



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-148



Patriot Advanced Capability-3 (PAC-3)

As of FY 2015 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
BA - Budget Authority/Budget Activity
BY - Base Year
DAMIR - Defense Acquisition Management Information Retrieval
Dev Est - Development Estimate
DoD - Department of Defense
DSN - Defense Switched Network
Econ - Economic
Eng - Engineering
Est - Estimating
FMS - Foreign Military Sales
FY - Fiscal Year
IOC - Initial Operational Capability
\$K - Thousands of Dollars
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MILCON - Military Construction
N/A - Not Applicable
O&S - Operating and Support
Oth - Other
PAUC - Program Acquisition Unit Cost
PB - President's Budget
PE - Program Element
Proc - Procurement
Prod Est - Production Estimate
QR - Quantity Related
Qty - Quantity
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
Sch - Schedule
Spt - Support
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting

Program Information

Program Name

Patriot Advanced Capability-3 (PAC-3)

DoD Component

Army

Joint Participants

Missile Defense Agency

Responsible Office

Responsible Office

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Date Assigned July 24, 2013

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 2, 2002

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 3, 2006

Mission and Description

Patriot, the centerpiece of the Army's air defense forces, is an extremely capable, long range, low-to-high altitude air defense missile system, which provides air defense of ground combat forces and high-value assets. Patriot is designed to cope with enemy defense suppression tactics that may include Tactical Ballistic Missiles (TBM), cruise missiles, anti-radiation missiles, and advanced aircraft employing saturation, maneuver, sophisticated Electronic Countermeasures (ECM), and low radar cross-section. Patriot air defenses will be integrated into the overall area air defense plan in support of the combatant commanders mission that can include other short-range, low altitude forward area and Joint assets for a theater of operations based upon the threat. The Patriot system can conduct multiple simultaneous engagements in all weather conditions and hostile ECM environments against high performance Air Breathing Threats (ABT) and TBMs with a high probability of target kill. System deployment is by Fire Unit (FU) at the battery-level, organized within a battalion. Each FU consists of an Engagement Control Station (ECS), one Radar Set (RS), an Electric Power Plant, and up to 16 Launching Stations (LS). The Patriot RS is a multi-function phased array radar, which performs a variety of surveillance, acquisition, and guidance tasks and is controlled by the ECS which provides the human interface for control of automated operations. The M902 LS (Configuration 3), with Enhanced Launcher Electronics System, supports the Patriot Advanced Capability-3 (PAC-3) missile as well as providing backwards compatibility with the PAC-2 missile variant. At the battalion level, command and control is exercised through the Information and Coordination Central, and associated communications equipment, including the Communications Relay Group. Both the FU and battalion have dedicated support, communications, and maintenance vehicles.

The Patriot system, in concert with the PAC-3 missile, has been upgraded through a series of integrated, phased system improvements. The PAC-3 missile is a high velocity hit-to-kill, surface-to-air missile capable of intercepting and destroying TBMs and ABTs. The PAC-3 missile provides the range, accuracy, and lethality to effectively defend against TBMs with conventional high explosive, chemical, and nuclear warheads. The PAC-3 missile's leading edge technology uses kinetic energy to destroy targets through its hit-to-kill capability in lieu of a proximity-fuzed warhead. The missile uses a solid propellant rocket motor, aerodynamic controls, Attitude Control Motors (ACMs), and inertial guidance to navigate. The missile flies to an intercept point specified prior to launch by its ground-based Fire Solution Computer embedded in the ECS. Target trajectory is updated during missile flyout through means of a radio frequency uplink/downlink. Shortly before arrival at the intercept point, the PAC-3 missile's on-board Ka-Band seeker acquires the target and selects optimal aimpoint initiating terminal homing guidance. The missile ACMs, which are short-duration, solid propellant rocket motors located in the missile forebody forward of the missile center of gravity, fire explosively to increase the missile's rate of spin and to enable the high resolution maneuvers characteristic of the PAC-3 missile. The combination of a fast missile airframe response and high impulse side thrusters generates a more rapid missile angle-of-attack than is possible with actuator-driven aerodynamic control surfaces alone.

The Patriot system is deployed world-wide in defense of U.S. and Allied forces. The PAC-3 missile has been approved for FMS to The Netherlands, Japan, Germany, United Arab Emirates, Taiwan, and Kuwait.

Executive Summary

On April 13, 2013, the U.S. Army Lower Tier Project Office (LTPO) conducted a successful missile flight test to intercept a Zombie test missile at White Sands Missile Range (WSMR), New Mexico. This was the first flight test with the Zombie target, designed to substantially reduce the cost of Tactical Ballistic Missile (TBM) targets and provide threat representative characteristics. The intercept was conducted utilizing Patriot ground support equipment with Post-Deployment Build-7 (PDB-7) tactical software. Two PAC-3 missiles were ripple fired to engage the Zombie target. In addition to demonstrating Zombie performance, this test demonstrated the Patriot system capability to detect, track, and perform a simulated PAC-3 Missile Segment Enhancement engagement on a low-altitude cruise missile surrogate target, and provided sufficient data required in support of PAC-3 missile reliability scoring. All mission objectives were successfully achieved.

On August 15, 2013, the LTPO successfully conducted an FMS Patriot Program P5/P6 Missile Flight Test (MFT). The P5/P6 MFT utilized U.S. Government Patriot production ground support equipment with PDB-7 software to ripple-fire two PAC-3 missiles. The Patriot Fire Unit engaged a Patriot-As-A-Target (PAAT) TBM target threatening a defended asset. All mission objectives were successfully achieved.

On November 20, 2013, the LTPO successfully conducted a PAAT TBM test at WSMR, New Mexico. The two intercepts were conducted utilizing Patriot ground support equipment with PDB-7 tactical software. One tactical PAC-3 missile was fired at each TBM target threatening a defended asset on WSMR. This test demonstrated Patriot system capability to search, detect, track, classify, engage, and intercept a TBM target with a PAC-3 interceptor, as well as provided sufficient data required in support of PAC-3 missile reliability scoring for the field surveillance program. All mission objectives were successfully achieved.

The FY 2014 PAC-3 missile production contract was awarded on December 31, 2013, to Lockheed Martin Missiles and Fire Control, Dallas, Texas, as a letter contract valued at \$263.4M (\$203.9M U.S. and \$59.5M FMS). The effort for the U.S. Army includes 56 PAC-3 Cost Reduction Initiative missiles and missile tooling. The FMS effort for Kuwait includes seven Launcher Modification Kits (LMKs), one portable four-pack Test Set, Initial Spares, and missile/LMK production tooling.

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

Threshold Breaches

| APB Breaches | |
|--------------|--|
|--------------|--|

| | | |
|---------------------|-------------|-------------------------------------|
| Schedule | | <input type="checkbox"/> |
| Performance | | <input type="checkbox"/> |
| Cost | RDT&E | <input type="checkbox"/> |
| | Procurement | <input checked="" 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"/> |

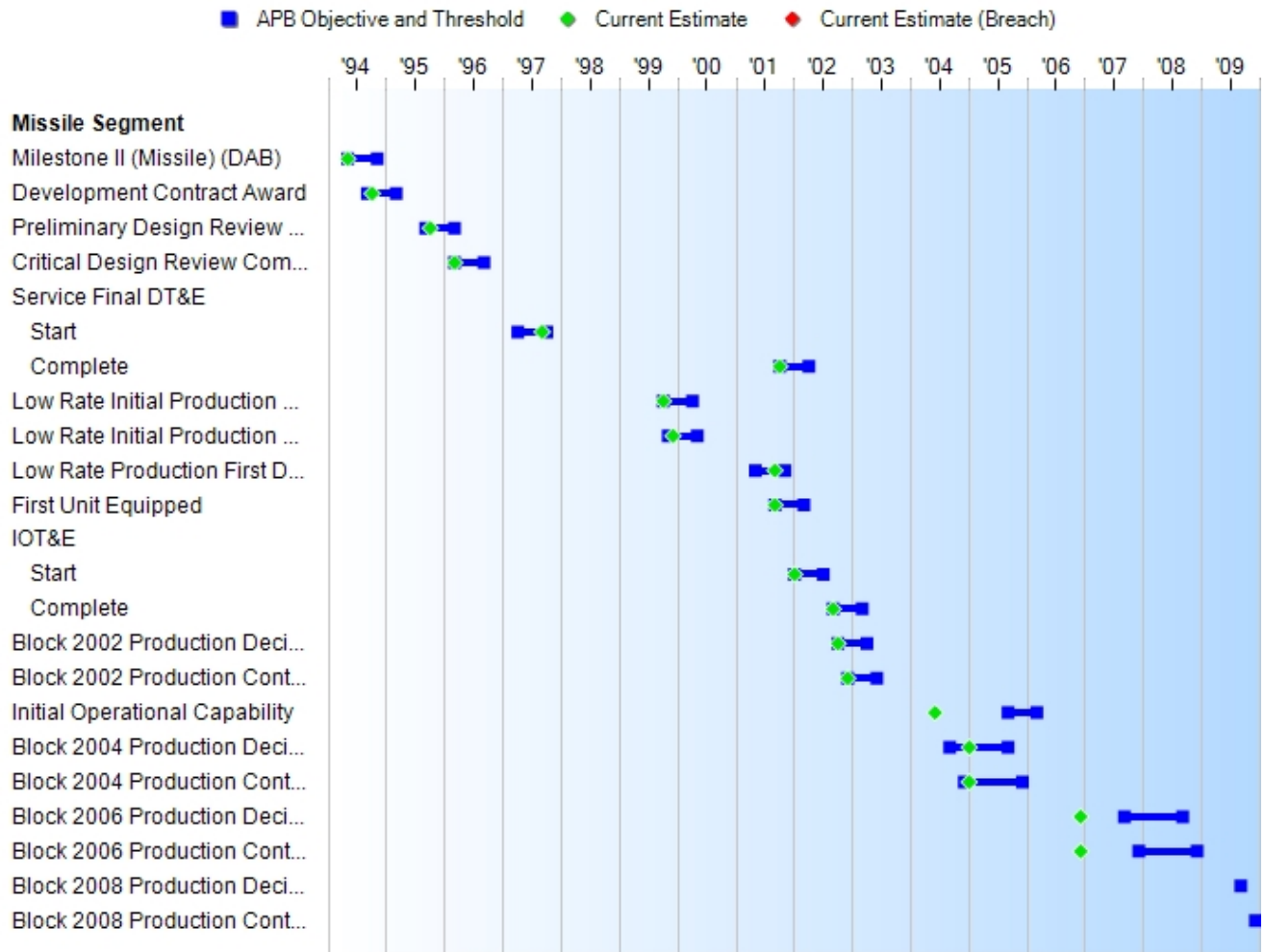
Explanation of Breach

The Procurement cost breach was previously reported in the December 2009 SAR.

| Nunn-McCurdy Breaches | |
|-----------------------|--|
|-----------------------|--|

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

Schedule



| Milestones | SAR Baseline Prod Est | Current APB Production Objective/Threshold | | Current Estimate |
|--|--------------------------|--|----------|---------------------|
| | | | | |
| Milestone II (Missile) (DAB) | MAY 1994 | MAY 1994 | NOV 1994 | MAY 1994 |
| Development Contract Award | SEP 1994 | SEP 1994 | MAR 1995 | OCT 1994 |
| Preliminary Design Review Complete | SEP 1995 | SEP 1995 | MAR 1996 | OCT 1995 |
| Critical Design Review Complete | MAR 1996 | MAR 1996 | SEP 1996 | MAR 1996 |
| Service Final DT&E | | | | |
| Start | APR 1997 | APR 1997 | OCT 1997 | SEP 1997 |
| Complete | OCT 2001 | OCT 2001 | APR 2002 | OCT 2001 |
| Low Rate Initial Production Decision | OCT 1999 | OCT 1999 | APR 2000 | OCT 1999 |
| Low Rate Initial Production Contract Award | NOV 1999 | NOV 1999 | MAY 2000 | DEC 1999 |
| Low Rate Production First Delivery | MAY 2001 | MAY 2001 | NOV 2001 | SEP 2001 |
| First Unit Equipped | SEP 2001 | SEP 2001 | MAR 2002 | SEP 2001 |
| IOT&E | | | | |
| Start | JAN 2002 | JAN 2002 | JUL 2002 | JAN 2002 |
| Complete | SEP 2002 | SEP 2002 | MAR 2003 | SEP 2002 |
| Block 2002 Production Decision | OCT 2002 | OCT 2002 | APR 2003 | OCT 2002 |
| Block 2002 Production Contract Award | DEC 2002 | DEC 2002 | JUN 2003 | DEC 2002 |
| Initial Operational Capability | SEP 2005 | SEP 2005 | MAR 2006 | JUN 2004 |
| Block 2004 Production Decision | SEP 2004 | SEP 2004 | SEP 2005 | JAN 2005 |
| Block 2004 Production Contract Award | DEC 2004 | DEC 2004 | DEC 2005 | JAN 2005 |
| Block 2006 Production Decision | SEP 2007 | SEP 2007 | SEP 2008 | DEC 2006 |
| Block 2006 Production Contract Award | DEC 2007 | DEC 2007 | DEC 2008 | DEC 2006 |
| Block 2008 Production Decision | SEP 2009 | N/A | N/A | N/A |
| Block 2008 Production Contract Award | DEC 2009 | N/A | N/A | N/A |

Change Explanations

None

Memo

IOC for the PAC-3 missile was considered achieved when a Patriot battalion, consisting of five Fire Units (FU), was equipped with 32 PAC-3 missiles per FU.

All PAC-3 milestones are complete.

Acronyms and Abbreviations

DAB - Defense Acquisition Board

DT&E - Development Test and Evaluation

IOT&E - Initial Operational Test and Evaluation

Performance

| Characteristics | SAR Baseline Prod Est | Current APB Production Objective/Threshold | | Demonstrated Performance | Current Estimate |
|---|-----------------------|---|--|--|---|
| Fire Unit Mean Time Between Failure (hrs) | N/A | 60 | 40 | 60 | 60 |
| Joint Interoperability | N/A | Battery and Bn should be capable of integrating into a joint composite tracking network | Tactical Data Link TADIL-J shall be primary protocol for receiving, processing, and transmitting jointly approved tactical AMD specific messages | Met threshold in HWIL testing, ASCIET/JCIET and Roving Sands exercises | Battery and Bn should be capable of integrating into a joint composite tracking network |

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

Requirements Source

Operational Capability Document (OCD) dated August 22, 2003

Change Explanations

None

Acronyms and Abbreviations

AMD - Air and Missile Defense
 ASCIET - All Services Combat Identification and Evaluation Team
 Bn - Battalion
 hrs - Hours
 HWIL - Hardware-in-the-Loop
 JCIET - Joint Combat Identification and Evaluation Team
 TADIL-J - Tactical Data Link-Joint

Track to Budget

| RDT&E | | | | |
|--------------|----------------|----|---|-----------------|
| Appn | BA | PE | | |
| Army | 2040 | 07 | 0203801A | |
| | Project | | Name | |
| | 036 | | Missile/Air Defense Product Improvement Program/Patriot Product Improvement Program | (Shared) (Sunk) |
| Army | 2040 | 05 | 0604865A | |
| | Project | | Name | |
| | 01C | | Patriot PAC-3 Theater Missile Defense Acq-EMD/Patriot Advanced Capability (PAC) - 3 | (Sunk) |
| Army | 2040 | 07 | 0607865A | |
| | Project | | Name | |
| | DV8 | | Patriot Product Improvement | (Shared) (Sunk) |
| Defense-Wide | 0400 | 03 | 0603216C | |
| | Project | | Name | |
| | 2207 | | Theater and ATBM Defenses/Multimode Missile Program | (Sunk) |
| | 2208 | | Theater and ATBM Defenses/ERINT-1 | (Sunk) |
| Defense-Wide | 0400 | 05 | 0604225C | |
| | Project | | Name | |
| | 2207 | | TMD EMD/PAC-3 Missile (EMD) | (Sunk) |
| Defense-Wide | 0400 | 05 | 0604865C | |
| | Project | | Name | |
| | 2014 | | PAC-3 EMD/Patriot | (Sunk) |
| | 2207 | | PAC-3 EMD/Patriot | (Sunk) |
| | 2257 | | PAC-3 EMD/Patriot | (Sunk) |
| Defense-Wide | 0400 | 05 | 0604866C | |
| | Project | | Name | |
| | 2257 | | PAC-3 Risk Mitigation/Risk Reduction and Mitigation | (Sunk) |
| Procurement | | | | |

| Appn | BA | PE | | |
|--------------|------------------|----|-------------------------------------|-----------------|
| Army | 2032 | 02 | | |
| | Line Item | | Name | |
| | C49200 | | Patriot PAC-3 | (Shared) (Sunk) |
| Army | 2032 | 03 | | |
| | Line Item | | Name | |
| | C50700 | | Patriot Mods | (Shared) (Sunk) |
| Army | 2032 | 04 | | |
| | Line Item | | Name | |
| | CA0267 | | Patriot Modification Initial Spares | (Shared) (Sunk) |
| Defense-Wide | 0300 | 02 | | |
| | Line Item | | Name | |
| | 0208060C | | PAC-3 Procurement | (Sunk) |
| Defense-Wide | 0300 | 01 | | |
| | Line Item | | Name | |
| | 0208865C | | PAC-3 Missile Procurement | (Sunk) |

Line Item C49100 is the parent line for C49200.

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

| Appropriation | BY2002 \$M | | | BY2002 \$M | TY \$M | | |
|----------------|-----------------------|--|------------------|----------------------------|-----------------------|----------------------------------|------------------|
| | SAR Baseline Prod Est | Current APB Production Objective/Threshold | Current Estimate | | SAR Baseline Prod Est | Current APB Production Objective | Current Estimate |
| RDT&E | 3578.2 | 3481.8 | 3830.0 | 3430.2 | 3302.1 | 3224.6 | 3176.2 |
| Procurement | 5505.8 | 5007.2 | 5507.9 | 7182.4 ¹ | 5903.7 | 5267.4 | 8131.1 |
| Flyaway | -- | -- | -- | 7182.4 | -- | -- | 8131.1 |
| Recurring | -- | -- | -- | 6729.9 | -- | -- | 7678.4 |
| Non Recurring | -- | -- | -- | 452.5 | -- | -- | 452.7 |
| Support | -- | -- | -- | 0.0 | -- | -- | 0.0 |
| Other Support | -- | -- | -- | 0.0 | -- | -- | 0.0 |
| 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 | 9084.0 | 8489.0 | N/A | 10612.6 | 9205.8 | 8492.0 | 11307.3 |

¹ APB Breach

Funding for additional PAC-3 missile quantities in FY 2010 - FY 2013 was transferred from the Patriot/Medium Extended Air Defense System Combined Aggregate Program Missile Subprogram procurement funding line in the respective years.

| Quantity | SAR Baseline Prod Est | Current APB Production | Current Estimate |
|-------------|-----------------------|------------------------|------------------|
| RDT&E | 0 | 0 | 0 |
| Procurement | 1159 | 961 | 1410 |
| Total | 1159 | 961 | 1410 |

FY 2013 Congressional funds in the amount of \$300.0M were received for 56 additional missiles, which were awarded on the FY 2014 PAC-3 Missile Production contract.

Cost and Funding

Funding Summary

Appropriation and Quantity Summary FY2015 President's Budget / December 2013 SAR (TY\$ M)

| Appropriation | Prior | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total |
|---------------|---------|--------|--------|--------|--------|--------|--------|-------------|---------|
| RDT&E | 3176.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3176.2 |
| Procurement | 8131.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8131.1 |
| 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 2015 Total | 11307.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11307.3 |
| PB 2014 Total | 11007.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11007.3 |
| Delta | 300.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 300.0 |

| Quantity | Undistributed | Prior | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total |
|---------------|---------------|-------|--------|--------|--------|--------|--------|--------|-------------|-------|
| Development | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 0 | 1410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1410 |
| PB 2015 Total | 0 | 1410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1410 |
| PB 2014 Total | 0 | 1354 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1354 |
| Delta | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 |

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY\$

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 | -- | -- | -- | -- | -- | -- | 151.3 |
| 2005 | -- | -- | -- | -- | -- | -- | 60.4 |
| Subtotal | -- | -- | -- | -- | -- | -- | 211.7 |

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

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 2002 \$M | Non End Item Recurring Flyaway BY 2002 \$M | Non Recurring Flyaway BY 2002 \$M | Total Flyaway BY 2002 \$M | Total Support BY 2002 \$M | Total Program BY 2002 \$M |
|--------------------|-----------------|---|---|--|--|--|--|
| 2004 | -- | -- | -- | -- | -- | -- | 143.5 |
| 2005 | -- | -- | -- | -- | -- | -- | 55.7 |
| Subtotal | -- | -- | -- | -- | -- | -- | 199.2 |

Annual Funding TY\$

0400 | RDT&E | Research, Development, Test, and Evaluation, Defense-Wide

| 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 |
|-----------------|----------|-----------------------------------|---------------------------------------|------------------------------|----------------------|----------------------|----------------------|
| 1983 | -- | -- | -- | -- | -- | -- | 33.3 |
| 1984 | -- | -- | -- | -- | -- | -- | 24.1 |
| 1985 | -- | -- | -- | -- | -- | -- | 20.4 |
| 1986 | -- | -- | -- | -- | -- | -- | 15.1 |
| 1987 | -- | -- | -- | -- | -- | -- | 30.2 |
| 1988 | -- | -- | -- | -- | -- | -- | 18.0 |
| 1989 | -- | -- | -- | -- | -- | -- | 65.2 |
| 1990 | -- | -- | -- | -- | -- | -- | 38.3 |
| 1991 | -- | -- | -- | -- | -- | -- | 127.5 |
| 1992 | -- | -- | -- | -- | -- | -- | 239.0 |
| 1993 | -- | -- | -- | -- | -- | -- | 200.2 |
| 1994 | -- | -- | -- | -- | -- | -- | 194.1 |
| 1995 | -- | -- | -- | -- | -- | -- | 276.1 |
| 1996 | -- | -- | -- | -- | -- | -- | 311.6 |
| 1997 | -- | -- | -- | -- | -- | -- | 328.1 |
| 1998 | -- | -- | -- | -- | -- | -- | 234.1 |
| 1999 | -- | -- | -- | -- | -- | -- | 237.3 |
| 2000 | -- | -- | -- | -- | -- | -- | 220.7 |
| 2001 | -- | -- | -- | -- | -- | -- | 81.9 |
| 2002 | -- | -- | -- | -- | -- | -- | 130.4 |
| 2003 | -- | -- | -- | -- | -- | -- | 138.9 |
| Subtotal | -- | -- | -- | -- | -- | -- | 2964.5 |

Annual Funding BY\$

0400 | RDT&E | Research, Development, Test, and Evaluation, Defense-Wide

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 2002 \$M | Non End Item Recurring Flyaway BY 2002 \$M | Non Recurring Flyaway BY 2002 \$M | Total Flyaway BY 2002 \$M | Total Support BY 2002 \$M | Total Program BY 2002 \$M |
|-----------------|----------|--|--|-----------------------------------|---------------------------|---------------------------|---------------------------|
| 1983 | -- | -- | -- | -- | -- | -- | 51.6 |
| 1984 | -- | -- | -- | -- | -- | -- | 36.0 |
| 1985 | -- | -- | -- | -- | -- | -- | 29.5 |
| 1986 | -- | -- | -- | -- | -- | -- | 21.2 |
| 1987 | -- | -- | -- | -- | -- | -- | 41.3 |
| 1988 | -- | -- | -- | -- | -- | -- | 23.9 |
| 1989 | -- | -- | -- | -- | -- | -- | 83.1 |
| 1990 | -- | -- | -- | -- | -- | -- | 46.9 |
| 1991 | -- | -- | -- | -- | -- | -- | 149.8 |
| 1992 | -- | -- | -- | -- | -- | -- | 273.2 |
| 1993 | -- | -- | -- | -- | -- | -- | 225.3 |
| 1994 | -- | -- | -- | -- | -- | -- | 214.3 |
| 1995 | -- | -- | -- | -- | -- | -- | 299.1 |
| 1996 | -- | -- | -- | -- | -- | -- | 331.6 |
| 1997 | -- | -- | -- | -- | -- | -- | 344.7 |
| 1998 | -- | -- | -- | -- | -- | -- | 244.0 |
| 1999 | -- | -- | -- | -- | -- | -- | 244.6 |
| 2000 | -- | -- | -- | -- | -- | -- | 224.0 |
| 2001 | -- | -- | -- | -- | -- | -- | 82.0 |
| 2002 | -- | -- | -- | -- | -- | -- | 129.3 |
| 2003 | -- | -- | -- | -- | -- | -- | 135.6 |
| Subtotal | -- | -- | -- | -- | -- | -- | 3231.0 |

Annual Funding TY\$
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 |
|--------------------|-----------------|--|--|-------------------------------------|-----------------------------|-----------------------------|-----------------------------|
| 2004 | 135 | 578.9 | -- | 38.1 | 617.0 | -- | 617.0 |
| 2005 | 108 | 497.0 | -- | -- | 497.0 | -- | 497.0 |
| 2006 | 112 | 475.9 | -- | -- | 475.9 | -- | 475.9 |
| 2007 | 112 | 470.4 | 24.2 | -- | 494.6 | -- | 494.6 |
| 2008 | 108 | 469.7 | -- | -- | 469.7 | -- | 469.7 |
| 2009 | 124 | 510.6 | -- | -- | 510.6 | -- | 510.6 |
| 2010 | 59 | 341.3 | -- | -- | 341.3 | -- | 341.3 |
| 2011 | 138 | 838.8 | -- | -- | 838.8 | -- | 838.8 |
| 2012 | 88 | 662.2 | -- | -- | 662.2 | -- | 662.2 |
| 2013 | 140 | 946.6 | -- | -- | 946.6 | -- | 946.6 |
| Subtotal | 1124 | 5791.4 | 24.2 | 38.1 | 5853.7 | -- | 5853.7 |

Annual Funding BY\$
2032 | Procurement | Missile Procurement, Army

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 2002 \$M | Non End Item Recurring Flyaway BY 2002 \$M | Non Recurring Flyaway BY 2002 \$M | Total Flyaway BY 2002 \$M | Total Support BY 2002 \$M | Total Program BY 2002 \$M |
|--------------------|-----------------|---|---|--|----------------------------------|----------------------------------|----------------------------------|
| 2004 | 135 | 536.1 | -- | 35.3 | 571.4 | -- | 571.4 |
| 2005 | 108 | 447.7 | -- | -- | 447.7 | -- | 447.7 |
| 2006 | 112 | 419.5 | -- | -- | 419.5 | -- | 419.5 |
| 2007 | 112 | 406.8 | 20.9 | -- | 427.7 | -- | 427.7 |
| 2008 | 108 | 400.0 | -- | -- | 400.0 | -- | 400.0 |
| 2009 | 124 | 429.4 | -- | -- | 429.4 | -- | 429.4 |
| 2010 | 59 | 282.1 | -- | -- | 282.1 | -- | 282.1 |
| 2011 | 138 | 681.2 | -- | -- | 681.2 | -- | 681.2 |
| 2012 | 88 | 529.5 | -- | -- | 529.5 | -- | 529.5 |
| 2013 | 140 | 736.9 | -- | -- | 736.9 | -- | 736.9 |
| Subtotal | 1124 | 4869.2 | 20.9 | 35.3 | 4925.4 | -- | 4925.4 |

Annual Funding TY\$

0300 | Procurement | Procurement, Defense-Wide

| 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 |
|-----------------|------------|-----------------------------------|---------------------------------------|------------------------------|----------------------|----------------------|----------------------|
| 1997 | -- | -- | -- | 105.1 | 105.1 | -- | 105.1 |
| 1998 | 20 | 183.3 | -- | -- | 183.3 | -- | 183.3 |
| 1999 | -- | -- | -- | 87.8 | 87.8 | -- | 87.8 |
| 2000 | 32 | 306.7 | -- | -- | 306.7 | -- | 306.7 |
| 2001 | 40 | 291.5 | -- | -- | 291.5 | -- | 291.5 |
| 2002 | 72 | 487.5 | -- | 210.1 | 697.6 | -- | 697.6 |
| 2003 | 122 | 593.8 | -- | 11.6 | 605.4 | -- | 605.4 |
| Subtotal | 286 | 1862.8 | -- | 414.6 | 2277.4 | -- | 2277.4 |

Annual Funding BY\$**0300 | Procurement | Procurement, Defense-Wide**

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 2002 \$M | Non End Item Recurring Flyaway BY 2002 \$M | Non Recurring Flyaway BY 2002 \$M | Total Flyaway BY 2002 \$M | Total Support BY 2002 \$M | Total Program BY 2002 \$M |
|--------------------|-----------------|---|---|--|----------------------------------|----------------------------------|----------------------------------|
| 1997 | -- | -- | -- | 109.9 | 109.9 | -- | 109.9 |
| 1998 | 20 | 189.8 | -- | -- | 189.8 | -- | 189.8 |
| 1999 | -- | -- | -- | 89.8 | 89.8 | -- | 89.8 |
| 2000 | 32 | 309.2 | -- | -- | 309.2 | -- | 309.2 |
| 2001 | 40 | 290.3 | -- | -- | 290.3 | -- | 290.3 |
| 2002 | 72 | 478.8 | -- | 206.4 | 685.2 | -- | 685.2 |
| 2003 | 122 | 571.7 | -- | 11.1 | 582.8 | -- | 582.8 |
| Subtotal | 286 | 1839.8 | -- | 417.2 | 2257.0 | -- | 2257.0 |

Low Rate Initial Production

| | Initial LRIP Decision | Current Total LRIP |
|--------------------------|------------------------------|---------------------------|
| Approval Date | 5/19/1994 | 10/20/2001 |
| Approved Quantity | 90 | 164 |
| Reference | Milestone II/IV ADM | Acquisition Strategy |
| Start Year | 1998 | 1998 |
| End Year | 1999 | 2002 |

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the fact that this was the minimum LRIP quantity needed to avoid a production break.

The LRIP quantity is 164 PAC-3 missiles as approved by the Under Secretary of Defense (Acquisition, Technology and Logistics) on October 20, 2001.

Foreign Military Sales

| Country | Date of Sale | Quantity | Total Cost \$M | Memo |
|----------------------|--------------|----------|----------------|---|
| Kuwait | 2/22/2013 | 60 | 290.1 | FMS Case KU-B-UMI: 15 PAC-3 missile four-packs. |
| Taiwan | 10/12/2011 | 386 | 1664.5 | FMS Case TW-B-YYV; Amendment 4: 96 PAC-3 missile four-packs, one PAC-3 missile test two-pack, ground support equipment, and spares. |
| United Arab Emirates | 11/20/2008 | 292 | 1480.2 | FMS Case AE-B-ZUG: 72 PAC-3 missile four-packs, two PAC-3 missile test two-packs, ground support equipment, and spares. |
| Germany | 11/21/2007 | 25 | 87.1 | FMS Case GY-B-WZC: Six PAC-3 missile four-packs, and one test missile. |
| Japan | 12/9/2004 | 16 | 56.8 | FMS Case JA-B-WYN: Eight PAC-3 missile two-packs. |
| Netherlands | 4/21/2004 | 32 | 99.1 | FMS Case NE-B-WBV: Eight PAC-3 missile four-packs. |

The FY 2005 PAC-3 missile production contract was awarded on January 27, 2005 and included requirements for 16 missiles for The Netherlands and 16 missiles for Japan. Production deliveries were completed in the 4th Quarter FY 2007.

The FY 2007 PAC-3 missile production contract was modified on April 6, 2007 to include a requirement for one test missile for Germany.

The FY 2008 PAC-3 missile production contract was awarded on December 13, 2007 and included requirements for 16 missiles for The Netherlands and 24 missiles for Germany. Production deliveries began in the 1st Quarter FY 2010.

The FY 2009 PAC-3 missile production contract was awarded on December 23, 2008 and included requirements for 64 missiles for the United Arab Emirates (UAE). Production deliveries began in the 2nd Quarter FY 2011.

The FY 2010 PAC-3 missile production contract was awarded on December 30, 2009 and included requirements for 96 missiles for Taiwan and 98 missiles for UAE. Production deliveries began in the 1st Quarter FY 2012 for Taiwan and in 2nd Quarter FY 2012 for UAE.

The FY 2011 PAC-3 missile production contract was awarded on December 20, 2010 and included requirements for 130 missiles for UAE and 96 missiles for Taiwan. Production deliveries began in the 2nd Quarter FY 2013 for Taiwan and UAE.

The FY 2012 PAC-3 missile production contract was awarded on December 15, 2011 and included requirements for 154 missiles for Taiwan. Production deliveries began in the 1st Quarter FY 2014.

The FY 2013 PAC-3 missile production contract was awarded on December 27, 2012 and included requirements for 40 missiles for Taiwan and 60 missiles for Kuwait. Production deliveries are scheduled to begin in the 3rd Quarter FY 2015.

Total cost represents PAC-3 missile costs for respective cases.

Nuclear Costs

None

Unit Cost

Unit Cost Report

| | BY2002 \$M | BY2002 \$M | |
|-----------|---|------------------------------------|----------------|
| Unit Cost | Current UCR Baseline (MAR 2006 APB) | Current Estimate (DEC 2013 SAR) | BY % Change |

Program Acquisition Unit Cost (PAUC)

| | | | |
|-----------|--------|---------|--------|
| Cost | 8489.0 | 10612.6 | |
| Quantity | 961 | 1410 | |
| Unit Cost | 8.834 | 7.527 | -14.80 |

Average Procurement Unit Cost (APUC)

| | | | |
|-----------|--------|--------|-------|
| Cost | 5007.2 | 7182.4 | |
| Quantity | 961 | 1410 | |
| Unit Cost | 5.210 | 5.094 | -2.23 |

| | BY2002 \$M | BY2002 \$M | |
|-----------|--|------------------------------------|----------------|
| Unit Cost | Original UCR Baseline (MAR 2000 APB) | Current Estimate (DEC 2013 SAR) | BY % Change |

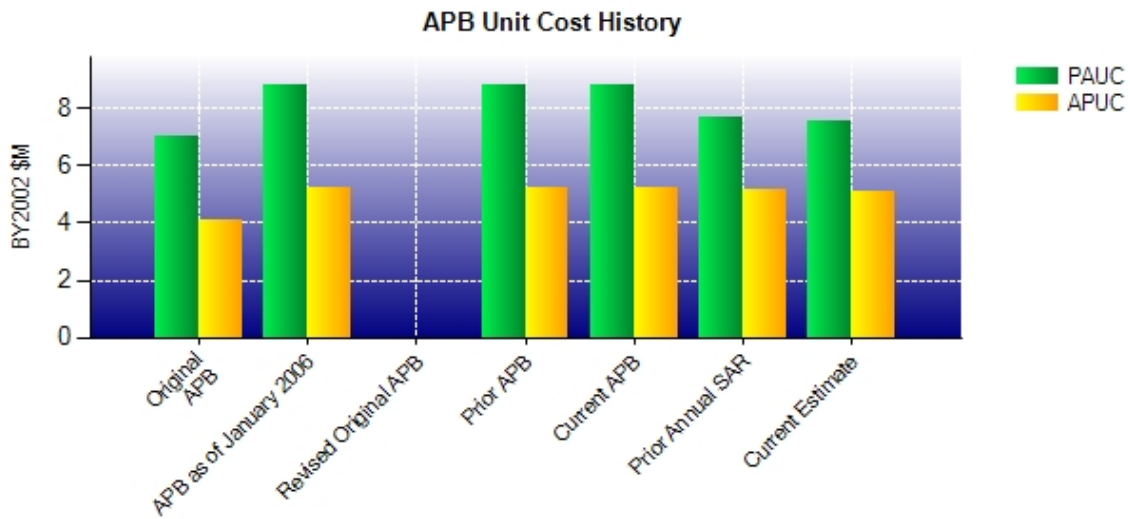
Program Acquisition Unit Cost (PAUC)

| | | | |
|-----------|--------|---------|-------|
| Cost | 7084.0 | 10612.6 | |
| Quantity | 1012 | 1410 | |
| Unit Cost | 7.000 | 7.527 | +7.53 |

Average Procurement Unit Cost (APUC)

| | | | |
|-----------|--------|--------|--------|
| Cost | 4156.4 | 7182.4 | |
| Quantity | 1012 | 1410 | |
| Unit Cost | 4.107 | 5.094 | +24.03 |

Unit Cost History



| | Date | BY2002 \$M | | TY \$M | |
|-------------------------------|----------|------------|-------|--------|-------|
| | | PAUC | APUC | PAUC | APUC |
| Original APB | MAR 2000 | 7.002 | 4.107 | 7.086 | 4.465 |
| APB as of January 2006 | NOV 2004 | 8.834 | 5.210 | 8.837 | 5.481 |
| Revised Original APB | N/A | N/A | N/A | N/A | N/A |
| Prior APB | NOV 2004 | 8.834 | 5.210 | 8.837 | 5.481 |
| Current APB | MAR 2006 | 8.834 | 5.210 | 8.837 | 5.481 |
| Prior Annual SAR | DEC 2012 | 7.656 | 5.123 | 8.129 | 5.784 |
| Current Estimate | DEC 2013 | 7.527 | 5.094 | 8.019 | 5.767 |

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY \$M)

| Initial PAUC Dev Est | Changes | | | | | | | | PAUC Prod Est |
|-------------------------|---------|-------|-------|-------|-------|-------|-------|-------|------------------|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 3.530 | -0.166 | 0.867 | 0.480 | 0.421 | 2.811 | 0.000 | 0.000 | 4.413 | 7.943 |

Current SAR Baseline to Current Estimate (TY \$M)

| PAUC Prod Est | Changes | | | | | | | | PAUC Current Est |
|------------------|---------|--------|-------|-------|-------|-------|-------|-------|---------------------|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 7.943 | 0.129 | -0.573 | 0.082 | 0.000 | 0.438 | 0.000 | 0.000 | 0.076 | 8.019 |

Initial SAR Baseline to Current SAR Baseline (TY \$M)

| Initial APUC Dev Est | Changes | | | | | | | | APUC Prod Est |
|-------------------------|---------|-------|-------|-------|-------|-------|-------|-------|------------------|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 1.880 | -0.184 | 0.943 | 0.244 | 0.166 | 2.045 | 0.000 | 0.000 | 3.214 | 5.094 |

Current SAR Baseline to Current Estimate (TY \$M)

| APUC Prod Est | Changes | | | | | | | | APUC Current Est |
|------------------|---------|--------|-------|-------|-------|-------|-------|-------|---------------------|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 5.094 | 0.122 | -0.064 | 0.082 | 0.000 | 0.533 | 0.000 | 0.000 | 0.673 | 5.767 |

SAR Baseline History

| Item/Event | SAR Planning Estimate (PE) | SAR Development Estimate (DE) | SAR Production Estimate (PdE) | Current Estimate |
|-----------------------------|----------------------------------|-------------------------------------|-------------------------------------|---------------------|
| Milestone I | N/A | N/A | N/A | N/A |
| Milestone II | N/A | MAY 1994 | MAY 1994 | MAY 1994 |
| Milestone III | N/A | AUG 1998 | OCT 2002 | OCT 2002 |
| IOC | N/A | NOV 1999 | SEP 2005 | JUN 2004 |
| Total Cost (TY \$M) | N/A | 4236.2 | 9205.8 | 11307.3 |
| Total Quantity | N/A | 1200 | 1159 | 1410 |
| Prog. Acq. Unit Cost (PAUC) | N/A | 3.530 | 7.943 | 8.019 |

The PAC-3 Milestone III was redefined as the Block 2002 Production Decision to reflect the evolutionary development acquisition approach approved at the October 31, 2002 Defense Acquisition Board.

Cost Variance

| Summary Then Year \$M | | | | |
|------------------------------|------------------|-------------|---------------|--------------|
| | RDT&E | Proc | MILCON | Total |
| SAR Baseline (Prod Est) | 3302.1 | 5903.7 | -- | 9205.8 |
| Previous Changes | | | | |
| Economic | +8.8 | +188.1 | -- | +196.9 |
| Quantity | -- | +964.6 | -- | +964.6 |
| Schedule | -- | +105.6 | -- | +105.6 |
| Engineering | -- | -- | -- | -- |
| Estimating | -134.7 | +669.1 | -- | +534.4 |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -125.9 | +1927.4 | -- | +1801.5 |
| Current Changes | | | | |
| Economic | -- | -15.7 | -- | -15.7 |
| Quantity | -- | +222.2 | -- | +222.2 |
| Schedule | -- | +10.7 | -- | +10.7 |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | +82.8 | -- | +82.8 |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -- | +300.0 | -- | +300.0 |
| Total Changes | -125.9 | +2227.4 | -- | +2101.5 |
| CE - Cost Variance | 3176.2 | 8131.1 | -- | 11307.3 |
| CE - Cost & Funding | 3176.2 | 8131.1 | -- | 11307.3 |

| Summary Base Year 2002 \$M | | | | |
|-----------------------------------|------------------|----------------|---------------|----------------|
| | RDT&E | Proc | MILCON | Total |
| SAR Baseline (Prod Est) | 3578.2 | 5505.8 | -- | 9084.0 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | +759.3 | -- | +759.3 |
| Schedule | -- | +110.6 | -- | +110.6 |
| Engineering | -- | -- | -- | -- |
| Estimating | -148.0 | +560.7 | -- | +412.7 |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -148.0 | +1430.6 | -- | +1282.6 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | +172.9 | -- | +172.9 |
| Schedule | -- | +8.3 | -- | +8.3 |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | +64.8 | -- | +64.8 |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -- | +246.0 | -- | +246.0 |
| Total Changes | -148.0 | +1676.6 | -- | +1528.6 |
| CE - Cost Variance | 3430.2 | 7182.4 | -- | 10612.6 |
| CE - Cost & Funding | 3430.2 | 7182.4 | -- | 10612.6 |

Previous Estimate: December 2012

| Procurement | \$M | |
|--|-----------|-----------|
| | Base Year | Then Year |
| Current Change Explanations | | |
| Revised escalation indices. (Economic) | N/A | -15.7 |
| Adjustment for current and prior escalation. (Estimating) | +12.5 | +15.7 |
| Total Quantity variance resulting from an increase of 56 missiles from 1,068 to 1,124 (Army). (Subtotal) | +227.1 | +291.7 |
| Quantity variance resulting from an increase of 56 missiles from 1,068 to 1,124 (Army). (Quantity) | (+166.5) | (+213.9) |
| Allocation to Schedule resulting from Quantity change. (Schedule) (QR) | (+8.3) | (+10.7) |
| Allocation to Estimating resulting from Quantity change. (Estimating) (QR) | (+52.3) | (+67.1) |
| Additional Quantity variance due to increase of 56 missiles. (Quantity) | +6.4 | +8.3 |
| Procurement Subtotal | +246.0 | +300.0 |

(QR) Quantity Related

Contracts

Appropriation: Procurement

| | |
|-----------------------|---------------------------------|
| Contract Name | FY 2012 PAC-3 Production |
| Contractor | Lockheed Martin Corporation |
| Contractor Location | Dallas, TX 75265 |
| Contract Number, Type | W31P4Q-12-C-0002, FFP |
| Award Date | December 15, 2011 |
| Definitization Date | December 15, 2011 |

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price at Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 921.3 | N/A | 242 | 921.3 | N/A | 242 | 921.3 | 921.3 |

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this FFP contract.

Contract Comments

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

The FY 2012 PAC-3 Missile Production contract was awarded on December 15, 2011, to Lockheed Martin Missiles and Fire Control, Dallas, Texas, for FMS requirements and was modified on December 19, 2011, December 23, 2011, and January 13, 2012, to award the U.S. requirements based on FY 2012 funding availability. The total contract award value is \$921.3M for the production of 242 PAC-3 missiles for both U.S. and Taiwan FMS requirements, and includes test missiles, Launcher Modification Kits, tooling, and parts library.

Appropriation: Procurement

| | |
|-----------------------|---------------------------------|
| Contract Name | FY 2013 PAC-3 Production |
| Contractor | Lockheed Martin Corporation |
| Contractor Location | Dallas, TX 75265 |
| Contract Number, Type | W31P4Q-13-C-0068, FFP |
| Award Date | December 27, 2012 |
| Definitization Date | August 31, 2013 |

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price at Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 755.1 | N/A | 168 | 940.2 | N/A | 244 | 940.2 | 940.2 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications to add U.S. and FMS quantities, Launcher Modification Kits (LMKs), and associated tooling.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this FFP contract.

Contract Comments

The FY 2013 PAC-3 Missile Production contract was awarded on December 27, 2012, to Lockheed Martin Missiles and Fire Control, Dallas, Texas, as a letter contract valued at \$755.1M. The U.S. portion of this contract is \$470.1M for 128 (68 missiles FY 2013 funded and 60 missiles FY 2011 supplemental funded) PAC-3 missiles, and 40 PAC-3 missiles for international partner, 27 LMKs for international partner, and missile/LMK production tooling.

Production deliveries began in the 2nd Quarter FY 2014.

Appropriation: Procurement

| | |
|-----------------------|--|
| Contract Name | CY12 PAC-3 Missile Support Center |
| Contractor | Lockheed Martin Corporation |
| Contractor Location | Dallas, TX 75265 |
| Contract Number, Type | W31P4Q-12-C-0100, CPIF/CPFF |
| Award Date | March 30, 2012 |
| Definitization Date | April 01, 2012 |

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price at Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 7.6 | N/A | N/A | 101.1 | N/A | N/A | 95.3 | 87.4 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to modifications for requirements for repair/recertification, storage and aging, and stockpile reliability testing.

| Variance | Cost Variance | Schedule Variance |
|--|---------------|-------------------|
| Cumulative Variances To Date (1/26/2014) | +3.1 | -9.8 |
| Previous Cumulative Variances | +0.9 | -0.5 |
| Net Change | +2.2 | -9.3 |

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to supplier labor efficiencies in the areas of Engineering, Manufacturing, Support, and Quality labor. Associated tasks for recertification effort were postponed due to a delay in component repairs.

The unfavorable net change in the schedule variance is due to late deliveries of seekers and midsections. Recertification operation is difficult to schedule and requires that current plans be maintained to stay ahead of contract requirements. Variable recertification quantities and schedule of field returns are worked in with the normal scheduled work throughout the calendar year.

Contract Comments

This contract was awarded to Lockheed Martin Missiles and Fire Control, Dallas, Texas, on March 30, 2012, and was definitized on April 1, 2012, with an initial contract value of \$7.6M to conduct the PAC-3 Missile Field Surveillance Program for the U.S., The Netherlands, Germany, Japan, Taiwan, and the United Arab Emirates.

Appropriation: Procurement

Contract Name **FY 2014 PAC-3 Production**
 Contractor Lockheed Martin Corporation
 Contractor Location Dallas, TX 75265
 Contract Number, Type W31P4Q-14-C-0034, FFP
 Award Date December 31, 2013
 Definitization Date June 30, 2014

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price at Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 263.4 | N/A | 56 | 263.4 | N/A | 56 | 263.4 | 263.4 |

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this FFP contract.

Contract Comments

This is the first time this contract is being reported.

The FY 2014 PAC-3 Missile Production contract was awarded on December 31, 2013, to Lockheed Martin Missiles and Fire Control, Dallas, Texas, as a letter contract valued at \$263.4M (\$203.9M U.S. and \$59.5M FMS). The effort for the U.S. includes 56 PAC-3 Cost Reduction Initiative missiles. The FMS effort for Kuwait includes seven Launcher Modification Kits (LMKs), one portable four-pack Test Set, Initial Spares, and missile/LMK production tooling.

Deliveries are scheduled to begin in the 3rd Quarter FY 2015.

Appropriation: Procurement

| | |
|-----------------------|--|
| Contract Name | PAC-3 Tactical Telemetry Redesign |
| Contractor | Lockheed Martin Corporation |
| Contractor Location | Dallas, TX 75265 |
| Contract Number, Type | W31P4Q-12-G-0001/6, CPIF |
| Award Date | August 30, 2013 |
| Definitization Date | August 30, 2013 |

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price at Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 44.1 | N/A | N/A | 44.1 | N/A | N/A | 43.0 | 33.4 |

| Variance | Cost Variance | Schedule Variance |
|--|---------------|-------------------|
| Cumulative Variances To Date (1/26/2014) | +0.3 | -0.1 |
| Previous Cumulative Variances | -- | -- |
| Net Change | +0.3 | -0.1 |

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to Systems Engineering and Management being primarily level of effort tasks and using less hours with a slower ramp up than planned.

The unfavorable cumulative schedule variance is due to delayed start of planned tests in the telemetry area.

Contract Comments

This is the first time this contract is being reported.

This contract was awarded to Lockheed Martin Missiles and Fire Control, Dallas, Texas, on August 30, 2013, and was definitized for a total contract value of \$44.1M to provide replacement components for the Multiband Radio Frequency Data Link, Tactical Telemetry, and Flight Test Telemetry Plate, whose components have become obsolete. New components are required to meet production obligations.

Deliveries and Expenditures

| Delivered to Date | Plan to Date | Actual to Date | Total Quantity | Percent Delivered |
|----------------------------------|--------------|----------------|----------------|-------------------|
| Development | 0 | 0 | 0 | -- |
| Production | 1210 | 1268 | 1410 | 89.93% |
| Total Program Quantity Delivered | 1210 | 1268 | 1410 | 89.93% |

Expended and Appropriated (TY \$M)

| | | | |
|------------------------|---------|----------------------------|---------|
| Total Acquisition Cost | 11307.3 | Years Appropriated | 31 |
| Expended to Date | 9543.8 | Percent Years Appropriated | 100.00% |
| Percent Expended | 84.40% | Appropriated to Date | 11307.3 |
| Total Funding Years | 31 | Percent Appropriated | 100.00% |

The above data is current as of 3/31/2014.

Operating and Support Cost

Missile Segment

Assumptions and Ground Rules

Cost Estimate Reference:

The PAC-3 O&S cost estimate was established in the December 2, 2002 APB and has been updated since the prior annual SAR to reflect the program procurement quantity current estimate. The O&S estimate covers a lifecycle of 45-years, FY 2002 through FY 2046, and includes costs to support PAC-3 variant missiles. The estimate was completed in Automated Cost Estimating-Integrated Tools and is based on actual costs for repair and recertification of the PAC-3 missile. The estimate also uses a historical factor to estimate the quantity of missiles that will require annual repair and the program losses for operational use, flight testing, and planned field surveillance.

Sustainment Strategy:

The PAC-3 missile procurement quantity current estimate is 1,410. The missile will be recertified twice, at ten-year intervals, within its 30-year planned service life. Contractor Logistics Support (CLS) is used to support maintenance and repair of PAC-3 certified missiles. The missile is a self-contained major end item and does not require sustainment in the field. There are no intermediate-level maintenance tasks for the missile and the organic depot/agency does not possess the required repair capacity, tools, and test equipment for depot level sustainment, supply support, and software support. Missile subsystems are required to be shipped to subcontractor facilities for repair and replacement of subsystem components. The Government has limited technical data rights and relies on CLS for missile sustainment.

Antecedent Information:

There is no antecedent system for the PAC-3 missile.

| Unitized O&S Costs BY2002 \$M | | |
|--------------------------------|---|---|
| Cost Element | Missile Segment Average Annual Cost of All Missiles | No Antecedent System (Antecedent) N/A |
| Unit-Level Manpower | 0.000 | 0.000 |
| Unit Operations | 0.000 | 0.000 |
| Maintenance | 45.080 | 0.000 |
| Sustaining Support | 3.270 | 0.000 |
| Continuing System Improvements | 14.720 | 0.000 |
| Indirect Support | 3.210 | 0.000 |
| Other | 0.000 | 0.000 |
| Total | 66.280 | -- |

Unitized Cost Comments:

Unitized costs are calculated based on total O&S current cost estimate of \$2,982.6M (BY 2002) distributed over planned service life of 45 years. The Unitized Annual O&S Cost reflects O&S for total inventory/year of 1,410 missiles (\$66.28 annual missile cost x 45-year service life).

| | Total O&S Cost \$M | | | |
|------------------|--|--------|------------------|-----------------------------------|
| | Current Production APB Objective/Threshold | | Current Estimate | |
| | Missile Segment | | Missile Segment | No Antecedent System (Antecedent) |
| Base Year | 3534.5 | 3888.0 | 2982.6 | N/A |
| Then Year | 4687.6 | N/A | 5076.8 | N/A |

Total O&S Costs Comments:

The differences between the current estimate and the APB are attributed to changes in quantity and refinement of the estimate using actual cost.

| O&S Cost Variance | | |
|--|--------------------|--|
| Category | Base Year 2002 \$M | Change Explanation |
| Prior SAR Total O&S Estimate December 2012 | 2,793.2 | |
| Cost Estimating Methodology | 0.0 | |
| Cost Data Update | 0.0 | |
| Labor Rate | 0.0 | |
| Energy Rate | 0.0 | |
| Technical Input | 0.0 | |
| Programmatic/Planning Factors | +189.6 | O&S Cost Estimate revised for program increase of 56 missiles from 1,354 to 1,410. |
| Other | 0.0 | |
| Total Changes | 0.0 | |
| Current Estimate | 2,982.8 | |

Disposal Costs:

Disposal costs are TBD.