water, Sewer, Gas	LS	-	-	(44,835)
Paving, Walks, Curbs and Gutters	LS	-	-	(15,135)
Site Imp (25,869)/Demo (000)	LS	-	-	(23,431)
Other (Mob/Demob)	LS	-	-	(14,625)
SUBTOTAL				567,023
CONTINGENCY (5.0%)				28,353
SUBTOTAL				595,376
SUPERVISION, INSPECTION/OH (7.5%)				44,653
TOTAL CONTRACT COST				640,029
TOTAL REQUEST ROUNDED				640,000
EQUIPMENT FROM OTHER APPROPRIATIONS (NON-ADD)				(565,000)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: MDA intends to use authority provided by "Public Law 109-364, Subtitle C-Missile Defense Programs, SEC.221 FIELDING OF BALLISTIC MISSILE DEFENSE CAPABILITIES" to initiate a $640M effort and incrementally fund in FY 08 ($40M), FY 09 ($291.2M), FY 10 ($169.5M) and FY 11 ($130M). At an OCONUS location, this project provides for a complete GMD system and a GMD Battle Management Fire Control and Communication (GBMFC2) In-Flight Interceptor Communications System (IFICS) Data Terminal. Supporting facilities include: water, sewer, gas and electric service; paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; physical security; and telecommunications systems. Access for the handicapped will be provided.

11. REQUIRED: 1 EA ADQT: NONE SUBSTD: NONE

PROJECT: Construct a complete GMD system at an OCONUS location to provide an additional layer of defense with increased capabilities consistent with Missile Defense Agency's (MDA) missile defense mission.

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
OCONUS Location

4. PROJECT TITLE:
Ballistic Missile Defense System, Missile Defense Plan II, OCONUS Phase 2

5. PROJECT NUMBER
MDA 566

9. COST ESTIMATES (CONTINUED)

Item	U/M (M/E)	QUANTITY	Unit COST	Cost (000)
PRIMARY FACILITIES (CONTINUED)				379,048
Electrical Substation	LS			(9,434)
Entry Control Station	LS			(4,610)
Fuel Unload & Storage Facility	LS			(7,152)
Mechanical-Electrical Building	LS			(17,460)
Missile Assembly Building	LS			(19,346)
Missile Launch Silos (10 ea)	LS			(68,165)
Missile Monitoring/Security Bldg	LS			(21,302)
Missile Storage Igloos	LS			(3,317)
Utility Building	LS			(17,312)
Water Supply Building	LS			(7,119)
MILSTAR Support System	LS			(1,571)
Electronic Security System	LS			(19,010)
Physical Security	LS			(9,987)
Robust Security System	LS			(74,311)
FOC Terminal Building	LS			(3,003)
Power Conversion & Conditioning	LS			(90,792)
GBMFC2 IFICS Data Terminal	LS			(3,683)
IDT Support Facility	LS			(1,474)

11. REQUIRED: (continued)

REQUIREMENT: This project is required to provide a complete GMD system capability OCONUS designed to incrementally improve MDA's ability to conduct and support enhanced defensive operations. (New Mission)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. This project continues GMD execution of systematic spiral development and evolutionary acquisition through incremental capability enhancements. This project supplements the GMD Test Bed Program, Capability Enhancements 1 and MDP II Phase I-III for the BMDS and will enhance the ballistic missile defense of the United States and its allies.

IMPACT IF NOT PROVIDED: If this project is not provided, planned enhancements of the GMD element in support of MDA's BMDS will not be available for defensive operations. Ultimately, the full potential to defend the United States and its allies against limited ballistic missile attack will not be achieved.

ADDITIONAL INFORMATION: Cost estimates are based on parametric estimates and similar experience gained during the construction of Test Bed and Capability Enhancement / Limited Defensive Operations facilities at Fort Greely, Alaska. This project is being coordinated with the appropriate physical security plans, and required physical security and/or combating terrorism measure are being included. All requirements of EO 12114, Environmental Effects Abroad of Major Federal Actions, will be completed prior to start of construction.

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
OCONUS Location

4. PROJECT TITLE:
Ballistic Missile Defense System, Missile Defense Plan II
OCONUS Phase 2

5. PROJECT NUMBER
MDA 566

12. SUPPLEMENTAL DATA:

A. Design Data (Estimates)

(1) Status	
(a) Date Design Started	JUL 2006
(b) Date 35% Design	NOV 2007
(c) Date Design Complete	JUN 2008
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract	Design-Bid-Build and Design Build
(2) Basis	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	Fort Greely, AK
(3) Total Design Cost (000)	
(a) Production of Plans and Specifications	$ 18,478
(b) All other Design Costs	$ 16,566
(c) Total Costs (c)= (a)+(b) or (d)+(e)	$ 35,044
(d) Contract	$ 24,480
(e) In-house	$ 10,564
(4) Construction Contract Award Date	OCT 2008
(5) Construction Start Date	DEC 2008
(6) Construction Complete Date	OCT 2010

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriation Or Requested	Cost ($000)
GBI Launch Equipment	RDT&E	2007	21,000
RIDT/Communication Equip	RDT&E	2007	5,000
GBI Launch Equipment	RDT&E	2008	132,400
RIDT/Communication Equip	RDT&E	2008	18,000
GBI Launch Equipment	RDT&E	2009	117,000
RIDT/Communication Equip	RDT&E	2009	46,000
GBI Launch Equipment	RDT&E	2010	107,000
RIDT/Communication Equip	RDT&E	2010	45,000
GBI Launch Equipment	RDT&E	2011	47,000
RIDT/Communication Equip	RDT&E	2011	27,000
		TOTAL EQUIPMENT COST	$565,000

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1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
Various Worldwide Locations	Ballistic Missile Defense System (BMDS) Simultaneous Test & Ops Enhancements Phase II

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603882C	312	MDA 588	Total Cost $204,850 This Request 90,780

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				**101,204**
FGA Missile Launch Silos (14-ea)	LS	-	-	(48,713)
FGA Mechanical-Electrical Building	LS	-	-	(26,749)
FGA Add/Alter Readiness & Control Bldg	LS	-	-	(4,492)
FGA Electronic Security System	LS	-	-	(11,390)
FGA Perimeter Security Fencing	LS	-	-	(804)
Total from Continuation page				(9,056)
SUPPORTING FACILITIES				**80,280**
Electric Service	LS	-	-	(24,559)
Water, Sewer, Gas	LS	-	-	(34,371)
Paving, Walks, Curbs and Gutters	LS	-	-	(4,505)
Site Imp (8,108) /Demo (2,156)	LS	-	-	(10,264)
Other (Mob/Demob)	LS	-	-	(6,581)
ESTIMATED CONTRACT COST				181,484
CONTINGENCY (5.0%)				9,074
Subtotal				190,558
SUPERVISION, INSPECTION/OH (7.5%)				14,292
TOTAL CONTRACT COST				204,850
TOTAL REQUEST ROUNDED				204,850
INSTALLED EQPT-OTHER APPROPRIATIONS				(331,200)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: This project extends and enhances the Ballistic Missile Defense System (BMDS) Ground-Based Mid-Course Defense (GMD) program at various world-wide locations. MDA intends to use authority provided by "Public Law 109-364, Subtitle C-Missile Defense Programs, SEC.221 FIELDING OF BALLISTIC MISSILE DEFENSE CAPABILITIES" to spend approximately $205M for this construction and incrementally fund the project in FY 07 ($53.75M), FY 08 ($90.78M) and FY 09 ($60.32M). This project constructs At Fort Greely, Alaska (FGA), a new missile field with 14 missile launch silos and Mechanical-Electrical Building; addition/alternation to the Readiness and Control Building; perimeter security crash barrier fencing; and Electronic Security Systems. At Vandenberg Air Force Base, California (VAFB) this project alters and renovates an existing launch silo (LF-24); construct concrete pads with utility hookup to support the GMD Battle Management (Fire Control) and Communication Flight Node and storage building; Water Pump Station; perimeter security crash barrier fencing; and Electronic Security Systems. Supporting facilities include: water, sewer, gas and electric service, paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; and telecommunications systems. Access for the handicapped will be provided.

11. REQUIRED: 1 EA ADEQUATE: NONE SUBSTANDARD: NONE

PROJECT: Construct infrastructure and necessary facilities at various locations world wide to provide BMD System an additional layer of defense with increased capability consistent with Missile Defense Agency's (MDA) missile defense mission.

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Various Worldwide Locations

4. PROJECT TITLE	5. PROJECT NUMBER
Ballistic Missile Defense System (BMDS) Simultaneous Test & Ops Enhancements Phase II	MDA 588

9 COST ESTIMATES (CONTINUED)

Item	U/M (M/E)	QUANTITY	Unit Cost	Cost (000)
PRIMARY FACILITIES (CONTINUED)				9,056
VAFB LF-24 ESS & Physical Sec Sys	LS			(2,918)
VAFB RIDT#2 Pads & Utility Hookups	LS			(3,987)
VAFB RIDT Storage Building	LS			(251)
VAFB Water Pump Station	LS			(449)
VAFB RIDT#2 ESS & Physical Sec Sys	LS			(1,451)

11. REQUIREMENT (CONTINUED):

REQUIREMENT: This project is required to provide the Ballistic Missile Defense System with increased capabilities to conduct simultaneous test missions(s) (ground and flight) while maintaining operational status consistent with MDA's ability to conduct and support defensive operations. (New Mission)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. This project continues execution of systematic spiral development and evolution acquisition through incremental capabilities enhancements. Supplementing the ability of the BMDS to conduct simultaneous test and operations activities helps assure the operational system is fully mission capable should the need arise.

IMPACT IF NOT PROVIDED: Planned enhancements of elements in support of MDA's BMDS will not be available for defensive operations. Ultimately, the full potential to defend the United States against ballistic missile attack may not be achieved.

ADDITIONAL: Cost estimates are based upon parametric estimates and similar experience gained during the construction of Test Bed and Limited Defensive Operations facilities at Fort Greely, Alaska and Vandenberg Air Force Base, California. This project is being coordinated with the appropriate physical security plans, and includes required physical security and/or combating terrorism measures. All required NEPA and/or EO 12114 analyses will be completed prior to the start of construction.

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Various Worldwide Locations

4. PROJECT TITLE	5. PROJECT NUMBER
Ballistic Missile Defense System (BMDS) Simultaneous Test & Ops Enhancements Phase II	MDA 588

12. SUPPLEMENTAL DATA:

A. Design Data (Estimates)

(1) Status	
(a) Date Design Started	OCT 2006
(b) Date 35% Design	JAN 2007
(c) Date Design Complete	APR 2007
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract Design-Bid-Build and Design-Build	
(2) Basis	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	FGA/VAFB
(3) Total Design Cost	($000)
(a) Production of Plans and Specifications	7,526
(b) All other Design Costs	6,733
(c) Total Cost (c) = (a)+(b) or (d)+(e)	14,259
(d) Contract	10,122
(e) In-house	4,137
(4) Construction Contract Award Date	JUN 2007
(5) Construction Start Date	JUL 2007
(6) Construction Complete Date	SEP 2009

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost ($000)
RIDT/CN Comm Equipment	RDT&E	2007	18,100
BBI Launch Equipment (LF-24)	RDT&E	2007	35,000
GBI Launch Equipment	RDT&E	2007-2010	278,100
		Total	331,200

Mark Burroughs MDA/DFW: (256)-313-9523

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
Various	Ballistic Missile Defense System, AN/TPY-2 #3, Phase 1

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603884C	312	MDA 590	Total Cost 28,600 This Request 24,400

9. COST ESTIMATES

ITEM	U/M (M/E)	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				20,941
AN/TPY-2 Infrastructure	LS	-	-	(3,900)
AN/TPY-2 Berm	LS	-	-	(1,290)
BMDS Communications Support Complex	LS	-	-	(961)
Fuel Storage Facility	LS	-	-	(582)
Security Infrastructure	LS	-	-	(7,212)
Communications (Ka Band) Enhancements	LS	-	-	(6,996)
SUPPORTING FACILITIES				4,315
Electric Service	LS	-	-	(497)
Water, Sewer, Gas	LS	-	-	(473)
Paving, Walks, Curbs and Gutters	LS	-	-	(605)
Site Imp (779)/Demo (000)	LS	-	-	(779)
Other (Mob/Demob)	LS	-	-	(1,961)
SUBTOTAL				25,256
CONTINGENCY (5.0%)				1,298
SUBTOTAL				26,554
SUPERVISION, INSPECTION/OH (7.5%)				2,047
TOTAL CONTRACT COST				28,601
TOTAL REQUEST ROUNDED				28,600
EQUIPMENT FROM OTHER APPROPRIATIONS (NON-ADD)				(142,400)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: This project constructs an OCONUS site that will support the Forward Based X-Band Radar, Transportable (FBX-T) now designated AN/TPY -2. The MDA intends to use authority provided by the National Defense Authorization Act for Fiscal Year 2007, Public Law 109-364, Subtitle C- Missile Defense Programs, SEC.221. Fielding of Ballistic Missile Defense Capabilities to spend approximately $28.6M for this construction and incrementally fund the work in FY 08 ($24.4M). The MDA plans to incrementally fund the remaining work in FY 09 ($4.2M). It constructs hardstand for the AN/TPY-2 components, Antenna Equipment Unit, Electronic Equipment Unit, and Cooling Equipment Unit along with a Power Distribution System, communications network, UHF/SATCOM interface, shelters for security, administration, maintenance and storage, radar support, power generators, frequency converters and switchgear, fuel storage, commercial connection, road access, and security/lighting (classified storage and equipment security). Additionally, nodes at Fort Greely, Alaska, Wahiawa, Hawaii and Vandenberg Air Force Base, California, will be enhanced for the purpose of command, control and communications. Supporting facilities include: water, sewer, gas and electric service; paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; physical security; and telecommunications systems. Access for the handicapped will be provided.

11. REQUIRED: 1 EA ADQT: NONE SUBSTD: NONE

PROJECT: Construct a new OCONUS radar site to host the Forward Based X-Band Radar, Transportable (FBX-T now designated AN/TPY-2), radar components and support infrastructure and enhance critical communications nodes for the Ballistic Missile Defense System operations against potential threat trajectories. (New Mission)

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Various

4. PROJECT TITLE:	5. PROJECT NUMBER
Ballistic Missile Defense System, AN/TPY-2 #3, Phase 1	MDA 590

11. REQUIRED: **(continued)**

REQUIREMENT: This project is required to provide a layered sensors network in support of the Ballistic Missile Defense System (BMDS) mission to defend the United States and Allies. The radar is a key element in layered defense system designed to detect and engage ballistic missiles. The sensor, AN/TPY-2, detects, tracks and discriminates threats launched toward the United States or Allies. The radar sends the track data to the BMDS C2BMC element for control of interception in the mid course phase. The AN/TPY-2 requires adequate radar and support facilities, as well as supporting infrastructure, for long range viewing of potential threats. Critical communications nodes require enhancement. (New Mission)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. There are no prepared sites available for this radar. This project will enhance the ballistic missile defense of the United States and its Allies.

IMPACT IF NOT PROVIDED: If this project is not provided, planned enhancements of the Sensor element in support of MDA's BMDS will not be available for defensive operations. This will limit the performance of a layered sensors network for the Ballistic Missile Defense of the United States and Allies.

ADDITIONAL INFORMATION: Cost estimates are based on parametric estimates and similar experience gained during the construction of a similar Forward Based X-Band Radar at Shariki, Japan. This project is being coordinated with the appropriate physical security plans, and required physical security and/or combating terrorism measure are being included. All requirements of EO 12114, Environmental Effects Abroad of Major Federal Actions, will be completed prior to start of construction.

1. COMPONENT	FY 2008 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Various

4. PROJECT TITLE:	5. PROJECT NUMBER
Ballistic Missile Defense System, AN/TPY-2 #3, Phase 1	MDA 590

12. SUPPLEMENTAL DATA:

A. Design Data (Estimates)

(1) Status	
(a) Date Design Started	JUL 2007
(b) Date 35% Design	OCT 2007
(c) Date Design Complete	NOV 2007
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract	Design-Bid-Build
(2) Basis	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	Shariki, Japan
(3) Total Design Cost (000)	
(a) Production of Plans and Specifications	$ 2,120
(b) All other Design Costs	$ 1,880
(c) Total Costs (c)= (a)+(b) or (d)+(e)	$ 4,000
(d) Contract	$ 2,800
(e) In-house	$ 1,200
(4) Construction Contract Award Date	OCT 2007
(5) Construction Start Date	DEC 2007
(6) Construction Complete Date	MAR 2009

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriation Or Requested	Cost ($000)
Sensor Equipment	RDT&E	2007	13,000
Communication Equip	RDT&E	2007	55,300
Sensor Equipment	RDT&E	2008	8,000
Communication Equip	RDT&E	2008	45,700
Power Generation	RDT&E	2008	17,400
Communication Equip	RDT&E	2009	3,000
		TOTAL EQUIPMENT COST	$142,400

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Missile Defense Agency

Fiscal Year 2009

Program and Budget Review

RDT&E Construction Exhibit

February 2007

MISSILE DEFENSE AGENCY
FY 2009 RDT&E CONSTRUCTION
PROGRAM AND BUDGET REVIEW

TABLE OF CONTENTS

MISSILE DEFENSE AGENCY
FY 2009 RDT&E CONSTRUCTION PROJECT SUMMARY
BY LOCATION

($ in Thousands)

State/Country/Installation/Project	Total Cost	This Request	New/Current Mission	Page No.
Major Construction				
Various Worldwide Locations				
Ballistic Missile Defense System (BMDS) Missile Defense Plan II, OCONUS Phase 3	640,000	313,400	New	4
Fort Greely AK/Vandenberg AFB CA				
Ballistic Missile Defense System (BMDS) Simultaneous Test & Operational Enhancements (STOE), Phase III	204,850	60,320	New	7
Ballistic Missile Defense System (BMDS) AN/TPY-2 #3, Phase 2	28,600	4,200	New	10
Ballistic Missile Defense System (BMDS) European Radar Package, Phase 1	312,500	115,000	New	13
TOTAL RDT&E CONSTRUCTION	1,185,950	492,920		

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION6	4. PROJECT TITLE
OCONUS Location	Ballistic Missile Defense System Missile Defense Plan II, OCONUS Phase 3

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603882C	312	MDA 567	Total Cost $640,000 This Request $291,200

9. COST ESTIMATES

ITEM	U/M (M/E)	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				441,909
Admin/Maint/Storage Facility	LS	-	-	(33,105)
Back-up Power Generators	LS	-	-	(8,381)
DSCS Facility (Dual Antenna)	LS	-	-	(17,325)
EKV Fuel Storage Building	LS	-	-	(2,025)
EKV Oxidizer Storage Building	LS	-	-	(2,025)
Total from Continuation pages				(379,048)
SUPPORTING FACILITIES				125,114
Electric Service	LS	-	-	(27,088)
Water, Sewer, Gas	LS	-	-	(44,835)
Paving, Walks, Curbs and Gutters	LS	-	-	(15,135)
Site Imp (25,869)/Demo (000)	LS	-	-	(23,431)
Other (Mob/Demob)	LS	-	-	(14,625)
SUBTOTAL				567,023
CONTINGENCY (5.0%)				28,353
SUBTOTAL				595,376
SUPERVISION, INSPECTION/OH (7.5%)				44,653
TOTAL CONTRACT COST				640,029
TOTAL REQUEST ROUNDED				640,000
EQUIPMENT FROM OTHER APPROPRIATIONS (NON-ADD)				(565,000)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: MDA intends to use authority provided by "Public Law 109-364, Subtitle C-Missile Defense Programs, SEC.221 FIELDING OF BALLISTIC MISSILE DEFENSE CAPABILITIES" to initiate a $640M effort and incrementally fund in FY 08 ($40M), FY 09 ($291.2M), FY 10 ($169.5M) and FY 11 ($130M). At an OCONUS location, this project provides for a complete GMD system and a GMD Battle Management Fire Control and Communication (GBMFC2) In-Flight Interceptor Communications System (IFICS) Data Terminal. Supporting facilities include: water, sewer, gas and electric service; paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; physical security; and telecommunications systems. Access for the handicapped will be provided.

11. REQUIRED: 1 EA ADQT: NONE SUBSTD: NONE

PROJECT: Construct a complete GMD system at an OCONUS location to provide an additional layer of defense with increased capabilities consistent with Missile Defense Agency's (MDA) missile defense mission.

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
OCONUS Location

4. PROJECT TITLE:
Ballistic Missile Defense System, Missile Defense Plan II, OCONUS Phase 3

5. PROJECT NUMBER
MDA 567

9. COST ESTIMATES (CONTINUED)

Item	U/M (M/E)	QUANTITY	Unit COST	Cost (000)
PRIMARY FACILITIES (CONTINUED)				379,048
Electrical Substation	LS			(9,434)
Entry Control Station	LS			(4,610)
Fuel Unload & Storage Facility	LS			(7,152)
Mechanical-Electrical Building	LS			(17,460)
Missile Assembly Building	LS			(19,346)
Missile Launch Silos (10 ea)	LS			(68,165)
Missile Monitoring/Security Bldg	LS			(21,302)
Missile Storage Igloos	LS			(3,317)
Utility Building	LS			(17,312)
Water Supply Building	LS			(7,119)
MILSTAR Support System	LS			(1,571)
Electronic Security System	LS			(19,010)
Physical Security	LS			(9,987)
Robust Security System	LS			(74,311)
FOC Terminal Building	LS			(3,003)
Power Conversion & Conditioning	LS			(90,792)
GBMFC2 IFICS Data Terminal	LS			(3,683)
IDT Support Facility	LS			(1,474)

11. REQUIRED: (continued)

REQUIREMENT: This project is required to provide a complete GMD system capability OCONUS designed to incrementally improve MDA's ability to conduct and support enhanced defensive operations. (New Mission)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. This project continues GMD execution of systematic spiral development and evolutionary acquisition through incremental capability enhancements. This project supplements the GMD Test Bed Program, Capability Enhancements 1 and MDP II Phase I-III for the BMDS and will enhance the ballistic missile defense of the United States and its allies.

IMPACT IF NOT PROVIDED: If this project is not provided, planned enhancements of the GMD element in support of MDA's BMDS will not be available for defensive operations. Ultimately, the full potential to defend the United States and its allies against limited ballistic missile attack will not be achieved.

ADDITIONAL INFORMATION: Cost estimates are based on parametric estimates and similar experience gained during the construction of Test Bed and Capability Enhancement / Limited Defensive Operations facilities at Fort Greely, Alaska. This project is being coordinated with the appropriate physical security plans, and required physical security and/or combating terrorism measure are being included. All requirements of EO 12114, Environmental Effects Abroad of Major Federal Actions, will be completed prior to start of construction.

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
OCONUS Location

4. PROJECT TITLE:
Ballistic Missile Defense System, Missile Defense Plan II
OCONUS Phase 3

5. PROJECT NUMBER
MDA 567

12. SUPPLEMENTAL DATA:

A. Design Data (Estimates)

(1) Status	
(a) Date Design Started	JUL 2006
(b) Date 35% Design	NOV 2007
(c) Date Design Complete	JUN 2008
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract	Design-Bid-Build and Design Build
(2) Basis	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	Fort Greely, AK
(3) Total Design Cost (000)	
(a) Production of Plans and Specifications	$ 18,478
(b) All other Design Costs	$ 16,566
(c) Total Costs (c)= (a)+(b) or (d)+(e)	$ 35,044
(d) Contract	$ 24,480
(e) In-house	$ 10,564
(4) Construction Contract Award Date	OCT 2008
(5) Construction Start Date	DEC 2008
(6) Construction Complete Date	OCT 2010

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriation Or Requested	Cost ($000)
GBI Launch Equipment	RDT&E	2007	21,000
RIDT/Communication Equip	RDT&E	2007	5,000
GBI Launch Equipment	RDT&E	2008	132,400
RIDT/Communication Equip	RDT&E	2008	18,000
GBI Launch Equipment	RDT&E	2009	117,000
RIDT/Communication Equip	RDT&E	2009	46,000
GBI Launch Equipment	RDT&E	2010	107,000
RIDT/Communication Equip	RDT&E	2010	45,000
GBI Launch Equipment	RDT&E	2011	47,000
RIDT/Communication Equip	RDT&E	2011	27,000
		TOTAL EQUIPMENT COST	$565,000

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1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
Various Worldwide Locations	Ballistic Missile Defense System (BMDS) Simultaneous Test & Ops Enhancements Phase III

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603882C	312	MDA 589	Total Cost $204,850 This Request $60,320

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				**101,204**
FGA Missile Launch Silos (14-ea)	LS	-	-	(48,713)
FGA Mechanical-Electrical Building	LS	-	-	(26,749)
FGA Add/Alter Readiness & Control Bldg	LS	-	-	(4,492)
FGA Electronic Security System	LS	-	-	(11,390)
FGA Perimeter Security Fencing	LS	-	-	(804)
Total from Continuation page				(9,056)
SUPPORTING FACILITIES				**80,280**
Electric Service	LS	-	-	(24,559)
Water, Sewer, Gas	LS	-	-	(34,371)
Paving, Walks, Curbs and Gutters	LS	-	-	(4,505)
Site Imp (8,108) /Demo (2,156)	LS	-	-	(10,264)
Other (Mob/Demob)	LS	-	-	(6,581)
ESTIMATED CONTRACT COST				181,484
CONTINGENCY (5.0%)				9,074
Subtotal				190,558
SUPERVISION, INSPECTION/OH (7.5%)				14,292
TOTAL CONTRACT COST				204,850
TOTAL REQUEST ROUNDED				204,850
INSTALLED EQPT-OTHER APPROPRIATIONS				(331,200)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: This project extends and enhances the Ballistic Missile Defense System (BMDS) Ground-Based Mid-Course Defense (GMD) at various world-wide locations. MDA intends to use authority provided by "Public Law 109-364, Subtitle C-Missile Defense Programs, SEC.221 FIELDING OF BALLISTIC MISSILE DEFENSE CAPABILITIES" to spend approximately $205M for this construction and incrementally fund the project in FY 07 ($53.75M), FY 08 ($90.78M)and FY 09 ($60.32M). This project constructs At Fort Greely, Alaska (FGA), a new missile field with 14 missile launch silos and Mechanical-Electrical Building; addition/alternation to the Readiness and Control Building; perimeter security crash barrier fencing; and Electronic Security Systems. At Vandenberg Air Force Base, California (VAFB) this project alters and renovates an existing launch silo (LF-24); construct concrete pads with utility hookup to support the GMD Battle Management (Fire Control) and Communication Flight Node and storage building; Water Pump Station; perimeter security crash barrier fencing; and Electronic Security Systems. Supporting facilities include: water, sewer, gas and electric service, paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; and telecommunications systems. Access for the handicapped will be provided.

11. REQUIRED: 1 EA ADEQUATE: NONE SUBSTANDARD: NONE

PROJECT: Construct infrastructure and necessary facilities at various locations world wide to provide BMD System an additional layer of defense with increased capability consistent with Missile Defense Agency's (MDA) missile defense mission.

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Various Worldwide Locations

4. PROJECT TITLE	5. PROJECT NUMBER
Ballistic Missile Defense System (BMDS) Simultaneous Test & Ops Enhancements Phase III	MDA 589

9 COST ESTIMATES (CONTINUED)

Item	U/M (M/E)	QUANTITY	Unit Cost	Cost (000)
PRIMARY FACILITIES (CONTINUED)				**9,056**
VAFB LF-24 ESS & Physical Sec Sys	LS			(2,918)
VAFB RIDT#2 Pads & Utility Hookups	LS			(3,987)
VAFB RIDT Storage Building	LS			(251)
VAFB Water Pump Station	LS			(449)
VAFB RIDT#2 ESS & Physical Sec Sys	LS			(1,451)

. DESCRIPTION OF PROPOSED CONSTRUCTION (Continued) handicapped will be provided.

11. REQUIREMENT (CONTINUED):

REQUIREMENT: This project is required to provide the Ballistic Missile Defense System with increased capabilities to conduct simultaneous test missions(s) (ground and flight) while maintaining operational status consistent with MDA's ability to conduct and support defensive operations. (New Mission)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. This project continues execution of systematic spiral development and evolution acquisition through incremental capabilities enhancements. Supplementing the ability of the BMDS to conduct simultaneous test and operations activities helps assure the operational system is fully mission capable should the need arise.

IMPACT IF NOT PROVIDED: Planned enhancements of elements in support of MDA's BMDS will not be available for defensive operations. Ultimately, the full potential to defend the United States against ballistic missile attack may not be achieved.

ADDITIONAL: Cost estimates are based upon parametric estimates and similar experience gained during the construction of Test Bed and Limited Defensive Operations facilities at Fort Greely, Alaska and Vandenberg Air Force Base, California. This project is being coordinated with the appropriate physical security plans, and includes required physical security and/or combating terrorism measures. All required NEPA and/or EO 12114 analyses will be completed prior to the start of construction.

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Various Worldwide Locations

4. PROJECT TITLE	5. PROJECT NUMBER
Ballistic Missile Defense System (BMDS) Simultaneous Test & Ops Enhancements Phase III	MDA 589

12. SUPPLEMENTAL DATA:

A. Design Data (Estimates)

(1) Status	
(a) Date Design Started	OCT 2006
(b) Date 35% Design	JAN 2007
(c) Date Design Complete	APR 2007
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract Design-Bid-Build and Design-Build	
(2) Basis	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	FGA/VAFB
(3) Total Design Cost	($000)
(a) Production of Plans and Specifications	7,526
(b) All other Design Costs	6,733
(c) Total Cost (c) = (a)+(b) or (d)+(e)	14,259
(d) Contract	10,122
(e) In-house	4,137
(4) Construction Contract Award Date	JUN 2007
(5) Construction Start Date	JUL 2007
(6) Construction Complete Date	SEP 2009

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost ($000)
RIDT/CN Comm Equipment	RDT&E	2007	18,100
BBI Launch Equipment (LF-24)	RDT&E	2007	35,000
GBI Launch Equipment	RDT&E	2007-2010	278,100
		Total	331,200

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PREVIOUS EDITIONS MAY BE USED INTERNALLY UNTIL EXHAUSTED

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
Various	Ballistic Missile Defense System, AN/TPY-2 #3, Phase 2

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603884C	312	MDA 591	Total Cost 28,600 This Request 4,200

9. COST ESTIMATES

ITEM	U/M (M/E)	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				20,941
AN/TPY-2 Infrastructure	LS	-	-	(3,900)
AN/TPY-2 Berm	LS	-	-	(1,290)
BMDS Communications Support Complex	LS	-	-	(961)
Fuel Storage Facility	LS	-	-	(582)
Security Infrastructure	LS	-	-	(7,212)
Communications (Ka Band) Enhancements	LS	-	-	(6,996)
SUPPORTING FACILITIES				4,315
Electric Service	LS	-	-	(497)
Water, Sewer, Gas	LS	-	-	(473)
Paving, Walks, Curbs and Gutters	LS	-	-	(605)
Site Imp (779)/Demo (000)	LS	-	-	(779)
Other (Mob/Demob)	LS	-	-	(1,961)
SUBTOTAL				25,256
CONTINGENCY (5.0%)				1,298
SUBTOTAL				26,554
SUPERVISION, INSPECTION/OH (7.5%)				2,047
TOTAL CONTRACT COST				28,601
TOTAL REQUEST ROUNDED				28,600
EQUIPMENT FROM OTHER APPROPRIATIONS (NON-ADD)				(142,400)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: This project constructs an OCONUS site that will support the Forward Based X-Band Radar, Transportable (FBX-T) now designated AN/TPY -2. The MDA intends to use authority provided by the National Defense Authorization Act for Fiscal Year 2007, Public Law 109-364, Subtitle C – Missile Defense Programs, SEC. 221. Fielding of Ballistic Missile Defense Capabilities to spend approximately $28.6M for this construction and incrementally fund the remaining work in FY09 ($4.2M). It constructs hardstand for the AN/TPY-2 components, Antenna Equipment Unit, Electronic Equipment Unit, and Cooling Equipment Unit along with a Power Distribution System, communications network, UHF/SATCOM interface, shelters for security, administration, maintenance and storage, radar support, power generators, frequency converters and switchgear, fuel storage, commercial connection, road access, and security/lighting (classified storage and equipment security). Additionally, nodes at Fort Greely, Alaska, Wahiawa, Hawaii and Vandenberg Air Force Base, California, will be enhanced for the purpose of command, control and communications. Supporting facilities include: water, sewer, gas and electric service; paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; physical security; and telecommunications systems. Access for the handicapped will be provided.

11. REQUIRED: 1 EA ADQT: NONE SUBSTD: NONE

PROJECT: Construct a new OCONUS radar site to host the Forward Based X-Band Radar, Transportable (FBX-T now designated AN/TPY-2), radar components and support infrastructure and enhance critical communications nodes for the Ballistic Missile Defense System operations against potential threat trajectories. (New Mission)

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	
Various	
4. PROJECT TITLE: Ballistic Missile Defense System, AN/TPY-2 #3, Phase 2	**5. PROJECT NUMBER** MDA 591

11. REQUIRED: (continued)

REQUIREMENT: This project is required to provide a layered sensors network in support of the Ballistic Missile Defense System (BMDS) mission to defend the United States and Allies. The radar is a key element in layered defense system designed to detect and engage ballistic missiles. The sensor, AN/TPY-2, detects, tracks and discriminates threats launched toward the United States or Allies. The radar sends the track data to the BMDS C2BMC element for control of interception in the mid course phase. The AN/TPY-2 requires adequate radar and support facilities, as well as supporting infrastructure, for long range viewing of potential threats. Critical communications nodes require enhancement. (New Mission)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. There are no prepared sites available for this radar. This project will enhance the ballistic missile defense of the United States and its Allies.

IMPACT IF NOT PROVIDED: If this project is not provided, planned enhancements of the Sensor element in support of MDA's BMDS will not be available for defensive operations. This will limit the performance of a layered sensors network for the Ballistic Missile Defense of the United States and Allies.

ADDITIONAL INFORMATION: Cost estimates are based on parametric estimates and similar experience gained during the construction of a similar Forward Based X-Band Radar at Shariki, Japan. This project is being coordinated with the appropriate physical security plans, and required physical security and/or combating terrorism measure are being included. All requirements of EO 12114, Environmental Effects Abroad of Major Federal Actions, will be completed prior to start of construction.

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
Various

4. PROJECT TITLE:	5. PROJECT NUMBER
Ballistic Missile Defense System, AN/TPY-2 #3, Phase 2	MDA 591

12. SUPPLEMENTAL DATA:

A. Design Data (Estimates)

(1) Status	
(a) Date Design Started	JUL 2007
(b) Date 35% Design	OCT 2007
(c) Date Design Complete	NOV 2007
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract	Design-Bid-Build
(2) Basis	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	Shariki, Japan
(3) Total Design Cost (000)	
(a) Production of Plans and Specifications	$ 2,120
(b) All other Design Costs	$ 1,880
(c) Total Costs (c)= (a)+(b) or (d)+(e)	$ 4,000
(d) Contract	$ 2,800
(e) In-house	$ 1,200
(4) Construction Contract Award Date	OCT 2007
(5) Construction Start Date	DEC 2007
(6) Construction Complete Date	MAR 2009

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriation Or Requested	Cost ($000)
Sensor Equipment	RDT&E	2007	13,000
Communication Equip	RDT&E	2007	55,300
Sensor Equipment	RDT&E	2008	8,000
Communication Equip	RDT&E	2008	45,700
Power Generation	RDT&E	2008	17,400
Communication Equip	RDT&E	2009	3,000
		TOTAL EQUIPMENT COST	$142,400

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1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
OCONUS Location	Ballistic Missile Defense System, European Radar Package, Phase 1

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
0603884C	312	MDA 592	Total Cost 312,500 This Request 115,000

9. COST ESTIMATES

ITEM	U/M (M/E)	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				142,600
Mid-Course Radar (M-CR)/Maint Facility	LS	-	-	(43,700)
M-CR Power Plant	LS	-	-	(38,900)
Security/Entry Control Facility	LS	-	-	(3,300)
Fuel Unload & Storage Facility	LS	-	-	(3,600)
Electronic/Physical Security	LS	-	-	(12,500)
AN/TPY-2 Power Conversion-Conditioning	LS	-	-	(14,100)
BMDS Communication Support Complex	LS	-	-	(20,200)
AN/TPY-2 Infrastructure	LS	-	-	(6,300)
SUPPORTING FACILITIES				133,778
Electric Service	LS	-	-	(34,678)
Water, Sewer, Gas	LS	-	-	(33,150)
Paving, Walks, Curbs and Gutters	LS	-	-	(24,150)
Site Imp (27,100)/Demo (000)	LS	-	-	(27,100)
Other (Mob/Demob)	LS	-	-	(15,000)
SUBTOTAL				276,678
CONTINGENCY (5.0%)				13,834
SUBTOTAL				290,512
SUPERVISION, INSPECTION/OH (7.5%)				21,788
TOTAL CONTRACT COST				312,300
TOTAL REQUEST ROUNDED				312,500
EQUIPMENT FROM OTHER APPROPRIATIONS (NON-ADD)				(522,700)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: This projects constructs two OCONUS sites that will support the Mid-Course Radar (M-CR) and the Forward Based X-Band Radar, Transportable (FBX-T) now designated AN/TPY-2, respectively. The MDA has used special authority in Public Law to use Research Development Test and Engineering funding for Fielding of Ballistic Missile Defense Capabilities and anticipates similar authorization in the future. Based on this authority, the MDA intends to spend approximately $312.5 M in total cost for this project with a funding profile of $115.0 M in FY09, $151.9 M in FY10 and $45.4 M in FY11. It constructs hardstand for the AN/TPY-2 components, Antenna Equipment Unit, Electronic Equipment Unit, and Cooling Equipment Unit along with a Power Distribution System, communications network, UHF/SATCOM interface, shelters for security, administration, maintenance and storage, radar support, power generators, frequency converters and switchgear, fuel storage, commercial connection, road access, and security/lighting (classified storage and equipment security). The M-CR requires a more robust effort for fixed site radar, operations/maintenance/storage facility, BMDS Communications Support Complex (BCSC), security/entry control, power plant, fuel storage, and all supporting infrastructure including security/lighting (classified storage and equipment security). Supporting facilities include: water, sewer, gas and electric service; paving, walks, curbs and gutters; storm drainage; fire protection and alarm systems; site improvements; physical security; and telecommunications systems. Access for the handicapped will be provided.

11. REQUIRED: 2 EA ADQT: NONE SUBSTD: NONE

PROJECT: Construct two new OCONUS radar sites to host the Mid-Course X-Band Radar

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	
OCONUS Location	
4. PROJECT TITLE: Ballistic Missile Defense System, European Radar Package, Phase 1	**5. PROJECT NUMBER** MDA 592

11. Project (continued)
and the Forward Based X-Band Radar, Transportable (FBX-T now designated AN/TPY-2), radar components and support infrastructure for the Ballistic Missile Defense System operations against potential threat trajectories. (New Mission)

REQUIREMENT: This project is required to provide a layered sensors network in support of the Ballistic Missile Defense System (BMDS) mission to defend the United States and Allies. The radars are a key element in layered defense system designed to detect and engage ballistic missiles. The sensors, both the Mid-Course Radar and AN/TPY-2, detect, track and discriminate threats launched toward the United States or Allies. The radar sends the track data to the BMDS C2BMC element for control of interception in the mid course phase. The Mid-Course Radar and AN/TPY-2 require adequate radar and support facilities, as well as supporting infrastructure, for long range viewing of potential threats. (New Mission)

CURRENT SITUATION: Missile Defense Agency is developing a Ballistic Missile Defense System (BMDS) to ensure operational equipment and missiles adequately meet technological and threat assessments. There are no prepared sites in EUCOM available for either radar. This project will enhance the ballistic missile defense of the United States and its Allies.

IMPACT IF NOT PROVIDED: If this project is not provided, planned enhancements of the Sensor element in support of MDA's BMDS will not be available for defensive operations. This will limit the performance of a layered sensors network for the Ballistic Missile Defense of the United States and Allies.

ADDITIONAL INFORMATION: Cost estimates are based on parametric estimates and similar experience gained during the construction of Test Bed and Capability Enhancement / Limited Defensive Operations facilities at Fort Greely, Alaska. This project is being coordinated with the appropriate physical security plans, and required physical security and/or combating terrorism measure are being included. All requirements of EO 12114, Environmental Effects Abroad of Major Federal Actions, will be completed prior to start of construction.

1. COMPONENT	FY 2009 RDT&E CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION
OCONUS Location

4. PROJECT TITLE:	5. PROJECT NUMBER
Ballistic Missile Defense System, European Radar Package, Phase 1	MDA 592

12. SUPPLEMENTAL DATA:

A. Design Data (Estimates)

(1) Status	
(a) Date Design Started	NOV 2007
(b) Date 35% Design	APR 2008
(c) Date Design Complete	JUN 2009
(d) Parametric Cost Estimating Used to Develop Costs	Yes
(e) Type of Design Contract	Design-Bid-Build
(2) Basis	
(a) Standard or Definitive Design	Yes
(b) Where Design was most recently used	Fort Greely, AK
(3) Total Design Cost (000)	
(a) Production of Plans and Specifications	$ 10,900
(b) All other Design Costs	$ 10,500
(c) Total Costs (c)= (a)+(b) or (d)+(e)	$ 21,400
(d) Contract	$ 15,000
(e) In-house	$ 6,400
(4) Construction Contract Award Date	OCT 2008
(5) Construction Start Date	DEC 2008
(6) Construction Complete Date	SEP 2011

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriation Or Requested	Cost ($000)
Sensor Equipment	RDT&E	2007	78,500
Sensor Equipment	RDT&E	2008	45,800
Communication Equip	RDT&E	2008	23,500
Sensor Equipment	RDT&E	2009	108,600
Communication Equip	RDT&E	2009	49,700
Sensor Equipment	RDT&E	2010	88,400
Communication Equip	RDT&E	2010	81,900
Communication Equip	RDT&E	2011	35,600
Communication Equip	RDT&E	2012	1,200
Communication Equip	RDT&E	2013	9,400
		TOTAL EQUIPMENT COST	$522,700

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Missile Defense Agency

Fiscal Year 2009

Program and Budget Review

Military Construction Exhibit

February 2007

MISSILE DEFENSE AGENCY
FY 2009 MILITARY CONSTRUCTION PROGRAM
PROGRAM AND BUDGET REVIEW

TABLE OF CONTENTS

MISSILE DEFENSE AGENCY
FY 2009 MILITARY CONSTRUCTION PROJECT SUMMARY
BY LOCATION

($ in Thousands)

State/Country/Installation/Project	Auth. Request	Approp. Request	New/Current Mission	Page No.
Major Construction	0	0		0
Unspecified Minor Construction	3,471	3,471		4
Planning and Design	4,789	4,789		5
TOTAL MILITARY CONSTRUCTION	8,260	8,260		

1. COMPONENT	FY 2009 MILITARY CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
Various Worldwide Locations	Unspecified Minor Construction

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
N/A	N/A	N/A	3,471

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
Unspecified Minor Construction	LS			3,471
ESTMATED CONTRACT COST				3,471
CONTINGENCY PERCENT (0.0%)				
SUBTOTAL				3,471
SUPERVISION, INSPECTION & OVERHEAD (0.0%)				
TOTAL REQUEST				3,471
TOTAL REQUEST (ROUNDED)				3,471
INSTALLED EQPT-OTHER APPROPRIATIONS				(0)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: Provide a lump sum amount for unspecified construction projects, not otherwise authorized by law, having a funded cost of $1,500,000 or less, including normal construction, alteration or conversion of permanent or temporary facilities and projects having a funded cost of $3,000,000 or less that are intended solely to correct a deficiency that is life-threatening, health-threatening, or safety-threatening, in accordance with 10 USC Section 2805.

11. REQ: As required

REQUIREMENT: These funds provide the means of accomplishing urgent unforeseen construction projects, which are anticipated during FY 2009. Included would be projects to support mission critical research and development requirements of the Ballistic Missile Defense System.

1. COMPONENT	FY 2009 MILITARY CONSTRUCTION PROJECT DATA	2. DATE
MDA		February 2007

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
Various Worldwide Locations	Planning and Design

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
N/A	N/A	N/A	4,789

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
Planning and Design	LS			4,789
ESTMATED CONTRACT COST				4,789
CONTINGENCY PERCENT (0.0%)				
SUBTOTAL				4,789
SUPERVISION, INSPECTION & OVERHEAD (0.0%)				0
TOTAL REQUEST				4,789
TOTAL REQUEST (ROUNDED)				4,789
INSTALLED EQPT-OTHER APPROPRIATIONS				(0)

10. DESCRIPTION OF PROPOSED CONSTRUCTION: The funds requested will be used to provide financing for architectural and engineering services and construction design of Missile Defense Agency (MDA) Military Construction projects.

11. REQ: As required

REQUIREMENT: These planning and design funds are required to initiate and complete design of facilities in the MDA unspecified minor military construction program including projects which are anticipated to arise during FY 2009, and accomplish planning and design for future projects with a long lead-time to be included in subsequent MDA Military Construction programs.

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Missile Defense Agency
Fiscal Year (FY) 2008 Budget Estimates

ACRONYMS AND ABBREVIATIONS

A	
AADC	Area Air Defense Commander
AAMDC	Army Air Missile Defense Command
ABL	Airborne Laser
ACCS	Air Command and Control System
ACS	Attitude Control System, Auxillary Communication Shelter
ADP	Arrow Deployability Program; Automated Data Processing; Adversary Delta Package
AEP	Analysis Execution Plans
AFC2ISRC	Air Force Command and Control Intelligence Surveillance Reconnaissance Center
AFSCN	Air Force Spacecraft Communication Network
AIRS	Airborne Infrared Surveillance
AIS	Automated Information System
ALHTK	Air Launch Hit to Kill
AMOR	Army Missile Optical Range, Redstone Arsenal, AL
AN/TPY	Army Navy/Trasportable Radar Surveillance
AOC	Air Operations Center
AOP	Airborne Optics Platform; Advanced Optical Processor
AOR	Area of Responsibility
ARAV	Aegis Readiness Assessment Vehicles
ARO	All Reflective Optics
ARS	Active Ranging System
ASIP	Arrow System Improvement Program; Application Specific Integrated Circuit
ASP	Advanced Signal Processor
AST	Airborne Surveillance Test Bed; Arrow System Test
ATH	Above the Horizon
ATIC	Advanced Technology Innovation Cell
ATILL	Advanced Tracking Illuminator Laser
ATO	Authority To Operate
ATT	Algorithm-to-Test Reviews
AVIT	Air Vehicle Integration and Test
AWS	Arrow Weapon System; AEGIS Weapon System
B	
BAA	Broad Agency Announcement
BCA	Business Case Analysis; BMDS Capability Assessment
BC/FC	Beam Control/Fire Control
BCSC-T	BMDS Communication System Complex Transportable
BITC	Battle Management Integration Center
BM	Battle Management; Ballistic Missile
BM/C3	Battle Management, Command, Control, and Communications
BM/C4I	Battle Management, Command, Control, Communications, Computers, and Intelligence
BMD	Ballistic Missile Defense
BMDS	Ballistic Missile Defense System
BMDSM	BMD System Manager
BOIP	Basis of Issue Plan
BPRRA	Baseline Production Readiness Risk Assessments
BQT	Block Qualification Testing
BRAC	Base Realignment and Closure
BSC	Battery Support Center

BSO	BMDS Safety Officers
BSP	BMD Signal Processor
BTH	Below the Horizon
BWO	BMDS Watch Officers
C	
C2BMC	Command and Control, Battle Management, and Communications
CAPS	Commanders Analysis and Planning System
CaT	Characterization and Transition Reviews
CCMWG	Common Cost Methodology Working Group
CCWG	Corporate Clutter Working Group
CD	Concept Descriptions; Cobra Dane
CDA	Core Depot Assessment; Coherent Distribution Aperture
CDR	Critical Design Review
CDU	Cobra Dane Upgrade
CE	Capability Enhanced
CI	Counterintelligence
CLE	Command and Launch Equipment
CLS	Contractor Logistics Support
CMART	Consolidated Missile Asset Reused for Targets
CMOC	Cheyenne Mountain Operations Center
CNE	Communications Node Equipment
CNIP	C2BMC Network Interface Processor
COCOMS	Combatant Commanders
COIL	Chemical Oxygen-Iodine Laser
COLD	Center for Optical Logic Devices
CONOPS	Concept of Operations
CONUS	Continental United States
COTS	Commercial Off-The-Shelf
CPI	Continuing Process Improvement
CPIF	Cost-Plus-Incentive-Fee
CR	Capability Release
CRA	Continuing Resolution Authority
CTF	Controlled Test Flight; Combined Test Force
CTTO	Concurrent Test, Training and Operations
CTV	Control Test Vehicle
CY	Calendar Year
D	
DACS	Divert and Attitude Control System
DAA	Defense Appropriations Act
DAD	Discrimination Augmentation Devices
DARPA	Defense Advanced Research Projects Agency
DDG	Guided Missile Destroyer
DFAS	Defense Finance and Accounting Service
DFE	Discrimination Fusion Engine
DGSE	Deployable Ground Support Equipment
DGT	Distributed Ground Test
DIICOE	Defense Information Infrastructure Common Operating Environment
DISA	Defense Information Systems Agency
DMETS	Distributed, Multi-Echelon Training System

DMTP	Development Master Test Plan
DOORS	Dynamic Object Oriented Requirement Systems
DOTMLPF	Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities
DRR	Design Readiness Review
DSE	Distributed Sensing Experiment
DSWS	David's Sling Weapon System
DT/OT	Development Test/Operational Test
DVT	Development Verification Test
E	
EA	Executing Agent
EAP	Emergence Activation Plan
EBCCD	Electron Bombarded Charge Couple Device
ECS	Element Capability Specification
EDM	Engineering Development Model
EE	Engineering Evaluation
EEI	Essential Elements of Information
EHF	Extremally High Frequency
EICO	Element Integration and Checkout
EKV	Exoatmospheric Kill Vehicle
ELDT	Early Launch Detection and Tracking
ELO	Epitaxial Layer Overgrowth
EMDR	Executive Mission Data Review
EMR	European Midcourse Radar
EO	Electro-optical
EO/IR	Electro-Optical/Infrared
EQLB	Executive Quick Look Briefing
ESG	Engagement Sequence Group
ESI	External System Interface; Enterprise Software Initiative
ESL	External Sensors Lab
ETE	Element Test and Evaluation
ET	Embedded Test
EUCOM/IA	European Command Israeli Air Force
EWR	Early Warning Radar
EWS	Enterprise Work Stations
F	
FAC	First Alert and Cueing
FBS	Forward Based Sensor
FBX-T	Forward Based Radar - Transportable
FFP	Firm Fixed Price
FFRDC	Federally Funded Research and Development Center
FISMA	Federal Information Security Management Act
FISS	Foreign Intelligence and Security Services
FMA	Foreign Material Acquisition; Foreign Military Asset
FMS	Foreign Military Sales
FS&E	Facilities, Siting & Environment
FT	Flight Test
FTF	Flexibility Target Family
FTM	Flight Test Mission
FTR	Flight Test Round
FY	Fiscal Year
FYDP	Future Years Defense Program

G	
GBI	Ground Based Interceptor
GBR-P	Ground Based Radar Prototype
GCC	Geographic Combatant Commanders
GCCS-J	Global Command and Control System - Joint
GCN	Global Command Network; GMD Communications Network
GEM	Guidance Enhancement Missiles (PATRIOT)
GFC / C	GMD Fire Control and Communications
GFE	Government Furnished Equipment
GIFC	Global Integrated Fire Cotnrol
GM	Ground-based Midcourse
GMD	Ground-based Midcourse Defense
GMAP	Government MDA Assurance Provisions
GNCC	Global Network Operations Center
GN&C / Propulsion	Guidance Navigation and Control
GTV	Guidance Test Vehicle
GS	Ground Systems
H	
HAA	High Altitude Airship
HAENS	High Altitude Exoatmospheric Nuclear Survivability
HALO	High Altitude Observatory
HARD	Hardening
HBCU/MI	Historically Black Colleges and Universities/Minority Institutions
HC	Hazardous Classification
HEL	High Energy Laser
HEMP	High Altitude Electromagnetic Pulse
HIL	Human-in-the-Loop; Hardware-in-the-Loop
HITL	Hardware-in-the-Loop
HPSI	High Power System Integration
HTI	Hyper temporal Infrared Sensor
HTK	Hit to Kill
HWIL	Hardware-in-the-Loop
I	
IA	Information Assurance
IADP	Integrated Analysis Data Package
IAI	Israel Aircraft Industries
IAMD	Integrated Air and Missile Defense
IAR	Integrated Assessment Review
IBMP	Integrated Ballistic Missile Picture
IBR	Initial Baseline Review
ICAs	Industrial Capability Assessments
ICAR	Interim Capability Assessment Report
ICBM	Intercontinental Ballistic Missile
ICD	Interface Control Document
ICSS	Interim Contractor Support System
IDAP	Integrated Data Analysis Plans
IDD	Interface Design Documentation
ID/IQ	Indefinite Delivery/Indefinite Quantity
IDO	Initial Defensive Operations
IDMP	Integrated Data Management Plans

IDT	In-Flight Interceptor Communications System Data Terminal
IET	Integration Event Matrix
IETM	Integrated Electronic Technical Manual
IFICS	In-Flight Interceptor Communications System
IGT	Integrated Ground Test
IM	Insensitive Munitions
IM/IT	Information Management/Information Technology
IMDO	Israeli Missile Defense Organization
IMoD	Israeli Ministry of Defense
IMP	Integrated Master Plan
IMTP	Integrated Master Test Plan
IMU	Inertial Measurement Unit
IP	Integration Phase
IPT	Integrated Product Team
IR	Infrared
IRBM	Intermediate Range Ballistic Missile
IRFNA	Inhibited Red Fuming Nitric Acid
IRST	Infrared Search and Track
IRT	Independent Review Team
ISA&I	Israeli System Architecture and Integration
ISC	Intelligence Support Cell (MDA)
ISCD	Integrated System Configuration Database
ISG	Integration Synchronization Group
ISPAN	Integrated Strategic Planning and Analysis Network
ISSE	Information System Security Engineering
ISTC	Integrated System Test Capability
IT	Integrated Test; Information Technology
ITB	Israeli Test Bed
ITP	Interceptor Technology Program
ITW/AA	Initial Threat Warning/Attack Assessment
J	
JADE	Joint Analysis Data Engine
JAT	Joint Analysis Teams
JABMD	Japan BMD
JCTV	Joint Control Test Vehicle
JDA	Japan Defense Agency
JDAC	Joint Data Analysis Center
JEWL	Joint Early Warning Laboratory
JFCC-IMD	Joint Functional Component Command - Integrated Missile Defense
JHU	John Hopkins University
JNIC	Joint National Integration Center, Schriever AFB, CO
JRD	Joint National Integration Center Research and Development
JRE	Joint Range Extension
JTAG	Joint Test Action Group
JTAMDO	Joint Theater Air and Missile Defense Organization
JTIDS	Joint Tactical Information Data System
JWICS	Joint Worldwide Intelligence Communications System
JWSP	Joint Warfighter Support Program

ACRONYMS AND ABBREVIATIONS

K	
KE	Kinetic Energy
KEI	Kinetic Energy Interceptor
KKV	Kinetic Kill Vehicle
KLC	Kodiak Launch Complex
KMRSS	Kwajalein Mobile Range Safety System
KPP	Knowledge Point
L	
LADAR	Laser Detection and Ranging; Laser Radar
LCT	Laser Communications Terminal
LDACS	Liquid Divert and Attitude Control System
LDC	Limited Defensive Capabiltiy
LOE	Low Earth Orbit
LOT	Launch on TADIL
LFT&E	Live Fire Test and Evaluation
LMSSC	Lockheed Martin Space Systems Company
LPSI - A	Low Power System Integration - Active
LRALT	Long Range Air Launched Target
LRBM	Long Range Ballistic Missile
LRS&T	Long Range Surveillance and Tracking
LTP	Laser Technology Program
LTPO	Lower Tier Program Office
LUT	Limited User Testing
LWIR	Long Wave Infrared
M	
M&S	Modeling and Simulation; Materials and Structure
MAP	MDA Assurance Plan
MARC	MDA Assurance Representative
MARTI	Missile Alternative Range Target Instrument
MCS	Management Control System
MD	Missile Defense
MDA	Missile Defense Agency
MDDC	Missile Defense Data Center
MDR	Mission Data Review
MDSE	Missile Defense System Exerciser
MDSEC	Missile Defence Space Experimentation Center
MEB	Missile Equipment Building
MEIT	Multi-Element Integration Testing
MER	Manpower Estimate Report
M-FASP	Midcourse Fly Along Sensor Package
MHC/BLEA-GV	Multi-hypothesis correlation/BMDS Launch Event Association-Global Vision
MILCON	Military Construction
MILSATCOM	Military Satellite Communiattions
MIL-STD	Military Standards
MIP	Master Integration Plan
MIPR	Military Interdepartmental Purchase Request
MIS	MDSEC Interchange System
MIT	Miniature Interceptor Technology; Massachusetts Institute of Technology
MIT/LL	Massachusetts Institute of Technology, Lincoln Laboratory, Lexington, MA
MLP	Mobile Launch Platform

MMIC	Multi-Mission Integration Cell; Microwave Monolithic Integrated Circuits
MOA	Memorandum of Agreement
MOC	Missile Defense Agency Operations Center
MOST	Multiple Target Tracking Optical Sensor Array Technology
MOU	Memorandum of Understanding
MPAT	Producibility and Manufacturing Technology
MR	Modificaiton Request
MRBM	Medium Range Ballistic Missile
MRL	Multiple Rocket Launcher; Mission Requirements Letter
MRP	Missile Round Pallet
MRSS	Mobile Range Safety System
MRT	Medium Range Target
MRTF	Missions Readiness Task Force
MSK	Mechanical Steering Kit
MSTAR	Missile Defense Science, Technology & Research
MTSC	Micro Satelite Target System
N	
NCADE	Net Centric Airborne Defense Element
NCES	Net-Centric Enterprise Services
NCR	National Capital Region
NECC	National Enabled Command Capability
NECS	Network Enterprise Centric Services
NFIRE	Near Field Infrared Experiment
NFR	Near Field Range
NGST	Northrop Grumman Space Technology
NMCC	National Military Command Center
NRL	Naval Research Laboratory, Washington, DC
O	
OBV	Objective Boost Vehicle
ODA	Optical Data Analysis
ODI	Offensive/defensive Intergration
OEM	Original Equipment Manufacturers
OIS	Orbital Insertion Stage
OI&S	Operational Integration and Support
ONIR	Overhead Non-imaging Infrared
OPLAN	Operations Plan
OPSCAP	Operations Capabilities
OSC	Operations Support Center
OTA	Operational Test Agency
OTHR	Over The Horizon Radar
OVA	Operational Viability Assessment
P	
PA	Project Arrangement
PACOM	U.S. Pacific Command
PAC-3	Patriot Advanced Capability-3
PB	President's Budget
PBL	Performance Based Logistics
PCB	Program Change Board
PCCS	Protected Communication Control System
PCIL	Prime Consolidated Integration Laboratory

PCR	Preliminary Capabiltiy Review
PDM	Program Decision Memorandum
PDR	Preliminary Design Review
PE	Program Element
PFR	Post Flight Reconstruction
PMAP	Process Mission Assurance Plan
PMRF	Pacific Missile Range Facility, Barking Sands, Kauai, HI
PMT	Pre-Mission Test
POAP	Photoconduction On Active Pixels
PPU	Prime Power Unit
PROCAP	Protection Capability
PRST	Pacific Range Support Team
PSN	Parallel Staging Area
PTV	Propulsion Test Vehicle
Q	
QLB QLRB	Quick Look Briefing Quick Launch Response Boat
QQPR	Qualitative Quantitative Personnel Requirements
QSMA	Qualtiy Safety and Mission Assurance
QWIP	Quantum Well Infrared Photo Detector
R	
RAD	Radiation
RAM	Reliability, Availability and Maintainability
RDA	Radar Data Analysis
RDC	Radar Data Collection
RDE	Radar Data Exploitation
RDSIS	Radar Digital Signal Injection System
REC	Records of Environmental Consideration
REO	Responsible Engineering Organization
RF	Radio Frequency
RFP	Request for Proposal
RIDT	Reocatable IDT
RM&A	Reliability, Maintainability and Availability
ROE	Rules of Engagement
ROTHR	Relocatable Over-the-Horizon Radar
RRF	Risk Reduction Flight
RSAP	Range Safety Augmentation Program
RSMT	Range Safety Modeling Toolkit
RST	Radar System Technology
RTO	Responsible Test Organization
RTOS	Real Time Operating System
RTS	Ronald Reagan Test Site, Kwajalein, Marshall Islands
RSAP	Redstone Arsenal
S	
SADBU	Small And Disadvantaged Business Unit
SATCOM	Satellite Communications
SBAR	Small Business Award
SBIR	Small Business Innovative Research
SBIRS	Space Based Infrared System
SBIRS-LOW	Space Based Infrared System-Low

SBX	Sea Based Test XBR
SCD	SM-3 Cooperative Development
SCR	System Capability Review
SDACS	Solid Divert Attitude Control System
SDR	System Design Review; Software Design Review
SEBO	Systems Engineering Behavioral Objectives
SETA	Scientific Engineering and Technical Assistance
SIAR	System Impact Assessment Report
SILL	Strategic Illuminator Laser
SIM	Simulation
SIV	Silo Interface Vault
SLAL	Small Laser Amplifier for Ladar
SM	Standard Missile
SM-3	Standard Missile 3
SMDC	Space and Missile Defense Command, U.S. Army
SME	Subject Matter Expert
SMR	System Modification Request
SOA	Service Oriented Architecture
SPEAR	Scalable Panels for Efficient Affordable Radar
SRBMD	Short Range Ballistic Missile Defense
SRR	System Requirements Review; Software Readiness Review
SS	Sole Source, Summary Screens
SSAA	System Security Authorization Agreement
SSD	System Specific Documentation
SSKA	Spectral Sensing for Kill Assessment
SSTB	STSS Surrogate Test Bed
STAR	Strategic Threat Assessment Report; System Test Analysis Report
STARS	Strategic Target System
STL	System Test Lab
STRATCOM	US Strategic Command
STS	Stockpile to Target Sequence
STSS	Satellite Tracking and Surveillance System
STTR	Small Business Technology Transfer
SWIL	Software-in-the-Loop
T	
T&E	Test and Evaluation
TACL	Tailored Aperture Ceramic Laser
TADIL-J	Tactical Digital Information Link Joint
TA&R	Test Analysis & Reporting
TBM	Theater Ballistic Missile
TBMCS	Theater Battle Management Core Systems
TBONE	Theater Battle Operations Network Centric Environment
TCCB	Test Configuration Control Board
TCN	Tactical Component Network
TCS	Test Control System
TCWG	Test Configuration Working Group
TDP	Truth Data Package
TDRD	Truth Data Requirements Document
TDS	Terminal Defense Segment
TEC	Test Execution Control
TEDAC	Test & Evaluation Data Analysis Capability
TEMP	Test and Evaluation Master Plan

ACRONYMS AND ABBREVIATIONS

TF	Task Force
TFCC	THAAD Fire Control and Communications
THAAD	Terminal High Altitude Area Defense
TIC	Test Integration Council
TILL	Threat Level Classification Algorithm
TOG	Technical Objectives and Goals
TOO	Test of Opportunity; Target of Opportunity
TPFDD	Timed Phased Force Deployment Data
TRIMM	Transmit/Receive Integrated Microwave Modules
TRM	Transmit/Receive Modules
TRMP	Test Resource Master Plan
TSG	Tactical Support Groups
TSP	Track Sensor Payload
TTP	Tactics, Techniques, and Procedures
TTS	Transportable Telemetry Systems
U	
UARC	University Affiliated Research Centers
UDS	Universal Documentation Status
UEWR	Upgraded Early Warning Radar
UHF	Ultra High Frequency
USFJ	United States Forces Japan
USFK	United States Forces Korea
USNCR	United States National Capital Region
USMTF	United States Message Text Format
USSOUTH	United States South
V	
V&V	Verification and Validation
VAFB	Vandenberg Air Force Base, CA
VECP	Value Engineering Change Proposal
VLS	Vertical Launching System
VV&A	Verification, Validation and Accreditation
W	
WASP	Wide-body Airborne Sensor Platform
WG	Wargame
WIP	Warfighter Involvement Process
WMD	Weapons of Mass Destruction
WSC	Warfighter Support Center
WSERB	Weapons System Explosive Safety Review Board
WSMR	White Sands Missile Range, White Sands, NM
X	
XBR	X-Band Radar
X-Lab	Experimental Laboratory
XML	Extensible Markup Language
XTR	X-band Transportable Radar