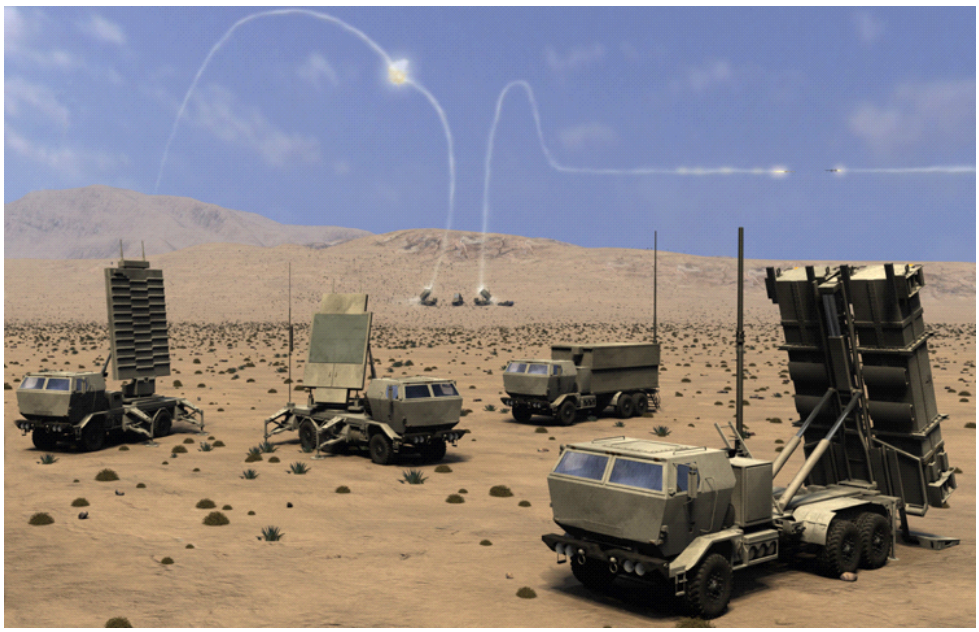
# Selected Acquisition Report (SAR)

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



# PATRIOT/MEADS CAP

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

**Table of Contents**

## Program Information

**Designation And Nomenclature (Popular Name)**

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

**DoD Component**

Army

## Responsible Office

**Responsible Office**

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**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**

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**

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.

Medium Extended Air Defense System (MEADS): On February 11, 2011, the United States (U.S.) Department of Defense (DoD), after having considered several potential courses of action, rendered a MEADS program decision. The U.S. DOD decided 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 "proof of concept" 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, a new and detailed program/schedule for D&D will have to be developed by North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) and approved by the Board of Directors (BoD) in the near future.

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.

A successful MEADS Summary System Critical Design Review (CDR), held on August 25, 2010, was the final system-level event in a two-year plus Incremental CDR effort. These CDR events provided sufficient data to conclude that the program was ready to progress into the fabrication, integration, and test phases. The System CDR also provided the Nations with the status evaluations and analysis required for NAMEADSMA and the Nations to collaboratively make decisions necessary to formulate the Post-CDR contract amendment. On October 6, 2010, a System Program Review (SPR) was held at the BoD level and the National Armaments Director (NAD) level on October 27, 2010. The SPR, required by the program MoU, evaluated overall progress to that date and facilitated a NAD decision on the future of the program beyond CDR.

B. MISSILE Subprogram.

The PAC-3 Missile Segment Enhancement (MSE) development program continues to conduct flight tests to validate design and performance. A successful re-test of the first intercept mission, Guided Test Flight (GTF)-1B, occurred on February 17, 2010, at White Sands Missile Range (WSMR), New Mexico, validating the second pulse capability with the corrected Ignition Safety Device configuration, as a repeat of the previous unsuccessful GTF-1 mission in 2009. A PAC-3 MSE intercept mission was successfully conducted on March 2, 2011, and preliminary analysis indicates all test objectives were successfully achieved.

The December 2009 SAR reported breaches to the Missile Subprogram current estimate for schedule and cost. The MSE GTF-1 mission failure (March 25, 2009) precluded achieving the MSE First Intercept Acquisition Program Baseline (APB) schedule milestone by the June 2009 threshold. The extended MSE development schedule delayed transitioning to production and subsequently moved the current estimate beyond the MSE First Unit Equipped APB milestone threshold of March 2012. As a result of the MSE development delays, Missile Subprogram procurement funding was realigned to the PATRIOT PAC-3 program for FYs 2010 through 2012 to extend PAC-3 production. The MSE development effort will require additional Research, Development, Test, and Evaluation (RDT&E) funding starting in 3QFY11 to sustain program activities. The Army is in the process of assessing program funding requirements and availability. Procurement funding for Initial Production Facilitization is also needed in order to maintain a FY 2013 MSE production cut-in.

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**

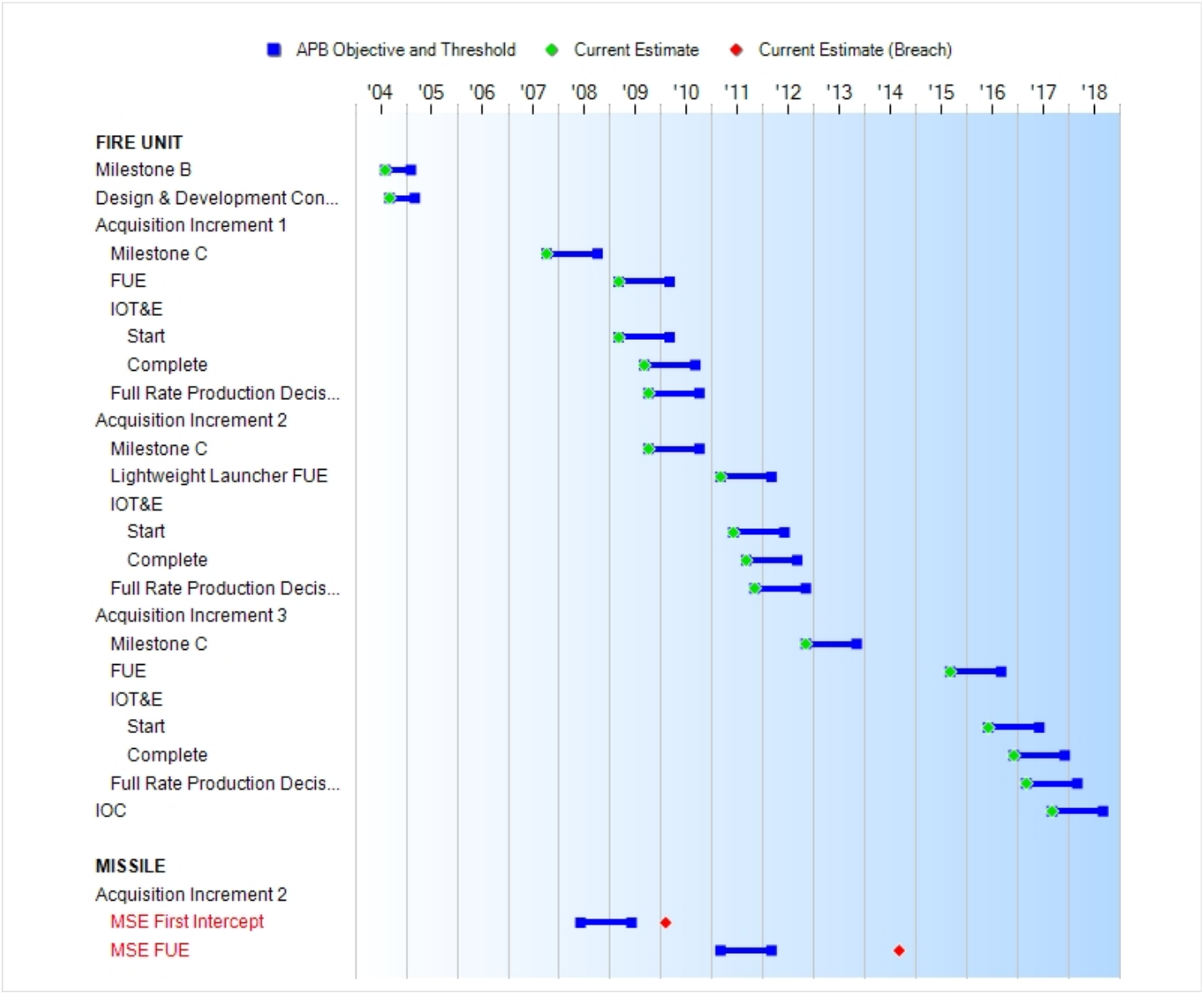
| APB Breaches | | |
|---|---|---|
| **Schedule** | | ☑ |
| **Performance** | | ☐ |
| **Cost** | RDT&E | ☑ |
| | Procurement | ☐ |
| | MILCON | ☐ |
| | Acq O&M | ☐ |
| **Unit Cost** | PAUC | ☐ |
| | APUC | ☐ |

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

**Explanation of Breach**

The December 2009 SAR reported breaches to the Missile Segment Enhancement (MSE) First Intercept and MSE First Unit Equipped (FUE) schedule milestones and to the Research, Development, Test, and Evaluation (RDT&E) cost threshold. The MSE first Guided Test Flight (GTF), conducted in 2009, demonstrated several test objectives but failed to achieve the intercept objective. A successful MSE GTF (re-test) was conducted on February 17, 2010, and an intercept mission was successfully conducted on March 2, 2011. Delays experienced in completion of program development subsequently delayed transition to production and fielding; hence, the current estimate for the MSE FUE milestone exceeded the Acquisition Program Baseline (APB) threshold. The MSE RDT&E costs exceed the APB threshold due to delays in completion of program development. A revised APB is being planned to establish new objectives for the breached parameters.

## 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 "proof-of-concept" 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 2014** [1] |

[1] *APB Breach*

## Acronyms And Abbreviations

FUE - First Unit Equipped
MSE - Missile Segment Enhancement

## Change Explanations

None

## Memo

The December 2009 SAR reported breaches to the schedule milestones for the MSE First Intercept and the MSE First Unit Equipped (FUE). The MSE First Intercept and the MSE FUE current estimate breaches are due to the unsuccessful MSE Guided Test Flight (GTF)-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), 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 | -- | 3456.9 | 5737.0 | 5737.0 | 3936.0 |
| Procurement | 17759.1 | 17759.1 | -- | 6198.8 | 24158.4 | 24158.4 | 8627.3 |
| Flyaway | 15071.8 | -- | -- | 5682.8 | 20409.3 | -- | 7914.5 |
| Recurring | 14809.2 | -- | -- | 5541.5 | 20095.8 | -- | 7742.8 |
| Non Recurring | 262.6 | -- | -- | 141.3 | 313.5 | -- | 171.7 |
| Support | 2687.3 | -- | -- | 516.0 | 3749.1 | -- | 712.8 |
| Other Support | 1550.4 | -- | -- | 516.0 | 2125.1 | -- | 712.8 |
| 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 | 9655.7 | 29895.4 | 29895.4 | 12563.3 |

## 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 | 2800.5 | 5255.0 | 5255.0 | 3206.8 |
| Procurement | 11999.1 | 11999.1 | 13199.0 | 79.0 | 16584.4 | 16584.4 | 96.7 |
| Flyaway | 9818.9 | -- | -- | 79.0 | 13494.5 | -- | 96.7 |
| Recurring | 9556.3 | -- | -- | 0.0 | 13181.0 | -- | 0.0 |
| Non Recurring | 262.6 | -- | -- | 79.0 | 313.5 | -- | 96.7 |
| 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 | 2879.5 | 21839.4 | 21839.4 | 3303.5 |

Current estimate is based on the February 11, 2011, Department of Defense decision to place a ceiling on MEADS spending at $4B and continue with a modified Design and Development phase in a "proof-of-concept" 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 | **656.4** [1] | 482.0 | 482.0 | 729.2 |
| Procurement | 5760.0 | 5760.0 | 6336.0 | 6119.8 | 7574.0 | 7574.0 | 8530.6 |
| Flyaway | 5252.9 | -- | -- | 5603.8 | 6914.8 | -- | 7817.8 |
| Recurring | 5252.9 | -- | -- | 5541.5 | 6914.8 | -- | 7742.8 |
| Non Recurring | 0.0 | -- | -- | 62.3 | 0.0 | -- | 75.0 |
| Support | 507.1 | -- | -- | 516.0 | 659.2 | -- | 712.8 |
| Other Support | 507.1 | -- | -- | 516.0 | 659.2 | -- | 712.8 |
| 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 | 6776.2 | 8056.0 | 8056.0 | 9259.8 |

[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**
**FY2012 President's Budget / December 2010 SAR (TY$ M)**

| Appropriation | Prior | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| RDT&E | 2476.1 | 529.6 | 495.6 | 434.7 | 0.0 | 0.0 | 0.0 | 0.0 | 3936.0 |
| Procurement | 0.0 | 0.0 | 75.0 | 686.9 | 532.5 | 487.0 | 560.1 | 6285.8 | 8627.3 |
| 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 2012 Total | 2476.1 | 529.6 | 570.6 | 1121.6 | 532.5 | 487.0 | 560.1 | 6285.8 | 12563.3 |
| PB 2011 Total | 2476.1 | 529.6 | 1077.9 | 989.3 | 974.0 | 1107.8 | 1997.2 | 21675.4 | 30827.3 |
| Delta | 0.0 | 0.0 | -507.3 | 132.3 | -441.5 | -620.8 | -1437.1 | -15389.6 | -18264.0 |

## Cost and Funding

## Funding Summary - FIRE UNIT

**Appropriation and Quantity Summary - FIRE UNIT**
**FY2012 President's Budget / December 2010 SAR (TY$ M)**

| Appropriation | Prior | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| RDT&E | 1936.0 | 467.1 | 406.6 | 397.1 | 0.0 | 0.0 | 0.0 | 0.0 | 3206.8 |
| Procurement | 0.0 | 0.0 | 0.0 | 96.7 | 0.0 | 0.0 | 0.0 | 0.0 | 96.7 |
| 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 2012 Total | 1936.0 | 467.1 | 406.6 | 493.8 | 0.0 | 0.0 | 0.0 | 0.0 | 3303.5 |
| PB 2011 Total | 1936.0 | 467.1 | 408.0 | 451.8 | 457.6 | 604.0 | 1440.9 | 16199.9 | 21965.3 |
| Delta | 0.0 | 0.0 | -1.4 | 42.0 | -457.6 | -604.0 | -1440.9 | -16199.9 | -18661.8 |

| Quantity | Undistributed | Prior | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | 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 2012 Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PB 2011 Total | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 45 | 48 |
| Delta | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -2 | -45 | -48 |

## Funding Summary - MISSILE

**Appropriation and Quantity Summary - MISSILE**
**FY2012 President's Budget / December 2010 SAR (TY$ M)**

| Appropriation | Prior | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| RDT&E | 540.1 | 62.5 | 89.0 | 37.6 | 0.0 | 0.0 | 0.0 | 0.0 | 729.2 |
| Procurement | 0.0 | 0.0 | 75.0 | 590.2 | 532.5 | 487.0 | 560.1 | 6285.8 | 8530.6 |
| 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 2012 Total | 540.1 | 62.5 | 164.0 | 627.8 | 532.5 | 487.0 | 560.1 | 6285.8 | 9259.8 |
| PB 2011 Total | 540.1 | 62.5 | 669.9 | 537.5 | 516.4 | 503.8 | 556.3 | 5475.5 | 8862.0 |
| Delta | 0.0 | 0.0 | -505.9 | 90.3 | 16.1 | -16.8 | 3.8 | 810.3 | 397.8 |

PATRIOT/MEADS CAP Missile Procurement funds in FY 2010-FY 2012 were transferred to the PATRIOT PAC-3 Procurement funding line to obtain additional PAC-3 missile quantities.

| Quantity | Undistributed | Prior | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Development | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 0 | 0 | 0 | 0 | 56 | 82 | 76 | 80 | 1234 | 1528 |
| PB 2012 Total | 0 | 0 | 0 | 0 | 56 | 82 | 76 | 80 | 1234 | 1528 |
| PB 2011 Total | 0 | 0 | 0 | 56 | 82 | 104 | 104 | 104 | 1078 | 1528 |
| Delta | 0 | 0 | 0 | -56 | -26 | -22 | -28 | -24 | 156 | 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 | -- | -- | -- | -- | -- | -- | 467.1 |
| 2012 | -- | -- | -- | -- | -- | -- | 406.6 |
| 2013 | -- | -- | -- | -- | -- | -- | 397.1 |
| **Subtotal** | **--** | **--** | **--** | **--** | **--** | **--** | **3206.8** |

**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 | -- | -- | -- | -- | -- | -- | 280.2 |
| 2009 | -- | -- | -- | -- | -- | -- | 371.0 |
| 2010 | -- | -- | -- | -- | -- | -- | 433.8 |
| 2011 | -- | -- | -- | -- | -- | -- | 398.2 |
| 2012 | -- | -- | -- | -- | -- | -- | 341.2 |
| 2013 | -- | -- | -- | -- | -- | -- | 327.7 |
| **Subtotal** | **--** | **--** | **--** | **--** | **--** | **--** | **2800.5** |

**Annual Funding TY$ - FIRE UNIT**
**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 |
|---|---|---|---|---|---|---|---|
| 2013 | -- | -- | -- | 96.7 | 96.7 | -- | 96.7 |
| **Subtotal** | **--** | **--** | **--** | **96.7** | **96.7** | **--** | **96.7** |

**Annual Funding BY$ - FIRE UNIT**
**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 |
|---|---|---|---|---|---|---|---|
| 2013 | -- | -- | -- | 79.0 | 79.0 | -- | 79.0 |
| **Subtotal** | **--** | **--** | **--** | **79.0** | **79.0** | **--** | **79.0** |

## 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 | -- | -- | -- | -- | -- | -- | 62.5 |
| 2012 | -- | -- | -- | -- | -- | -- | 89.0 |
| 2013 | -- | -- | -- | -- | -- | -- | 37.6 |
| **Subtotal** | **--** | **--** | **--** | **--** | **--** | **--** | **729.2** |

**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 | -- | -- | -- | -- | -- | -- | 56.4 |
| 2011 | -- | -- | -- | -- | -- | -- | 53.3 |
| 2012 | -- | -- | -- | -- | -- | -- | 74.7 |
| 2013 | -- | -- | -- | -- | -- | -- | 31.0 |
| **Subtotal** | **--** | **--** | **--** | **--** | **--** | **--** | **656.4** |

**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 | 56 | 515.8 | -- | -- | 515.8 | 74.4 | 590.2 |
| 2014 | 82 | 465.4 | -- | -- | 465.4 | 67.1 | 532.5 |
| 2015 | 76 | 438.3 | -- | -- | 438.3 | 48.7 | 487.0 |
| 2016 | 80 | 506.3 | -- | -- | 506.3 | 53.8 | 560.1 |
| 2017 | 90 | 441.0 | -- | -- | 441.0 | 33.2 | 474.2 |
| 2018 | 90 | 432.6 | -- | -- | 432.6 | 32.6 | 465.2 |
| 2019 | 90 | 431.6 | -- | -- | 431.6 | 32.5 | 464.1 |
| 2020 | 90 | 428.8 | -- | -- | 428.8 | 33.8 | 462.6 |
| 2021 | 90 | 427.3 | -- | -- | 427.3 | 33.7 | 461.0 |
| 2022 | 90 | 425.6 | -- | -- | 425.6 | 33.6 | 459.2 |
| 2023 | 90 | 423.8 | -- | -- | 423.8 | 33.5 | 457.3 |
| 2024 | 90 | 422.0 | -- | -- | 422.0 | 33.3 | 455.3 |
| 2025 | 90 | 420.2 | -- | -- | 420.2 | 33.2 | 453.4 |
| 2026 | 90 | 419.9 | -- | -- | 419.9 | 31.6 | 451.5 |
| 2027 | 90 | 418.3 | -- | -- | 418.3 | 31.5 | 449.8 |
| 2028 | 90 | 416.7 | -- | -- | 416.7 | 31.4 | 448.1 |
| 2029 | 90 | 415.1 | -- | -- | 415.1 | 31.2 | 446.3 |
| 2030 | 64 | 294.1 | -- | -- | 294.1 | 22.1 | 316.2 |
| 2031 | -- | -- | -- | -- | -- | 10.8 | 10.8 |
| 2032 | -- | -- | -- | -- | -- | 10.8 | 10.8 |
| **Subtotal** | **1528** | **7742.8** | **--** | **75.0** | **7817.8** | **712.8** | **8530.6** |

**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 | -- | -- | -- | 62.3 | 62.3 | -- | 62.3 |
| 2013 | 56 | 421.6 | -- | -- | 421.6 | 60.8 | 482.4 |
| 2014 | 82 | 374.0 | -- | -- | 374.0 | 54.0 | 428.0 |
| 2015 | 76 | 346.4 | -- | -- | 346.4 | 38.5 | 384.9 |
| 2016 | 80 | 393.4 | -- | -- | 393.4 | 41.8 | 435.2 |
| 2017 | 90 | 337.0 | -- | -- | 337.0 | 25.3 | 362.3 |
| 2018 | 90 | 325.0 | -- | -- | 325.0 | 24.5 | 349.5 |
| 2019 | 90 | 318.8 | -- | -- | 318.8 | 24.1 | 342.9 |
| 2020 | 90 | 311.5 | -- | -- | 311.5 | 24.5 | 336.0 |
| 2021 | 90 | 305.2 | -- | -- | 305.2 | 24.1 | 329.3 |
| 2022 | 90 | 298.9 | -- | -- | 298.9 | 23.6 | 322.5 |
| 2023 | 90 | 292.7 | -- | -- | 292.7 | 23.1 | 315.8 |
| 2024 | 90 | 286.6 | -- | -- | 286.6 | 22.6 | 309.2 |
| 2025 | 90 | 280.6 | -- | -- | 280.6 | 22.1 | 302.7 |
| 2026 | 90 | 275.7 | -- | -- | 275.7 | 20.7 | 296.4 |
| 2027 | 90 | 270.0 | -- | -- | 270.0 | 20.4 | 290.4 |
| 2028 | 90 | 264.5 | -- | -- | 264.5 | 19.9 | 284.4 |
| 2029 | 90 | 259.1 | -- | -- | 259.1 | 19.5 | 278.6 |
| 2030 | 64 | 180.5 | -- | -- | 180.5 | 13.6 | 194.1 |
| 2031 | -- | -- | -- | -- | -- | 6.5 | 6.5 |
| 2032 | -- | -- | -- | -- | -- | 6.4 | 6.4 |
| **Subtotal** | **1528** | **5541.5** | **--** | **62.3** | **5603.8** | **516.0** | **6119.8** |

## 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 "proof-of-concept" effort funded through 2013, the Fire Unit LRIP data, while relevant for historical reference, is no longer valid for the December 2010 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

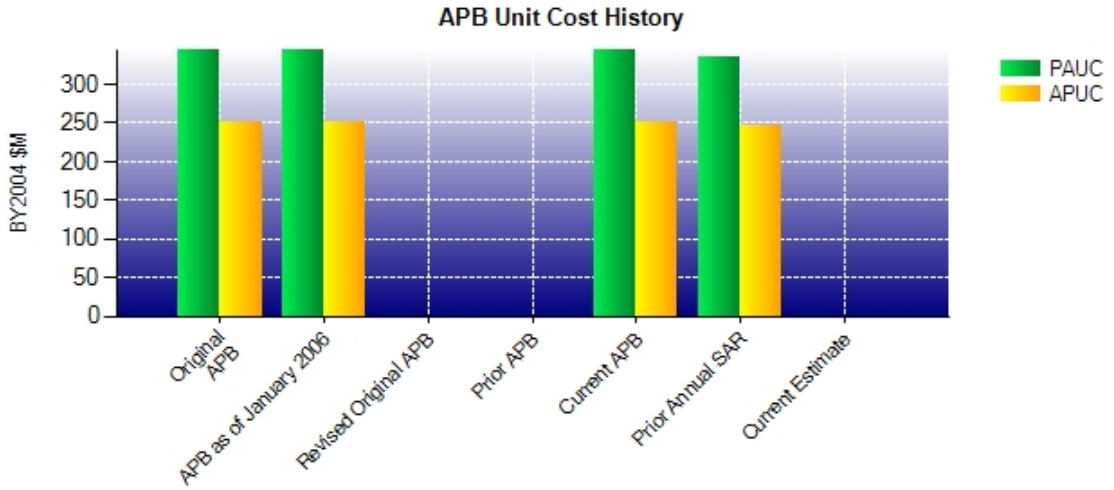
## Unit Cost Report

| Unit Cost | BY2004 $M Current UCR Baseline (AUG 2004 APB) | BY2004 $M Current Estimate (DEC 2010 SAR) | BY % Change |
|---|---|---|---|
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 16530.5 | 2879.5 | |
| Quantity | 48 | 0 | |
| Unit Cost | 344.385 | -- | -- |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 11999.1 | 79.0 | |
| Quantity | 48 | 0 | |
| Unit Cost | 249.981 | -- | -- |

| Unit Cost | BY2004 $M Original UCR Baseline (AUG 2004 APB) | BY2004 $M Current Estimate (DEC 2010 SAR) | BY % Change |
|---|---|---|---|
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 16530.5 | 2879.5 | |
| Quantity | 48 | 0 | |
| Unit Cost | 344.385 | -- | -- |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 11999.1 | 79.0 | |
| 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 2009 | 334.204 | 247.188 | 457.610 | 353.773 |
| **Current Estimate** | DEC 2010 | 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 | 3303.5 |
| 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

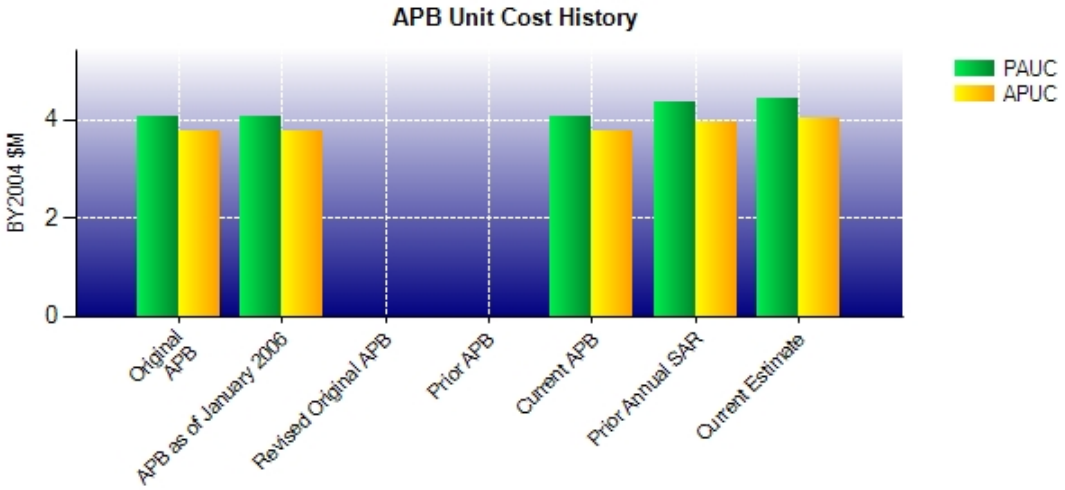
## Unit Cost Report

| Unit Cost | BY2004 $M Current UCR Baseline (AUG 2004 APB) | BY2004 $M Current Estimate (DEC 2010 SAR) | BY % Change |
|---|---|---|---|
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 6220.9 | 6776.2 | |
| Quantity | 1528 | 1528 | |
| Unit Cost | 4.071 | 4.435 | +8.94 |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 5760.0 | 6119.8 | |
| Quantity | 1528 | 1528 | |
| Unit Cost | 3.770 | 4.005 | +6.23 |

| Unit Cost | BY2004 $M Original UCR Baseline (AUG 2004 APB) | BY2004 $M Current Estimate (DEC 2010 SAR) | BY % Change |
|---|---|---|---|
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 6220.9 | 6776.2 | |
| Quantity | 1528 | 1528 | |
| Unit Cost | 4.071 | 4.435 | +8.94 |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 5760.0 | 6119.8 | |
| Quantity | 1528 | 1528 | |
| Unit Cost | 3.770 | 4.005 | +6.23 |

## 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 2009 | 4.353 | 3.957 | 5.800 | 5.362 |
| **Current Estimate** | DEC 2010 | 4.435 | 4.005 | 6.060 | 5.583 |

**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 | -0.014 | 0.000 | 0.353 | 0.000 | 0.412 | 0.000 | 0.037 | 0.788 | 6.060 |

### 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 | -0.024 | 0.000 | 0.353 | 0.000 | 0.261 | 0.000 | 0.037 | 0.627 | 5.583 |

### 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 2014 |
| Total Cost (TY $M) | N/A | 8056.0 | N/A | 9259.8 |
| Total Quantity | N/A | 1528 | N/A | 1528 |
| Prog. Acq. Unit Cost (PAUC) | N/A | 5.272 | N/A | 6.060 |

## 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 | +108.9 | -162.1 | -- | -53.2 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +404.8 | -- | +404.8 |
| Engineering | -- | -- | -- | -- |
| Estimating | -379.7 | -153.8 | -- | -533.5 |
| Other | -- | -- | -- | -- |
| Support | -- | +307.8 | -- | +307.8 |
| Subtotal | -270.8 | +396.7 | -- | +125.9 |
| Current Changes | | | | |
| Economic | -5.5 | -33.2 | -- | -38.7 |
| Quantity | -- | -12555.5 | -- | -12555.5 |
| Schedule | -- | -491.3 | -- | -491.3 |
| Engineering | -- | -- | -- | -- |
| Estimating | -1771.9 | -454.5 | -- | -2226.4 |
| Other | -- | -- | -- | -- |
| Support | -- | -3349.9 | -- | -3349.9 |
| Subtotal | -1777.4 | -16884.4 | -- | -18661.8 |
| Total Changes | -2048.2 | -16487.7 | -- | -18535.9 |
| CE - Cost Variance | 3206.8 | 96.7 | -- | 3303.5 |
| CE - Cost & Funding | 3206.8 | 96.7 | -- | 3303.5 |

| Summary Base Year 2004 $M | | | | |
|---|---|---|---|---|
| | RDT&E | Proc | MILCON | Total |
| SAR Baseline (Dev Est) | 4531.4 | 11999.1 | -- | 16530.5 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -354.6 | -297.1 | -- | -651.7 |
| Other | -- | -- | -- | -- |
| Support | -- | +163.0 | -- | +163.0 |
| Subtotal | -354.6 | -134.1 | -- | -488.7 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -8875.5 | -- | -8875.5 |
| Schedule | -- | -148.0 | -- | -148.0 |
| Engineering | -- | -- | -- | -- |
| Estimating | -1376.3 | -419.3 | -- | -1795.6 |
| Other | -- | -- | -- | -- |
| Support | -- | -2343.2 | -- | -2343.2 |
| Subtotal | -1376.3 | -11786.0 | -- | -13162.3 |
| Total Changes | -1730.9 | -11920.1 | -- | -13651.0 |
| CE - Cost Variance | 2800.5 | 79.0 | -- | 2879.5 |
| CE - Cost & Funding | 2800.5 | 79.0 | -- | 2879.5 |

Previous Estimate: December 2009

| RDT&E | $M | |
|---|---|---|
| **Current Change Explanations** | **Base Year** | **Then Year** |
| Revised escalation indices. (Economic) | N/A | -5.5 |
| Adjustment for current and prior escalation. (Estimating) | +0.6 | +0.7 |
| Decrease in estimate from FY 2014 through FY 2018 to reflect U.S. DoD decision to place a ceiling on MEADS funding and continue with a modified Design and Development phase as a "proof-of-concept" effort ending in FY 2013. (Estimating) | -1436.7 | -1845.1 |
| Increase in FY 2013 estimate to meet U.S. commitment to the Tri-National Design and Development program. (Estimating) | +59.8 | +72.5 |
| RDT&E Subtotal | -1376.3 | -1777.4 |

| Procurement | $M | |
|---|---|---|
| **Current Change Explanations** | **Base Year** | **Then Year** |
| Revised escalation indices. (Economic) | N/A | -33.2 |
| Total Quantity variance resulting from a decrease of 48 Fire Units from 48 to 0. (Subtotal) | -8974.3 | -12883.7 |
| Quantity variance resulting from a decrease of 48 Fire Units from 48 to 0. (Quantity) | (-8875.5) | (-12555.5) |
| Allocation to Schedule resulting from Quantity change. (Schedule) (QR) | (-148.0) | (-491.3) |
| Allocation to Estimating resulting from Quantity change. (Estimating) (QR) | (+49.2) | (+163.1) |
| Decrease in Initial Spares due to corresponding elimination of all Fire Unit procurement quantities. (Support) (QR) | -1407.3 | -2016.1 |
| Decrease in Other Support due to corresponding elimination of all Fire Unit procurement quantities. (Support) (QR) | -935.9 | -1333.8 |
| Decrease in estimate from FY 2014 through FY 2031 to reflect U.S. DoD decision to place a ceiling on MEADS funding and continue with a modified Design and Development phase as a "proof-of-concept" only. (Estimating) | -468.5 | -617.6 |
| Procurement Subtotal | -11786.0 | -16884.4 |

(QR) Quantity Related

## 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 | +15.4 | -20.8 | -- | -5.4 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +267.4 | -- | +267.4 |
| Engineering | -- | -- | -- | -- |
| Estimating | +170.8 | +342.1 | -- | +512.9 |
| Other | -- | -- | -- | -- |
| Support | -- | +31.1 | -- | +31.1 |
| Subtotal | +186.2 | +619.8 | -- | +806.0 |
| Current Changes | | | | |
| Economic | -0.3 | -16.2 | -- | -16.5 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +271.5 | -- | +271.5 |
| Engineering | -- | -- | -- | -- |
| Estimating | +61.3 | +56.5 | -- | +117.8 |
| Other | -- | -- | -- | -- |
| Support | -- | +25.0 | -- | +25.0 |
| Subtotal | +61.0 | +336.8 | -- | +397.8 |
| Total Changes | +247.2 | +956.6 | -- | +1203.8 |
| CE - Cost Variance | 729.2 | 8530.6 | -- | 9259.8 |
| CE - Cost & Funding | 729.2 | 8530.6 | -- | 9259.8 |

| 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 | +144.5 | +280.2 | -- | +424.7 |
| Other | -- | -- | -- | -- |
| Support | -- | +6.2 | -- | +6.2 |
| Subtotal | +144.5 | +286.4 | -- | +430.9 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | +51.0 | +70.7 | -- | +121.7 |
| Other | -- | -- | -- | -- |
| Support | -- | +2.7 | -- | +2.7 |
| Subtotal | +51.0 | +73.4 | -- | +124.4 |
| Total Changes | +195.5 | +359.8 | -- | +555.3 |
| CE - Cost Variance | 656.4 | 6119.8 | -- | 6776.2 |
| CE - Cost & Funding | 656.4 | 6119.8 | -- | 6776.2 |

Previous Estimate: December 2009

| RDT&E | $M | |
|---|---|---|
| **Current Change Explanations** | **Base Year** | **Then Year** |
| Revised escalation indices. (Economic) | N/A | -0.3 |
| Adjustment for current and prior escalation. (Estimating) | +0.2 | +0.2 |
| Revised estimate for continued Missile Segment Enhancement (MSE) development and additional flight testing. (Estimating) | +50.8 | +61.1 |
| RDT&E Subtotal | +51.0 | +61.0 |

| Procurement | $M | |
|---|---|---|
| **Current Change Explanations** | **Base Year** | **Then Year** |
| Revised escalation indices. (Economic) | N/A | -16.2 |
| Delay in start of production and stretch-out of procurement program from FY 2027 through FY 2029. (Schedule) | 0.0 | +271.5 |
| Refinement of cost estimate due to production delay and stretch-out of procurement program. (Estimating) | +70.7 | +56.5 |
| Increase in Other Support due to program schedule extension. (Support) | +2.7 | +25.0 |
| Procurement Subtotal | +73.4 | +336.8 |

## 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 | 405.4 | 413.3 |

| Variance | Cost Variance | Schedule Variance |
|---|---|---|
| Cumulative Variances To Date (1/30/2011) | -8.2 | -3.8 |
| Previous Cumulative Variances | -4.1 | -3.1 |
| Net Change | -4.1 | -0.7 |

### Cost And Schedule Variance Explanations

The unfavorable net changes in the cost and schedule variances are primarily due to the Qualification Test-8 (QT-8) failure investigation, Ignition Safety Device (ISD) readiness to support Qualification, and preparation for the Guided Test Flight-2 (GTF-2) that was successfully conducted on March 2, 2011. The net changes reflect the cost growth incurred to date and projections for cost-to-complete primarily as a result of the failed flight tests, extended period of performance, and lack of funding. The contractor’s schedule was re-planned in May 2009 to extend the Missile Segment Enhancement (MSE) development effort period of performance from October 2008 to February 2012 with an additional Grassroots Review in May 2010. The reprogramming was authorized to allow the contractor to plan remaining contract effort, and establish revised completion estimates in order to maintain performance reporting integrity.

### Contract Comments

The MSE contract effort was awarded on June 27, 2003, at a not-to-exceed (NTE) price of $260.0M. The MSE contract implements development, test, and integration of an improved solid rocket motor for the PAC-3 missile. The Current Contract Target Price increased from $275.5M to $278.4M for Product Improvement Program (PIP) increase in statement of work (SOW) and new scope associated with Scientific and Technical Reports. The Contractor's and Program Manager's Estimated Price at Completion (EPC) remained at the prior estimate of $405.4M and $413.3M, respectively. The EPCs reflect the cost growth incurred to date and projections for cost-to-complete primarily as a result of the failed flight tests, extended period of performance, and lack of funding.

**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 | 3473.2 | N/A | 0 | 3473.2 | 3473.2 |

| Variance | Cost Variance | Schedule Variance |
|---|---|---|
| Cumulative Variances To Date (1/31/2011) | 0.0 | 0.0 |
| Previous Cumulative Variances | +18.0 | -21.6 |
| Net Change | -18.0 | +21.6 |

**Cost And Schedule Variance Explanations**

There are no contract variances as of January 31, 2011, based on the North Atlantic Treaty Organization (NATO) Medium Extended Air Defense System Management Agency (NAMEADSMA) Board of Directors and MEADS International (MI) decision to suspend full Earned Value Management (EVM) reporting until a contract re-plan is implemented that defines a path forward to the end of the MEADS Design and Development (D&D) phase. The contractor reported actual cost only as of January 2011; therefore, the cost and schedule variances cannot be calculated.

During 2010, the MEADS D&D program successfully completed the System Critical Design Review (CDR) Phase with improvements in the variances for the major end items (radars, battle management system, launcher and missile) having been achieved.

In summary, the U.S. will meet the current MEADS Memorandum of Understanding (MoU) commitments for MEADS to complete a modified D&D proof-of-concept phase; however, the U.S. does not intend to provide additional funding for MEADS beyond FY 2013. Full EVM reporting will resume once a contractual agreement is reached between MI, NAMEADSMA, and the Tri-National partners (U.S., Germany, and Italy).

**Contract Comments**

NAMEADSMA is a subsidiary body of 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 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 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.)

The Current Contract Target Price and the Contractor's and Program Manager's Estimated Price at Completion remain the same at $3473.2M.

## 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 | 3303.5 | Years Appropriated | 8 |
| Expenditures To Date | 1968.4 | Percent Years Appropriated | 80.00% |
| Percent Expended | 59.59% | Appropriated to Date | 2403.1 |
| Total Funding Years | 10 | Percent Appropriated | 72.74% |

All data is current as of December 31, 2010.

### 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 | 9259.8 | Years Appropriated | 8 |
| Expenditures To Date | 294.8 | Percent Years Appropriated | 27.59% |
| Percent Expended | 3.18% | Appropriated to Date | 602.6 |
| Total Funding Years | 29 | Percent Appropriated | 6.51% |

All data is current as of December 31, 2010.

## Operating and Support Cost

## FIRE UNIT

**Assumptions And Ground Rules**

The Operating and Support (O&S) cost assumptions for the Fire Unit Subprogram are based on the Combined Aggregate Program (CAP), which includes the transition of the legacy PATRIOT to MEADS cost estimate, dated August 2004. 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.

| Costs BY2004 $M | | |
|---|---|---|
| **Cost Element** | **FIRE UNIT Average Annual Cost Per Fire Unit** | **No Antecedent System** |
| Mission Pay & Allowance | 7.2 | -- |
| Unit Level Consumption | 2.9 | -- |
| Intermediate Maintenance | 0.0 | -- |
| Depot Maintenance | 3.0 | -- |
| Contractor Support | 0.0 | -- |
| Sustaining Support | 1.4 | -- |
| Indirect | 1.2 | -- |
| Other | -- | -- |
| Total Unitized Cost (Base Year 2004 $) | 15.7 | -- |

| 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 "proof-of-concept" effort funded through FY 2013, the Fire Unit O&S data is maintained at the current estimate until further program definition.

## MISSILE

**Assumptions And Ground Rules**

The Operating and Support (O&S) 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.

| Costs BY2004 $K | | |
|---|---|---|
| **Cost Element** | **MISSILE Average Annual Cost Per Missile** | **No Antecedent System** |
| Mission Pay & Allowance | 31.0 | -- |
| Unit Level Consumption | 12.0 | -- |
| Intermediate Maintenance | 0.0 | -- |
| Depot Maintenance | 13.0 | -- |
| Contractor Support | 0.0 | -- |
| Sustaining Support | 6.0 | -- |
| Indirect | 5.0 | -- |
| Other | -- | -- |
| Total Unitized Cost (Base Year 2004 $) | 67.0 | -- |

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