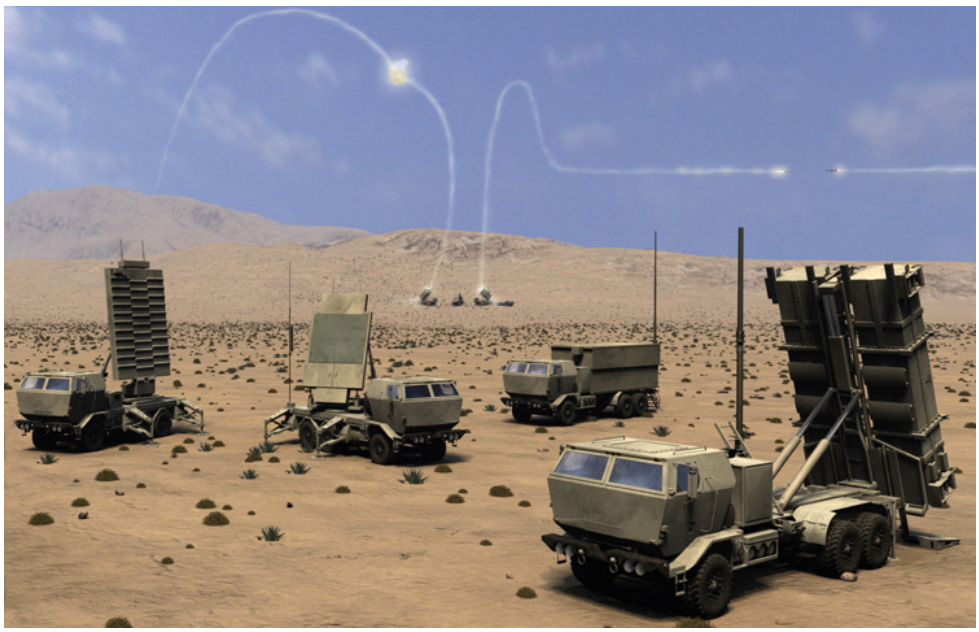
Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-531



PATRIOT/MEADS CAP

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Patriot/Medium Extended Air Defense System Combined Aggregate Program (PATRIOT/MEADS CAP)

DoD Component

Army

Responsible Office

Responsible Office

Mr. Darryl Colvin
Project Manager
Lower Tier Project Office
Building 5250, Martin Road
Redstone Arsenal, AL 35898-8000
darryl.colvin@us.army.mil

Phone 256-955-3240
Fax 256-955-3108
DSN Phone 645-3240
DSN Fax 645-4656

Date Assigned December 1, 2008

References

FIRE UNIT

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated August 6, 2004

Approved APB

Defense Acquisition Exectutive (DAE) Approved Acquisition Program Baseline (APB) dated August 6, 2004

MISSILE

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated August 6, 2004

Approved APB

Defense Acquisition Exectutive (DAE) Approved Acquisition Program Baseline (APB) dated August 6, 2004

Mission and Description

The Combined Aggregate Program (CAP) represents the process through which the PATRIOT system transitions to the Medium Extended Air Defense System (MEADS). The MEADS program is a Tri-National co-development program among the United States, Germany, and Italy to replace the U.S. PATRIOT air defense systems, PATRIOT and Hawk systems in Germany, and the Nike system in Italy. The MEADS mission will provide joint and coalition forces with critical asset and defended area protection against multiple and simultaneous attacks by low-to-medium altitude air and missile defense with the capability to counter, defeat, or destroy tactical ballistic missiles, air-breathing threats to include cruise missiles, unmanned aerial vehicles, tactical air-to-surface missiles, and anti-radiation missiles. The PATRIOT system provides a combat demonstrated capability against these threats. MEADS will employ a netted distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The Missile Segment Enhancement (MSE) missile, as evolved from the current PATRIOT Advanced Capability-3 (PAC-3) missile's Cost Reduction Initiative (CRI) design, will provide a more agile, lethal interceptor missile resulting in substantial missile performance improvement while enhancing Insensitive Munitions (IM) compliance.

MEADS will provide significant improvements in strategic deployability, transportability, mobility, and maneuverability. Its substantially reduced lift requirements enable MEADS to be deployed rapidly with essential combat loads via inter/intra-theater land, sea, and airlift anywhere in the world. MEADS will provide air and missile defense of vital unit of employment and unit of action assets associated with Army maneuver forces. MEADS will provide Combatant Commanders with an Air and Missile Defense (AMD) system that is fully transportable by C-130 and C-17 aircraft for deployment during early entry operations. Furthermore, MEADS represents decreased size/weight over the current PATRIOT system and, with the ability to conduct rapid march order and system emplacement, will enhance maneuverability thereby providing better AMD protection to maneuvering forces. The Army's initial program plan was to ultimately field 16 MEADS Battalions by FY 2030 leading to complete replacement of the U.S. PATRIOT forces.

The objective U.S. MEADS battery, which will be scalable and tailorable to operational requirements, will consist of: the Integrated AMD (IAMD) Battle Command System Tactical Operations Center, enabling distributed system operations and beyond-line-of-sight engagements for maximum protection of supported forces by engaging at longer ranges; a near-vertical launcher capable of transporting and launching up to eight missiles; a Launcher Reloader; the MSE missile; ultra high frequency Surveillance Radar capability that provides 360-degree coverage and near-range detection of targets having low radar cross-section signatures; and two X-band Multi-Function Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.

The MSE missile was accepted as the baseline missile for MEADS and is being developed by the U.S. to meet that operational requirement. The MSE improves upon the current PAC-3 CRI missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and IM improvements.

Executive Summary

A. FIRE UNIT Subprogram.

On February 11, 2011, the United States DoD after having considered several potential courses of action rendered a decision for the Medium Extended Air Defense System (MEADS) program. The U.S. DoD determined that the best course of action is to continue the Design and Development (D&D) phase by providing funding up to the agreed Memorandum of Understanding (MOU) cost ceiling of $4B in equivalent U.S. dollars (2004). The U.S. proposes focusing the remaining activities to implement a "Demonstration of Capabilities" effort through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) developed a new detailed D&D program schedule and the Board of Directors approved it via a signed contract amendment on October 31, 2011.

Given existing MOU/D&D contract commitments until 2013, and the likelihood that the U.S. will not procure MEADS, the U.S. must re-assess its strategy for handling critical U.S. Government Furnished Equipment (GFE) currently envisioned as part of the MEADS program. This strategy must address continuing support for GFE items such as the U.S.-developed and technology-restricted Exciter and Exportable Missile Model; sensitive U.S. communications and cryptographic equipment; and the PAC-3/Missile Segment Enhancement (MSE) missile. No resources are budgeted to support these efforts after 2013.

On November 17, 2011, the MEADS program completed its first successful flight test at White Sands Missile Range, NM. The MEADS lightweight launcher commanded by the MEADS Battle Management Command, Control, Communications and Computers Intelligence (BMC4I) tactical operations center successfully launched a PAC-3 MSE MEADS Certified Missile Round and demonstrated an unprecedented 'over-the-shoulder' launch of the MSE missile against a simulated target. The primary objectives were to successfully demonstrate the 360-degree capability of the weapon system; demonstrate the launcher functionality and system launch timeline; demonstrate BMC4I hardware integration; and reduce risk for Flight Test 1. Test data indicates all mission objectives were successfully achieved.

Congress approved the FY 2012 budget (with a $16.9M MEADS Research, Development, Test, and Evaluation (RDT&E) decrement) and imposed the caveat that this would be the final funding for the U.S. MEADS program. The Office of the Secretary of Defense (OSD) is assessing program impacts to the National Armament Directors' approved re-baseline planned through March 2014. Congress imposed a limitation that not more than 25% of FY 2012 funds may be obligated or expended until OSD submits a funding plan to Congress for either: (1) a restructured program of reduced scope or (2) contract termination liability costs.

B. MISSILE Subprogram.

Based on the FY 2013 President's Budget submission, the Program Acquisition Unit Cost (PAUC) for the Missile Subprogram exceeds the approved Acquisition Program Baseline (APB) unit cost threshold. The breach is attributed to a revised current program estimate for continued MSE development and flight testing through FY 2013 and the associated delay of MSE missile production from FY 2013 to FY 2014. A Program Deviation Report (PDR) is being submitted. Previous breaches to the Missile Subprogram RDT&E cost and schedule have been reported.

A PAC-3 MSE intercept flight test was successfully conducted on March 2, 2011. All mission objectives were achieved, demonstrating the system’s capability to engage, intercept, and kill a threat representative Tactical Ballistic Missile (TBM) target. This test was the second flight test with a PAC-3 missile in the MSE extended battlespace.

The MSE Solid Rocket Motor (SRM) qualification program was completed in 1Q FY 2011, which validated the incorporated corrective actions and survivability of the SRM after exposure to the full spectrum of PATRIOT environments. The MSE SRM Functional Configuration Audit was successfully conducted on March 29-30, 2011.

The MSE canister with thermally-initiated venting system (TIVS) qualification testing was completed in August 2011. Qualification for 11 of 12 MSE specific hardware items has been completed. The Ignition Safety Device qualification was completed in 2Q FY 2012.

The PATRIOT Test and Evaluation Master Plan (TEMP) received OSD approval on September 1, 2011. The TEMP details the overall structure and objectives of the Test and Evaluation program necessary to support a fielding decision for the Post Deployment Build-7 (PDB) software. The MSE follow-on flight tests, to be conducted with PDB-7 software, require long lead preparation and are included in this plan.

There are no significant software-related issues with this program at this time.

Threshold Breaches

FIRE UNIT

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

MISSILE

APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☑
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☑
	APUC	☐

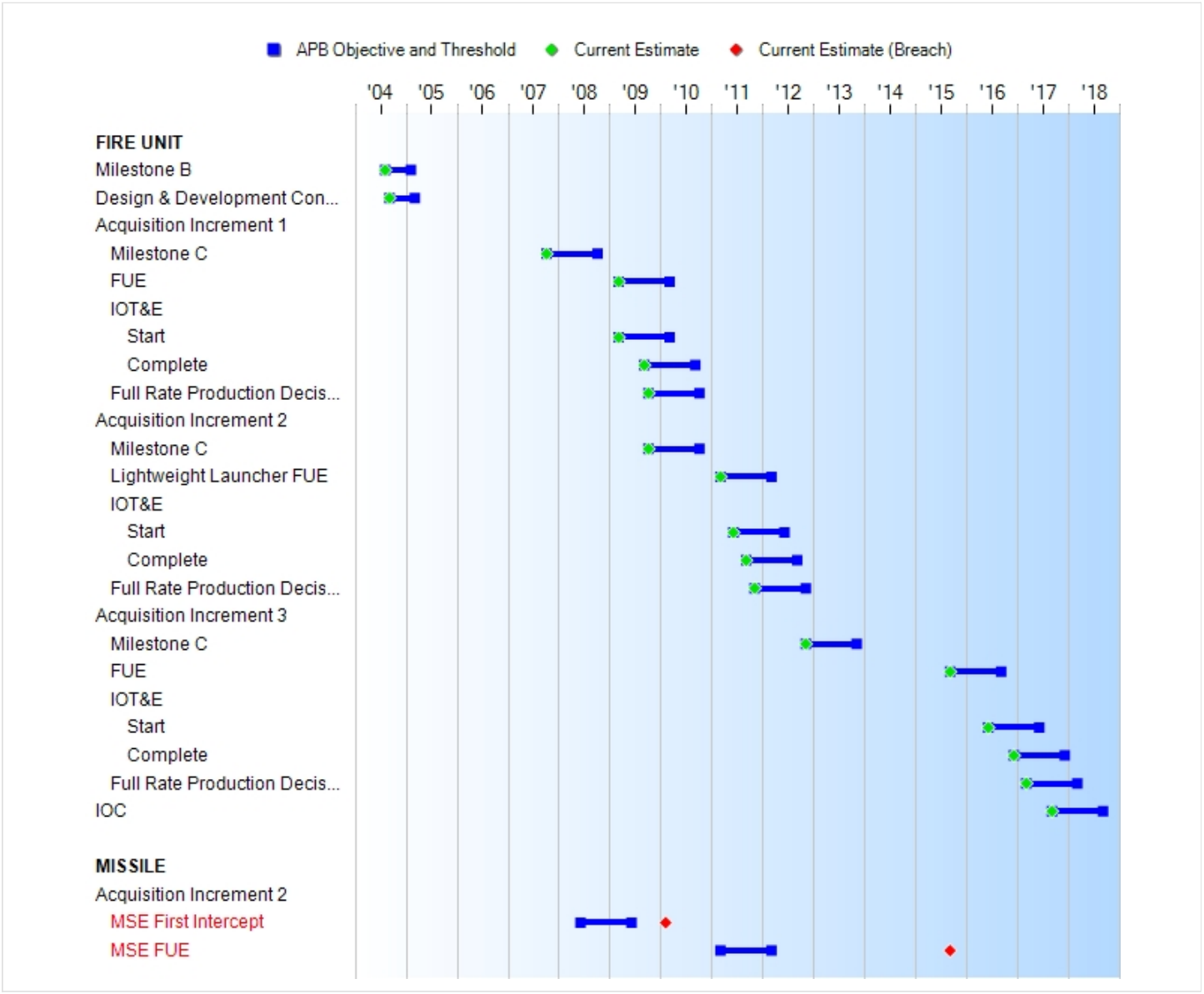
Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

The Program Acquisition Unit Cost (PAUC) for the Missile Subprogram exceeds the approved Acquisition Program Baseline (APB) unit cost threshold. The breach is attributed to the revised current program estimate for continued PAC-3 Missile Segment Enhancement (MSE) development and flight testing through FY 2013 and the associated delay of missile production from FY 2013 to FY 2014. The Missile Subprogram represents the U.S. development and procurement of the PAC-3 MSE, which is an improved configuration of the current PAC-3 missile.

The cost and schedule breaches for the Missile Subprogram were previously reported in the December 2009 SAR.

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
'15
'16
'17
'18
FIRE UNIT
Milestone B
Design & Development Con...
Acquisition Increment 1
Milestone C
FUE
IOT&E
Start
Complete
Full Rate Production Decis...
Acquisition Increment 2
Milestone C
Lightweight Launcher FUE
IOT&E
Start
Complete
Full Rate Production Decis...
Acquisition Increment 3
Milestone C
FUE
IOT&E
Start
Complete
Full Rate Production Decis...
IOC
MISSILE
Acquisition Increment 2
MSE First Intercept
MSE FUE

FIRE UNIT				
Milestones	**SAR Baseline Dev Est**	**Current APB Development Objective/Threshold**		**Current Estimate**
Milestone B	AUG 2004	AUG 2004	FEB 2005	AUG 2004
Design & Development Contract Award	SEP 2004	SEP 2004	MAR 2005	SEP 2004
Acquisition Increment 1				
Milestone C	OCT 2007	OCT 2007	OCT 2008	OCT 2007
FUE	MAR 2009	MAR 2009	MAR 2010	MAR 2009
IOT&E				
Start	MAR 2009	MAR 2009	MAR 2010	MAR 2009
Complete	SEP 2009	SEP 2009	SEP 2010	SEP 2009
Full Rate Production Decision	OCT 2009	OCT 2009	OCT 2010	OCT 2009
Acquisition Increment 2				
Milestone C	OCT 2009	OCT 2009	OCT 2010	OCT 2009
Lightweight Launcher FUE	MAR 2011	MAR 2011	MAR 2012	MAR 2011
IOT&E				
Start	JUN 2011	JUN 2011	JUN 2012	JUN 2011
Complete	SEP 2011	SEP 2011	SEP 2012	SEP 2011
Full Rate Production Decision	NOV 2011	NOV 2011	NOV 2012	NOV 2011
Acquisition Increment 3				
Milestone C	NOV 2012	NOV 2012	NOV 2013	NOV 2012
FUE	SEP 2015	SEP 2015	SEP 2016	SEP 2015
IOT&E				
Start	JUN 2016	JUN 2016	JUN 2017	JUN 2016
Complete	DEC 2016	DEC 2016	DEC 2017	DEC 2016
Full Rate Production Decision	MAR 2017	MAR 2017	MAR 2018	MAR 2017
IOC	SEP 2017	SEP 2017	SEP 2018	SEP 2017

Acronyms And Abbreviations

FUE - First Unit Equipped
IOC - Initial Operational Capability
IOT&E - Initial Operational Test and Evaluation

Change Explanations

None

Memo

Based on the February 11, 2011, U.S. DoD decision to place a ceiling on MEADS spending at $4B and continue with a modified Design and Development phase in a "Demonstration of Capabilities" effort funded through 2013, the Fire Unit schedule milestones are maintained at the objective dates until further program definition.

The Defense Acquisition Board (DAB) approved the Acquisition Strategy for the PATRIOT/MEADS CAP on August 6, 2004, as follows: Acqusition Increment 1 as the initial MEADS Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) capability fielded to PATRIOT Battalions; Acquisition

Increment 2 fields the MEADS Lightweight Launcher capabililty and the Missile Segment Enhancement (MSE) capability to current PATRIOT Battalions; and Acquisition Increment 3 fields the MEADS Surveillance Radars and Multi-Function Fire Control Radars, which provide the MEADS objective capability.

MISSILE					
Milestones	**SAR Baseline Dev Est**	**Current APB Development Objective/Threshold**		**Current Estimate**	
Acquisition Increment 2					
MSE First Intercept	JUN 2008	JUN 2008	JUN 2009	**FEB 2010** [1]	
MSE FUE	MAR 2011	MAR 2011	MAR 2012	**SEP 2015** [1]	(Ch-1)

[1] *APB Breach*

Acronyms And Abbreviations

FUE - First Unit Equipped
MSE - Missile Segment Enhancement

Change Explanations

(Ch-1) MSE FUE schedule changed from September 2014 to September 2015 due to a corresponding production slip of one year.

Memo

The December 2009 SAR reported breaches to the schedule milestones for the MSE First Intercept and the MSE FUE. The MSE First Intercept and the MSE FUE current estimate breaches are due to the unsuccessful MSE Guided Test Flight - 1 that occured on March 25, 2009. A successful re-test of the first intercept mission was conducted on February 17, 2010, validating intercept objectives. A third intercept mission was successfully conducted on March 2, 2011.

Performance

FIRE UNIT					
Characteristics	**SAR Baseline Dev Est**	**Current APB Development Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
Identification - ABT Targets	Fire unit will automatically declare ABT targets as friend, foe, or unknown using all available sources of information	Fire unit will automatically declare ABT targets as friend, foe, or unknown using all available sources of information	Fire unit will automatically declare ABT targets as friend, foe, or unknown using all available sources of information	TBD	Fire unit will automatically declare ABT targets as friend, foe, or unknown using all available sources of information
Transportability/Mobility					
Drive-on, Drive-off	Drive-on Drive-off loading and unloading : C-5, C-17	Drive-on Drive-off loading and unloading: C-5, C-17	Drive-on Drive-off loading and unloading: C-5, C-17	TBD	Drive-on Drive-off loading and unloading: C-5, C-17
Roll-on, Roll-off	Roll-on Roll-offloading and unloading in a transport configuration on A400M, C-130	Roll-on Roll-offloading and unloading in a transport configuration on A400M, C-130	Roll-on Roll-offloading and unloading in a transport configuration on A400M, C-130	TBD	Roll-on Roll-offloading and unloading in a transport configuration on A400M, C-130
Corps Maneuver and Support Elements	Provide continuous air defense coverage of corps maneuver and support elements as they advance up to 400 km per day at a rate of 50 kmph off-road/90 kmph on-road	Provide continuous air defense coverage of corps maneuver and support elements as they advance up to 400 km per day at a rate of 50 kmph off-road/90 kmph on-road	Provide continuous air defense coverage of corps maneuver and support elements as they advance up to 250km per day at a rate of 25 kmph	TBD	Provide continuous air defense coverage of corps maneuver and support elements as they advance up to 400 km per day at a rate of 50 kmph off-road/90 kmph on-road
External Transportability	By CH-47 and CH-53 class cargo helicopters	By CH-47 and CH-53 class cargo helicopters	By CH-47 and CH-53 class cargo helicopters	TBD	By CH-47 and CH-53 class cargo helicopters

	up to an ambient temp of 70 deg F, 2000 ft alt MSL, over a 30 nm dist ance; assembly and disassembly from a march order to a transport configurat-ion with organic equipment in 15 min	up to an ambient temp of 70 deg F, 2000 ft alt MSL, over a 30 nm distance; assembly and disassembly from a march order to a transport configuration with organic equipment in 15 min	up to an ambient temp of 70 deg F, 2000 ft alt MSL, over a 30 nm distance; assembly and disassembly from a march order to a transport configuration with organic equipment in 30 min		up to an ambient temp of 70 deg F, 2000 ft alt MSL, over a 30 nm distance; assembly and disassembly from a march order to a transport configuration with organic equipment in 15 min
Interoperability	Will interoperate with existing and planned National (top-level)/Joint/Combined Air Defense BMC4I systems of the respective national forces in accordance with each nation's IERs	Will inter-operate with existing and planned National (top-level)/ Joint/ Combined Air Defense BMC4I systems of the respective national forces in accordance with each nation's IERs	Will inter-operate with existing and planned National (critical top-level)/ Joint/ Combined Air Defense BMC4I systems of the respective national forces in accordance with each nation's IERs	TBD	Will inter-operate with existing and planned National (top-level)/Joint/Combined Air Defense BMC4I systems of the respective national forces in accordance with each nation's IERs
Flexibility					
MEADS in all configurations	Capable of netted distributed and site-centered operations	Capable of netted distributed and site-centered operations	Capable of netted distributed and site-centered operations	TBD	Capable of netted distributed and site-centered operations
MEADS Battalion	Will provide air and missile defense of selected critical assets and organizations located in an	Will provide air and missile defense of selected critical assets and organizations located in an	Will provide air and missile defense of selected critical assets and organizations located in an	TBD	Will provide air and missile defense of selected critical assets and organizations located in an

	operationally equivalent area of 100km by 100km	operationally equivalent area of 100km by 100km	operationally equivalent area of 100km by 100km		operationally equivalent area of 100km by 100km
Plug and Fight	Intra/intersystem plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)	Intra/inter-system plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)	Intra/inter-system plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)	TBD	Intra/inter-system plug-and-fight capable by implementing a MEADS network standard to be able to dynamically integrate MEADS and non-MEADS major end items (that comply with MEADS network standard)

Requirements Source: Capabilities Development Document (CDD), Joint Requirements Oversight Council (JROC) approved June 14, 2004

Acronyms And Abbreviations

ABT - Air Breathing Threat
alt - Altitude
BMC4I - Battle Management Command, Control, Communications, Computers, and Intelligence
deg - Degrees
F - Fahrenheit
ft - feet
IER - Information Exchange Requirement
km - Kilometer
kmph - Kilometers per hour
min - minute
MSL - Mean Sea Level
nm - Nautical Mile
TBD - To be determined
temp - temperature

Change Explanations

None

MISSILE

Classified Performance information is provided in the classified annex to this submission.

Track To Budget

FIRE UNIT

RDT&E

APPN 2040	BA 04	PE 0603869A	(Army)	
	Project 01B	PATRIOT/Medium Extended Air Defense System (MEADS) Combined Aggregate Program (CAP)		(Sunk)
APPN 2040	BA 05	PE 0604869A	(Army)	
	Project M06	PATRIOT/MEADS Combined Aggregate Program (CAP)		

Project M06 was a shared line between Missile and Fire Unit subprograms from FY 2006 through FY 2010.

Procurement

APPN 2032	BA 02		(Army)
	ICN C53201	PATRIOT/MEADS GSE	

Item Control Number (ICN) C50001 is the parent line for ICN C53201.

Track To Budget

MISSILE

RDT&E				
APPN 2040	BA 04	PE 0603869A	(Army)	
	Project 01B	PATRIOT/Medium Extended Air Defense System (MEADS) Combined Aggregate Program (CAP)		(Sunk)
APPN 2040	BA 05	PE 0604869A	(Army)	
	Project M06	PATRIOT/MEADS Combined Aggregate Program (CAP)		
APPN 2040	BA 05	PE 0605456A	(Army)	
	Project PA3	PATRIOT PAC-3/Missile Segment Enhancement	(Shared)	

Project M06 was a shared line between Missile and Fire Unit subprograms from FY 2006 through FY 2010.

Procurement				
APPN 2032	BA 02		(Army)	
	ICN C53101	MSE Missile		

Cost and Funding

Cost Summary - Total Program

Total Acquisition Cost and Quantity - Total Program

	BY2004 $M			BY2004 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	4992.3	4992.3	--	3462.7	5737.0	5737.0	3965.3
Procurement	17759.1	17759.1	--	6165.7	24158.4	24158.4	8986.9
Flyaway	15071.8	--	--	5662.5	20409.3	--	8257.9
Recurring	14809.2	--	--	5590.5	20095.8	--	8170.0
Non Recurring	262.6	--	--	72.0	313.5	--	87.9
Support	2687.3	--	--	503.2	3749.1	--	729.0
Other Support	1550.4	--	--	503.2	2125.1	--	729.0
Initial Spares	1136.9	--	--	0.0	1624.0	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	22751.4	22751.4	N/A	9628.4	29895.4	29895.4	12952.2

Cost and Funding

Cost Summary - FIRE UNIT

Total Acquisition Cost and Quantity - FIRE UNIT

	BY2004 $M			BY2004 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	4531.4	4531.4	5211.1	2758.8	5255.0	5255.0	3177.1
Procurement	11999.1	11999.1	13199.0	0.0	16584.4	16584.4	0.0
Flyaway	9818.9	--	--	0.0	13494.5	--	0.0
Recurring	9556.3	--	--	0.0	13181.0	--	0.0
Non Recurring	262.6	--	--	0.0	313.5	--	0.0
Support	2180.2	--	--	0.0	3089.9	--	0.0
Other Support	1043.3	--	--	0.0	1465.9	--	0.0
Initial Spares	1136.9	--	--	0.0	1624.0	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	16530.5	16530.5	N/A	2758.8	21839.4	21839.4	3177.1

Current estimate is based on the February 11, 2011, U.S. DoD decision to place a ceiling on MEADS spending at $4B and continue with a modified Design and Development phase in a "Demonstration of Capabilities" effort funded through 2013.

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	0	0	0
Procurement	48	48	0
Total	48	48	0

Unit Of Measure: The Fire Unit (FU) is a representative unit of measure defined to include the ground support elements of the objective MEADS system: a Surveillance Radar; 2 Multi-Function Fire Control Radars (MFCR); 2 Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) Tactical Operations Centers (TOC); 6 Launchers; and 3 Launcher Reloaders. The program FU development estimate quantity is based on the planned objective force of 48 tactical FUs, which comprise 16 Battalions with 3 FUs each. Unit cost calculations include equipment at the Battalion level, which is above that at the FU level.

Cost Summary - MISSILE

Total Acquisition Cost and Quantity - MISSILE

	BY2004 $M			BY2004 $M	TY $M		
Appropriation	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	460.9	460.9	530.0	**703.9** [1]	482.0	482.0	788.2
Procurement	5760.0	5760.0	6336.0	6165.7	7574.0	7574.0	8986.9
Flyaway	5252.9	--	--	5662.5	6914.8	--	8257.9
Recurring	5252.9	--	--	5590.5	6914.8	--	8170.0
Non Recurring	0.0	--	--	72.0	0.0	--	87.9
Support	507.1	--	--	503.2	659.2	--	729.0
Other Support	507.1	--	--	503.2	659.2	--	729.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	6220.9	6220.9	N/A	6869.6	8056.0	8056.0	9775.1

[1] ***APB Breach***

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	0	0	0
Procurement	1528	1528	1528
Total	1528	1528	1528

Unit Of Measure: The Missile Segment Enhancement (MSE) is the representative unit of measure for the Missile Subprogram of the PATRIOT/MEADS CAP.

Cost and Funding

Funding Summary - Total Program

Appropriation and Quantity Summary - Total Program
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	3048.2	478.6	438.5	0.0	0.0	0.0	0.0	0.0	3965.3
Procurement	0.0	75.0	12.9	538.6	505.1	596.4	566.7	6692.2	8986.9
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	3048.2	553.6	451.4	538.6	505.1	596.4	566.7	6692.2	12952.2
PB 2012 Total	3005.7	570.6	1121.6	532.5	487.0	560.1	474.2	5811.6	12563.3
Delta	42.5	-17.0	-670.2	6.1	18.1	36.3	92.5	880.6	388.9

Cost and Funding

Funding Summary - FIRE UNIT

Appropriation and Quantity Summary - FIRE UNIT
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	2386.6	389.6	400.9	0.0	0.0	0.0	0.0	0.0	3177.1
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	2386.6	389.6	400.9	0.0	0.0	0.0	0.0	0.0	3177.1
PB 2012 Total	2403.1	406.6	493.8	0.0	0.0	0.0	0.0	0.0	3303.5
Delta	-16.5	-17.0	-92.9	0.0	0.0	0.0	0.0	0.0	-126.4

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	0	0	0	0	0	0	0	0	0
PB 2013 Total	0	0	0	0	0	0	0	0	0	0
PB 2012 Total	0	0	0	0	0	0	0	0	0	0
Delta	0	0	0	0	0	0	0	0	0	0

Funding Summary - MISSILE

Appropriation and Quantity Summary - MISSILE
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	661.6	89.0	37.6	0.0	0.0	0.0	0.0	0.0	788.2
Procurement	0.0	75.0	12.9	538.6	505.1	596.4	566.7	6692.2	8986.9
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	661.6	164.0	50.5	538.6	505.1	596.4	566.7	6692.2	9775.1
PB 2012 Total	602.6	164.0	627.8	532.5	487.0	560.1	474.2	5811.6	9259.8
Delta	59.0	0.0	-577.3	6.1	18.1	36.3	92.5	880.6	515.3

PATRIOT/MEADS CAP missile procurement funds in FY 2010 - FY 2013 were transferred to the PATRIOT PAC-3 procurement funding line to obtain additional PAC-3 missile quantities.

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	0	0	0	56	72	80	82	1238	1528
PB 2013 Total	0	0	0	0	56	72	80	82	1238	1528
PB 2012 Total	0	0	0	56	82	76	80	90	1144	1528
Delta	0	0	0	-56	-26	-4	0	-8	94	0

Cost and Funding

Annual Funding By Appropriation - FIRE UNIT

Annual Funding TY$ - FIRE UNIT
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2004	--	--	--	--	--	--	126.9
2005	--	--	--	--	--	--	164.0
2006	--	--	--	--	--	--	193.0
2007	--	--	--	--	--	--	211.0
2008	--	--	--	--	--	--	316.3
2009	--	--	--	--	--	--	423.7
2010	--	--	--	--	--	--	501.1
2011	--	--	--	--	--	--	450.6
2012	--	--	--	--	--	--	389.6
2013	--	--	--	--	--	--	400.9
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**3177.1**

Annual Funding BY$ - FIRE UNIT
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2004 $M	Non End Item Recurring Flyaway BY 2004 $M	Non Recurring Flyaway BY 2004 $M	Total Flyaway BY 2004 $M	Total Support BY 2004 $M	Total Program BY 2004 $M
2004	--	--	--	--	--	--	124.0
2005	--	--	--	--	--	--	155.7
2006	--	--	--	--	--	--	178.3
2007	--	--	--	--	--	--	190.4
2008	--	--	--	--	--	--	280.0
2009	--	--	--	--	--	--	370.4
2010	--	--	--	--	--	--	431.3
2011	--	--	--	--	--	--	380.0
2012	--	--	--	--	--	--	322.9
2013	--	--	--	--	--	--	325.8
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**2758.8**

Annual Funding By Appropriation - MISSILE

Annual Funding TY$ - MISSILE
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2004	--	--	--	--	--	--	109.9
2005	--	--	--	--	--	--	87.3
2006	--	--	--	--	--	--	81.4
2007	--	--	--	--	--	--	111.9
2008	--	--	--	--	--	--	53.5
2009	--	--	--	--	--	--	31.0
2010	--	--	--	--	--	--	65.1
2011	--	--	--	--	--	--	121.5
2012	--	--	--	--	--	--	89.0
2013	--	--	--	--	--	--	37.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**788.2**

Annual Funding BY$ - MISSILE
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2004 $M	Non End Item Recurring Flyaway BY 2004 $M	Non Recurring Flyaway BY 2004 $M	Total Flyaway BY 2004 $M	Total Support BY 2004 $M	Total Program BY 2004 $M
2004	--	--	--	--	--	--	107.4
2005	--	--	--	--	--	--	82.9
2006	--	--	--	--	--	--	75.2
2007	--	--	--	--	--	--	101.0
2008	--	--	--	--	--	--	47.4
2009	--	--	--	--	--	--	27.1
2010	--	--	--	--	--	--	56.0
2011	--	--	--	--	--	--	102.5
2012	--	--	--	--	--	--	73.8
2013	--	--	--	--	--	--	30.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**703.9**

Annual Funding TY$ - MISSILE
2032 | Procurement | Missile Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2012	--	--	--	75.0	75.0	--	75.0
2013	--	--	--	12.9	12.9	--	12.9
2014	56	470.7	--	--	470.7	67.9	538.6
2015	72	454.6	--	--	454.6	50.5	505.1
2016	80	539.1	--	--	539.1	57.3	596.4
2017	82	512.3	--	--	512.3	54.4	566.7
2018	90	465.1	--	--	465.1	35.0	500.1
2019	90	456.7	--	--	456.7	34.4	491.1
2020	90	456.2	--	--	456.2	34.3	490.5
2021	90	453.6	--	--	453.6	35.7	489.3
2022	90	452.5	--	--	452.5	35.7	488.2
2023	90	451.1	--	--	451.1	35.6	486.7
2024	90	449.7	--	--	449.7	35.5	485.2
2025	90	448.2	--	--	448.2	35.4	483.6
2026	90	446.7	--	--	446.7	35.3	482.0
2027	90	446.8	--	--	446.8	33.6	480.4
2028	90	445.6	--	--	445.6	33.5	479.1
2029	90	444.3	--	--	444.3	33.4	477.7
2030	90	443.0	--	--	443.0	33.3	476.3
2031	68	333.8	--	--	333.8	25.1	358.9
2032	--	--	--	--	--	11.6	11.6
2033	--	--	--	--	--	11.5	11.5
Subtotal	**1528**	**8170.0**	**--**	**87.9**	**8257.9**	**729.0**	**8986.9**

Annual Funding BY$ - MISSILE
2032 | Procurement | Missile Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2004 $M	Non End Item Recurring Flyaway BY 2004 $M	Non Recurring Flyaway BY 2004 $M	Total Flyaway BY 2004 $M	Total Support BY 2004 $M	Total Program BY 2004 $M
2012	--	--	--	61.6	61.6	--	61.6
2013	--	--	--	10.4	10.4	--	10.4
2014	56	371.3	--	--	371.3	53.6	424.9
2015	72	352.3	--	--	352.3	39.1	391.4
2016	80	410.4	--	--	410.4	43.6	454.0
2017	82	383.1	--	--	383.1	40.7	423.8
2018	90	341.6	--	--	341.6	25.7	367.3
2019	90	329.5	--	--	329.5	24.9	354.4
2020	90	323.4	--	--	323.4	24.3	347.7
2021	90	315.8	--	--	315.8	24.9	340.7
2022	90	309.5	--	--	309.5	24.4	333.9
2023	90	303.1	--	--	303.1	23.9	327.0
2024	90	296.8	--	--	296.8	23.4	320.2
2025	90	290.6	--	--	290.6	22.9	313.5
2026	90	284.5	--	--	284.5	22.5	307.0
2027	90	279.5	--	--	279.5	21.0	300.5
2028	90	273.8	--	--	273.8	20.6	294.4
2029	90	268.2	--	--	268.2	20.2	288.4
2030	90	262.7	--	--	262.7	19.7	282.4
2031	68	194.4	--	--	194.4	14.7	209.1
2032	--	--	--	--	--	6.6	6.6
2033	--	--	--	--	--	6.5	6.5
Subtotal	**1528**	**5590.5**	**--**	**72.0**	**5662.5**	**503.2**	**6165.7**

Low Rate Initial Production

FIRE UNIT

	Initial LRIP Decision	Current Total LRIP
Approval Date	8/6/2004	2/11/2011
Approved Quantity	7	0
Reference	DAE approved ADM dated August 6, 2004.	DoD memo dated February 11, 2011.
Start Year	2013	
End Year	2016	

The Defense Acquisition Executive (DAE) approved Low Rate Initial Production (LRIP) quantities for the MEADS objective system Major End Items (MEIs) at Milestone B on August 6, 2004. The LRIP quantities of the MEIs are: 17 Surveillance Radars, 28 Multi-Function Fire Control Radars (MFCR); 8 Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) Tactical Operations Centers (TOC); 12 Lightweight Launchers; and 6 Launcher Reloaders. The LRIP quantities are the minimum required to conduct testing and evalute performance before Full Rate Production. The Fire Unit quantities represent the collection of the unique MEIs into operational units. Therefore, Fire Unit LRIP quantity based on the approved MEI LRIP quantities is 7 Fire Units.

Based on the February 11, 2011, U.S. DoD decision to place a ceiling on MEADS spending at $4B and continue with a modified Design and Development phase in a "Demonstration of Capabilities" effort funded through 2013, the Fire Unit LRIP data, while relevant for historical reference, is no longer valid for the December 2011 SAR.

Low Rate Initial Production

MISSILE

	Initial LRIP Decision	Current Total LRIP
Approval Date	8/6/2004	8/6/2004
Approved Quantity	148	148
Reference	DAE approved ADM dated August 6, 2004.	DAE approved ADM dated August 6, 2004.
Start Year	2010	2010
End Year	2011	2011

Foreign Military Sales

FIRE UNIT

None

Foreign Military Sales

MISSILE

None

Nuclear Cost

FIRE UNIT
None

MISSILE
None

Unit Cost

FIRE UNIT

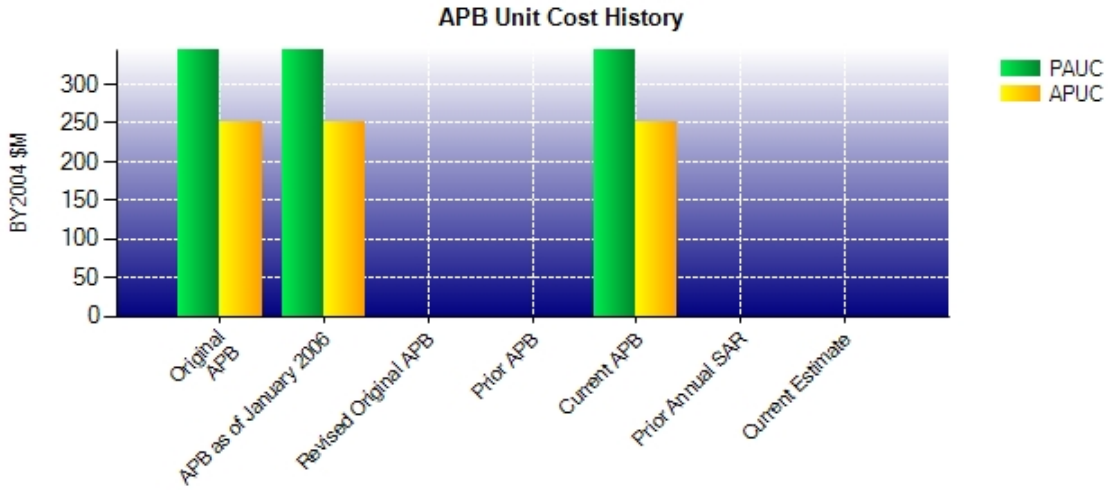
Unit Cost Report

Unit Cost	BY2004 $M Current UCR Baseline (AUG 2004 APB)	BY2004 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	16530.5	2758.8	
Quantity	48	0	
Unit Cost	344.385	--	--
Average Procurement Unit Cost (APUC)			
Cost	11999.1	0.0	
Quantity	48	0	
Unit Cost	249.981	--	--

Unit Cost	BY2004 $M Original UCR Baseline (AUG 2004 APB)	BY2004 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	16530.5	2758.8	
Quantity	48	0	
Unit Cost	344.385	--	--
Average Procurement Unit Cost (APUC)			
Cost	11999.1	0.0	
Quantity	48	0	
Unit Cost	249.981	--	--

FIRE UNIT

Unit Cost History



		BY2004 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	AUG 2004	344.385	249.981	454.988	345.508
APB as of January 2006	AUG 2004	344.385	249.981	454.988	345.508
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	AUG 2004	344.385	249.981	454.988	345.508
Prior Annual SAR	DEC 2010	N/A	N/A	N/A	N/A
Current Estimate	DEC 2011	N/A	N/A	N/A	N/A

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
454.988	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
345.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	AUG 2004	N/A	AUG 2004
Milestone C	N/A	NOV 2012	N/A	NOV 2012
IOC	N/A	SEP 2017	N/A	SEP 2017
Total Cost (TY $M)	N/A	21839.4	N/A	3177.1
Total Quantity	N/A	48	N/A	0
Prog. Acq. Unit Cost (PAUC)	N/A	454.988	N/A	N/A

FIRE UNIT:

The Defense Acquisition Board approved program was structured with three increments, each having a separate Milestone C. Increments 1 and 2 are no longer required in accordance with the Army Integrated Air and Missile Defense (IAMD) Acquisition Strategy. The PATRIOT/MEADS CAP schedule identifies a Milestone C for the intermediate Acquisition Increments (1 and 2); however, full MEADS objective capability was planned to be achieved at Milestone C for Acquisition Increment 3. Per the U.S. DoD program decision on February 11, 2011, program funding has been limited to completion of the Design and Development phase.

MISSILE

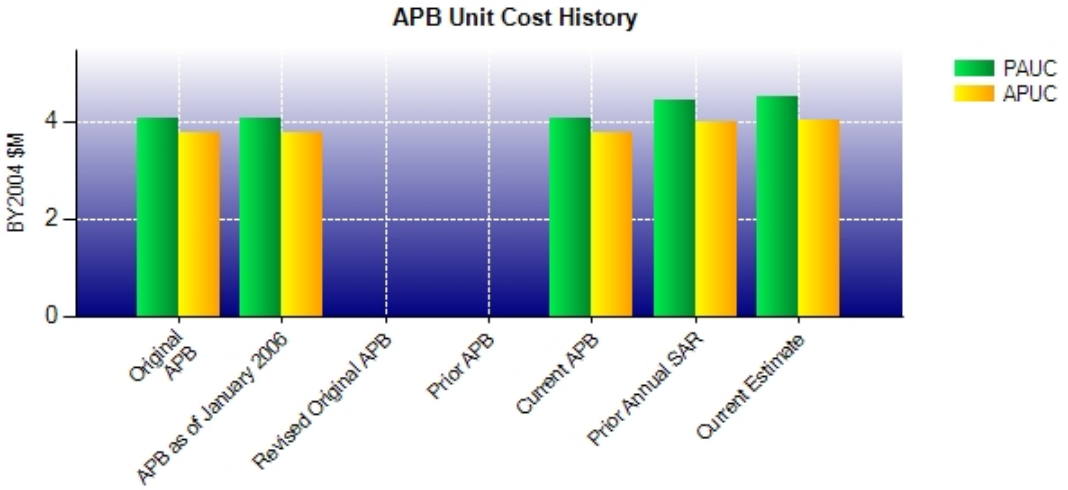
Unit Cost Report

Unit Cost	BY2004 $M Current UCR Baseline (AUG 2004 APB)	BY2004 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	6220.9	6869.6	
Quantity	1528	1528	
Unit Cost	4.071	4.496	+10.44
Average Procurement Unit Cost (APUC)			
Cost	5760.0	6165.7	
Quantity	1528	1528	
Unit Cost	3.770	4.035	+7.03

Unit Cost	BY2004 $M Original UCR Baseline (AUG 2004 APB)	BY2004 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	6220.9	6869.6	
Quantity	1528	1528	
Unit Cost	4.071	4.496	+10.44
Average Procurement Unit Cost (APUC)			
Cost	5760.0	6165.7	
Quantity	1528	1528	
Unit Cost	3.770	4.035	+7.03

MISSILE

Unit Cost History



		BY2004 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	AUG 2004	4.071	3.770	5.272	4.957
APB as of January 2006	AUG 2004	4.071	3.770	5.272	4.957
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	AUG 2004	4.071	3.770	5.272	4.957
Prior Annual SAR	DEC 2010	4.435	4.005	6.060	5.583
Current Estimate	DEC 2011	4.496	4.035	6.397	5.881

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
5.272	0.131	0.000	0.501	0.000	0.458	0.000	0.035	1.125	6.397

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
4.957	0.120	0.000	0.500	0.000	0.270	0.000	0.035	0.925	5.881

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	N/A	N/A
FUE	N/A	MAR 2011	N/A	SEP 2015
Total Cost (TY $M)	N/A	8056.0	N/A	9775.1
Total Quantity	N/A	1528	N/A	1528
Prog. Acq. Unit Cost (PAUC)	N/A	5.272	N/A	6.397

Cost Variance

FIRE UNIT

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	5255.0	16584.4	--	21839.4
Previous Changes				
Economic	+103.4	-195.3	--	-91.9
Quantity	--	-12555.5	--	-12555.5
Schedule	--	-86.5	--	-86.5
Engineering	--	--	--	--
Estimating	-2151.6	-608.3	--	-2759.9
Other	--	--	--	--
Support	--	-3042.1	--	-3042.1
Subtotal	-2048.2	-16487.7	--	-18535.9
Current Changes				
Economic	+20.1	+1.7	--	+21.8
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-49.8	-98.4	--	-148.2
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-29.7	-96.7	--	-126.4
Total Changes	-2077.9	-16584.4	--	-18662.3
CE - Cost Variance	3177.1	--	--	3177.1
CE - Cost & Funding	3177.1	--	--	3177.1

Summary Base Year 2004 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	4531.4	11999.1	--	16530.5
Previous Changes				
Economic	--	--	--	--
Quantity	--	-8875.5	--	-8875.5
Schedule	--	-148.0	--	-148.0
Engineering	--	--	--	--
Estimating	-1730.9	-716.4	--	-2447.3
Other	--	--	--	--
Support	--	-2180.2	--	-2180.2
Subtotal	-1730.9	-11920.1	--	-13651.0
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-41.7	-79.0	--	-120.7
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-41.7	-79.0	--	-120.7
Total Changes	-1772.6	-11999.1	--	-13771.7
CE - Cost Variance	2758.8	--	--	2758.8
CE - Cost & Funding	2758.8	--	--	2758.8

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+20.1
Adjustment for current and prior escalation. (Estimating)	-11.8	-14.0
Decrease in FY 2011 and FY 2012 due to Congressional reductions. (Estimating)	-28.0	-33.5
Revised estimate to reflect change in dollar value in FY 2013. (Estimating)	-1.9	-2.3
RDT&E Subtotal	-41.7	-29.7

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+1.7
Decrease in FY 2013 due to U.S. DoD decision to end Medium Extended Air Defense System program after the Design and Development phase. (Estimating)	-79.0	-98.4
Procurement Subtotal	-79.0	-96.7

MISSILE

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	482.0	7574.0	--	8056.0
Previous Changes				
Economic	+15.1	-37.0	--	-21.9
Quantity	--	--	--	--
Schedule	--	+538.9	--	+538.9
Engineering	--	--	--	--
Estimating	+232.1	+398.6	--	+630.7
Other	--	--	--	--
Support	--	+56.1	--	+56.1
Subtotal	+247.2	+956.6	--	+1203.8
Current Changes				
Economic	+2.8	+219.6	--	+222.4
Quantity	--	--	--	--
Schedule	--	+225.4	--	+225.4
Engineering	--	--	--	--
Estimating	+56.2	+13.2	--	+69.4
Other	--	--	--	--
Support	--	-1.9	--	-1.9
Subtotal	+59.0	+456.3	--	+515.3
Total Changes	+306.2	+1412.9	--	+1719.1
CE - Cost Variance	788.2	8986.9	--	9775.1
CE - Cost & Funding	788.2	8986.9	--	9775.1

Summary Base Year 2004 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	460.9	5760.0	--	6220.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+195.5	+350.9	--	+546.4
Other	--	--	--	--
Support	--	+8.9	--	+8.9
Subtotal	+195.5	+359.8	--	+555.3
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	+48.6	--	+48.6
Engineering	--	--	--	--
Estimating	+47.5	+10.1	--	+57.6
Other	--	--	--	--
Support	--	-12.8	--	-12.8
Subtotal	+47.5	+45.9	--	+93.4
Total Changes	+243.0	+405.7	--	+648.7
CE - Cost Variance	703.9	6165.7	--	6869.6
CE - Cost & Funding	703.9	6165.7	--	6869.6

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+2.8
Adjustment for current and prior escalation. (Estimating)	-1.9	-2.3
Increase due to Omnibus reprogramming in FY 2011 to support Missile Segment Enhancement follow-on tests. (Estimating)	+49.4	+58.5
RDT&E Subtotal	+47.5	+59.0

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+219.6
Stretch-out of production program in FY 2013 to FY 2031. (Subtotal)	+59.4	+239.5
Production delay by one year from FY 2013 to FY 2014. (Schedule) (QR)	(0.0)	(+150.0)
Additional Schedule Variance due to stretch-out of procurement buy profile from FY 2015 - FY 2031. (Schedule) (QR)	(+48.6)	(+75.4)
Refinement of cost estimate associated with production delay of one year (FY 2013 to FY2014). (Estimating) (QR)	(+10.8)	(+14.1)
Adjustment for current and prior escalation. (Estimating)	-0.7	-0.9
Reallocation of funds from support to non-recurring flyaway for Initial Production Facilitization in FY 2013, due to production schedule slip from FY 2013 to FY 2014. (Support)	-12.8	-1.9
Procurement Subtotal	+45.9	+456.3

(QR) Quantity Related

Contracts

Appropriation: RDT&E

Contract Name	**PAC-3 MSE**
Contractor	Lockheed Martin
Contractor Location	Dallas, TX 75265
Contract Number, Type	DAAH01-03-C-0164, CPIF
Award Date	June 27, 2003
Definitization Date	November 29, 2004

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
260.0	N/A	0	278.4	N/A	0	415.7	417.8

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2011)	-13.5	-2.3
Previous Cumulative Variances	-8.2	-3.8
Net Change	-5.3	+1.5

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to delays in completing Ignition Safety Device Exploding Foil Initiator qualification; greater than planned cost for failure investigation of missile flight tests; and anomaly investigation of canister mounted thermally initiated venting system.

The favorable net change in the schedule variance is due to successful Guided Test Flight-2 on March 2, 2011. The Aerojet Solid Rocket Motor (SRM) subcontract ended in June 2011 and excess materials were transferred to other programs.

Contract Comments

This contract is more than 90% complete; therefore, this is the final report for this contract.

The difference between the initial contract price target and the current contract price target is due to cost growth incurred to date primarily a result of the SRM challenges, failed flight tests, and extended period of performance.

The Missile Segment Enhancement (MSE) contract effort was awarded on June 27, 2003, at a not-to-exceed price of $260.0M. The MSE contract implements development, test, and integration of an improved SRM for the PAC-3 missile. The Contractor's and Program Manager's Estimated Prices at Completion (EPC) increased to $415.7M and $417.8M, respectively. The ECPs reflect the cost growth incurred to date and projections for cost-to-complete primarily as a result of the failed flight tests and extended period of performance.

Appropriation: RDT&E

Contract Name	**Design & Development**
Contractor	MEADS International
Contractor Location	Orlando, FL 32819
Contract Number, Type	NAMEAD-04-C-6000, CPIF
Award Date	September 28, 2004
Definitization Date	February 16, 2005

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
3400.0	N/A	0	3619.0	N/A	0	3620.8	3620.8

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2011)	+5.6	-1.1
Previous Cumulative Variances	0.0	0.0
Net Change	+5.6	-1.1

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to the Systems Engineering and Integration Team (SEIT), Program Management, and Integrated Logistics Support efforts. The MEADS Design and Development (D&D) contractor was authorized to provide actual costs only as the contract underwent replan during 2011 and reinstated performance and variance reporting effective with the November 2011 Contract Performance Report (CPR).

The unfavorable net change in the schedule variance is due to the Multifunction Control Radar and SEIT. The MEADS D&D contractor was authorized to provide actual costs only as the contract underwent replan during 2011 and reinstated performance and variance reporting effective with the November 2011 CPR.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to contract modifications implemented in 2011 for emerging program requirements, which included Missile Segment Enhancement (MSE) integration, extended Critical Design Review risk reduction activities, and flight test activities. The original 2004 baseline contract has been modified since initial award with most recent modification, Amendment 26, approved on October 31, 2011. The change in the Contractor’s and Program Manager’s Estimated Prices at Completion from $3,473.2M to $3,620.8M includes the current estimates to complete the revised Design and Development (D&D) effort in accordance with the approved Amendment 26 "Demonstration of Capabilities" concept.

The Medium Extended Air Defense System (MEADS) Management Agency (NAMEADSMA) is a subsidiary body of the North Atlantic Treaty Organization (NATO) providing management of the MEADS program on behalf of the U.S., Germany, and Italy, and is responsible for managing system acquisition. Entry into a program phase required that the participating nations sign a Memorandum of Understanding (MOU). The U.S. and Italy signed the D&D MOU in September 2004. Subsequently, a letter contract was signed on September 28, 2004, between NAMEADSMA and MEADS International (MI), initiating D&D. MI represents the multi-national joint venture with MBDA-Italia, the European Aeronautic Defence and Space Company (EADS) and Lenkflugkorpersysteme (LFK) in Germany, and Lockheed Martin in the U.S. The full D&D contract was signed on May 31, 2005, after Germany signed the MOU on April 22, 2005. The assigned contract number is NAMEADSMO/CF/6000/04. (NAMEADSMO is the NATO MEADS D&D Production and Logistics Management Organization.)

On February 11, 2011, the U.S. DoD rendered a MEADS program decision to continue the D&D phase by providing funding up to the agreed MOU cost ceiling of $4B in equilavent U.S. dollars (2004). The U.S. proposes focusing the remaining activities to implement a "Demonstration of Capabilities" effort through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors approved it via a signed contract amendment on October 31, 2011.

Congress approved the FY 2012 budget (with a $16.9M MEADS Research, Development, Test, and Evaluation decrement) and imposed the caveat that this funding would be final for the U.S. MEADS program. The Office of the Secretary of Defense (OSD) is assessing program impacts to the National Armament Directors' approved re-baseline planned through March 2014. Congress imposed a limitation that not more than 25% of FY 2012 funds may be obligated or expended until OSD submits a funding plan to Congress for either: (1) a restructured program of reduced scope or (2) contract termination liability costs.

Full Earned Value Management reporting is dependent upon the outcome of the national discussions and potential contractual agreements between MI, NAMEADSMA, and the Tri-National partners.

Appropriation: RDT&E

Contract Name	**MSE Follow-On Test Program**
Contractor	Lockheed Martin Corporation
Contractor Location	Grand Prairie, TX 75051
Contract Number, Type	W31P4Q-07-G-0001/12, CPFF
Award Date	August 23, 2010
Definitization Date	July 18, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
49.1	N/A	N/A	49.1	N/A	N/A	45.4	49.1

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2011)	+2.4	-7.9
Previous Cumulative Variances	--	--
Net Change	+2.4	-7.9

Cost And Schedule Variance Explanations

The favorable cumulative cost variance is due to personnel spending more time supporting the Medium Extended Air Defense System and other Air and Missile Defense programs. Some materials for the follow-on test program are purchased concurrently with the production contract.

The unfavorable cumulative schedule variance is due to late receipt of materials (missile seekers, lethality enhancers, actuator sets), which were baselined to Materials Requirements Planning (MRP) generated lead times. Program deliveries were revised to negotiated purchase order delivery schedules later than MRP dates. Materials are not currently on the program critical path and do not impact the scheduled flight tests. Schedule risks are driven by dependencies on supporting obsolescence redesign efforts for guidance processor unit, seeker block, and software modernization.

Contract Comments

The purpose of this effort is to conduct two flight test campaigns: One flight intercepting two Tactical Ballistic Missiles and one flight intercepting an Air Breathing Threat PATRIOT-representative target. The contractor shall provide and utilize five PAC-3 Missile Segment Enhancement (MSE) missiles representing the MSE production configuration that incorporates the final configuration of PAC-3 obsolescence upgrades. The contract was awarded on August 23, 2010, with a not-to-exceed value of $50M and was definitized on July 18, 2011.

This is the first time this contract is being reported.

Deliveries and Expenditures

FIRE UNIT

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	0	0	0	--
Total Program Quantities Delivered	0	0	0	--

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	3177.1	Years Appropriated	9
Expenditures To Date	2432.3	Percent Years Appropriated	90.00%
Percent Expended	76.56%	Appropriated to Date	2776.2
Total Funding Years	10	Percent Appropriated	87.38%

All data is current as of December 31, 2011.

MISSILE

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	0	0	1528	0.00%
Total Program Quantities Delivered	0	0	1528	0.00%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	9775.1	Years Appropriated	9
Expenditures To Date	539.1	Percent Years Appropriated	30.00%
Percent Expended	5.52%	Appropriated to Date	825.6
Total Funding Years	30	Percent Appropriated	8.45%

All data is current as of December 31, 2011.

Operating and Support Cost

FIRE UNIT

Assumptions And Ground Rules

The Operating and Support (O&S) estimate is based on the OSD Cost Analysis Improvement Group (CAIG) Milestone B cost estimate, dated August 2004. Cost assumptions for the Fire Unit Subprogram encompass the Combined Aggregate Program (CAP), which includes the transition of the legacy PATRIOT to the Medium Extended Air Defense System (MEADS). The O&S cost estimate covers FY 2004 through FY 2047 (44 years total) multiplied by 48 Fire Units, and assumes a transition with the legacy program being phased out and the MEADS being phased in. Because there is no clear demarcation of either program, and MEADS is being phased in with spiral development of PATRIOT major end items, there is no correlation for comparison of annual cost per antecedent system.

The Development and Production phases of the MEADS portion of the CAP are based on an international cost sharing agreement. Because of the cost share of the Production units, there is some benefit derived from the procurement of the spares and repair parts. The O&S costs assume that the international cost sharing agreement continues and will be at approximately the same levels of sharing as agreed to in the earlier phases of the life cycle.

The concept of operations is evolving with composite battalions, Air and Missile Defense system-of-systems battalions, and other force structures to maximize the combat effectiveness of the total air defense systems that are fielded at any given time. For this report, the common denominator of 48 tactical Fire Units is used--the assumption is that the 54 PATRIOT Fire Units (50 Active, 4 Reserve Component) organized into 13 active Battalions will evolve into 16 MEADS Battalions with 3 Fire Units each (48 Fire Units total) with no change in manpower numbers because of the variations in equipment manning requirements.

O&S includes the costs to support the core organization personnel. The O&S consumables are replenishment spares, repair parts, and petroleum, oil and lubricants. The Depot Maintenance costs are the labor, materials, and transportation for repair of major Fire Unit component parts and software support. The sustaining investment consists of modification kits and support operations to include civilian maintenance labor, and other direct support for modification kit installation. The indirect costs are for indirect support operations, Military Occupational Specialty (MOS) training, quarters maintenance and utilities, Post Production Engineering, Central Supply, Unit Operations, Base Operations, and training activities.

The Fire Unit O&S estimate will be updated during 2012 to reflect the current program plan.

O&S Estimate = 44 years (lifecycle) x $753.6 (average annual cost of all fire units).

Costs BY2004 $M		
Cost Element	**FIRE UNIT Average Annual Cost Of All Fire Units**	**No Antecedent System**
Unit-Level Manpower	345.6	--
Unit Operations	139.2	--
Maintenance	144.0	--
Sustaining Support	67.2	--
Continuing System Improvements	0.0	--
Indirect Support	57.6	--
Other	--	--
Total Unitized Cost (Base Year 2004 $)	753.6	--

Total O&S Costs $M	FIRE UNIT	No Antecedent System
Base Year	33094.4	--
Then Year	61902.2	--

Based on the February 11, 2011, U.S. DoD decision to place a ceiling on MEADS spending at $4B and continue with a modified Design and Development phase in a "Demonstration of Capabilities" effort funded through FY 2013, the Fire Unit O&S data is maintained at the current estimate until further program definition.

The O&S estimate does not include disposal costs.

MISSILE

Assumptions And Ground Rules
The Operating and Support (O&S) estimate is based on the OSD Cost Analysis Improvement Group (CAIG) Milestone B cost estimate, dated August 2004. The cost assumptions for the Missile Subprogram include no interruptions in the scheduled buy of Cost Reduction Initiative (CRI) and Missile Segment Enhancement (MSE) variants of the PAC-3 missile and continued use of earlier versions of PATRIOT missiles. Missile O&S cost includes recertification of all PATRIOT/MEADS missile configurations. The O&S estimate covers FY 2004 through FY 2047 (43 years) multiplied by total missile quantity of 1576. The majority of the Depot Maintenance cost is attributed to the recertification effort on each missile every ten years. There is no antecedent system.

The Missile O&S estimate will be updated in 2012 to incorporate the total current program quantity of 1528.

O&S Estimate = 43 years (lifecycle) x $105.7 (average annual cost of all missiles).

Costs BY2004 $M		
Cost Element	**MISSILE Average Annual Cost Of All Missiles**	**No Antecedent System**
Unit-Level Manpower	48.9	--
Unit Operations	18.9	--
Maintenance	20.5	--
Sustaining Support	9.5	--
Continuing System Improvements	0.0	--
Indirect Support	7.9	--
Other	0.0	--
Total Unitized Cost (Base Year 2004 $)	105.7	--

Total O&S Costs $M	MISSILE	No Antecedent System
Base Year	4582.6	--
Then Year	8571.8	--

The O&S estimate does not include disposal costs.