



# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-101



## H-1 Upgrades (4BW/4BN) (H-1 Upgrades)

As of FY 2015 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

| Report Documentation Page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |                                     |                                                           | Form Approved<br>OMB No. 0704-0188                  |                                 |
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| Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. |                                    |                                     |                                                           |                                                     |                                 |
| 1. REPORT DATE<br><b>DEC 2013</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    | 2. REPORT TYPE                      |                                                           | 3. DATES COVERED<br><b>00-00-2013 to 00-00-2013</b> |                                 |
| 4. TITLE AND SUBTITLE<br><b>H-1 Upgrades (4BW/4BN) (H-1 Upgrades)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |                                     |                                                           | 5a. CONTRACT NUMBER                                 |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |                                     |                                                           | 5b. GRANT NUMBER                                    |                                 |
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| 6. AUTHOR(S)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |                                     |                                                           | 5d. PROJECT NUMBER                                  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |                                     |                                                           | 5e. TASK NUMBER                                     |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |                                     |                                                           | 5f. WORK UNIT NUMBER                                |                                 |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br><b>Program Executive Officer,,Air Anti-Submarine Warfare, Assault and Special Mission,Programs, 48202 Bronson Road, 2nd Floor,,Patuxent River,,MD,20670</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |                                     |                                                           | 8. PERFORMING ORGANIZATION REPORT NUMBER            |                                 |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                    |                                     |                                                           | 10. SPONSOR/MONITOR'S ACRONYM(S)                    |                                 |
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| 13. SUPPLEMENTARY NOTES<br><b>Selected Acquisition Report-SAR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |                                     |                                                           |                                                     |                                 |
| 14. ABSTRACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                    |                                     |                                                           |                                                     |                                 |
| 15. SUBJECT TERMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    |                                     |                                                           |                                                     |                                 |
| 16. SECURITY CLASSIFICATION OF:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |                                     | 17. LIMITATION OF ABSTRACT<br><b>Same as Report (SAR)</b> | 18. NUMBER OF PAGES<br><b>42</b>                    | 19a. NAME OF RESPONSIBLE PERSON |
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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**

H-1 Upgrades (4BW/4BN) (H-1 Upgrades)

**DoD Component**

Navy

## Responsible Office

**Responsible Office**

Col Steven Girard  
Program Executive Officer  
Air Anti-Submarine Warfare, Assault and Special  
Mission  
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Patuxent River, MD 20670-1547  
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**DSN Phone** 757-5534  
**DSN Fax** 342-3788

**Date Assigned** January 31, 2013

## References

**SAR Baseline (Production Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 22, 2008

**Approved APB**

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated February 11, 2011

## Mission and Description

The mission of the AH-1Z attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance and fire support coordination capabilities under day/night and adverse weather conditions for the United States Marine Corps. The mission of the UH-1Y utility helicopter is to provide command, control and assault support under day/night and adverse weather conditions. Both the AH-1Z and UH-1Y aircraft incorporate state-of-the-art designs, which serve to improve capability, lethality, and survivability. Major modifications include a new four-bladed rotor system with semi-automatic blade fold of the new composite rotor blades, new performance matched transmissions, a new four-bladed tail rotor and drive system, upgraded landing gear, and pylon structural modifications. The H-1 Upgrades aircraft have increased maneuverability, speed, and payload capability. Both aircraft have fully integrated common cockpits/avionics that reduce operator workload and improve situational awareness, thus increasing safety.

## Executive Summary

Both the UH-1Y and AH-1Z continue to meet all Key Performance Parameters. The UH-1Y is actively engaged in Operation Enduring Freedom deployments. Aircraft utilization rates continue to be two to three times the planned rate, and the UH-1Y has exceeded 22,600 combat flight hours. All West coast Marine Expeditionary Units (MEU) deploy with UH-1Y and AH-1Z aircraft. East coast MEUs deploy with UH-1Y and AH-1W aircraft.

H-1 helicopter production deliveries by Bell Helicopter out of its Amarillo, Texas, final assembly and flight operations facility are currently on or ahead of the contract delivery schedule. To date, 184 helicopters have been procured (120 UH-1Ys, 37 AH-1Z Remanufactures, and 27 AH-1Z Build News) with 127 aircraft delivered through March 10, 2014 (90 UH-1Ys and 37 AH-1Z Remanufactures). The final AH-1Z Remanufactured aircraft delivered in January 2014. All future AH-1Z deliveries will be Build New aircraft beginning in April 2014.

APB cost performance remains within established thresholds. Budget controls for the FY 2015 PB have been modified to account for airframe cost increases and changes in the United States Marine Corps priorities, adding an additional production year to the program, FY 2020. Reductions in the FY 2014 appropriated budget resulted in the decrease of four baseline aircraft. Additionally, FY 2013 quantities reflect two replacement AH-1Z aircraft from the sale of three AH-1W aircraft to Turkey. Funds from the sale were reprogrammed into a reimbursable account and are not reflected in program funding. The FY 2013 airframe cost reflects a budget for 28 aircraft. Replacement aircraft do not increase program of record quantity.

Aircraft availability rates are meeting goals on deployed aircraft but largely at the expense of Continental United States based aircraft as supply and repair/overhaul maturation is being achieved. Bell is increasing component production to fill Fleet shortfalls. Component reliability and maintainability data is being reviewed to identify problematic failures, and the team is working to correct those failures based on extensive root cause analysis. Standup of organic depot component repair capability is underway and currently supports the planned September 2015 Navy Support Date milestone. This will result in greater government control of component repair and reduced costs. The combination of these actions is critical to improving Fleet readiness and sustaining H-1 aircraft in the out years.

The program is aggressively pursuing FMS opportunities and has received interest from multiple countries with Pakistan formally requesting a Letter of Offer and Acceptance for 12 AH-1Z aircraft.

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

## Threshold Breaches

### APB Breaches

**Schedule** ☐

**Performance** ☐

**Cost** RDT&E ☐

Procurement ☐

MILCON ☐

Acq O&M ☐

**O&S Cost** ☐

**Unit Cost** PAUC ☐

APUC ☐

### Nunn-McCurdy Breaches

#### Current UCR Baseline

PAUC None

APUC None

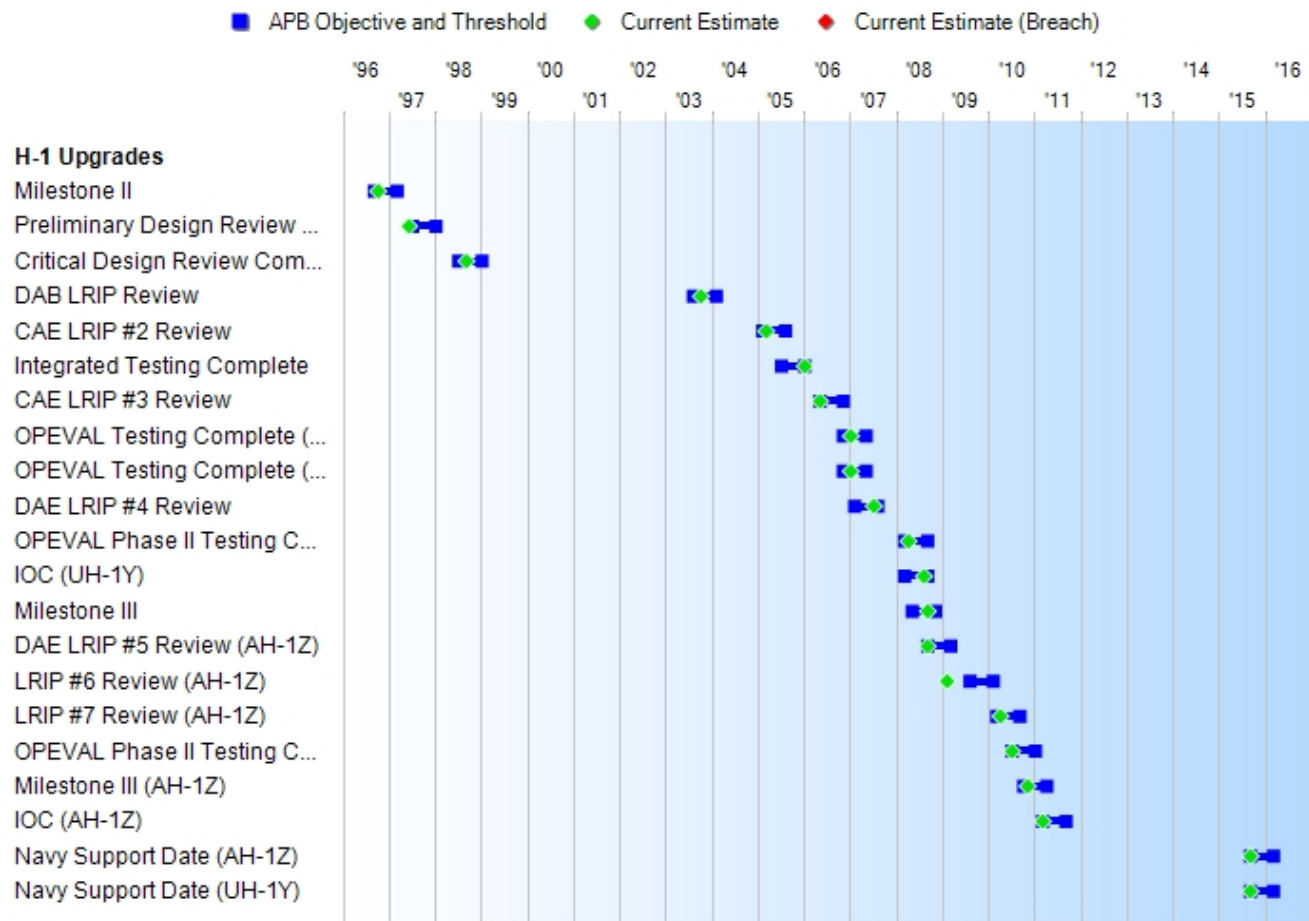
#### Original UCR Baseline

PAUC None

APUC None



## Schedule



| <b>Milestones</b>                        | <b>SAR Baseline<br/>Prod Est</b> | <b>Current APB<br/>Production<br/>Objective/Threshold</b> |          | <b>Current<br/>Estimate</b> |
|------------------------------------------|----------------------------------|-----------------------------------------------------------|----------|-----------------------------|
| Milestone II                             | SEP 1996                         | SEP 1996                                                  | MAR 1997 | OCT 1996                    |
| Preliminary Design Review Complete       | JUL 1997                         | JUL 1997                                                  | JAN 1998 | JUN 1997                    |
| Critical Design Review Complete          | JUL 1998                         | JUL 1998                                                  | JAN 1999 | SEP 1998                    |
| DAB LRIP Review                          | AUG 2003                         | AUG 2003                                                  | FEB 2004 | OCT 2003                    |
| CAE LRIP #2 Review                       | FEB 2005                         | FEB 2005                                                  | AUG 2005 | MAR 2005                    |
| Integrated Testing Complete              | JUL 2005                         | JUL 2005                                                  | JAN 2006 | JAN 2006                    |
| CAE LRIP #3 Review                       | MAY 2006                         | MAY 2006                                                  | NOV 2006 | MAY 2006                    |
| OPEVAL Testing Complete (AH-1Z)          | NOV 2006                         | NOV 2006                                                  | MAY 2007 | JAN 2007                    |
| OPEVAL Testing Complete (UH-1Y)          | NOV 2006                         | NOV 2006                                                  | MAY 2007 | JAN 2007                    |
| DAE LRIP #4 Review                       | FEB 2007                         | FEB 2007                                                  | AUG 2007 | JUL 2007                    |
| OPEVAL Phase II Testing Complete (UH-1Y) | MAR 2008                         | MAR 2008                                                  | SEP 2008 | APR 2008                    |
| IOC (UH-1Y)                              | MAR 2008                         | MAR 2008                                                  | SEP 2008 | AUG 2008                    |
| Milestone III                            | MAY 2008                         | MAY 2008                                                  | NOV 2008 | SEP 2008                    |
| DAE LRIP #5 Review (AH-1Z)               | SEP 2008                         | SEP 2008                                                  | MAR 2009 | SEP 2008                    |
| LRIP #6 Review (AH-1Z)                   | AUG 2009                         | AUG 2009                                                  | FEB 2010 | FEB 2009                    |
| LRIP #7 Review (AH-1Z)                   | MAR 2010                         | MAR 2010                                                  | SEP 2010 | APR 2010                    |
| OPEVAL Phase II Testing Complete (AH-1Z) | JUL 2010                         | JUL 2010                                                  | JAN 2011 | JUL 2010                    |
| Milestone III (AH-1Z)                    | OCT 2010                         | OCT 2010                                                  | APR 2011 | NOV 2010                    |
| IOC (AH-1Z)                              | MAR 2011                         | MAR 2011                                                  | SEP 2011 | MAR 2011                    |
| Navy Support Date (AH-1Z)                | MAR 2012                         | SEP 2015                                                  | MAR 2016 | SEP 2015                    |
| Navy Support Date (UH-1Y)                | MAR 2012                         | SEP 2015                                                  | MAR 2016 | SEP 2015                    |

### Change Explanations

None

### Acronyms and Abbreviations

CAE - Component Acquisition Executive  
DAB - Defense Acquisition Board  
DAE - Defense Acquisition Executive  
OPEVAL - Operational Evaluation

## Performance

| Characteristics                  | SAR Baseline<br>Prod Est                                                                                                                                                                                                                                                        | Current APB<br>Production<br>Objective/Threshold                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                   | Demonstrated<br>Performance                                                                                                                                                                                                                                                     | Current<br>Estimate                                                                                                                                                                                                                                                             |        |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 4BW (AH-1W/AH-1Z)                |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |        |
| MFHBA (hrs)                      | 35.0                                                                                                                                                                                                                                                                            | 35.0                                                                                                                                                                                                                                                                             | 24.0                                                                                                                                                                                                                                                                                              | 56.6                                                                                                                                                                                                                                                                            | 56.6                                                                                                                                                                                                                                                                            | (Ch-1) |
| MMH/FH (hrs)                     | 3.6                                                                                                                                                                                                                                                                             | 3.6                                                                                                                                                                                                                                                                              | 4.3                                                                                                                                                                                                                                                                                               | 2.7                                                                                                                                                                                                                                                                             | 2.7                                                                                                                                                                                                                                                                             | (Ch-1) |
| Cruise Speed (kts)               | 165                                                                                                                                                                                                                                                                             | 165                                                                                                                                                                                                                                                                              | 135                                                                                                                                                                                                                                                                                               | 139                                                                                                                                                                                                                                                                             | 139                                                                                                                                                                                                                                                                             | (Ch-2) |
| Payload (Hot Day) (lbs)          | 3500 lbs                                                                                                                                                                                                                                                                        | 3500 lbs                                                                                                                                                                                                                                                                         | 2500 lbs 6<br>Wing<br>Stations 4<br>Universal<br>Under Wing<br>Stations                                                                                                                                                                                                                           | 3429                                                                                                                                                                                                                                                                            | 3429                                                                                                                                                                                                                                                                            | (Ch-2) |
| Weapon Stations                  |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                 |        |
| Universal Mounts                 | 6                                                                                                                                                                                                                                                                               | 6                                                                                                                                                                                                                                                                                | 4                                                                                                                                                                                                                                                                                                 | 4                                                                                                                                                                                                                                                                               | 4                                                                                                                                                                                                                                                                               |        |
| Precision Guided<br>Munitions    | 16                                                                                                                                                                                                                                                                              | 16                                                                                                                                                                                                                                                                               | 12                                                                                                                                                                                                                                                                                                | 16                                                                                                                                                                                                                                                                              | 16                                                                                                                                                                                                                                                                              |        |
| Maneuverability/Agility<br>(G's) | -0.5 to +2.5                                                                                                                                                                                                                                                                    | -0.5 to +2.5                                                                                                                                                                                                                                                                     | -0.5 to +2.5                                                                                                                                                                                                                                                                                      | -.5 to +2.5                                                                                                                                                                                                                                                                     | -.5 to +2.5                                                                                                                                                                                                                                                                     |        |
| Mission Radius (NM)              | 200 NM                                                                                                                                                                                                                                                                          | 200 NM                                                                                                                                                                                                                                                                           | 110 NM                                                                                                                                                                                                                                                                                            | 135 NM x 1                                                                                                                                                                                                                                                                      | 135 NM x 1                                                                                                                                                                                                                                                                      |        |
| Shipboard<br>Compatibility       | Fully<br>compatible<br>to include<br>blade fold.                                                                                                                                                                                                                                | Fully<br>compatible<br>to include<br>blade fold.                                                                                                                                                                                                                                 | Fully<br>compatible<br>to include<br>blade fold.                                                                                                                                                                                                                                                  | Fully<br>compatible<br>to include<br>blade fold.                                                                                                                                                                                                                                | Fully<br>compatible<br>to include<br>blade fold.                                                                                                                                                                                                                                |        |
| Interoperability                 | The system<br>must fully<br>support<br>execution of<br>all<br>operational<br>activities<br>identified in<br>the<br>applicable<br>joint and<br>system<br>integrated<br>architectures<br>and the<br>system must<br>satisfy the<br>technical<br>requirements<br>for Net<br>Centric | The system<br>must fully<br>support<br>execution of<br>all<br>operational<br>activities<br>identified in<br>the<br>applicable<br>joint and<br>system<br>integrated<br>architectures<br>and the<br>system must<br>satisfy the<br>technical<br>requirements<br>for Net-<br>Centric | The system<br>must fully<br>support<br>execution of<br>joint critical<br>operational<br>activities<br>identified in<br>the<br>applicable<br>joint and<br>system<br>integrated<br>architectures<br>and the<br>system must<br>satisfy the<br>technical<br>requirements<br>for transition<br>to Net- | The system<br>must fully<br>support<br>execution of<br>all<br>operational<br>activities<br>identified in<br>the<br>applicable<br>joint and<br>system<br>integrated<br>architectures<br>and the<br>system must<br>satisfy the<br>technical<br>requirements<br>for Net<br>Centric | The system<br>must fully<br>support<br>execution of<br>all<br>operational<br>activities<br>identified in<br>the<br>applicable<br>joint and<br>system<br>integrated<br>architectures<br>and the<br>system must<br>satisfy the<br>technical<br>requirements<br>for Net<br>Centric |        |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability,</p> | <p>military operations to include: 1) DISR-mandated GIG IT standards and profiles identified in the TV-1, 2) DISR-mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data</p> | <p>Centric military operations to include: 1) DISR-mandated GIG IT standards and profiles identified in the TV-1, 2) DISR-mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data</p> | <p>military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability,</p> | <p>military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability,</p> |
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|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------|
|                                               | and consistent data processing specified in the applicable joint and system integrated architecture views.                             | availability, and consistent data processing specified in the applicable joint and system integrated architecture views.               | availability, and consistent data processing specified in the applicable joint and system integrated architecture views.               | and consistent data processing specified in the applicable joint and system integrated architecture views.                             | and consistent data processing specified in the applicable joint and system integrated architecture views.                             |        |
| Force Protection (Seating)                    | Two AH-1Z pilot seats that are stroking, crashworthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally. | Two AH-1Z pilot seats that are stroking, crashworthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally. | Two AH-1Z pilot seats that are stroking, crashworthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally. | Two AH-1Z pilot seats that are stroking, crashworthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally. | Two AH-1Z pilot seats that are stroking, crashworthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally. |        |
| Survivability (Ballistic Tolerance/Hardening) | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 23 mm HEI.                                 | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 23 mm HEI.                                 | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 12.7 mm API.                               | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 12.7 mm API.                               | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 12.7 mm API.                               |        |
| 4BN (UH-1N/UH-1Y)                             |                                                                                                                                        |                                                                                                                                        |                                                                                                                                        |                                                                                                                                        |                                                                                                                                        |        |
| MFHBA (hrs)                                   | 40.2                                                                                                                                   | 40.2                                                                                                                                   | 33.1                                                                                                                                   | 55.5                                                                                                                                   | 55.5                                                                                                                                   | (Ch-1) |
| MMH/FH (hrs)                                  | 2.9                                                                                                                                    | 2.9                                                                                                                                    | 3.9                                                                                                                                    | 1.9                                                                                                                                    | 1.9                                                                                                                                    | (Ch-1) |
| Cruise Speed (kts)                            | 165                                                                                                                                    | 165                                                                                                                                    | 140                                                                                                                                    | 155                                                                                                                                    | 155                                                                                                                                    | (Ch-2) |
| Payload (Hot Day) (lbs)                       | 4500                                                                                                                                   | 4500                                                                                                                                   | 2800                                                                                                                                   | 2982                                                                                                                                   | 2982                                                                                                                                   | (Ch-2) |
| Weapon Stations                               | 2 Univ. Mounts                                                                                                                         | 2 Univ. Mounts                                                                                                                         | 2 Hard Mounts                                                                                                                          | 2 Hard Mounts                                                                                                                          | 2 Hard Mounts                                                                                                                          |        |
| Maneuverability/Agility (G's)                 | -0.5 to +2.5                                                                                                                           | -0.5 to +2.5                                                                                                                           | -0.5 to +2.3                                                                                                                           | -0.5 to +2.3                                                                                                                           | -0.5 to +2.3                                                                                                                           |        |
| Mission Radius (NM)                           | 200 NM                                                                                                                                 | 200 NM                                                                                                                                 | 110 NM                                                                                                                                 | 130 NM                                                                                                                                 | 130 NM                                                                                                                                 | (Ch-2) |
| Shipboard Compatibility                       | Fully compatible to include                                                                                                            | Fully compatible to include                                                                                                            | Fully compatible to include                                                                                                            | Fully compatible to include                                                                                                            | Fully compatible to include                                                                                                            |        |

|                  | blade fold.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | blade fold.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | blade fold.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | blade fold.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | blade fold.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interoperability | The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net Centric military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality | The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include: 1) DISR-mandated GIG IT standards and profiles identified in the TV-1, 2) DISR-mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality | The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) DISR-mandated GIG IT standards and profiles identified in the TV-1, 2) DISR-mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality | The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net Centric military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality | The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net Centric military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality |

|                            |                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | ality, and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. | , and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. | confidentiality, and non-repudiation, and issuance of an IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. | , and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. | , and non-repudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. |
| Force Protection (Seating) | Two UH-1Y pilot seats and ten UH-1Y cabin seats that are stroking, crash-worthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally.                                                                                                                                                                           | Two UH-1Y pilot seats and ten UH-1Y cabin seats that are stroking, crash-worthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally.                                                                                                                                                                      | Two UH-1Y pilot seats and ten UH-1Y cabin seats that are stroking, crash-worthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally.                                                                                                                                                                                      | Two UH-1Y pilot seats and ten UH-1Y cabin seats that are stroking, crash-worthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally.                                                                                                                                                                      | Two UH-1Y pilot seats and ten UH-1Y cabin seats that are stroking, crash-worthy, and capable of sustaining 20Gs longitudinal, 20Gs vertical, and 10 Gs laterally.                                                                                                                                                                      |

|                                               |                                                                                                        |                                                                                                        |                                                                                                          |                                                                                                          |                                                                                                          |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Survivability (Ballistic Tolerance/Hardening) | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 23 mm HEI. | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 23 mm HEI. | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 12.7 mm API. | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 12.7 mm API. | Airframe structure and flight critical systems shall be ballistic tolerant/hardened against 12.7 mm API. |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

### Requirements Source

UH-1Y Capability Production Document (CPD) and AH-1Z CPD dated June 11, 2007 as modified by Joint Requirements Oversight Council Memorandum 195-08 dated October 14, 2008

### Change Explanations

(Ch-1) The current estimate values for R&M have changed as follows based on the Naval Air Systems Command R&M Review Board #75 in September 2013: 4BW (AH-1W/AH-1Z) MFHBA from 51.6 to 56.6 and MMH/FH from 2.6 to 2.7; 4BN (UH-1N/UH-1Y) MFHBA from 58.9 to 55.5 and MMH/FH from 1.7 to 1.9.

(Ch-2) The following current estimate values have changed based on the H-1 Upgrades Air Vehicle Performance status report for January 2014: 4BW (AH-1W/AH-1Z) Cruise Speed from 137 to 139 and Payload from 3179 to 3429; 4BN (UH-1N/UH-1Y) Cruise Speed from 152 to 155, Payload from 3079 to 2982, and Mission Radius from 129 to 130.

### Acronyms and Abbreviations

API - Armor Piercing Incendiary  
ATO - Authority to Operate  
DAA - Designated Approving Authority  
DISR - DoD Information Technology Standards Registry  
G's - Gravitational forces  
GIG - Global Information Grid  
HEI - High Explosive Incendiary  
hrs - Hours  
IATO - Interim Authority to Operate  
IT - Information Technology  
KIP - Key Interface Protocol  
kts - Knots  
lbs - Pounds  
MFHBA - Mean Flight Hours Between Abort  
mm - Millimeter  
MMH/FH - Maintenance Man Hours per Flight Hours  
NCOW - Net-Centric Operation and Warfare  
NM - Nautical Miles  
R&M - Reliability and Maintainability  
RM - Reference Model  
TV-1 - Technical Standards Profile  
Univ. - Universal



## Track to Budget

### RDT&E

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

Navy 1319 05 0604245N

| Project | Name |
|---------|------|
|---------|------|

2279 H-1 Upgrades

### Procurement

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

Navy 1506 01 0206131M

| Line Item | Name |
|-----------|------|
|-----------|------|

0178 4BW/4BN UH-1Y/AH-1Z

0605 4BW/4BN UH-1Y/AH-1Z Initial  
Spares

Aircraft Procurement, Navy - BA 05 for Line Item 0532, PE 0206131M, is incorporated into the program as a subset of total O&S.

### MILCON

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

Navy 1205 01 02166490M

| Project | Name |
|---------|------|
|---------|------|

991 H-1 Y/Z Gearbox Repair & Test  
Facility

(Sunk)

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

| Appropriation  | BY2008 \$M               |                                                  |                     | BY2008 \$M | TY \$M                   |                                        |                     |
|----------------|--------------------------|--------------------------------------------------|---------------------|------------|--------------------------|----------------------------------------|---------------------|
|                | SAR Baseline<br>Prod Est | Current APB<br>Production<br>Objective/Threshold | Current<br>Estimate |            | SAR Baseline<br>Prod Est | Current APB<br>Production<br>Objective | Current<br>Estimate |
| RDT&E          | 1799.2                   | 1848.3                                           | 2033.1              | 1703.9     | 1644.1                   | 1696.2                                 | 1537.1              |
| Procurement    | 9404.2                   | 10088.4                                          | 11097.2             | 10272.6    | 10542.7                  | 11022.1                                | 11470.1             |
| Flyaway        | --                       | --                                               | --                  | 8646.3     | --                       | --                                     | 9723.0              |
| Recurring      | --                       | --                                               | --                  | 8066.8     | --                       | --                                     | 9099.9              |
| Non Recurring  | --                       | --                                               | --                  | 579.5      | --                       | --                                     | 623.1               |
| Support        | --                       | --                                               | --                  | 1626.3     | --                       | --                                     | 1747.1              |
| Other Support  | --                       | --                                               | --                  | 1380.3     | --                       | --                                     | 1499.0              |
| Initial Spares | --                       | --                                               | --                  | 246.0      | --                       | --                                     | 248.1               |
| MILCON         | 0.0                      | 16.3                                             | 17.9                | 15.9       | 0.0                      | 17.6                                   | 17.6                |
| Acq O&M        | 0.0                      | 0.0                                              | --                  | 0.0        | 0.0                      | 0.0                                    | 0.0                 |
| Total          | 11203.4                  | 11953.0                                          | N/A                 | 11992.4    | 12186.8                  | 12735.9                                | 13024.8             |

Confidence Level for Current APB Cost 50% -

The estimate recommendation aims to provide sufficient resources to execute the program under normal conditions, encountering average levels of technical, schedule, and programmatic risk and external interference. It is consistent with average resource expenditures on historical efforts of similar size, scope, and complexity and represents a 50% confidence level.

| Quantity    | SAR Baseline<br>Prod Est | Current APB<br>Production | Current Estimate |
|-------------|--------------------------|---------------------------|------------------|
| RDT&E       | 4                        | 4                         | 4                |
| Procurement | 349                      | 349                       | 349              |
| Total       | 353                      | 353                       | 353              |

The four RDT&E aircraft include two UH-1Ys and two AH-1Zs. The 349 Procurement aircraft include 37 AH-1W helicopters remanufactured into AH-1Zs, 152 AH-1Z Build New (ZBN) models, 10 UH-1N helicopters remanufactured into UH-1Ys, and 150 new UH-1Y models.

## 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         | 1537.1 | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 1537.1  |
| Procurement   | 5806.7 | 665.9  | 859.7  | 916.3  | 925.8  | 912.5  | 939.2  | 444.0       | 11470.1 |
| MILCON        | 17.6   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 17.6    |
| Acq O&M       | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 0.0     |
| PB 2015 Total | 7361.4 | 665.9  | 859.7  | 916.3  | 925.8  | 912.5  | 939.2  | 444.0       | 13024.8 |
| PB 2014 Total | 7376.6 | 822.2  | 818.3  | 847.8  | 926.1  | 962.6  | 970.8  | 0.0         | 12724.4 |
| Delta         | -15.2  | -156.3 | 41.4   | 68.5   | -0.3   | -50.1  | -31.6  | 444.0       | 300.4   |

FY 2015 PB prior quantity includes two replacement AH-1Z aircraft from the sale of three AH-1W aircraft to Turkey.

| Quantity      | Undistributed | Prior | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total |
|---------------|---------------|-------|--------|--------|--------|--------|--------|--------|-------------|-------|
| Development   | 4             | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 4     |
| Production    | 0             | 186   | 21     | 26     | 28     | 26     | 26     | 27     | 9           | 349   |
| PB 2015 Total | 4             | 186   | 21     | 26     | 28     | 26     | 26     | 27     | 9           | 353   |
| PB 2014 Total | 4             | 184   | 25     | 26     | 27     | 28     | 30     | 29     | 0           | 353   |
| Delta         | 0             | 2     | -4     | 0      | 1      | -2     | -4     | -2     | 9           | 0     |

## Cost and Funding

### Annual Funding By Appropriation

#### Annual Funding TY\$

#### 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

| Fiscal Year     | Quantity | End Item<br>Recurring<br>Flyaway<br>TY \$M | Non End<br>Item<br>Recurring<br>Flyaway<br>TY \$M | Non<br>Recurring<br>Flyaway<br>TY \$M | Total<br>Flyaway<br>TY \$M | Total<br>Support<br>TY \$M | Total<br>Program<br>TY \$M |
|-----------------|----------|--------------------------------------------|---------------------------------------------------|---------------------------------------|----------------------------|----------------------------|----------------------------|
| 1996            | --       | --                                         | --                                                | --                                    | --                         | --                         | 10.9                       |
| 1997            | --       | --                                         | --                                                | --                                    | --                         | --                         | 67.9                       |
| 1998            | --       | --                                         | --                                                | --                                    | --                         | --                         | 81.3                       |
| 1999            | --       | --                                         | --                                                | --                                    | --                         | --                         | 116.7                      |
| 2000            | --       | --                                         | --                                                | --                                    | --                         | --                         | 178.5                      |
| 2001            | --       | --                                         | --                                                | --                                    | --                         | --                         | 138.2                      |
| 2002            | --       | --                                         | --                                                | --                                    | --                         | --                         | 167.4                      |
| 2003            | --       | --                                         | --                                                | --                                    | --                         | --                         | 232.9                      |
| 2004            | --       | --                                         | --                                                | --                                    | --                         | --                         | 99.1                       |
| 2005            | --       | --                                         | --                                                | --                                    | --                         | --                         | 168.2                      |
| 2006            | --       | --                                         | --                                                | --                                    | --                         | --                         | 58.6                       |
| 2007            | --       | --                                         | --                                                | --                                    | --                         | --                         | 26.4                       |
| 2008            | --       | --                                         | --                                                | --                                    | --                         | --                         | 12.6                       |
| 2009            | --       | --                                         | --                                                | --                                    | --                         | --                         | 4.4                        |
| 2010            | --       | --                                         | --                                                | --                                    | --                         | --                         | 28.1                       |
| 2011            | --       | --                                         | --                                                | --                                    | --                         | --                         | 57.6                       |
| 2012            | --       | --                                         | --                                                | --                                    | --                         | --                         | 60.6                       |
| 2013            | --       | --                                         | --                                                | --                                    | --                         | --                         | 27.7                       |
| <b>Subtotal</b> | <b>4</b> | --                                         | --                                                | --                                    | --                         | --                         | <b>1537.1</b>              |

## Annual Funding BY\$

## 1319 | RDT&amp;E | Research, Development, Test, and Evaluation, Navy

| Fiscal Year     | Quantity | End Item<br>Recurring<br>Flyaway<br>BY 2008 \$M | Non End<br>Item<br>Recurring<br>Flyaway<br>BY 2008 \$M | Non<br>Recurring<br>Flyaway<br>BY 2008 \$M | Total<br>Flyaway<br>BY 2008 \$M | Total<br>Support<br>BY 2008 \$M | Total<br>Program<br>BY 2008 \$M |
|-----------------|----------|-------------------------------------------------|--------------------------------------------------------|--------------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 1996            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 13.3                            |
| 1997            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 82.0                            |
| 1998            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 97.4                            |
| 1999            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 138.1                           |
| 2000            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 208.3                           |
| 2001            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 159.1                           |
| 2002            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 190.7                           |
| 2003            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 261.5                           |
| 2004            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 108.3                           |
| 2005            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 179.0                           |
| 2006            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 60.5                            |
| 2007            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 26.6                            |
| 2008            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 12.5                            |
| 2009            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 4.3                             |
| 2010            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 27.0                            |
| 2011            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 54.1                            |
| 2012            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 56.0                            |
| 2013            | --       | --                                              | --                                                     | --                                         | --                              | --                              | 25.2                            |
| <b>Subtotal</b> | <b>4</b> | --                                              | --                                                     | --                                         | --                              | --                              | <b>1703.9</b>                   |

## Annual Funding TY\$

## 1506 | Procurement | Aircraft Procurement, Navy

| 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 |
|-----------------|------------|-----------------------------------|---------------------------------------|------------------------------|----------------------|----------------------|----------------------|
| 2001            | --         | --                                | --                                    | --                           | --                   | 6.0                  | 6.0                  |
| 2002            | --         | --                                | --                                    | --                           | --                   | --                   | --                   |
| 2003            | --         | --                                | --                                    | --                           | --                   | --                   | --                   |
| 2004            | 9          | 197.8                             | --                                    | 23.8                         | 221.6                | 105.9                | 327.5                |
| 2005            | 7          | 136.9                             | --                                    | 18.7                         | 155.6                | 78.3                 | 233.9                |
| 2006            | 7          | 150.9                             | --                                    | 42.2                         | 193.1                | 162.0                | 355.1                |
| 2007            | 11         | 228.8                             | --                                    | 136.5                        | 365.3                | 170.1                | 535.4                |
| 2008            | 15         | 315.5                             | --                                    | 25.2                         | 340.7                | 154.3                | 495.0                |
| 2009            | 24         | 514.0                             | --                                    | 42.6                         | 556.6                | 80.5                 | 637.1                |
| 2010            | 27         | 655.7                             | --                                    | 34.8                         | 690.5                | 70.7                 | 761.2                |
| 2011            | 31         | 688.5                             | --                                    | 77.6                         | 766.1                | 127.0                | 893.1                |
| 2012            | 25         | 567.6                             | --                                    | 46.3                         | 613.9                | 120.0                | 733.9                |
| 2013            | 30         | 740.0                             | --                                    | 4.3                          | 744.3                | 84.2                 | 828.5                |
| 2014            | 21         | 564.7                             | --                                    | 9.5                          | 574.2                | 91.7                 | 665.9                |
| 2015            | 26         | 736.7                             | --                                    | 11.4                         | 748.1                | 111.6                | 859.7                |
| 2016            | 28         | 791.7                             | --                                    | 13.2                         | 804.9                | 111.4                | 916.3                |
| 2017            | 26         | 822.3                             | --                                    | 27.8                         | 850.1                | 75.7                 | 925.8                |
| 2018            | 26         | 843.5                             | --                                    | 17.3                         | 860.8                | 51.7                 | 912.5                |
| 2019            | 27         | 865.1                             | --                                    | 21.2                         | 886.3                | 52.9                 | 939.2                |
| 2020            | 9          | 280.2                             | --                                    | 70.7                         | 350.9                | 93.1                 | 444.0                |
| <b>Subtotal</b> | <b>349</b> | <b>9099.9</b>                     | <b>--</b>                             | <b>623.1</b>                 | <b>9723.0</b>        | <b>1747.1</b>        | <b>11470.1</b>       |

## Annual Funding BY\$

## 1506 | Procurement | Aircraft Procurement, Navy

| Fiscal Year     | Quantity   | End Item<br>Recurring<br>Flyaway<br>BY 2008 \$M | Non End<br>Item<br>Recurring<br>Flyaway<br>BY 2008 \$M | Non<br>Recurring<br>Flyaway<br>BY 2008 \$M | Total<br>Flyaway<br>BY 2008 \$M | Total<br>Support<br>BY 2008 \$M | Total<br>Program<br>BY 2008 \$M |
|-----------------|------------|-------------------------------------------------|--------------------------------------------------------|--------------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 2001            | --         | --                                              | --                                                     | --                                         | --                              | 6.8                             | 6.8                             |
| 2002            | --         | --                                              | --                                                     | --                                         | --                              | --                              | --                              |
| 2003            | --         | --                                              | --                                                     | --                                         | --                              | --                              | --                              |
| 2004            | 9          | 212.6                                           | --                                                     | 25.6                                       | 238.2                           | 113.8                           | 352.0                           |
| 2005            | 7          | 143.1                                           | --                                                     | 19.6                                       | 162.7                           | 81.8                            | 244.5                           |
| 2006            | 7          | 153.5                                           | --                                                     | 42.9                                       | 196.4                           | 164.8                           | 361.2                           |
| 2007            | 11         | 227.5                                           | --                                                     | 135.7                                      | 363.2                           | 169.1                           | 532.3                           |
| 2008            | 15         | 309.0                                           | --                                                     | 24.7                                       | 333.7                           | 151.1                           | 484.8                           |
| 2009            | 24         | 496.5                                           | --                                                     | 41.1                                       | 537.6                           | 77.8                            | 615.4                           |
| 2010            | 27         | 620.2                                           | --                                                     | 32.9                                       | 653.1                           | 66.9                            | 720.0                           |
| 2011            | 31         | 637.7                                           | --                                                     | 71.9                                       | 709.6                           | 117.6                           | 827.2                           |
| 2012            | 25         | 517.6                                           | --                                                     | 42.2                                       | 559.8                           | 109.4                           | 669.2                           |
| 2013            | 30         | 663.6                                           | --                                                     | 3.9                                        | 667.5                           | 75.5                            | 743.0                           |
| 2014            | 21         | 497.4                                           | --                                                     | 8.4                                        | 505.8                           | 80.8                            | 586.6                           |
| 2015            | 26         | 636.7                                           | --                                                     | 9.9                                        | 646.6                           | 96.4                            | 743.0                           |
| 2016            | 28         | 670.9                                           | --                                                     | 11.2                                       | 682.1                           | 94.4                            | 776.5                           |
| 2017            | 26         | 683.2                                           | --                                                     | 23.1                                       | 706.3                           | 62.9                            | 769.2                           |
| 2018            | 26         | 687.1                                           | --                                                     | 14.1                                       | 701.2                           | 42.1                            | 743.3                           |
| 2019            | 27         | 690.8                                           | --                                                     | 16.9                                       | 707.7                           | 42.3                            | 750.0                           |
| 2020            | 9          | 219.4                                           | --                                                     | 55.4                                       | 274.8                           | 72.8                            | 347.6                           |
| <b>Subtotal</b> | <b>349</b> | <b>8066.8</b>                                   | <b>--</b>                                              | <b>579.5</b>                               | <b>8646.3</b>                   | <b>1626.3</b>                   | <b>10272.6</b>                  |

**Annual Funding TY\$**  
**1205 | MILCON | Military Construction,**  
**Navy and Marine Corps**

| <b>Fiscal<br/>Year</b> | <b>Total<br/>Program<br/>TY \$M</b> |
|------------------------|-------------------------------------|
| 2012                   | 17.6                                |
| <b>Subtotal</b>        | <b>17.6</b>                         |



**Annual Funding BY\$**  
**1205 | MILCON | Military Construction,**  
**Navy and Marine Corps**

| <b>Fiscal<br/>Year</b> | <b>Total<br/>Program<br/>BY 2008 \$M</b> |
|------------------------|------------------------------------------|
| 2012                   | 15.9                                     |
| <b>Subtotal</b>        | <b>15.9</b>                              |

## Low Rate Initial Production

|                   | Initial LRIP Decision | Current Total LRIP |
|-------------------|-----------------------|--------------------|
| Approval Date     | 10/22/2003            | 6/7/2010           |
| Approved Quantity | 28                    | 55                 |
| Reference         | LRIP ADM              | LRIP VII ADM       |
| Start Year        | 2004                  | 2004               |
| End Year          | 2005                  | 2010               |

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the need to permit an orderly increase in the production rate and efficiency until successful completion of operational testing.

## Foreign Military Sales

None

## Nuclear Costs

None

## Unit Cost

### Unit Cost Report

|           | BY2008 \$M                                | BY2008 \$M                         |                |
|-----------|-------------------------------------------|------------------------------------|----------------|
| Unit Cost | Current UCR<br>Baseline<br>(FEB 2011 APB) | Current Estimate<br>(DEC 2013 SAR) | BY<br>% Change |

#### Program Acquisition Unit Cost (PAUC)

|           |         |         |       |
|-----------|---------|---------|-------|
| Cost      | 11953.0 | 11992.4 |       |
| Quantity  | 353     | 353     |       |
| Unit Cost | 33.861  | 33.973  | +0.33 |

#### Average Procurement Unit Cost (APUC)

|           |         |         |       |
|-----------|---------|---------|-------|
| Cost      | 10088.4 | 10272.6 |       |
| Quantity  | 349     | 349     |       |
| Unit Cost | 28.907  | 29.434  | +1.82 |

|           | BY2008 \$M                                            | BY2008 \$M                         |                |
|-----------|-------------------------------------------------------|------------------------------------|----------------|
| Unit Cost | Revised<br>Original UCR<br>Baseline<br>(APR 2005 APB) | Current Estimate<br>(DEC 2013 SAR) | BY<br>% Change |

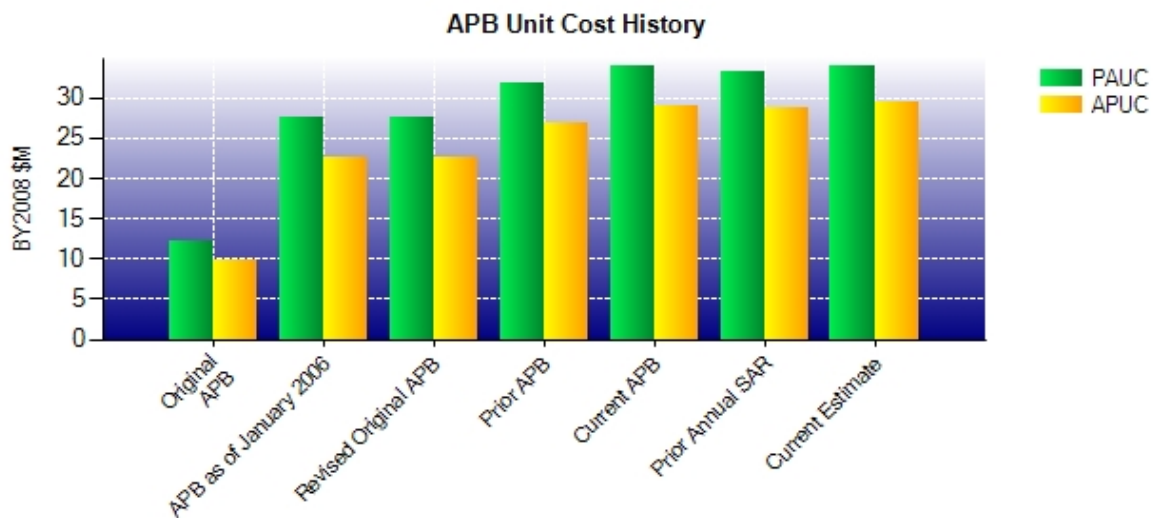
#### Program Acquisition Unit Cost (PAUC)

|           |        |         |        |
|-----------|--------|---------|--------|
| Cost      | 7852.2 | 11992.4 |        |
| Quantity  | 284    | 353     |        |
| Unit Cost | 27.649 | 33.973  | +22.87 |

#### Average Procurement Unit Cost (APUC)

|           |        |         |        |
|-----------|--------|---------|--------|
| Cost      | 6352.9 | 10272.6 |        |
| Quantity  | 280    | 349     |        |
| Unit Cost | 22.689 | 29.434  | +29.73 |

## Unit Cost History



|                        | Date     | BY2008 \$M |        | TY \$M |        |
|------------------------|----------|------------|--------|--------|--------|
|                        |          | PAUC       | APUC   | PAUC   | APUC   |
| Original APB           | OCT 1996 | 12.089     | 9.903  | 12.491 | 10.554 |
| APB as of January 2006 | APR 2005 | 27.649     | 22.689 | 28.172 | 23.843 |
| Revised Original APB   | APR 2005 | 27.649     | 22.689 | 28.172 | 23.843 |
| Prior APB              | DEC 2008 | 31.738     | 26.946 | 34.524 | 30.208 |
| Current APB            | FEB 2011 | 33.861     | 28.907 | 36.079 | 31.582 |
| Prior Annual SAR       | DEC 2012 | 33.152     | 28.611 | 36.046 | 32.003 |
| Current Estimate       | DEC 2013 | 33.973     | 29.434 | 36.897 | 32.866 |

## SAR Unit Cost History

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

| Initial PAUC<br>Dev Est | Changes |        |       |       |        |       |       |        | PAUC<br>Prod Est |
|-------------------------|---------|--------|-------|-------|--------|-------|-------|--------|------------------|
|                         | Econ    | Qty    | Sch   | Eng   | Est    | Oth   | Spt   | Total  |                  |
| 12.491                  | -0.078  | -1.056 | 1.772 | 2.351 | 15.397 | 0.000 | 3.647 | 22.033 | 34.524           |

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

| PAUC<br>Prod Est | Changes |       |        |       |       |       |       |       | PAUC<br>Current Est |
|------------------|---------|-------|--------|-------|-------|-------|-------|-------|---------------------|
|                  | Econ    | Qty   | Sch    | Eng   | Est   | Oth   | Spt   | Total |                     |
| 34.524           | -0.362  | 0.000 | -0.039 | 0.274 | 2.349 | 0.000 | 0.151 | 2.373 | 36.897              |

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

| Initial APUC<br>Dev Est | Changes |        |       |       |        |       |       |        | APUC<br>Prod Est |
|-------------------------|---------|--------|-------|-------|--------|-------|-------|--------|------------------|
|                         | Econ    | Qty    | Sch   | Eng   | Est    | Oth   | Spt   | Total  |                  |
| 10.554                  | -0.003  | -0.686 | 1.722 | 1.632 | 13.299 | 0.000 | 3.690 | 19.654 | 30.208           |

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

| APUC<br>Prod Est | Changes |       |        |       |       |       |       |       | APUC<br>Current Est |
|------------------|---------|-------|--------|-------|-------|-------|-------|-------|---------------------|
|                  | Econ    | Qty   | Sch    | Eng   | Est   | Oth   | Spt   | Total |                     |
| 30.208           | -0.374  | 0.000 | -0.039 | 0.000 | 2.918 | 0.000 | 0.152 | 2.657 | 32.866              |

**SAR Baseline History**

| Item/Event                  | SAR<br>Planning<br>Estimate (PE) | SAR<br>Development<br>Estimate (DE) | SAR<br>Production<br>Estimate (PdE) | Current<br>Estimate |
|-----------------------------|----------------------------------|-------------------------------------|-------------------------------------|---------------------|
| Milestone I                 | N/A                              | N/A                                 | N/A                                 | N/A                 |
| Milestone II                | N/A                              | SEP 1996                            | SEP 1996                            | OCT 1996            |
| Milestone III               | N/A                              | FEB 2004                            | MAY 2008                            | SEP 2008            |
| IOC                         | N/A                              | JUN 2005                            | MAR 2008                            | AUG 2008            |
| Total Cost (TY \$M)         | N/A                              | 3547.5                              | 12186.8                             | 13024.8             |
| Total Quantity              | N/A                              | 284                                 | 353                                 | 353                 |
| Prog. Acq. Unit Cost (PAUC) | N/A                              | 12.491                              | 34.524                              | 36.897              |

**Cost Variance**

| Summary Then Year \$M   |        |         |        |         |
|-------------------------|--------|---------|--------|---------|
|                         | RDT&E  | Proc    | MILCON | Total   |
| SAR Baseline (Prod Est) | 1644.1 | 10542.7 | --     | 12186.8 |
| Previous Changes        |        |         |        |         |
| Economic                | +3.2   | -57.2   | +0.5   | -53.5   |
| Quantity                | --     | --      | --     | --      |
| Schedule                | --     | -155.4  | --     | -155.4  |
| Engineering             | +96.7  | --      | --     | +96.7   |
| Estimating              | -206.2 | +735.8  | +17.1  | +546.7  |
| Other                   | --     | --      | --     | --      |
| Support                 | --     | +103.1  | --     | +103.1  |
| Subtotal                | -106.3 | +626.3  | +17.6  | +537.6  |
| Current Changes         |        |         |        |         |
| Economic                | -0.7   | -73.5   | -0.1   | -74.3   |
| Quantity                | --     | --      | --     | --      |
| Schedule                | --     | +141.8  | --     | +141.8  |
| Engineering             | --     | --      | --     | --      |
| Estimating              | --     | +282.7  | +0.1   | +282.8  |
| Other                   | --     | --      | --     | --      |
| Support                 | --     | -49.9   | --     | -49.9   |
| Subtotal                | -0.7   | +301.1  | --     | +300.4  |
| Total Changes           | -107.0 | +927.4  | +17.6  | +838.0  |
| CE - Cost Variance      | 1537.1 | 11470.1 | 17.6   | 13024.8 |
| CE - Cost & Funding     | 1537.1 | 11470.1 | 17.6   | 13024.8 |

| Summary Base Year 2008 \$M |        |         |        |         |
|----------------------------|--------|---------|--------|---------|
|                            | RDT&E  | Proc    | MILCON | Total   |
| SAR Baseline (Prod Est)    | 1799.2 | 9404.2  | --     | 11203.4 |
| Previous Changes           |        |         |        |         |
| Economic                   | --     | --      | --     | --      |
| Quantity                   | --     | --      | --     | --      |
| Schedule                   | --     | -138.9  | --     | -138.9  |
| Engineering                | +83.6  | --      | --     | +83.6   |
| Estimating                 | -181.0 | +628.7  | +15.8  | +463.5  |
| Other                      | --     | --      | --     | --      |
| Support                    | --     | +91.1   | --     | +91.1   |
| Subtotal                   | -97.4  | +580.9  | +15.8  | +499.3  |
| Current Changes            |        |         |        |         |
| Economic                   | --     | --      | --     | --      |
| Quantity                   | --     | --      | --     | --      |
| Schedule                   | --     | +102.3  | --     | +102.3  |
| Engineering                | --     | --      | --     | --      |
| Estimating                 | +2.1   | +232.4  | +0.1   | +234.6  |
| Other                      | --     | --      | --     | --      |
| Support                    | --     | -47.2   | --     | -47.2   |
| Subtotal                   | +2.1   | +287.5  | +0.1   | +289.7  |
| Total Changes              | -95.3  | +868.4  | +15.9  | +789.0  |
| CE - Cost Variance         | 1703.9 | 10272.6 | 15.9   | 11992.4 |
| CE - Cost & Funding        | 1703.9 | 10272.6 | 15.9   | 11992.4 |

Previous Estimate: December 2012



| <b>RDT&amp;E</b>                                          | <b>\$M</b>       |                  |
|-----------------------------------------------------------|------------------|------------------|
|                                                           | <b>Base Year</b> | <b>Then Year</b> |
| <b>Current Change Explanations</b>                        |                  |                  |
| Revised escalation indices. (Economic)                    | N/A              | -0.7             |
| Adjustment for current and prior escalation. (Estimating) | +0.7             | +0.7             |
| Revised estimate to reflect actuals. (Estimating)         | +1.4             | -0.7             |
| <b>RDT&amp;E Subtotal</b>                                 | <b>+2.1</b>      | <b>-0.7</b>      |

| <b>Procurement</b>                                                                                                       | <b>\$M</b>       |                  |
|--------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
|                                                                                                                          | <b>Base Year</b> | <b>Then Year</b> |
| <b>Current Change Explanations</b>                                                                                       |                  |                  |
| Revised escalation indices. (Economic)                                                                                   | N/A              | -73.5            |
| Adjustment for current and prior escalation. (Estimating)                                                                | +23.2            | +26.0            |
| Schedule variance resulting from procurement profile adjustments in FY 2013 through FY 2020. (Schedule)                  | 0.0              | +11.3            |
| Additional schedule variance resulting from procurement profile adjustments in FY 2013 through FY 2020. (Schedule)       | +102.3           | +130.5           |
| Revised estimate to reflect the application of new outyear escalation indices. (Estimating)                              | +35.7            | +42.9            |
| Increase in contractor overhead rates and a Bell Business System Modernization accounting structure change. (Estimating) | +237.5           | +285.3           |
| Removal of ramp tooling for remanufactured AH-1Zs. (Estimating)                                                          | -10.8            | -12.3            |
| Adjustment to cost estimate due to AH-1W sale to Turkey. (Estimating)                                                    | -40.6            | -45.5            |
| Decrease in estimate due to FY 2015 PB constraints. (Estimating)                                                         | -12.6            | -13.7            |
| Adjustment for current and prior escalation. (Support)                                                                   | +4.4             | +4.6             |
| Decrease in Other Support due to FY 2015 PB constraints. (Support)                                                       | -49.3            | -52.0            |
| Decrease in Initial Spares due to FY 2015 PB constraints. (Support)                                                      | -2.3             | -2.5             |
| <b>Procurement Subtotal</b>                                                                                              | <b>+287.5</b>    | <b>+301.1</b>    |

| <b>MILCON</b>                                             | <b>\$M</b>       |                  |
|-----------------------------------------------------------|------------------|------------------|
|                                                           | <b>Base Year</b> | <b>Then Year</b> |
| <b>Current Change Explanations</b>                        |                  |                  |
| Revised escalation indices. (Economic)                    | N/A              | -0.1             |
| Adjustment for current and prior escalation. (Estimating) | +0.1             | +0.1             |
| <b>MILCON Subtotal</b>                                    | <b>+0.1</b>      | <b>0.0</b>       |

## Contracts

### Appropriation: RDT&E

|                       |                                       |
|-----------------------|---------------------------------------|
| Contract Name         | <b>AH-1Z BUILD NEW (ZBN) UPGRADES</b> |
| Contractor            | Bell Helicopter Textron               |
| Contractor Location   | 600 Hurst Blvd<br>Hurst, TX 76053     |
| Contract Number, Type | N00019-06-G-0001/24, CPFF             |
| Award Date            | December 20, 2007                     |
| Definitization Date   | November 04, 2008                     |

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 1.3                          | N/A     | N/A | 87.1                         | N/A     | N/A | 87.1                                | 87.1            |

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications to include AH-1Z Build New (ZBN) Phase 1 and Phase 2 Non-Recurring Engineering, 401C Engine Qualification, and additional funding to cover cost overruns associated with underestimation of effort on drawing conversions and cabin builds.

| Variance                                | Cost Variance | Schedule Variance |
|-----------------------------------------|---------------|-------------------|
| Cumulative Variances To Date (3/1/2014) | -20.3         | -6.8              |
| Previous Cumulative Variances           | -11.4         | -13.7             |
| Net Change                              | -8.9          | +6.9              |

### Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to additional resources and personnel required for cabin fabrication and delivery at the supplier, Kaman Aerospace. Additional engineering and quality support has also been required for the completion of First Article Inspections and various tooling costs have contributed to the unfavorable cost variance.

The favorable net change in the schedule variance is due to improvements made to previous manufacturing start up issues at the supplier, Kaman Aerospace, specifically part shortages and First Article Inspection requirements. In order to mitigate any further delays to the AH-1Z Build New (ZBN) aircraft delivery, Bell Helicopter is completing the assembly of ZBN cabins at Bell's production facility in Amarillo, Texas, rather than at Kaman's facility in Jacksonville, Florida, until manufacturing start up issues can be resolved.

**Appropriation: Procurement**

|                       |                                   |
|-----------------------|-----------------------------------|
| Contract Name         | <b>Lot 8</b>                      |
| Contractor            | Bell Helicopter Textron           |
| Contractor Location   | 600 Hurst Blvd<br>Hurst, TX 76053 |
| Contract Number, Type | N00019-10-C-0015, FFP             |
| Award Date            | February 05, 2010                 |
| Definitization Date   | July 25, 2011                     |

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 50.3                         | N/A     | 33  | 600.3                        | N/A     | 33  | 600.3                               | 600.3           |

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to final definitization of the Lot 8 production contract, to include procurement of 19 UH-1Y and 8 AH-1Z Remanufactured aircraft and 6 AH-1Z Build New aircraft, and additional miscellaneous modifications.

**Cost and Schedule Variance Explanations**

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

**Appropriation: Procurement**

|                       |                                   |
|-----------------------|-----------------------------------|
| Contract Name         | <b>Lot 9</b>                      |
| Contractor            | Bell Helicopter Textron           |
| Contractor Location   | 600 Hurst Blvd<br>Hurst, TX 76053 |
| Contract Number, Type | N00019-11-C-0023, FFP             |
| Award Date            | March 14, 2011                    |
| Definitization Date   | October 16, 2012                  |

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 48.4                         | N/A     | 26  | 474.5                        | N/A     | 25  | 474.5                               | 474.5           |

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to final definitization that reduced total procurement quantities from 26 to 25, to include procurement of 15 UH-1Y, 3 AH-1Z Remanufactured aircraft, 7 AH-1Z Build New aircraft, and additional miscellaneous modifications.

**Cost and Schedule Variance Explanations**

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

**Appropriation: Procurement**

|                       |                                   |
|-----------------------|-----------------------------------|
| Contract Name         | <b>Lot 10</b>                     |
| Contractor            | Bell Helicopter Textron           |
| Contractor Location   | 600 Hurst Blvd<br>Hurst, TX 76053 |
| Contract Number, Type | N00019-12-C-0009, FPIF            |
| Award Date            | February 13, 2012                 |
| Definitization Date   | December 27, 2012                 |

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 56.7                         | N/A     | 25  | 554.6                        | 574.6   | 28  | 554.6                               | 554.6           |

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to final definitization to include procurement of 15 UH-1Y and 13 AH-1Z Build New aircraft, and additional miscellaneous modifications. Increase from 25 to 28 due to the exercise of 3 option aircraft.

| Variance                                | Cost Variance | Schedule Variance |
|-----------------------------------------|---------------|-------------------|
| Cumulative Variances To Date (3/1/2014) | -2.3          | +4.0              |
| Previous Cumulative Variances           | 0.0           | 0.0               |
| Net Change                              | -2.3          | +4.0              |

**Cost and Schedule Variance Explanations**

The unfavorable cumulative cost variance is due to the receipt of various material and parts at a lower cost than budgeted.

The favorable cumulative schedule variance is due to various material and parts received ahead of the performance measurement baseline schedule.

**Appropriation: Procurement**

|                       |                                   |
|-----------------------|-----------------------------------|
| Contract Name         | <b>Lot 11</b>                     |
| Contractor            | Bell Helicopter Textron           |
| Contractor Location   | 600 Hurst Blvd<br>Hurst, TX 76053 |
| Contract Number, Type | N00019-13-C-0023, FFP             |
| Award Date            | April 01, 2013                    |
| Definitization Date   |                                   |

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 13.0                         | N/A     | 25  | 64.2                         | N/A     | 25  | 64.2                                | 64.2            |

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to receipt of additional funding in support of the Advanced Acquisition Contract for long lead items, as well as the award of the calendar year Acquisition Logistics Support.

**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 current value reflects the Advanced Acquisition Contract for long lead parts associated with the Lot 11 procurement. Definitization and full funding is anticipated in April 2014.

## Deliveries and Expenditures

| Delivered to Date                | Plan to Date | Actual to Date | Total Quantity | Percent Delivered |
|----------------------------------|--------------|----------------|----------------|-------------------|
| Development                      | 4            | 4              | 4              | 100.00%           |
| Production                       | 127          | 127            | 349            | 36.39%            |
| Total Program Quantity Delivered | 131          | 131            | 353            | 37.11%            |

| Expended and Appropriated (TY \$M) |         |                            |        |
|------------------------------------|---------|----------------------------|--------|
| Total Acquisition Cost             | 13024.8 | Years Appropriated         | 19     |
| Expended to Date                   | 5837.9  | Percent Years Appropriated | 76.00% |
| Percent Expended                   | 44.82%  | Appropriated to Date       | 8027.3 |
| Total Funding Years                | 25      | Percent Appropriated       | 61.63% |

The above data is current as of 3/10/2014.

## Operating and Support Cost

### H-1 Upgrades

#### Assumptions and Ground Rules

##### Cost Estimate Reference:

All costs were estimated in BY 2008 dollars. The O&S estimate source is the Milestone III AH-1Z Full Rate Production estimate of 2010 updated for rates and programmatic changes.

Source: Naval Air Systems Command 4.2 Cost Department, Operating and Sustainment Division

Date of Estimate: February 2014

##### Sustainment Strategy:

H-1 Procurement Profile: 189 AH-1Z, 160 UH-1Y.

The life cycle includes a phase-in period, 30-year operation with an annual usage of 222 flight hours per aircraft, and a phase-out period, accumulating 7,972 operating aircraft years.

Each aircraft has a designed fatigue life of 10,000 hours per aircraft.

Attrition rates are 1% for the AH-1Z and UH-1Y. Pipeline rates are 10% for the AH-1Z and UH-1Y.

O&S cost estimates are based on organic three levels of maintenance with chargeable manning (fleet squadron) estimated at 100%.

##### Antecedent Information:

The H-1 antecedent estimate is a composite of AH-1W and UH-1N series aircraft. Cost per aircraft is the combined three-year (2007-2009) average of Navy Visibility and Management of Operating and Support Costs data. The number of aircraft and years of service are set equal to the AH-1Z and UH-1Y. There is no data available to provide the actual period of performance and aircraft inventory for the AH-1W and UH-1N. Manpower for antecedent and upgrade aircraft are set equal as the table of organization is deemed to be equivalent.



| Unitized O&S Costs BY2008 \$K  |                                                     |                                                                 |
|--------------------------------|-----------------------------------------------------|-----------------------------------------------------------------|
| Cost Element                   | H-1 Upgrades<br>Average Annual Cost Per<br>Aircraft | UH-1N/AH-1W (Antecedent)<br>Average Annual Cost Per<br>Aircraft |
| Unit-Level Manpower            | 1543.000                                            | 1543.000                                                        |
| Unit Operations                | 243.000                                             | 221.000                                                         |
| Maintenance                    | 1639.000                                            | 1627.000                                                        |
| Sustaining Support             | 118.000                                             | 122.000                                                         |
| Continuing System Improvements | 174.000                                             | 332.000                                                         |
| Indirect Support               | 447.000                                             | 447.000                                                         |
| Other                          | 0.000                                               | 0.000                                                           |
| Total                          | 4164.000                                            | 4292.000                                                        |

Unitized Cost Comments:

The Average Annual Cost Per Aircraft for H-1 Upgrades is calculated by dividing the total O&S cost by the total operational aircraft years for the program.

The Average Annual Cost Per Aircraft for the UH-1N/AH-1W Antecedent is calculated using the same operational aircraft years as for the H-1 Upgrades aircraft.

|           | Total O&S Cost \$M                            |         |                  |                             |
|-----------|-----------------------------------------------|---------|------------------|-----------------------------|
|           | Current Production APB<br>Objective/Threshold |         | Current Estimate |                             |
|           | H-1 Upgrades                                  |         | H-1 Upgrades     | UH-1N/AH-1W<br>(Antecedent) |
| Base Year | 33301.8                                       | 36632.0 | 33190.8          | 34215.8                     |
| Then Year | 0.0                                           | N/A     | 51341.1          | N/A                         |

Total O&S Costs Comments:

The H-1 Upgrades program operational aircraft quantities support the Marine Corps with squadrons composed of 15 AH-1Z and 12 UH-1Y aircraft.

H-1 Procurement Profile: 189 AH-1Z, 160 UH-1Y. H-1 Primary Authorized Aircraft Profile: 156 AH-1Z, 131 UH-1Y.

| O&S Cost Variance                               |                       |                                                                                                                         |
|-------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------|
| Category                                        | Base Year<br>2008 \$M | Change Explanation                                                                                                      |
| Prior SAR Total O&S Estimate -<br>December 2012 | +33,233.627           |                                                                                                                         |
| Cost Estimating Methodology                     | +315.390              | Refined 1.0 Manpower alignment to Aircraft Program Data File, Aviation Fleet Maintenance cost degradation ratio update. |
| Cost Data Update                                | -808.073              | FY 2013 Aviation Depot Level Repairables pricing update.                                                                |
| Labor Rate                                      | +166.117              | Updated labor rates.                                                                                                    |
| Energy Rate                                     | +283.721              | Fuel price update.                                                                                                      |
| Technical Input                                 | 0.000                 |                                                                                                                         |

|                               |            |  |
|-------------------------------|------------|--|
| Programmatic/Planning Factors | 0.000      |  |
| Other                         | 0.000      |  |
| Total Changes                 | -42.845    |  |
| Current Estimate              | 33,190.782 |  |

**Disposal Costs:**

The Rough Order of Magnitude estimated cost of the demilitarization/disposal phase for the remaining aircraft is \$86M in BY 2008 dollars. The estimate will be refined as the System Disposal Plan Annex to the Life Cycle Sustainment Plan is developed.