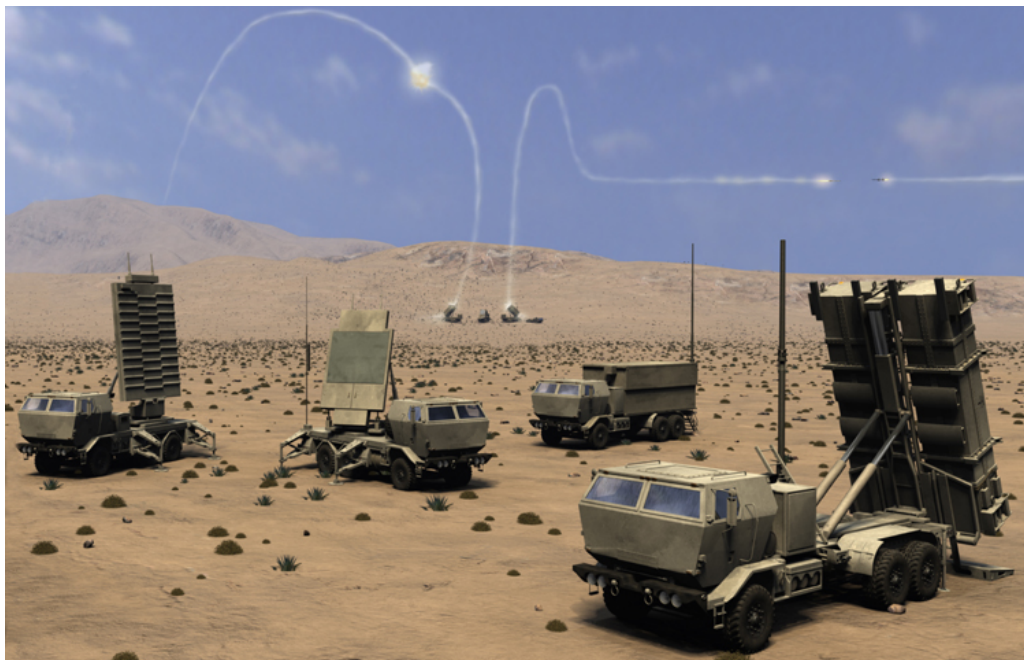




Selected Acquisition Report (SAR)

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



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

As of FY 2011 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

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

DoD Component

Army

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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

Defense Acquisition Executive (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 Executive (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 has the ability to conduct rapid march order and system emplacement will enhance maneuverability, thereby providing better AMD protection to maneuvering forces. The Army plans 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

Milestone B for the PATRIOT/Medium Extended Air Defense System (MEADS) Combined Aggregate Program (CAP) was approved on July 1, 2004. On April 6, 2006, the Lower Tier Project Office (LTPO) submitted a Program Deviation Report (PDR) which stated the CAP would not achieve Increment 1 and 2 Acquisition Program Baseline (APB) milestones and rebaselining would be required. This PDR was attributed to the establishment of the Army Integrated Air and Missile Defense (IAMD) program, which assumed responsibility for development of a common Army Air and Missile Defense Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) solution.

The LTPO continues to execute Increment 3 of CAP, with responsibility for U.S. coordination with Germany, Italy, and the NATO MEADS Management Agency (NAMEADSMA) to manage the Tri-National MEADS program. Under the MEADS Design and Development (D&D) contract, awarded in September 2004, the System Requirements Review was successfully conducted in May 2005 and the Incremental Preliminary Design Review was conducted in December 2007. As the program progressed and entered the Incremental Critical Design Review (CDR) phase in 2008 through 2009, sensor cost growth and schedule delay issues became apparent. BMC4I architecture requirements interpretation issues were also noted. These issues ultimately led the National Armaments Directors (NADs) to direct NAMEADSMA and MEADS International to re-plan the CDR baseline and to conduct an Independent Review Team (IRT) study. The re-plan has been completed and the IRT study results have been released into the international program.

The MEADS Summary System CDR scheduled in 4QFY10 will be the final system-level event conducted and will be the culmination of the Incremental Design Reviews (IDR), which were preceded by Major End Item (MEI) level events. CDR events are intended to provide sufficient data to affirm the Nations' expectations will be met and that the D&D phase can be continued with acceptable risk and within agreed costs. The System CDR will provide 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.

A Post-CDR contract amendment scheduled for 1QFY11 will define the programmatic provisions and will provide an updated Scope of Work for the period after CDR leading to the conclusion of the MEADS D&D phase. A System Program Review (SPR), required by the D&D Memorandum of Understanding, will be conducted after the System Summary CDR to evaluate overall progress to date and allow the NADs to make a decision on the future of the program. The SPR is also expected to satisfy the U.S. requirement for a Post-CDR Assessment review.

The Department of Defense conducted an Overarching Integrated Product Team (OIPT) In-Process Review in May 2009 and a Configuration Steering Board (CSB) in November 2009 to review program status. Forthcoming guidance is expected to direct the CAP APB be rebaselined to realign the MEADS and PAC-3 Missile Segment Enhancement (MSE) end-items into separate programs and program funding elements. The rebaselining is planned upon conclusion of the MEADS System CDR process. MEADS will require significant continued U.S. investment and planning in the Program Objective Memorandum (POM) FYs 2012-2017 to ensure the system meets U.S. requirements at Initial Operational Capability (IOC).

The PAC-3 MSE development program is continuing with flight testing to validate design and performance. The PAC-3 MSE Control Test Flight (CTF-B) was successfully executed at White Sands Missile Range (WSMR), NM, on May 21, 2008, as a repeat of the unsuccessful CTF mission conducted in May 2007. Test data verified all mission objectives were achieved. The test flight consisted of a series of maneuvers validating actual versus predicted performance. The test objectives included collecting data to evaluate missile fly-out functions, aerodynamic, structural and thermal data in natural and induced environments. The PAC-3 MSE Guided Test Flight (GTF)-1 was conducted on March 25, 2009 at White Sands Missile Range, NM. This mission was the first planned intercept of a tactical ballistic missile; however, test data indicated an unsuccessful intercept attempt. An anomaly in the interceptor missile occurred as a result of the Ignition Safety Device (ISD) failing to ignite the solid rocket motor second pulse. Failure analysis determined the root cause of the failure as the ISD electronics accelerometer circuit. Corrective action measures were implemented in ISD redesign. A successful re-test of the first intercept mission, GTF-1B, occurred on February 17, 2010, at WSMR, NM, validating the second pulse capability with the corrected ISD configuration. A PAC-3 MSE successfully intercepted the Tactical Ballistic Missile (TBM) target at the planned range and altitude. The mission objectives were to demonstrate system capability to search, detect,

track, engage, intercept, and kill a TBM target in the MSE extended battlespace.

Current estimates for the Missile Subprogram schedule milestones exceed APB thresholds. The GTF-1 mission failure precluded achieving the MSE First Intercept APB schedule milestone by the June 2009 threshold. The extended MSE development schedule will delay transitioning to production and subsequently moves 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 FY 2010 and FY 2011 to extend PAC-3 production. The MSE development effort will require additional funding following the GTF-1B test. The Army will assess program funding requirements and availability following the flight test. Mid-year FY 2010 reprogramming actions for Research, Development, Test and Evaluation (RDT&E) will be required for MSE development continuation. The program will require additional FY 2011 funding in RDT&E for development continuation and Procurement funding for Initial Production Facilitization. As previously stated, a CAP APB revision is planned to realign the MSE Subprogram under the PATRIOT PAC-3 program. The MSE Subprogram elements of the APB will be revised as FY 2010 Army reprogramming actions and program impacts are determined.

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

Threshold Breaches

FIRE UNIT

APB Breaches

| | | |
|---------------------|-------------|--------------------------|
| Schedule | | <input type="checkbox"/> |
| Performance | | <input type="checkbox"/> |
| Cost | RDT&E | <input type="checkbox"/> |
| | Procurement | <input type="checkbox"/> |
| | MILCON | <input type="checkbox"/> |
| | Acq O&M | <input type="checkbox"/> |
| O&S Cost | | <input type="checkbox"/> |
| Unit Cost | PAUC | <input type="checkbox"/> |
| | APUC | <input type="checkbox"/> |

Nunn-McCurdy Breaches

| | | |
|------------------------------|------|------|
| Current UCR Baseline | | |
| | PAUC | None |
| | APUC | None |
| Original UCR Baseline | | |
| | PAUC | None |
| | APUC | None |

MISSILE

APB Breaches

| | | |
|---------------------|-------------|-------------------------------------|
| Schedule | | <input checked="" type="checkbox"/> |
| Performance | | <input type="checkbox"/> |
| Cost | RDT&E | <input checked="" type="checkbox"/> |
| | Procurement | <input type="checkbox"/> |
| | MILCON | <input type="checkbox"/> |
| | Acq O&M | <input type="checkbox"/> |
| O&S Cost | | <input type="checkbox"/> |
| Unit Cost | PAUC | <input type="checkbox"/> |
| | APUC | <input type="checkbox"/> |

Explanation of Breach

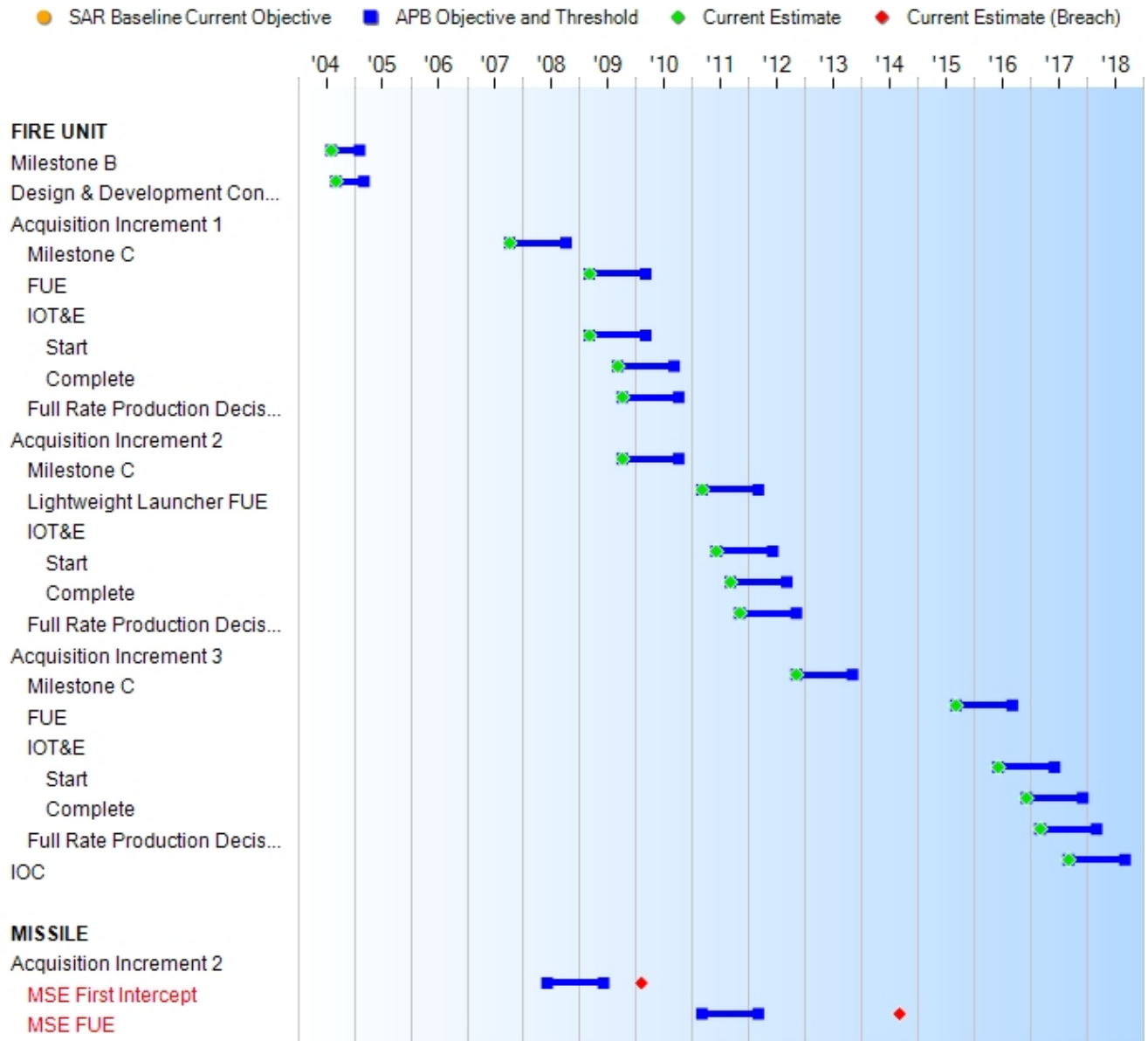
The Missile Segment Enhancement (MSE) First Intercept and the MSE First Unit Equipped (FUE) milestones will not be achieved within respective Acquisition Program Baseline (APB) thresholds. The MSE first Guided Test Flight (GTF) conducted on March 25, 2009, demonstrated several test objectives, but failed to achieve the intercept objective. Repeat of the first intercept flight test was successfully completed on February 17, 2010. The MSE FUE milestone current estimate will exceed the APB threshold due to delays in completion of program development, which subsequently delay transition to production and fielding.

Nunn-McCurdy Breaches

| | | |
|------------------------------|------|------|
| Current UCR Baseline | | |
| | PAUC | None |
| | APUC | None |
| Original UCR Baseline | | |
| | PAUC | None |
| | APUC | None |

MSE RDT&E cost exceeds the APB threshold due to delays in completion of program development.

Schedule



FIRE UNIT

| Schedule Events | | | | |
|-------------------------------------|-----------------------------------|---|----------|------------------|
| Events | SAR Baseline Development Estimate | 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 |

Change Explanations

None

Notes

FIRE UNIT: The Defense Acquisition Board (DAB) approved the Acquisition Strategy for the PATRIOT/MEADS CAP on August 6, 2004, as follows: Acquisition 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 capability 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.

First Unit Equipped (FUE) is achieved with battery quantities available for training. Initial Operational Capability (IOC) is achieved with completion of Initial Operational Test and Evaluation (IOT&E), Army Type Classification, and new equipment training.

As stated in the Executive Summary, implementation of the Army Integrated Air and Missile Defense (IAMD) development strategy will require elements of the CAP to be rebaselined. Therefore, the Program Manager's current estimates are maintained at the objective dates pending further actions in program definition. The Program Deviation Report (PDR) submitted in April 2006 stated Increments 1 and 2 would be affected. These events are no longer planned, and until rebaselining, will be held at current estimate. The revised program schedule and the Acquisition Program Baseline (APB) will be coordinated with the appropriate Army and OSD organizations.

Acronyms and Abbreviations

FUE - First Unit Equipped

IOC - Initial Operational Capability

IOT&E - Initial Operational Test and Evaluation

MSE - Missile Segment Enhancement

MISSILE

| Schedule Events | | | | |
|-------------------------|-----------------------------------|---|----------|-------------------------------------|
| Events | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate |
| Acquisition Increment 2 | | | | |
| MSE First Intercept | Jun 2008 | Jun 2008 | Jun 2009 | Feb 2010 ¹ (Ch-1) |
| MSE FUE | Mar 2011 | Mar 2011 | Mar 2012 | Sep 2014 ¹ (Ch-2) |

¹ APB Breach

Change Explanations

(Ch-1) MSE First Intercept Current Estimate changed from August 2008 to February 2010 due to the unsuccessful Guided Test Flight-1 (GTF-1) MSE flight test in March 2009. A successful re-test of the first intercept mission, GTF-1B, occurred on February 17, 2010, at White Sands Missile Range (WSMR), NM, validating the second pulse capability with the corrected Ignition Safety Device (ISD) configuration. A PAC-3 MSE missile successfully intercepted the Tactical Ballistic Missile (TBM) target at the planned range and altitude. The mission objectives were to demonstrate system capability to search, detect, track, engage, intercept, and kill a TBM target in the MSE extended battlespace.

(Ch-2) MSE FUE Current Estimate changed from March 2011 to September 2014 due to the unsuccessful flight test in March 2009. Transition to production and fielding will be delayed.

Notes

Acronyms and Abbreviations

FUE - First Unit Equipped
 IOC - Initial Operational Capability
 IOT&E - Initial Operational Test and Evaluation
 MSE - Missile Segment Enhancement

Performance

FIRE UNIT

| Performance Characteristics | | | | |
|---|---|---|--------------------------|---|
| SAR Baseline Development Estimate | 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 up to an ambient temp of 70 deg F, 2000 ft alt MSL, over a 30 nm distance; assembly and | 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 | 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 | 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 distance; assembly and disassembly from a march |

| | | | | |
|---|--|--|-----|--|
| disassembly from a march order to a transport configuration with organic equipment in 15 min | distance; assembly and disassembly from a march order to a transport configuration with organic equipment in 15 min | distance; assembly and disassembly from a march order to a transport configuration with organic equipment in 30 min | | 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 operationally equivalent area of 100km by 100km | Will provide air and missile defense of selected critical assets and organizations located in an operationally equivalent area of 100km by 100km | Will provide air and missile defense of selected critical assets and organizations located in an operationally equivalent area of 100km by 100km | TBD | Will provide air and missile defense of selected critical assets and organizations located in an 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) |

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

Requirements Reference

Capability Development Document (CDD) (MEADS Increment 1) dated June 14, 2004

Change Explanations

None

MISSILE

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

Track to Budget

FIRE UNIT

General Notes

This information was entered before Track To Budget was entered on a per subprogram basis. Consequently, the information for the program has been copied to both subprograms.

RDT&E

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

Procurement

| Appn | BA | PE | |
|------|------------------|-------------------|--|
| Army | 2032 | 02 | |
| | Line Item | Name | |
| | C53101 | MSE Missile | |
| | C53201 | PATRIOT/MEADS GSE | |

MISSILE

General Notes

This information was entered before Track To Budget was entered on a per subprogram basis. Consequently, the information for the program has been copied to both subprograms.

RDT&E

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

| Project | Name |
|---------|--|
| M06 | PATRIOT/MEADS Combined Aggregate Program (CAP) |

Army 2040 05 0605456A

| Project | Name |
|---------|---|
| PA3 | PATRIOT PAC-3/Missile Segment Enhancement |

Procurement

| Appn | BA | PE |
|------|----|----|
|------|----|----|

Army 2032 02

| Line Item | Name |
|-----------|-------------------|
| C53101 | MSE Missile |
| C53201 | PATRIOT/MEADS GSE |

Cost and Funding

Cost Summary - Total Program

| Total Acquisition Cost - Total Program | | | | | | | |
|--|-----------------------------------|---|------------|------------------|-----------------------------------|-----------------------------------|------------------|
| Appropriation | BY 2004 \$M | | | BY 2004 \$M | TY \$M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 4992.3 | 4992.3 | -- | 4782.2 | 5737.0 | 5737.0 | 5652.4 |
| Procurement | 17759.1 | 17759.1 | -- | 17911.4 | 24158.4 | 24158.4 | 25174.9 |
| Flyaway | -- | -- | -- | 15054.9 | -- | -- | 21128.8 |
| Recurring | -- | -- | -- | 14777.1 | -- | -- | 20784.6 |
| Non Recurring | -- | -- | -- | 277.8 | -- | -- | 344.2 |
| Support | -- | -- | -- | 2856.5 | -- | -- | 4046.1 |
| Other Support | -- | -- | -- | 1449.2 | -- | -- | 2025.8 |
| Initial Spares | -- | -- | -- | 1407.3 | -- | -- | 2020.3 |
| 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 | 22693.6 | 29895.4 | 29895.4 | 30827.3 |

Cost and Funding

Cost Summary - FIRE UNIT

| Total Acquisition Cost - FIRE UNIT | | | | | | | |
|------------------------------------|-----------------------------------|---|---------|------------------|-----------------------------------|-----------------------------------|------------------|
| Appropriation | BY 2004 \$M | | | BY 2004 \$M | TY \$M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 4531.4 | 4531.4 | 5211.1 | 4176.8 | 5255.0 | 5255.0 | 4984.2 |
| Procurement | 11999.1 | 11999.1 | 13199.0 | 11865.0 | 16584.4 | 16584.4 | 16981.1 |
| Flyaway | -- | -- | -- | 9521.8 | -- | -- | 13624.3 |
| Recurring | -- | -- | -- | 9244.0 | -- | -- | 13280.1 |
| Non Recurring | -- | -- | -- | 277.8 | -- | -- | 344.2 |
| Support | -- | -- | -- | 2343.2 | -- | -- | 3356.8 |
| Other Support | -- | -- | -- | 935.9 | -- | -- | 1336.5 |
| Initial Spares | -- | -- | -- | 1407.3 | -- | -- | 2020.3 |
| 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 | 16041.8 | 21839.4 | 21839.4 | 21965.3 |

| Total Quantity - FIRE UNIT | | | |
|----------------------------|-----------------------------------|-------------------------|------------------|
| Quantity | SAR Baseline Development Estimate | Current APB Development | Current Estimate |
| RDT&E | | 0 | 0 |
| Procurement | | 48 | 48 |
| Total | | 48 | 48 |

Quantity Notes

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 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 - MISSILE | | | | | | | |
|----------------------------------|-----------------------------------|---|--------|--------------------|-----------------------------------|-----------------------------------|------------------|
| Appropriation | BY 2004 \$M | | | BY 2004 \$M | TY \$M | | |
| | SAR Baseline Development Estimate | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Development Estimate | Current APB Development Objective | Current Estimate |
| RDT&E | 460.9 | 460.9 | 530.0 | 605.4 ¹ | 482.0 | 482.0 | 668.2 |
| Procurement | 5760.0 | 5760.0 | 6336.0 | 6046.4 | 7574.0 | 7574.0 | 8193.8 |
| Flyaway | -- | -- | -- | 5533.1 | -- | -- | 7504.5 |
| Recurring | -- | -- | -- | 5533.1 | -- | -- | 7504.5 |
| Non Recurring | -- | -- | -- | 0.0 | -- | -- | 0.0 |
| Support | -- | -- | -- | 513.3 | -- | -- | 689.3 |
| Other Support | -- | -- | -- | 513.3 | -- | -- | 689.3 |
| Initial Spares | -- | -- | -- | 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 | 6651.8 | 8056.0 | 8056.0 | 8862.0 |

¹ APB Breach

| Total Quantity - MISSILE | | | |
|--------------------------|-----------------------------------|-------------------------|------------------|
| Quantity | SAR Baseline Development Estimate | Current APB Development | Current Estimate |
| RDT&E | 0 | 0 | 0 |
| Procurement | 1528 | 1528 | 1528 |
| Total | 1528 | 1528 | 1528 |

Quantity Notes

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 Summary | | | | | | | | | |
|---|--------|---------|---------|---------|---------|---------|---------|-------------|---------|
| FY 2011 President's Budget / December 2009 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | To Complete | Total |
| RDT&E | 1909.9 | 566.2 | 529.6 | 470.1 | 328.7 | 240.0 | 75.6 | 1532.3 | 5652.4 |
| Procurement | 0.0 | 0.0 | 0.0 | 607.8 | 660.6 | 734.0 | 1032.2 | 22140.3 | 25174.9 |
| 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 2011 Total | 1909.9 | 566.2 | 529.6 | 1077.9 | 989.3 | 974.0 | 1107.8 | 23672.6 | 30827.3 |
| PB 2009 Total | 1917.5 | 985.7 | 1100.6 | 1538.0 | 1810.0 | 2172.5 | 2158.0 | 18212.9 | 29895.2 |
| Delta | -7.6 | -419.5 | -571.0 | -460.1 | -820.7 | -1198.5 | -1050.2 | 5459.7 | 932.1 |

Cost and Funding

Funding Summary - FIRE UNIT

| Appropriation Summary | | | | | | | | | |
|---|--------|---------|---------|---------|---------|---------|---------|-------------|---------|
| FY 2011 President's Budget / December 2009 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | To Complete | Total |
| RDT&E | 1434.9 | 501.1 | 467.1 | 408.0 | 325.2 | 240.0 | 75.6 | 1532.3 | 4984.2 |
| Procurement | 0.0 | 0.0 | 0.0 | 0.0 | 126.6 | 217.6 | 528.4 | 16108.5 | 16981.1 |
| 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 2011 Total | 1434.9 | 501.1 | 467.1 | 408.0 | 451.8 | 457.6 | 604.0 | 17640.8 | 21965.3 |
| PB 2009 Total | 1442.5 | 661.1 | 667.1 | 950.7 | 1254.6 | 1629.5 | 1627.3 | 13546.9 | 21779.7 |
| Delta | -7.6 | -160.0 | -200.0 | -542.7 | -802.8 | -1171.9 | -1023.3 | 4093.9 | 185.6 |

| Quantity Summary | | | | | | | | | | |
|---|---------------|-------|---------|---------|---------|---------|---------|---------|-------------|-------|
| FY 2011 President's Budget / December 2009 SAR (TY\$ M) | | | | | | | | | | |
| Quantity | Undistributed | Prior | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | To Complete | Total |
| Development | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 47 | 48 |
| PB 2011 Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 47 | 48 |
| PB 2009 Total | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 43 | 48 |
| Delta | 0 | 0 | 0 | 0 | 0 | -1 | -2 | -1 | 4 | 0 |

Funding Summary - MISSILE

| Appropriation Summary | | | | | | | | | |
|---|-------|---------|---------|---------|---------|---------|---------|-------------|--------|
| FY 2011 President's Budget / December 2009 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | To Complete | Total |
| RDT&E | 475.0 | 65.1 | 62.5 | 62.1 | 3.5 | 0.0 | 0.0 | 0.0 | 668.2 |
| Procurement | 0.0 | 0.0 | 0.0 | 607.8 | 534.0 | 516.4 | 503.8 | 6031.8 | 8193.8 |
| 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 2011 Total | 475.0 | 65.1 | 62.5 | 669.9 | 537.5 | 516.4 | 503.8 | 6031.8 | 8862.0 |
| PB 2009 Total | 475.0 | 324.6 | 433.5 | 587.3 | 555.4 | 543.0 | 530.7 | 4666.0 | 8115.5 |
| Delta | 0.0 | -259.5 | -371.0 | 82.6 | -17.9 | -26.6 | -26.9 | 1365.8 | 746.5 |

Funding Notes

PATRIOT/MEADS CAP Missile Procurement funds in FY 2010 and FY 2011 were transferred to the PATRIOT PAC-3 Procurement funding line to obtain 137 additional PAC-3 missile quantities in FY 2010 and FY 2011.

| Quantity Summary | | | | | | | | | | |
|---|---------------|-------|---------|---------|---------|---------|---------|---------|-------------|-------|
| FY 2011 President's Budget / December 2009 SAR (TY\$ M) | | | | | | | | | | |
| Quantity | Undistributed | Prior | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | To Complete | Total |
| Development | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 0 | 0 | 0 | 0 | 56 | 82 | 104 | 104 | 1182 | 1528 |
| PB 2011 Total | 0 | 0 | 0 | 0 | 56 | 82 | 104 | 104 | 1182 | 1528 |
| PB 2009 Total | 0 | 0 | 56 | 82 | 108 | 108 | 108 | 108 | 958 | 1528 |
| Delta | 0 | 0 | -56 | -82 | -52 | -26 | -4 | -4 | 224 | 0 |

Cost and Funding

Annual Funding By Appropriation - FIRE UNIT

| Annual Funding - FIRE UNIT | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 2040 RDT&E Research, Development, Test, and Evaluation, Army | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 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 | -- | -- | -- | -- | -- | -- | 408.0 |
| 2013 | -- | -- | -- | -- | -- | -- | 325.2 |
| 2014 | -- | -- | -- | -- | -- | -- | 240.0 |
| 2015 | -- | -- | -- | -- | -- | -- | 75.6 |
| 2016 | -- | -- | -- | -- | -- | -- | 572.7 |
| 2017 | -- | -- | -- | -- | -- | -- | 481.4 |
| 2018 | -- | -- | -- | -- | -- | -- | 478.2 |
| Subtotal | -- | -- | -- | -- | -- | -- | 4984.2 |

| Annual Funding - FIRE UNIT | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 2040 RDT&E Research, Development, Test, and Evaluation, Army | | | | | | | |
| Fiscal Year | Quantity | BY 2004 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2004 | -- | -- | -- | -- | -- | -- | 124.0 |
| 2005 | -- | -- | -- | -- | -- | -- | 155.7 |
| 2006 | -- | -- | -- | -- | -- | -- | 178.3 |
| 2007 | -- | -- | -- | -- | -- | -- | 190.4 |
| 2008 | -- | -- | -- | -- | -- | -- | 280.2 |
| 2009 | -- | -- | -- | -- | -- | -- | 370.8 |
| 2010 | -- | -- | -- | -- | -- | -- | 433.7 |
| 2011 | -- | -- | -- | -- | -- | -- | 397.9 |
| 2012 | -- | -- | -- | -- | -- | -- | 341.9 |
| 2013 | -- | -- | -- | -- | -- | -- | 267.9 |
| 2014 | -- | -- | -- | -- | -- | -- | 194.4 |
| 2015 | -- | -- | -- | -- | -- | -- | 60.2 |
| 2016 | -- | -- | -- | -- | -- | -- | 448.6 |
| 2017 | -- | -- | -- | -- | -- | -- | 370.7 |
| 2018 | -- | -- | -- | -- | -- | -- | 362.1 |
| Subtotal | -- | -- | -- | -- | -- | -- | 4176.8 |

| Annual Funding - FIRE UNIT 2032 Procurement Missile Procurement, Army | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2013 | -- | -- | -- | 126.6 | 126.6 | -- | 126.6 |
| 2014 | -- | -- | -- | 217.6 | 217.6 | -- | 217.6 |
| 2015 | 1 | 386.2 | 17.0 | -- | 403.2 | 125.2 | 528.4 |
| 2016 | 2 | 664.6 | 24.4 | -- | 689.0 | 179.2 | 868.2 |
| 2017 | 2 | 852.0 | 29.9 | -- | 881.9 | 217.6 | 1099.5 |
| 2018 | 2 | 931.5 | 32.5 | -- | 964.0 | 236.2 | 1200.2 |
| 2019 | 2 | 858.8 | 32.5 | -- | 891.3 | 228.0 | 1119.3 |
| 2020 | 3 | 855.6 | 25.0 | -- | 880.6 | 230.8 | 1111.4 |
| 2021 | 4 | 849.1 | 25.3 | -- | 874.4 | 233.1 | 1107.5 |
| 2022 | 4 | 859.9 | 25.7 | -- | 885.6 | 236.2 | 1121.8 |
| 2023 | 4 | 910.3 | 27.2 | -- | 937.5 | 246.2 | 1183.7 |
| 2024 | 4 | 872.9 | 26.5 | -- | 899.4 | 241.5 | 1140.9 |
| 2025 | 4 | 841.0 | 25.9 | -- | 866.9 | 237.9 | 1104.8 |
| 2026 | 4 | 870.3 | 27.3 | -- | 897.6 | 243.9 | 1141.5 |
| 2027 | 4 | 1118.8 | 33.5 | -- | 1152.3 | 258.9 | 1411.2 |
| 2028 | 4 | 1084.5 | 33.3 | -- | 1117.8 | 224.2 | 1342.0 |
| 2029 | 4 | 926.3 | 12.3 | -- | 938.6 | 167.3 | 1105.9 |
| 2030 | -- | -- | -- | -- | -- | 25.3 | 25.3 |
| 2031 | -- | -- | -- | -- | -- | 25.3 | 25.3 |
| Subtotal | 48 | 12881.8 | 398.3 | 344.2 | 13624.3 | 3356.8 | 16981.1 |

| Annual Funding - FIRE UNIT 2032 Procurement Missile Procurement, Army | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| Fiscal Year | Quantity | BY 2004 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2013 | -- | -- | -- | 103.3 | 103.3 | -- | 103.3 |
| 2014 | -- | -- | -- | 174.5 | 174.5 | -- | 174.5 |
| 2015 | 1 | 304.6 | 13.4 | -- | 318.0 | 98.8 | 416.8 |
| 2016 | 2 | 515.4 | 18.9 | -- | 534.3 | 139.0 | 673.3 |
| 2017 | 2 | 649.7 | 22.8 | -- | 672.5 | 165.9 | 838.4 |
| 2018 | 2 | 698.5 | 24.4 | -- | 722.9 | 177.0 | 899.9 |
| 2019 | 2 | 633.2 | 24.0 | -- | 657.2 | 168.0 | 825.2 |
| 2020 | 3 | 620.3 | 18.1 | -- | 638.4 | 167.3 | 805.7 |
| 2021 | 4 | 605.3 | 18.0 | -- | 623.3 | 166.2 | 789.5 |
| 2022 | 4 | 602.7 | 18.0 | -- | 620.7 | 165.6 | 786.3 |
| 2023 | 4 | 627.4 | 18.7 | -- | 646.1 | 169.7 | 815.8 |
| 2024 | 4 | 591.6 | 18.0 | -- | 609.6 | 163.6 | 773.2 |
| 2025 | 4 | 560.4 | 17.3 | -- | 577.7 | 158.5 | 736.2 |
| 2026 | 4 | 570.2 | 17.9 | -- | 588.1 | 159.8 | 747.9 |
| 2027 | 4 | 720.8 | 21.6 | -- | 742.4 | 166.8 | 909.2 |
| 2028 | 4 | 687.0 | 21.1 | -- | 708.1 | 142.1 | 850.2 |
| 2029 | 4 | 577.0 | 7.7 | -- | 584.7 | 104.2 | 688.9 |
| 2030 | -- | -- | -- | -- | -- | 15.5 | 15.5 |
| 2031 | -- | -- | -- | -- | -- | 15.2 | 15.2 |
| Subtotal | 48 | 8964.1 | 279.9 | 277.8 | 9521.8 | 2343.2 | 11865.0 |

Annual Funding By Appropriation - MISSILE

| Annual Funding - MISSILE | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 2040 RDT&E Research, Development, Test, and Evaluation, Army | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 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 | -- | -- | -- | -- | -- | -- | 62.1 |
| 2013 | -- | -- | -- | -- | -- | -- | 3.5 |
| Subtotal | -- | -- | -- | -- | -- | -- | 668.2 |

| Annual Funding - MISSILE | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 2040 RDT&E Research, Development, Test, and Evaluation, Army | | | | | | | |
| Fiscal Year | Quantity | BY 2004 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2004 | -- | -- | -- | -- | -- | -- | 107.4 |
| 2005 | -- | -- | -- | -- | -- | -- | 82.9 |
| 2006 | -- | -- | -- | -- | -- | -- | 75.2 |
| 2007 | -- | -- | -- | -- | -- | -- | 101.0 |
| 2008 | -- | -- | -- | -- | -- | -- | 47.4 |
| 2009 | -- | -- | -- | -- | -- | -- | 27.1 |
| 2010 | -- | -- | -- | -- | -- | -- | 56.3 |
| 2011 | -- | -- | -- | -- | -- | -- | 53.2 |
| 2012 | -- | -- | -- | -- | -- | -- | 52.0 |
| 2013 | -- | -- | -- | -- | -- | -- | 2.9 |
| Subtotal | -- | -- | -- | -- | -- | -- | 605.4 |

| Annual Funding - MISSILE 2032 Procurement Missile Procurement, Army | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2012 | 56 | 531.2 | -- | -- | 531.2 | 76.6 | 607.8 |
| 2013 | 82 | 466.7 | -- | -- | 466.7 | 67.3 | 534.0 |
| 2014 | 104 | 464.8 | -- | -- | 464.8 | 51.6 | 516.4 |
| 2015 | 104 | 455.4 | -- | -- | 455.4 | 48.4 | 503.8 |
| 2016 | 104 | 519.3 | -- | -- | 519.3 | 37.0 | 556.3 |
| 2017 | 104 | 506.9 | -- | -- | 506.9 | 35.2 | 542.1 |
| 2018 | 104 | 494.6 | -- | -- | 494.6 | 37.2 | 531.8 |
| 2019 | 104 | 492.6 | -- | -- | 492.6 | 38.0 | 530.6 |
| 2020 | 104 | 490.7 | -- | -- | 490.7 | 38.0 | 528.7 |
| 2021 | 104 | 488.8 | -- | -- | 488.8 | 38.2 | 527.0 |
| 2022 | 104 | 486.9 | -- | -- | 486.9 | 38.1 | 525.0 |
| 2023 | 104 | 484.9 | -- | -- | 484.9 | 37.8 | 522.7 |
| 2024 | 104 | 483.1 | -- | -- | 483.1 | 37.5 | 520.6 |
| 2025 | 104 | 481.2 | -- | -- | 481.2 | 37.2 | 518.4 |
| 2026 | 104 | 479.3 | -- | -- | 479.3 | 36.9 | 516.2 |
| 2027 | 38 | 178.1 | -- | -- | 178.1 | 13.7 | 191.8 |
| 2028 | -- | -- | -- | -- | -- | 10.3 | 10.3 |
| 2029 | -- | -- | -- | -- | -- | 10.3 | 10.3 |
| Subtotal | 1528 | 7504.5 | -- | -- | 7504.5 | 689.3 | 8193.8 |

| Annual Funding - MISSILE 2032 Procurement Missile Procurement, Army | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| Fiscal Year | Quantity | BY 2004 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2012 | 56 | 440.7 | -- | -- | 440.7 | 63.5 | 504.2 |
| 2013 | 82 | 380.7 | -- | -- | 380.7 | 54.9 | 435.6 |
| 2014 | 104 | 372.8 | -- | -- | 372.8 | 41.4 | 414.2 |
| 2015 | 104 | 359.2 | -- | -- | 359.2 | 38.2 | 397.4 |
| 2016 | 104 | 402.7 | -- | -- | 402.7 | 28.7 | 431.4 |
| 2017 | 104 | 386.5 | -- | -- | 386.5 | 26.9 | 413.4 |
| 2018 | 104 | 370.9 | -- | -- | 370.9 | 27.9 | 398.8 |
| 2019 | 104 | 363.2 | -- | -- | 363.2 | 28.0 | 391.2 |
| 2020 | 104 | 355.7 | -- | -- | 355.7 | 27.6 | 383.3 |
| 2021 | 104 | 348.4 | -- | -- | 348.4 | 27.3 | 375.7 |
| 2022 | 104 | 341.3 | -- | -- | 341.3 | 26.7 | 368.0 |
| 2023 | 104 | 334.2 | -- | -- | 334.2 | 26.1 | 360.3 |
| 2024 | 104 | 327.4 | -- | -- | 327.4 | 25.4 | 352.8 |
| 2025 | 104 | 320.7 | -- | -- | 320.7 | 24.7 | 345.4 |
| 2026 | 104 | 314.0 | -- | -- | 314.0 | 24.2 | 338.2 |
| 2027 | 38 | 114.7 | -- | -- | 114.7 | 8.9 | 123.6 |
| 2028 | -- | -- | -- | -- | -- | 6.5 | 6.5 |
| 2029 | -- | -- | -- | -- | -- | 6.4 | 6.4 |
| Subtotal | 1528 | 5533.1 | -- | -- | 5533.1 | 513.3 | 6046.4 |

Low Rate Initial Production

FIRE UNIT

| Item | Initial LRIP Decision | Current Total LRIP |
|--------------------------|--|--|
| Approval Date | 8/6/2004 | 8/6/2004 |
| Approved Quantity | 7 | 7 |
| Reference | DAE approved ADM dated August 6, 2004. | DAE approved ADM dated August 6, 2004. |
| Start Year | 2013 | 2013 |
| End Year | 2016 | 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 evaluate 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.

MISSILE

| Item | 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

MISSILE

None

Nuclear Costs

FIRE UNIT

None

MISSILE

None

Unit Cost

FIRE UNIT

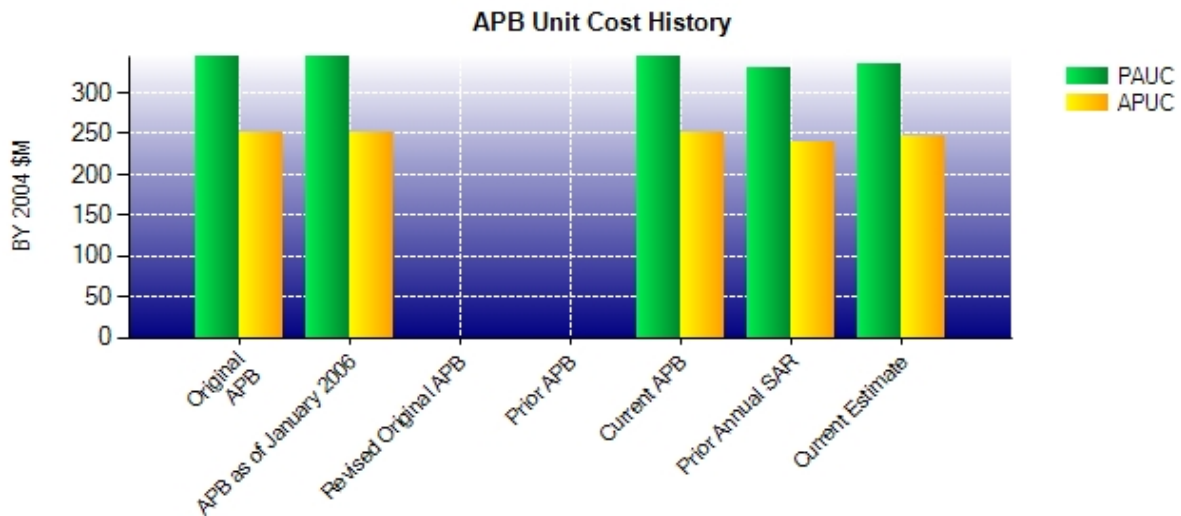
Unit Cost Report

| Item | BY 2004 \$M | BY 2004 \$M | % Change |
|--------------------------------------|---|------------------------------------|----------|
| | Current UCR Baseline (Aug 2004 APB) | Current Estimate (Dec 2009 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 16530.5 | 16041.8 | |
| Quantity | 48 | 48 | |
| Item | 344.385 | 334.204 | -2.96 |
| Average Procurement Unit Cost | | | |
| Cost | 11999.1 | 11865.0 | |
| Quantity | 48 | 48 | |
| Unit Cost | 249.981 | 247.188 | -1.12 |

| Item | BY 2004 \$M | BY 2004 \$M | % Change |
|--------------------------------------|--|------------------------------------|----------|
| | Original UCR Baseline (Aug 2004 APB) | Current Estimate (Dec 2009 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 16530.5 | 16041.8 | |
| Quantity | 48 | 48 | |
| Unit Cost | 344.385 | 334.204 | -2.96 |
| Average Procurement Unit Cost | | | |
| Cost | 11999.1 | 11865.0 | |
| Quantity | 48 | 48 | |
| Unit Cost | 249.981 | 247.188 | -1.12 |

FIRE UNIT

Unit Cost History



| Item | Date | BY 2004 \$M | | TY \$M | |
|------------------------|----------|-------------|---------|---------|---------|
| | | 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 2007 | 329.338 | 240.200 | 453.744 | 345.767 |
| Current Estimate | Dec 2009 | 334.204 | 247.188 | 457.610 | 353.773 |

SAR Unit Cost History

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|-------|-------|-------|---------|-------|-------|-------|-----------------------|
| Initial PAUC Development Estimate | Changes | | | | | | | | PAUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 454.988 | -1.108 | 0.000 | 8.433 | 0.000 | -11.116 | 0.000 | 6.413 | 2.622 | 457.610 |

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|-------|-------|-------|--------|-------|-------|-------|-----------------------|
| Initial APUC Development Estimate | Changes | | | | | | | | APUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 345.508 | -3.377 | 0.000 | 8.433 | 0.000 | -3.204 | 0.000 | 6.413 | 8.265 | 353.773 |

| SAR Baseline History | | | | |
|----------------------|-----------------------|--------------------------|-------------------------|------------------|
| Item | SAR Planning Estimate | SAR Development Estimate | SAR Production Estimate | Current Estimate |
| Milestone A | | N/A | N/A | N/A |
| Milestone B | | N/A | Aug 2004 | Aug 2004 |
| Milestone C | | N/A | Nov 2012 | Oct 2009 |
| IOC | | N/A | Sep 2017 | Sep 2017 |
| Total Cost (TY \$M) | | N/A | 21839.4 | 21965.3 |
| Total Quantity | | N/A | 48 | 48 |
| PAUC | | N/A | 454.988 | 457.610 |

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 is not achieved until Milestone C for Acquisition Increment 3, which is November 2012, not October 2007.

MISSILE

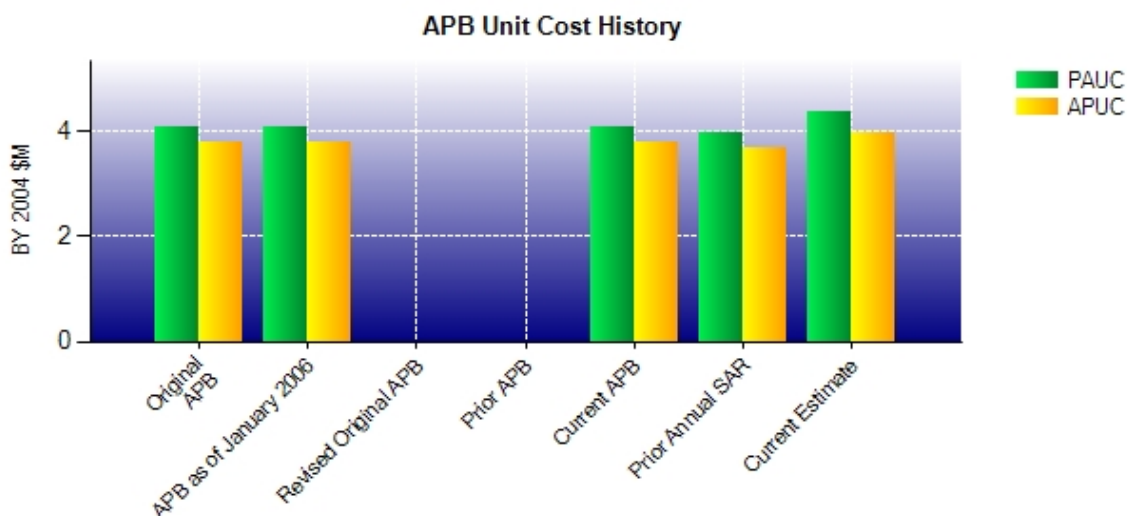
Unit Cost Report

| Item | BY 2004 \$M | BY 2004 \$M | % Change |
|--------------------------------------|---|------------------------------------|----------|
| | Current UCR Baseline (Aug 2004 APB) | Current Estimate (Dec 2009 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 6220.9 | 6651.8 | |
| Quantity | 1528 | 1528 | |
| Item | 4.071 | 4.353 | +6.93 |
| Average Procurement Unit Cost | | | |
| Cost | 5760.0 | 6046.4 | |
| Quantity | 1528 | 1528 | |
| Unit Cost | 3.770 | 3.957 | +4.96 |

| Item | BY 2004 \$M | BY 2004 \$M | % Change |
|--------------------------------------|--|------------------------------------|----------|
| | Original UCR Baseline (Aug 2004 APB) | Current Estimate (Dec 2009 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 6220.9 | 6651.8 | |
| Quantity | 1528 | 1528 | |
| Unit Cost | 4.071 | 4.353 | +6.93 |
| Average Procurement Unit Cost | | | |
| Cost | 5760.0 | 6046.4 | |
| Quantity | 1528 | 1528 | |
| Unit Cost | 3.770 | 3.957 | +4.96 |

MISSILE

Unit Cost History



| Item | Date | BY 2004 \$M | | TY \$M | |
|------------------------|----------|-------------|-------|--------|-------|
| | | 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 2007 | 3.945 | 3.674 | 5.311 | 5.021 |
| Current Estimate | Dec 2009 | 4.353 | 3.957 | 5.800 | 5.362 |

SAR Unit Cost History

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-----------------------|
| Initial PAUC Development Estimate | Changes | | | | | | | | PAUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 5.272 | -0.004 | 0.000 | 0.175 | 0.000 | 0.337 | 0.000 | 0.020 | 0.528 | 5.800 |

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-----------------------|
| Initial APUC Development Estimate | Changes | | | | | | | | APUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 4.957 | -0.014 | 0.000 | 0.175 | 0.000 | 0.224 | 0.000 | 0.020 | 0.405 | 5.362 |

| SAR Baseline History | | | | | |
|----------------------|-----------------------|--------------------------|-------------------------|------------------|----------|
| Item | SAR Planning Estimate | SAR Development Estimate | SAR Production Estimate | 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 | | | Mar 2011 | N/A | Sep 2014 |
| Total Cost (TY \$M) | | | 8056.0 | N/A | 8862.0 |
| Total Quantity | | | 1528 | N/A | 1528 |
| PAUC | | | 5.272 | N/A | 5.800 |

Cost Variance

FIRE UNIT

| Summary TY \$M | | | | |
|-------------------------------------|--------|-------------|--------|---------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 5255.0 | 16584.4 | -- | 21839.4 |
| Previous Changes | | | | |
| Economic | +221.1 | +654.5 | -- | +875.6 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -293.2 | -520.0 | -- | -813.2 |
| Other | -- | -- | -- | -- |
| Support | -- | -122.1 | -- | -122.1 |
| Subtotal | -72.1 | +12.4 | -- | -59.7 |
| Current Changes | | | | |
| Economic | -112.2 | -816.6 | -- | -928.8 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +404.8 | -- | +404.8 |
| Engineering | -- | -- | -- | -- |
| Estimating | -86.5 | +366.2 | -- | +279.7 |
| Other | -- | -- | -- | -- |
| Support | -- | +429.9 | -- | +429.9 |
| Subtotal | -198.7 | +384.3 | -- | +185.6 |
| Total Changes | -270.8 | +396.7 | -- | +125.9 |
| Current Estimate | 4984.2 | 16981.1 | -- | 21965.3 |

| Summary BY 2004 \$M | | | | |
|-------------------------------------|--------|-------------|--------|---------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 4531.4 | 11999.1 | -- | 16530.5 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -252.8 | -382.4 | -- | -635.2 |
| Other | -- | -- | -- | -- |
| Support | -- | -87.1 | -- | -87.1 |
| Subtotal | -252.8 | -469.5 | -- | -722.3 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -101.8 | +85.3 | -- | -16.5 |
| Other | -- | -- | -- | -- |
| Support | -- | +250.1 | -- | +250.1 |
| Subtotal | -101.8 | +335.4 | -- | +233.6 |
| Total Changes | -354.6 | -134.1 | -- | -488.7 |
| Current Estimate | 4176.8 | 11865.0 | -- | 16041.8 |

Previous Estimate: December 2007

| RDT&E | \$M | |
|--|------------------|------------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -112.2 |
| Adjustment for current and prior escalation. (Estimating) | +12.8 | +14.7 |
| Decrease in funding due to congressional withholds for higher priority requirements in FYs 2009 and 2010. (Estimating) | -23.5 | -27.0 |
| Increase in funding to support International MEADS requirements in FY 2011. (Estimating) | +44.4 | +52.1 |
| Refinement of the MEADS development cost estimate. (Estimating) | -79.1 | -61.2 |
| Reallocation of FY 2010 funding to Missile Subprogram for extended Missile Segment Enhancement (MSE) development. (Estimating) | -56.4 | -65.1 |
| RDT&E Subtotal | -101.8 | -198.7 |

| Procurement | \$M | |
|--|------------------|------------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -816.6 |
| Adjustment for current and prior escalation. (Estimating) | +0.9 | +1.0 |
| Delay in start of production and rephasing of quantity buy profile from FY 2013 to FY 2015. (Schedule) | 0.0 | +404.8 |
| Revision of cost estimate for increase in the prime mover Family of Medium Tactical Vehicle requirements. (Estimating) | +84.4 | +365.2 |
| Adjustment for current and prior escalation. (Support) | +0.5 | +0.6 |
| Decrease in Other weapons system support cost. (Support) | -64.5 | -52.7 |
| Increase in Initial Spares estimate to align with revised schedule for program quantities. (Support) | +314.1 | +482.0 |
| Procurement Subtotal | +335.4 | +384.3 |

Cost Variance

MISSILE

| Summary TY \$M | | | | |
|-------------------------------------|--------|-------------|--------|--------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 482.0 | 7574.0 | -- | 8056.0 |
| Previous Changes | | | | |
| Economic | +15.4 | +299.4 | -- | +314.8 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +13.0 | -- | +13.0 |
| Engineering | -- | -- | -- | -- |
| Estimating | -53.4 | -215.0 | -- | -268.4 |
| Other | -- | -- | -- | -- |
| Support | -- | +0.1 | -- | +0.1 |
| Subtotal | -38.0 | +97.5 | -- | +59.5 |
| Current Changes | | | | |
| Economic | -- | -320.2 | -- | -320.2 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +254.4 | -- | +254.4 |
| Engineering | -- | -- | -- | -- |
| Estimating | +224.2 | +557.1 | -- | +781.3 |
| Other | -- | -- | -- | -- |
| Support | -- | +31.0 | -- | +31.0 |
| Subtotal | +224.2 | +522.3 | -- | +746.5 |
| Total Changes | +186.2 | +619.8 | -- | +806.0 |
| Current Estimate | 668.2 | 8193.8 | -- | 8862.0 |

| Summary BY 2004 \$M | | | | |
|-------------------------------------|--------|-------------|--------|--------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Development Estimate) | 460.9 | 5760.0 | -- | 6220.9 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -47.0 | -148.8 | -- | -195.8 |
| Other | -- | -- | -- | -- |
| Support | -- | +2.2 | -- | +2.2 |
| Subtotal | -47.0 | -146.6 | -- | -193.6 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | +191.5 | +429.0 | -- | +620.5 |
| Other | -- | -- | -- | -- |
| Support | -- | +4.0 | -- | +4.0 |
| Subtotal | +191.5 | +433.0 | -- | +624.5 |
| Total Changes | +144.5 | +286.4 | -- | +430.9 |
| Current Estimate | 605.4 | 6046.4 | -- | 6651.8 |

Previous Estimate: December 2007

| RDT&E | \$M | |
|---|------------------|------------------|
| Current Change Explanations | Base Year | Then Year |
| Reprogramming of Missile Procurement funding to Missile RDT&E in FY 2009 to support development due to schedule delay. (Estimating) | +27.1 | +31.0 |
| Funding increase to support additional development in FYs 2011 through FY 2013. (Estimating) | +108.1 | +128.1 |
| Reallocation of FY 2010 funding to Missile Subprogram for extended Missile Segment Enhancement (MSE) development . (Estimating) | +56.3 | +65.1 |
| RDT&E Subtotal | +191.5 | +224.2 |

| Procurement | \$M | |
|---|------------------|------------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -320.2 |
| Adjustment for current and prior escalation. (Estimating) | +4.8 | +5.7 |
| Delay of production start from FY 2010 to FY 2012 and re-phasing of production rate beyond FY 2013. (Schedule) | 0.0 | +254.4 |
| Reprogramming of Missile Procurement funding to Missile RDT&E in FY 2009 to support development due to schedule delay. (Estimating) | -26.8 | -31.0 |
| Revision of cost estimate due to change in cost estimating methodology. (Estimating) | +451.0 | +582.4 |
| Adjustment for current and prior escalation. (Support) | +1.4 | +1.6 |
| Increase in Other Support. (Support) | +2.6 | +29.4 |
| Procurement Subtotal | +433.0 | +522.3 |

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: PAC-3 MSE
Contractor: Lockheed Martin
Contractor Location: Dallas, TX 75265
Contract Number: DAAH01-03-C-0164
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: June 27, 2003
Definitization Date: November 29, 2004

Contract Price

| 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 | 275.5 | N/A | 0 | 405.5 | 413.3 |

Contract Variance

| Item | Cost Variance | Schedule Variance |
|---|---------------|-------------------|
| Cumulative Variances To Date (12/31/2009) | -4.1 | -3.1 |
| Previous Cumulative Variances | 0.0 | 0.0 |
| Net Change | -4.1 | -3.1 |

Cost and Schedule Variance Explanations

General Contract Variance Explanation

The unfavorable net changes in the cost and schedule variances are primarily due to the March 2009 Guided Test Flight 1 (GTF-1) mission anomaly that resulted in the Ignition Safety Device (ISD) failure to arm the second pulse. 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. The contractor implemented the reprogramming effective with the May 2009 Contract Performance Report. 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.

Notes

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 \$267.1M to \$275.5M for extended range work, cost growth funding, and repair of Government Furnished Property (GFP) for the Simplified Inertial Measurement Unit (SIMU). The Contractor's and Program Manager's Estimated Price at Completion (EPC) increased from the prior estimate of \$352.3M to \$405.5M and \$352.1M to \$413.3M, respectively. The revised 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.

Contract Identification

Appropriation: RDT&E
Contract Name: Design & Development
Contractor: MEADS International
Contractor Location: Orlando, FL 32819
Contract Number: NAMEAD-04-C-6000
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: September 28, 2004
Definitization Date: February 16, 2005

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| 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 |

| Contract Variance | | |
|---|---------------|-------------------|
| Item | Cost Variance | Schedule Variance |
| Cumulative Variances To Date (12/31/2009) | +18.0 | -21.6 |
| Previous Cumulative Variances | -6.2 | -28.0 |
| Net Change | +24.2 | +6.4 |

Cost and Schedule Variance Explanations**General Contract Variance Explanation**

The favorable net change in the schedule variance (SV) can be primarily attributed to the Surveillance Radar (SR), Multi-Function Fire Control Radar (MFCR), Launcher, Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I), and Certified Missile Round (CMR) Integrated Product Teams (IPT). In May 2009, a program rebaseline was implemented to regain schedule and reset program milestones. Although the net SV change is favorable, existing issues include late hardware receipts and timing of invoices; hardware integration issues when the subcomponents are tested and reworked; analysis and requirements definitions impact to software (SW) builds; testing impacts due to late hardware delivery technical issues; and late start for analysis of hardware.

A favorable net change in the cost variance (CV) has been realized since the rebaseline in May 2009 for the BMC4I, MFCR, CMR, and Launcher IPTs. The net change is due to delays in subcontractor invoicing for hardware; Level-of-Effort (LOE) labor savings and manpower under runs; use of automated SW toolsets; material procurement cost recording/deliveries accounting period discrepancies; poor delivery performance by subcontractors with a partial offset by unfavorable CV in material and unplanned machining costs; work either not starting on time/over planned; and less effort required than originally planned.

In summary, the MEADS Design and Development (D&D) program's favorable net changes in the CV and SV reported to date are being closely monitored by MEADS International (MI), the North Atlantic Treaty Organization (NATO) Medium Extended Air Defense System Management Agency (NAMEADSMA), and the U.S. National Product Office with workarounds being implemented. The May 2009 replanning and rebaseline efforts, plus the aforementioned workarounds, will meet the program plan/schedule requirements for the 4QFY10 System Critical Design Review milestone.

Notes

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 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 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 increased from \$3400.0M to \$3473.2M primarily due to incorporation of the PAC-3 Missile Segment Enhancement as the MEADS CMR.

Deliveries and Expenditures

FIRE UNIT

| Deliveries | | | | |
|----------------------------------|-----------------|----------------|----------------|-------------------|
| Delivered to Date | Planned to Date | Actual to Date | Total Quantity | Percent Delivered |
| Development | 0 | 0 | 0 | -- |
| Production | 0 | 0 | 48 | 0.00% |
| Total Program Quantity Delivered | 0 | 0 | 48 | 0.00% |

Expended and Appropriated (TY \$M)

| | | | |
|------------------------|---------|----------------------------|--------|
| Total Acquisition Cost | 21965.3 | Years Appropriated | 7 |
| Expended to Date | 1526.6 | Percent Years Appropriated | 25.00% |
| Percent Expended | 6.95% | Appropriated to Date | 1936.0 |
| Total Funding Years | 28 | Percent Appropriated | 8.81% |

MISSILE

| Deliveries | | | | |
|----------------------------------|-----------------|----------------|----------------|-------------------|
| Delivered to Date | Planned to Date | Actual to Date | Total Quantity | Percent Delivered |
| Development | 0 | 0 | 0 | -- |
| Production | 0 | 0 | 1528 | 0.00% |
| Total Program Quantity Delivered | 0 | 0 | 1528 | 0.00% |

Expended and Appropriated (TY \$M)

| | | | |
|------------------------|--------|----------------------------|--------|
| Total Acquisition Cost | 8862.0 | Years Appropriated | 7 |
| Expended to Date | 247.0 | Percent Years Appropriated | 26.92% |
| Percent Expended | 2.79% | Appropriated to Date | 540.1 |
| Total Funding Years | 26 | Percent Appropriated | 6.09% |

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.

Cost Estimate Reference:

None

Sustainment Strategy:

None

Antecedent Information:

None

| Unitized O&S Costs BY2004 \$M | | |
|-------------------------------|--|---|
| Cost Element | FIRE UNIT Avg Annual Cost Per Fire Unit | Antecedent System (Antecedent) Avg Annual Cost Per Antecedent System |
| Mission Pay & Allowance | 7.200 | -- |
| Unit Level Consumption | 2.900 | -- |
| Intermediate Maintenance | 0.000 | -- |
| Depot Maintenance | 3.000 | -- |
| Contractor Support | 0.000 | -- |
| Sustaining Support | 1.400 | -- |
| Indirect | 1.200 | -- |
| Other | -- | -- |
| Total | 15.700 | -- |

Unitized Cost Comments:

None

| Item | Total O&S Cost \$M | | | |
|------------------|---|---------|------------------|--------------------------------|
| | FIRE UNIT | | | Antecedent System (Antecedent) |
| | Current Development APB Objective/Threshold | | Current Estimate | |
| Base Year | 33094.4 | 36403.8 | 33094.4 | N/A |
| Then Year | 61902.2 | N/A | 61902.2 | N/A |

Total O&S Cost Comment

None

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2004 \$M):

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.

Cost Estimate Reference:

None

Sustainment Strategy:

None

Antecedent Information:

None

| Unitized O&S Costs BY2004 \$K | | |
|-------------------------------|--|---|
| Cost Element | MISSILE Avg Annual Cost Per Missile | Antecedent System (Antecedent) Avg Annual Cost Per Antecedent System |
| Mission Pay & Allowance | 31.000 | -- |
| Unit Level Consumption | 12.000 | -- |
| Intermediate Maintenance | 0.000 | -- |
| Depot Maintenance | 13.000 | -- |
| Contractor Support | 0.000 | -- |
| Sustaining Support | 6.000 | -- |
| Indirect | 5.000 | -- |
| Other | -- | -- |
| Total | 67.000 | -- |

Unitized Cost Comments:

None

| Item | Total O&S Cost \$M | | | |
|------------------|--|------------------|-----------------------------------|-----|
| | MISSILE | | Antecedent System (Antecedent) | |
| | Current Development APB Objective/Threshold | Current Estimate | | |
| Base Year | 4582.6 | 5040.9 | 4582.6 | N/A |
| Then Year | 8571.8 | N/A | 8571.8 | N/A |

Total O&S Cost Comment

None

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2004 \$M):