



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-364



E-2D Advanced Hawkeye Aircraft (E-2D AHE)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

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

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

Program Information

Program Name

E-2D Advanced Hawkeye Aircraft (E-2D AHE)

DoD Component

Navy

Responsible Office

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References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated July 31, 2009

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated April 2, 2013

Mission and Description

The E-2D Advanced Hawkeye Aircraft (E-2D AHE) is a carrier based, all weather, multi-mission aircraft. The E-2D AHE mission is to provide premier airborne Battle Management Command and Control and Surveillance as part of the Naval and Joint Integrated Air and Missile Defense architecture including the Naval Integrated Fire Control-Counter Air capability. The centerpiece of the E-2D AHE is the APY-9 radar system. This radar system is designed specifically to provide significantly enhanced surveillance detection and tracking capability against advanced threat aircraft and cruise missile systems in the overland, littoral, and open ocean environments. Maritime surveillance is also maintained in the open ocean scenarios. The E-2D AHE provides early warning of hostile threats and provides the force with the right data to prosecute any engagement. Key capabilities along with the radar include the Identification Friend or Foe system and Electronic Support Measures for surveillance and combat identification, advanced mission processing capability to integrate all on-board sensor data and off-board information into a coherent tactical picture, and communications, data link, and sensor netting systems to share information across the battlespace. These capabilities allow the E-2D AHE to provide a significant contribution to execution of other mission areas such as Strike, Combat Search and Rescue, and Homeland Defense. As a part of the E-2D AHE radar modernization effort, the Navy also invested in integrating a full glass cockpit and full Communication Navigation Surveillance/Air Traffic Management capability. The glass cockpit will also provide the capability for the pilot or co-pilot to perform tactical mission functions.

Executive Summary

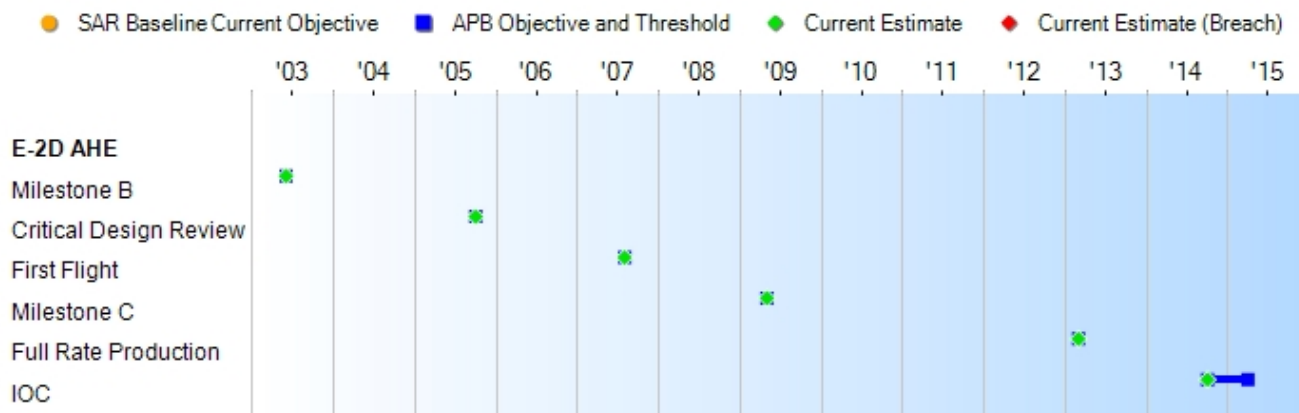
The E-2D AHE program was granted authority on May 15, 2014 to proceed with a Multi-Year Procurement (MYP) to begin in FY 2014 and go through FY 2018. Additionally on that date, E-2D AHE was designated an ACAT IC Major Defense Acquisition Program and the Milestone Decision Authority was delegated to the Secretary of the Navy. A contract for the MYP, consisting of 25 E-2D AHE aircraft in FRP Lots 2-6, was awarded on June 30, 2014, saving the Navy approximately \$369 million. LRIP Lot 1, Lot 2, and Lot 3 as well as the first Lot 4 aircraft have been delivered. All LRIP aircraft will be delivered by the end of FY 2015; to date, 16 aircraft have been delivered. The total Program of Record is 75 aircraft. The Delta System/Software Configuration Build 1, which is the IOC hardware/software configuration, was released to the Fleet in July 2014 after a successful Follow-On Operational Test and Evaluation. IOC was achieved on October 10, 2014. The Japan Ministry of Defense selected E-2D AHE as part of their Airborne Early Warning and Control competition. The official Letter of Request for Letter of Offer and Acceptance for E-2D AHE is expected to be submitted to the United States by the end of the second quarter of FY 2015.

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

Threshold Breaches

| APB Breaches | | Explanation of Breach | |
|------------------------------|--------------------------|---|--------------------------|
| Schedule | <input type="checkbox"/> | The RDT&E breach is due to the additional funding required to implement added Naval Integrated Fire Control-Counter Air Science and Technology investments into the current Program of Record. | |
| Performance | <input type="checkbox"/> | | |
| Cost | RDT&E | <input checked="" type="checkbox"/> | |
| | Procurement | <input type="checkbox"/> | |
| | MILCON | <input checked="" type="checkbox"/> | |
| | Acq O&M | <input type="checkbox"/> | |
| O&S Cost | <input type="checkbox"/> | The MILCON breach is due to the Commander, Naval Air Forces' national security decision to transfer an additional E-2 squadron to Naval Air Station (NAS) Point Mugu making construction necessary to renovate a hangar and modify an apron. To a lesser extent, two other new requirements added to the MILCON increased cost. They are the construction of an Operational Trainer complex at Iwakuni Marine Corps Air Station, Japan and the construction of the E-2D AHE portion of the Operational Trainer Complex at NAS Fallon. | |
| Unit Cost | PAUC | | <input type="checkbox"/> |
| | APUC | | <input type="checkbox"/> |
| Nunn-McCurdy Breaches | | A Program Deviation Report was submitted on February 9, 2015 and a proposed revised APB is in process. | |
| Current UCR Baseline | | | |
| | PAUC | | None |
| | APUC | | None |
| Original UCR Baseline | | | |
| | PAUC | | None |
| | APUC | None | |

Schedule



| Schedule Events | | | | |
|------------------------|----------------------------------|--|----------|------------------|
| Events | SAR Baseline Production Estimate | Current APB Production Objective/Threshold | | Current Estimate |
| Milestone B | May 2003 | Jun 2003 | Jun 2003 | Jun 2003 |
| Critical Design Review | Nov 2005 | Oct 2005 | Oct 2005 | Oct 2005 |
| First Flight | Aug 2007 | Aug 2007 | Aug 2007 | Aug 2007 |
| Milestone C | Mar 2009 | May 2009 | May 2009 | May 2009 |
| Full Rate Production | Dec 2012 | Mar 2013 | Mar 2013 | Mar 2013 |
| IOC | Oct 2014 | Oct 2014 | Apr 2015 | Oct 2014 |

Change Explanations

None

Performance

| Performance Characteristics | | | | |
|---|---|---|---|---|
| SAR Baseline Production Estimate | Current APB Production Objective/Threshold | Demonstrated Performance | Current Estimate | |
| Radar Ao | | | | |
| =>0.98 | =>0.98 | =>0.85 | 0.85 | >=0.85 (Ch-1) |
| Survivability - Safe Egress In Crash | | | | |
| The E-2D AHE shall retain all equipment mounted inside the fuselage in its installed position in inhabited spaces for crash landing inertia load factors applied at the equipment center of gravity of 20g forward, parallel and downward in the cockpit along a single axis. The E-2D AHE escape hatches and doors shall allow egress subsequent to a 40g crash inertial load. | The E-2D AHE shall retain all equipment mounted inside the fuselage in its installed position in inhabited spaces for crash landing inertia load factors applied at the equipment center of gravity of 20g forward, parallel and downward in the cockpit along a single axis. The E-2D AHE escape hatches and doors shall allow egress subsequent to a 40g crash inertial load. | The E-2D AHE shall retain all equipment mounted inside the fuselage in its installed position in inhabited spaces for crash landing inertia load factors applied at the equipment center of gravity of 20g forward, parallel and downward in the cockpit along a single axis. The E-2D AHE escape hatches and doors shall allow egress subsequent to a 40g crash inertial load. | The E-2D AHE shall retain all equipment mounted inside the fuselage in its installed position in inhabited spaces for crash landing inertia load factors applied at the equipment center of gravity of 20g forward, parallel and downward in the cockpit along a single axis. The E-2D AHE escape hatches and doors shall allow egress subsequent to a 40g crash inertial load. | The E-2D AHE shall retain all equipment mounted inside the fuselage in its installed position in inhabited spaces for crash landing inertia load factors applied at the equipment center of gravity of 20g forward, parallel and downward in the cockpit along a single axis. The E-2D AHE escape hatches and doors shall allow egress subsequent to a 40g crash inertial load. |
| Manpower (Full Operational Capability - FY 2020) | | | | |
| Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =< 76 / 60 | Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =< 76 / 60 | Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =< 76 / 60 | Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =< 76 / 60 | Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =< 76 / 60 |
| Unrefueled Time On Station | | | | |
| =>2.0 hours at a station distance of 200nm | =>2.0 hours at a station distance of 200nm | =>2.0 hours at a station distance of 200nm | 2.10 hours at a station distance of 200nm | 2.10 hours at a station distance of 200nm |
| Flat Turn Service Ceiling | | | | |
| =>25,000 feet above MSL at mission profile | =>25,000 feet above MSL at mission profile | =>25,000 feet above MSL at mission profile | 25,600 feet above MSL at mission profile | 25,600 feet above MSL at mission profile |
| Level Flight Airspeed | | | | |
| =>300 knots true airspeed below | =>300 knots true airspeed below | =>300 knots true airspeed below | 303.5 knots true airspeed below 18,000 | 303.5 knots true airspeed below |

| 18,000 feet MSL | 18,000 feet MSL | 18,000 feet MSL | feet MSL | 18,000 feet MSL |
|---|---|--|--|--|
| Network-Centric Military Operations (Network Readiness) | | | | |
| <p>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) The 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) IA requirements include availability, integrity, authentication, confidentiality, non-repudiation, and issuance of an ATO by the DAA (5) Operationally effective information exchanges; and MC - performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views</p> | <p>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) The 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) IA requirements include availability, integrity, authentication, confidentiality, non-repudiation, and issuance of an ATO by the DAA (5) Operationally effective information exchanges; and MC - performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views</p> | <p>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) The 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) IA requirements including availability integrity, authentication, confidentiality, nonrepudiation, and issuance of an IATO by the DAA (5) Operationally effective information exchanges and MC-performance and IA attributes, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views</p> | <p>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) The 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) IA requirements including availability integrity, authentication, confidentiality, nonrepudiation, and issuance of an IATO by the DAA (5) Operationally effective information exchanges and MC-performance and IA attributes, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views</p> | <p>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) The 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) IA requirements including availability integrity, authentication, confidentiality, nonrepudiation, and issuance of an IATO by the DAA (5) Operationally effective information exchanges and MC-performance and IA attributes, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views</p> |

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

Requirements Reference

Capability Development Document (CDD) dated March 3, 2009

Change Explanations

(Ch-1) The current estimate for the Radar Ao has changed from 0.87 to 0.85 due to Verification of Correction Deficiencies Operational Test results.

Acronyms and Abbreviations

Ao - Operational Availability
ATO - Authorization to Operate
DAA - Designated Approval Authority
DISR - DoD Information Technology Standards and Profile Registry
Es - Enlisted
g - gravity
GIG - Global Information Grid
IA - Information Assurance
IATO - Interim Authorization to Operate
IT - Information Technology
KIPs - Key Intelligence Profiles
MC - Mission Critical
MSL - Mean Sea Level
NCOW RM - Net-Centric Operations and Warfare Reference Model
nm - nautical mile
Os - Officers
TV-1 - Technical View 1

Track to Budget

General Notes

APPN 1506 Line Item 019500 and APPN 1506 Line Item 060510 are shared with the E-2C Reproduction program, which was funded through FY 2007 and no longer requires Acquisition Category reporting as it is over 90% expended. E-2D AHE procurement funding began in FY 2008, as shown in the funding summary.

RDT&E

| Appn | BA | PE |
|------|----------------|------------------|
| Navy | 1319 05 | 0604234N |
| | Project | Name |
| | 3051 | E-2D Adv Hawkeye |

Procurement

| Appn | BA | PE |
|------|------------------|----------------------------------|
| Navy | 1506 01 | 0204152N |
| | Line Item | Name |
| | 0195 | E-2D Adv Hawkeye (Shared) |
| Navy | 1506 06 | 0204152N |
| | Line Item | Name |
| | 0605 | Spares and Repair Parts (Shared) |

MILCON

| Appn | BA | PE |
|------|----------------|--|
| Navy | 1205 01 | 0703676N |
| | Project | Name |
| | 69232565 | E-2D Hangar/Apron Modifications at Pt. Mugu |
| Navy | 1205 01 | 0805976N |
| | Project | Name |
| | 62613603 | Facilities Restoration and Mod-Training E-2D Operational Trainer Complex |
| Navy | 1205 01 | 0815976N |
| | Project | Name |
| | 60495420 | Facilities New Footprint - Trainers NAS Fallon Training Facility, E-2D portion (Shared) |

Cost and Funding

Cost Summary

| Total Acquisition Cost | | | | | | | |
|------------------------|----------------------------------|--|---------|---------------------|----------------------------------|----------------------------------|------------------|
| Appropriation | BY 2009 \$M | | | BY 2009 \$M | TY \$M | | |
| | SAR Baseline Production Estimate | Current APB Production Objective/Threshold | | Current Estimate | SAR Baseline Production Estimate | Current APB Production Objective | Current Estimate |
| RDT&E | 4140.0 | 5122.6 | 5634.9 | 5674.4 ¹ | 4014.3 | 5159.9 | 5803.1 |
| Procurement | 13281.9 | 12932.0 | 14225.2 | 13647.0 | 14968.5 | 15045.0 | 15944.0 |
| Flyaway | -- | -- | -- | 11315.4 | -- | -- | 13207.7 |
| Recurring | -- | -- | -- | 10580.1 | -- | -- | 12327.4 |
| Non Recurring | -- | -- | -- | 735.3 | -- | -- | 880.3 |
| Support | -- | -- | -- | 2331.6 | -- | -- | 2736.3 |
| Other Support | -- | -- | -- | 2048.2 | -- | -- | 2423.2 |
| Initial Spares | -- | -- | -- | 283.4 | -- | -- | 313.1 |
| MILCON | 46.7 | 41.4 | 45.5 | 67.2 ¹ | 48.6 | 43.7 | 73.6 |
| Acq O&M | 0.0 | 0.0 | -- | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | 17468.6 | 18096.0 | N/A | 19388.6 | 19031.4 | 20248.6 | 21820.7 |

¹ APB Breach

Confidence Level

Confidence Level of cost estimate for current APB: 50%

The Independent Cost Estimate (ICE) to support the E-2D AHE Full Rate Production Decision Review, like all previous Cost Assessment and Program Evaluation (CAPE) estimates, is built upon a product-oriented work breakdown structure; is based on historical actual cost information to the maximum extent possible; and, most importantly, is based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department of Defense has been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for Major Defense Acquisition Programs (MDAPs). Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

| Total Quantity | | | |
|----------------|--|---------------------------|------------------|
| Quantity | SAR Baseline Production Estimate | Current APB Production | Current Estimate |
| RDT&E | 5 | 5 | 5 |
| Procurement | 70 | 70 | 70 |
| Total | 75 | 75 | 75 |

Cost and Funding

Funding Summary

| Appropriation Summary | | | | | | | | | |
|---|--------|---------|---------|---------|---------|---------|---------|-------------|---------|
| FY 2016 President's Budget / December 2014 SAR (TY\$ M) | | | | | | | | | |
| Appropriation | Prior | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | To Complete | Total |
| RDT&E | 4216.6 | 176.7 | 272.2 | 317.2 | 250.3 | 180.5 | 188.9 | 200.7 | 5803.1 |
| Procurement | 5621.6 | 1152.5 | 1060.7 | 1067.2 | 871.2 | 997.5 | 1015.9 | 4157.4 | 15944.0 |
| MILCON | 43.7 | 1.7 | 28.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 73.6 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PB 2016 Total | 9881.9 | 1330.9 | 1361.1 | 1384.4 | 1121.5 | 1178.0 | 1204.8 | 4358.1 | 21820.7 |
| PB 2015 Total | 9930.3 | 1246.4 | 1401.1 | 1414.3 | 1200.6 | 1361.5 | 1269.3 | 3843.0 | 21666.5 |
| Delta | -48.4 | 84.5 | -40.0 | -29.9 | -79.1 | -183.5 | -64.5 | 515.1 | 154.2 |

| Quantity Summary | | | | | | | | | | |
|---|---------------|-------|---------|---------|---------|---------|---------|---------|-------------|-------|
| FY 2016 President's Budget / December 2014 SAR (TY\$ M) | | | | | | | | | | |
| Quantity | Undistributed | Prior | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | To Complete | Total |
| Development | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Production | 0 | 25 | 5 | 5 | 6 | 5 | 4 | 4 | 16 | 70 |
| PB 2016 Total | 5 | 25 | 5 | 5 | 6 | 5 | 4 | 4 | 16 | 75 |
| PB 2015 Total | 5 | 25 | 4 | 5 | 6 | 5 | 5 | 5 | 15 | 75 |
| Delta | 0 | 0 | 1 | 0 | 0 | 0 | -1 | -1 | 1 | 0 |

Cost and Funding

Annual Funding By Appropriation

| Annual Funding | | | | | | | |
|--|----------|----------------------------|--------------------------------|-----------------------|---------------|---------------|---------------|
| 1319 RDT&E Research, Development, Test, and Evaluation, Navy | | | | | | | |
| Fiscal Year | Quantity | TY \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2002 | -- | -- | -- | -- | -- | -- | 73.2 |
| 2003 | -- | -- | -- | -- | -- | -- | 105.8 |
| 2004 | -- | -- | -- | -- | -- | -- | 325.5 |
| 2005 | -- | -- | -- | -- | -- | -- | 541.7 |
| 2006 | -- | -- | -- | -- | -- | -- | 595.6 |
| 2007 | -- | -- | -- | -- | -- | -- | 480.8 |
| 2008 | -- | -- | -- | -- | -- | -- | 784.8 |
| 2009 | -- | -- | -- | -- | -- | -- | 467.9 |
| 2010 | -- | -- | -- | -- | -- | -- | 345.8 |
| 2011 | -- | -- | -- | -- | -- | -- | 167.8 |
| 2012 | -- | -- | -- | -- | -- | -- | 108.5 |
| 2013 | -- | -- | -- | -- | -- | -- | 115.7 |
| 2014 | -- | -- | -- | -- | -- | -- | 103.5 |
| 2015 | -- | -- | -- | -- | -- | -- | 176.7 |
| 2016 | -- | -- | -- | -- | -- | -- | 272.2 |
| 2017 | -- | -- | -- | -- | -- | -- | 317.2 |
| 2018 | -- | -- | -- | -- | -- | -- | 250.3 |
| 2019 | -- | -- | -- | -- | -- | -- | 180.5 |
| 2020 | -- | -- | -- | -- | -- | -- | 188.9 |
| 2021 | -- | -- | -- | -- | -- | -- | 108.3 |
| 2022 | -- | -- | -- | -- | -- | -- | 69.1 |
| 2023 | -- | -- | -- | -- | -- | -- | 23.3 |
| Subtotal | 5 | -- | -- | -- | -- | -- | 5803.1 |

| Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy | | | | | | | |
|--|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|
| Fiscal Year | Quantity | BY 2009 \$M | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program |
| 2002 | -- | -- | -- | -- | -- | -- | 84.7 |
| 2003 | -- | -- | -- | -- | -- | -- | 120.6 |
| 2004 | -- | -- | -- | -- | -- | -- | 360.9 |
| 2005 | -- | -- | -- | -- | -- | -- | 585.2 |
| 2006 | -- | -- | -- | -- | -- | -- | 624.0 |
| 2007 | -- | -- | -- | -- | -- | -- | 491.7 |
| 2008 | -- | -- | -- | -- | -- | -- | 788.2 |
| 2009 | -- | -- | -- | -- | -- | -- | 464.0 |
| 2010 | -- | -- | -- | -- | -- | -- | 337.8 |
| 2011 | -- | -- | -- | -- | -- | -- | 160.1 |
| 2012 | -- | -- | -- | -- | -- | -- | 101.8 |
| 2013 | -- | -- | -- | -- | -- | -- | 106.9 |
| 2014 | -- | -- | -- | -- | -- | -- | 94.7 |
| 2015 | -- | -- | -- | -- | -- | -- | 159.1 |
| 2016 | -- | -- | -- | -- | -- | -- | 240.9 |
| 2017 | -- | -- | -- | -- | -- | -- | 275.6 |
| 2018 | -- | -- | -- | -- | -- | -- | 213.3 |
| 2019 | -- | -- | -- | -- | -- | -- | 150.8 |
| 2020 | -- | -- | -- | -- | -- | -- | 154.7 |
| 2021 | -- | -- | -- | -- | -- | -- | 87.0 |
| 2022 | -- | -- | -- | -- | -- | -- | 54.4 |
| 2023 | -- | -- | -- | -- | -- | -- | 18.0 |
| Subtotal | 5 | -- | -- | -- | -- | -- | 5674.4 |

| Annual Funding 1506 Procurement Aircraft Procurement, Navy | | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|--|
| Fiscal Year | Quantity | TY \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2008 | -- | 72.2 | -- | -- | 72.2 | -- | 72.2 | |
| 2009 | 2 | 404.5 | -- | -- | 404.5 | 67.6 | 472.1 | |
| 2010 | 3 | 584.6 | -- | 33.7 | 618.3 | 161.5 | 779.8 | |
| 2011 | 5 | 848.6 | -- | 73.9 | 922.5 | 202.9 | 1125.4 | |
| 2012 | 5 | 852.8 | -- | 37.4 | 890.2 | 131.1 | 1021.3 | |
| 2013 | 5 | 772.4 | -- | 41.8 | 814.2 | 120.1 | 934.3 | |
| 2014 | 5 | 966.4 | -- | 46.0 | 1012.4 | 204.1 | 1216.5 | |
| 2015 | 5 | 917.3 | -- | 50.9 | 968.2 | 184.3 | 1152.5 | |
| 2016 | 5 | 800.9 | -- | 51.8 | 852.7 | 208.0 | 1060.7 | |
| 2017 | 6 | 803.7 | -- | 52.8 | 856.5 | 210.7 | 1067.2 | |
| 2018 | 5 | 626.0 | -- | 53.8 | 679.8 | 191.4 | 871.2 | |
| 2019 | 4 | 771.8 | -- | 54.9 | 826.7 | 170.8 | 997.5 | |
| 2020 | 4 | 770.9 | -- | 56.0 | 826.9 | 189.0 | 1015.9 | |
| 2021 | 4 | 755.8 | -- | 57.1 | 812.9 | 126.2 | 939.1 | |
| 2022 | 4 | 799.4 | -- | 58.3 | 857.7 | 127.1 | 984.8 | |
| 2023 | 4 | 829.9 | -- | 69.6 | 899.5 | 130.5 | 1030.0 | |
| 2024 | 4 | 750.2 | -- | 93.8 | 844.0 | 126.8 | 970.8 | |
| 2025 | -- | -- | -- | 48.5 | 48.5 | 184.2 | 232.7 | |
| Subtotal | 70 | 12327.4 | -- | 880.3 | 13207.7 | 2736.3 | 15944.0 | |

| Annual Funding 1506 Procurement Aircraft Procurement, Navy | | | | | | | | |
|---|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|--|
| Fiscal Year | Quantity | BY 2009 \$M | | | | | | |
| | | End Item Recurring Flyaway | Non End Item Recurring Flyaway | Non Recurring Flyaway | Total Flyaway | Total Support | Total Program | |
| 2008 | -- | 71.8 | -- | -- | 71.8 | -- | 71.8 | |
| 2009 | 2 | 396.6 | -- | -- | 396.6 | 66.3 | 462.9 | |
| 2010 | 3 | 561.3 | -- | 32.4 | 593.7 | 155.1 | 748.8 | |
| 2011 | 5 | 798.5 | -- | 69.5 | 868.0 | 190.9 | 1058.9 | |
| 2012 | 5 | 790.5 | -- | 34.7 | 825.2 | 121.5 | 946.7 | |
| 2013 | 5 | 707.8 | -- | 38.3 | 746.1 | 110.1 | 856.2 | |
| 2014 | 5 | 871.9 | -- | 41.5 | 913.4 | 184.2 | 1097.6 | |
| 2015 | 5 | 813.8 | -- | 45.2 | 859.0 | 163.5 | 1022.5 | |
| 2016 | 5 | 697.7 | -- | 45.1 | 742.8 | 181.2 | 924.0 | |
| 2017 | 6 | 686.8 | -- | 45.1 | 731.9 | 180.1 | 912.0 | |
| 2018 | 5 | 524.6 | -- | 45.1 | 569.7 | 160.3 | 730.0 | |
| 2019 | 4 | 634.1 | -- | 45.1 | 679.2 | 140.3 | 819.5 | |
| 2020 | 4 | 620.9 | -- | 45.1 | 666.0 | 152.2 | 818.2 | |
| 2021 | 4 | 596.8 | -- | 45.1 | 641.9 | 99.7 | 741.6 | |
| 2022 | 4 | 618.9 | -- | 45.1 | 664.0 | 98.4 | 762.4 | |
| 2023 | 4 | 629.9 | -- | 52.8 | 682.7 | 99.0 | 781.7 | |
| 2024 | 4 | 558.2 | -- | 69.8 | 628.0 | 94.4 | 722.4 | |
| 2025 | -- | -- | -- | 35.4 | 35.4 | 134.4 | 169.8 | |
| Subtotal | 70 | 10580.1 | -- | 735.3 | 11315.4 | 2331.6 | 13647.0 | |

| Cost Quantity Information | | |
|---|----------|--|
| 1506 Procurement Aircraft Procurement, Navy | | |
| Fiscal Year | Quantity | End Item Recurring Flyaway (Aligned With Quantity) BY 2009 \$M |
| 2008 | -- | -- |
| 2009 | 2 | 414.8 |
| 2010 | 3 | 524.0 |
| 2011 | 5 | 778.3 |
| 2012 | 5 | 755.1 |
| 2013 | 5 | 741.5 |
| 2014 | 5 | 746.9 |
| 2015 | 5 | 851.4 |
| 2016 | 5 | 727.8 |
| 2017 | 6 | 750.1 |
| 2018 | 5 | 542.9 |
| 2019 | 4 | 614.6 |
| 2020 | 4 | 620.9 |
| 2021 | 4 | 619.3 |
| 2022 | 4 | 617.5 |
| 2023 | 4 | 626.7 |
| 2024 | 4 | 648.3 |
| 2025 | -- | -- |
| Subtotal | 70 | 10580.1 |

| Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps | |
|--|---------------|
| Fiscal Year | TY \$M |
| | Total Program |
| 2008 | 11.5 |
| 2009 | -- |
| 2010 | 16.8 |
| 2011 | -- |
| 2012 | 15.4 |
| 2013 | -- |
| 2014 | -- |
| 2015 | 1.7 |
| 2016 | 28.2 |
| Subtotal | 73.6 |

| Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps | | |
|--|---------------|------|
| Fiscal Year | BY 2009 \$M | |
| | Total Program | |
| 2008 | | 11.4 |
| 2009 | | -- |
| 2010 | | 16.0 |
| 2011 | | -- |
| 2012 | | 14.1 |
| 2013 | | -- |
| 2014 | | -- |
| 2015 | | 1.5 |
| 2016 | | 24.2 |
| Subtotal | | 67.2 |

Low Rate Initial Production

| Item | Initial LRIP Decision | Current Total LRIP |
|--------------------------|-----------------------|-----------------------|
| Approval Date | 6/13/2003 | 4/3/2011 |
| Approved Quantity | 22 | 15 |
| Reference | Milestone B ADM | LRIP Lots 3 and 4 ADM |
| Start Year | 2009 | 2009 |
| End Year | 2012 | 2012 |

The Current Total LRIP Quantity is more than 10% of the total production quantity due to 15 aircraft being the minimum to maintain the industrial base and ensure successful transition to FRP.

The 15 planned LRIP aircraft (including one FY 2011 supplemental) represent 20% of the total quantity. The reduction in LRIP quantities is due to the production quantity ramp changes.

Foreign Military Sales

None

Nuclear Costs

None

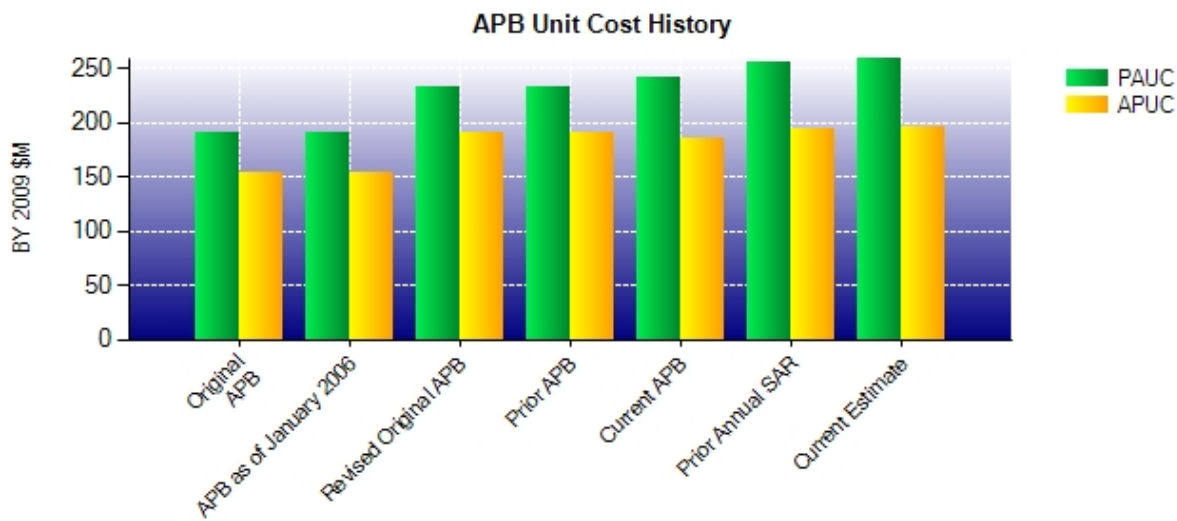
Unit Cost

Unit Cost Report

| Item | BY 2009 \$M | BY 2009 \$M | % Change |
|--------------------------------------|---|------------------------------------|----------|
| | Current UCR Baseline (Apr 2013 APB) | Current Estimate (Dec 2014 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 18096.0 | 19388.6 | |
| Quantity | 75 | 75 | |
| Item | 241.280 | 258.515 | +7.14 |
| Average Procurement Unit Cost | | | |
| Cost | 12932.0 | 13647.0 | |
| Quantity | 70 | 70 | |
| Unit Cost | 184.743 | 194.957 | +5.53 |

| Item | BY 2009 \$M | BY 2009 \$M | % Change |
|--------------------------------------|---|------------------------------------|----------|
| | Revised Original UCR Baseline (Jul 2009 APB) | Current Estimate (Dec 2014 SAR) | |
| Program Acquisition Unit Cost | | | |
| Cost | 17468.6 | 19388.6 | |
| Quantity | 75 | 75 | |
| Unit Cost | 232.915 | 258.515 | +10.99 |
| Average Procurement Unit Cost | | | |
| Cost | 13281.9 | 13647.0 | |
| Quantity | 70 | 70 | |
| Unit Cost | 189.741 | 194.957 | +2.75 |

Unit Cost History



| Item | Date | BY 2009 \$M | | TY \$M | |
|------------------------|----------|-------------|---------|---------|---------|
| | | PAUC | APUC | PAUC | APUC |
| Original APB | Jun 2003 | 189.977 | 152.732 | 199.760 | 166.551 |
| APB as of January 2006 | Jun 2003 | 189.977 | 152.732 | 199.760 | 166.551 |
| Revised Original APB | Jul 2009 | 232.915 | 189.741 | 253.752 | 213.836 |
| Prior APB | Jul 2009 | 232.915 | 189.741 | 253.752 | 213.836 |
| Current APB | Apr 2013 | 241.280 | 184.743 | 269.981 | 214.929 |
| Prior Annual SAR | Dec 2013 | 255.663 | 193.661 | 288.887 | 227.471 |
| Current Estimate | Dec 2014 | 258.515 | 194.957 | 290.943 | 227.771 |

SAR Unit Cost History

| Initial SAR Baseline to Current SAR Baseline (TY \$M) | | | | | | | | | |
|---|---------|-------|-------|-------|--------|-------|-------|--------|--------------------------|
| Initial PAUC Development Estimate | Changes | | | | | | | | PAUC Production Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 199.760 | 5.871 | 0.000 | 3.025 | 8.235 | 28.608 | 0.000 | 8.253 | 53.992 | 253.752 |

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|-------|--------|--------|---------|-------|-------|--------|-----------------------|
| PAUC Production Estimate | Changes | | | | | | | | PAUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 253.752 | 0.364 | 0.000 | 23.254 | 17.617 | -12.824 | 0.000 | 8.780 | 37.191 | 290.943 |

| Initial SAR Baseline to Current SAR Baseline (TY \$M) | | | | | | | | | |
|---|---------|--------|-------|-------|--------|-------|-------|--------|--------------------------|
| Initial APUC Development Estimate | Changes | | | | | | | | APUC Production Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 166.551 | 4.414 | -0.572 | 3.241 | 4.910 | 27.393 | 0.000 | 7.899 | 47.285 | 213.836 |

| Current SAR Baseline to Current Estimate (TY \$M) | | | | | | | | | |
|---|---------|-------|--------|-------|---------|-------|-------|--------|-----------------------|
| APUC Production Estimate | Changes | | | | | | | | APUC Current Estimate |
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 213.836 | 0.584 | 0.000 | 24.914 | 2.064 | -23.034 | 0.000 | 9.407 | 13.935 | 227.771 |

| SAR Baseline History | | | | |
|----------------------|-----------------------|--------------------------|-------------------------|------------------|
| Item | SAR Planning Estimate | SAR Development Estimate | SAR Production Estimate | Current Estimate |
| Milestone A | N/A | N/A | N/A | N/A |
| Milestone B | N/A | May 2003 | May 2003 | Jun 2003 |
| Milestone C | N/A | Mar 2009 | Mar 2009 | May 2009 |
| IOC | N/A | Apr 2011 | Oct 2014 | Oct 2014 |
| Total Cost (TY \$M) | N/A | 14982.0 | 19031.4 | 21820.7 |
| Total Quantity | N/A | 75 | 75 | 75 |
| PAUC | N/A | 199.760 | 253.752 | 290.943 |

Cost Variance

| Summary TY \$M | | | | |
|------------------------------------|---------|-------------|--------|---------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Production Estimate) | 4014.3 | 14968.5 | 48.6 | 19031.4 |
| Previous Changes | | | | |
| Economic | +7.7 | +195.4 | +0.5 | +203.6 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +1520.1 | -- | +1520.1 |
| Engineering | +1053.5 | +68.2 | -- | +1121.7 |
| Estimating | +624.3 | -1297.4 | -5.4 | -678.5 |
| Other | -- | -- | -- | -- |
| Support | -- | +468.2 | -- | +468.2 |
| Subtotal | +1685.5 | +954.5 | -4.9 | +2635.1 |
| Current Changes | | | | |
| Economic | -21.8 | -154.5 | -- | -176.3 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +223.9 | -- | +223.9 |
| Engineering | +93.4 | +76.3 | +29.9 | +199.6 |
| Estimating | +31.7 | -315.0 | -- | -283.3 |
| Other | -- | -- | -- | -- |
| Support | -- | +190.3 | -- | +190.3 |
| Subtotal | +103.3 | +21.0 | +29.9 | +154.2 |
| Total Changes | +1788.8 | +975.5 | +25.0 | +2789.3 |
| CE - Cost Variance | 5803.1 | 15944.0 | 73.6 | 21820.7 |
| CE - Cost & Funding | 5803.1 | 15944.0 | 73.6 | 21820.7 |

| Summary BY 2009 \$M | | | | |
|------------------------------------|---------|-------------|--------|---------|
| Item | RDT&E | Procurement | MILCON | Total |
| SAR Baseline (Production Estimate) | 4140.0 | 13281.9 | 46.7 | 17468.6 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +973.8 | -- | +973.8 |
| Engineering | +910.0 | +56.5 | -- | +966.5 |
| Estimating | +526.9 | -1094.0 | -5.2 | -572.3 |
| Other | -- | -- | -- | -- |
| Support | -- | +338.1 | -- | +338.1 |
| Subtotal | +1436.9 | +274.4 | -5.2 | +1706.1 |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | +147.9 | -- | +147.9 |
| Engineering | +74.2 | +67.7 | +25.7 | +167.6 |
| Estimating | +23.3 | -263.9 | -- | -240.6 |
| Other | -- | -- | -- | -- |
| Support | -- | +139.0 | -- | +139.0 |
| Subtotal | +97.5 | +90.7 | +25.7 | +213.9 |
| Total Changes | +1534.4 | +365.1 | +20.5 | +1920.0 |
| CE - Cost Variance | 5674.4 | 13647.0 | 67.2 | 19388.6 |
| CE - Cost & Funding | 5674.4 | 13647.0 | 67.2 | 19388.6 |

Previous Estimate: December 2013

| RDT&E | \$M | |
|--|------------------|------------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -21.8 |
| Increase due to addition of Counter Electronic Attack Phase 2. (Engineering) | +74.2 | +93.4 |
| Revised estimate to reflect DoD internal adjustments. (Estimating) | -8.2 | -9.2 |
| Revised estimate to reflect application of new outyear escalation indices. (Estimating) (Estimating) | +9.5 | +11.2 |
| Increase due to Congressional plus-up. (Estimating) | +7.7 | +8.5 |
| Revised estimate due to Congressional reductions in FY 2015. (Estimating) | -22.6 | -25.0 |
| Increase due to funding to support Aerial Refueling, Fatigue, Sensor Netting Phase 1, Testing and Evaluation, Naval Integrated Fire Control-Counter Air, J11, Stores Performance Assessment Requested Quality and Sensor Netting Phase 2. (Estimating) | +42.1 | +51.8 |
| Adjustment for current and prior escalation. (Estimating) | +3.1 | +3.4 |
| Revised estimate due to inclusion of Project Unit C226 FY 2013 Congressional plus-up in 2013 SAR. Removed in 2014 SAR as it was outside of scope of approved Program of Record. (Estimating) | -8.3 | -9.0 |
| RDT&E Subtotal | +97.5 | +103.3 |

| Procurement | \$M | |
|--|------------------|------------------|
| Current Change Explanations | Base Year | Then Year |
| Revised escalation indices. (Economic) | N/A | -154.5 |
| Stretch-out of procurement buy profile from FY 2015 - FY 2024. (Schedule) | 0.0 | +23.7 |
| Additional schedule variance due to movement of five aircraft in multiple years and addition of one production lot FY 2015 - FY 2024. (Schedule) | +147.9 | +200.2 |
| Increase due to modification to Advanced Radar Processor. (Engineering) | +67.7 | +76.3 |
| Adjustment for current and prior escalation. (Estimating) | +24.2 | +27.0 |
| Decrease due to revised Forward Pricing Rate Recommendation for Northrop Grumman Aerospace Sector labor rates. (Estimating) | -188.8 | -229.2 |
| Decrease due to additional negotiated savings from the FY 2014 - FY 2018 Multi-Year Procurement Contract award. (Estimating) | -191.3 | -217.3 |
| Revised estimate to reflect actuals. (Estimating) | +92.0 | +104.5 |
| Adjustment for current and prior escalation. (Support) | +4.8 | +5.1 |
| Increase in Other Support due to stretch-out of procurement profile from FY 2015 - FY 2024. (Support) | +121.9 | +168.0 |
| Increase in Initial Spares due to stretch-out of procurement profile from FY 2015 - FY 2024. (Support) | +12.3 | +17.2 |
| Procurement Subtotal | +90.7 | +21.0 |

| MILCON | \$M | |
|---|------------------|------------------|
| Current Change Explanations | Base Year | Then Year |
| Increase due to addition of E-2D Hangar/Apron Modifications at Pt. Mugu, E-2D Iwakuni training facility, and E-2D Fallon Training Facility. (Engineering) | +25.7 | +29.9 |

MILCON Subtotal

+25.7

+29.9

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: LRIP Lot 3
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 2000 West NASA Boulevard
 Melbourne, FL 32904
Contract Number: N00019-10-C-0044/4
Contract Type: Firm Fixed Price (FFP)
Award Date: March 15, 2010
Definitization Date: July 22, 2011

Contract Price

| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 94.6 | N/A | 0 | 838.7 | N/A | 5 | 838.7 | 838.7 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to this contract being awarded on March 15, 2010 as an advanced acquisition contract for the LRIP Lot 3 as a Not to Exceed contract in the amount of \$94.6M. The contract was definitized on July 22, 2011 and transitioned to a Firm Fixed Price contract for the procurement of five aircraft with the current contract value of \$838.7M.

Cost and Schedule Variance Explanations

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

Notes

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

Contract Identification

Appropriation: Procurement
Contract Name: LRIP Lot 4
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 2000 West NASA Boulevard
 Melbourne, FL 32904
Contract Number: N00019-10-C-0044/5
Contract Type: Firm Fixed Price (FFP)
Award Date: April 13, 2011
Definitization Date: January 24, 2012

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 94.6 | N/A | 0 | 787.4 | N/A | 5 | 787.4 | 787.4 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to this contract being awarded on April 13, 2011 as an advanced acquisition contract for the LRIP Lot 4 as a Not to Exceed contract in the amount of \$94.6M. The contract was definitized on January 24, 2012 and transitioned to a Firm Fixed Price contract for the procurement of five aircraft with the current contract value of \$787.4M.

Cost and Schedule Variance Explanations

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

Contract Identification

Appropriation: Procurement
Contract Name: FRP Lot 1
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 2000 West NASA Boulevard
 Melborne, FL 32904
Contract Number: N00019-12-C-0063/5
Contract Type: Firm Fixed Price (FFP)
Award Date: February 01, 2012
Definitization Date: July 24, 2013

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 157.9 | N/A | 0 | 828.2 | N/A | 5 | 828.2 | 828.2 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to this contract being awarded on February 1, 2012 as an advanced acquisition of FRP Lot 1 as a Not to Exceed contract in the amount of \$157.9M. The contract was definitized on July 24, 2013 and transitioned to a Firm Fixed Price contract for the procurement of five aircraft with a current contract value of \$828.2M.

Cost and Schedule Variance Explanations

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

Contract Identification

Appropriation: RDT&E
Contract Name: E-2D Aerial Refueling
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 2000 West NASA Boulevard
 Melbourne, FL 32904
Contract Number: N00019-13-C-0135/1
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: September 27, 2013
Definitization Date: September 27, 2013

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 226.7 | N/A | 0 | 226.7 | N/A | 0 | 195.1 | 208.0 |

| Contract Variance | | |
|---|---------------|-------------------|
| Item | Cost Variance | Schedule Variance |
| Cumulative Variances To Date (12/31/2014) | -2.9 | -1.8 |
| Previous Cumulative Variances | -0.5 | -1.6 |
| Net Change | -2.4 | -0.2 |

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to delays and complexity of the Air Vehicle and Fuel Subsystem drawing accounts. The cost variance is currently trending favorably. We expect this trend to continue based on contractor efficiencies and tracking adjustments.

The unfavorable net change in the schedule variance is due to delays in supplier missed milestones and late invoices. The cumulative schedule variance has improved as of the report date. The schedule variances are driven primarily by the completion of overdue supplier milestones. Supplier schedules are on track to recover in the next reporting period.

Contract Identification

Appropriation: Procurement
Contract Name: Multi-Year Procurement (FRP Lots 2-6)
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 2000 West NASA Boulevard
 Melbourne, FL 32904
Contract Number: N00019-13-C-9999/1
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: May 17, 2013
Definitization Date: June 30, 2014

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 113.7 | N/A | 0 | 3694.0 | 3694.0 | 25 | 3694.0 | 3694.0 |

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to this contract being awarded on May 17, 2013 as an advanced acquisition contract for the Full Rate Production Lot 2 as a Not To Exceed contract in the amount of \$113.7M and on July 31, 2013, an additional \$9.3M contract modification was made. This contract was definitized on June 30, 2014 and transitioned to Fixed Price Incentive Firm Contract for the procurement of 25 aircraft with the current contract value of \$3694.0M.

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FPIF) contract.

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because an earned value management waiver was granted by the Deputy Assistant Secretary of the Navy for Acquisition and Procurement on May 12, 2014 as delegated by the Assistant Secretary of the Navy for Research, Development, and Acquisition due to the fact that the E-2D AHE airframe is being produced in a mature FRP environment, with the prime contractor displaying a long-term history of consistently meeting delivery schedules, at or below contract targets.

Contract Identification

Appropriation: Procurement
Contract Name: Full Scale Fatigue Test
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 2000 West NASA Boulevard
 Melbourne, FL 32904
Contract Number: N00019-14-C-0036/1
Contract Type: Cost Plus Fixed Fee (CPFF)
Award Date: July 07, 2014
Definitization Date: July 07, 2014

| Contract Price | | | | | | | |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Initial Contract Price (\$M) | | | Current Contract Price (\$M) | | | Estimated Price At Completion (\$M) | |
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 52.4 | N/A | 0 | 52.4 | N/A | 0 | 52.4 | 52.4 |

| Contract Variance | | |
|---|---------------|-------------------|
| Item | Cost Variance | Schedule Variance |
| Cumulative Variances To Date (1/7/2015) | +0.2 | 0.0 |
| Previous Cumulative Variances | -- | -- |
| Net Change | +0.2 | +0.0 |

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to completing engineering and management efforts with slightly fewer hours than anticipated.

Notes

This is the first time this contract is being reported.

The Integrated Baseline Review (IBR) was held January 27-28, 2015 at Northrop Grumman Systems Corporation in Melbourne, FL. Two findings were identified and closed during the IBR.

Deliveries and Expenditures

| Deliveries | | | | |
|----------------------------------|-----------------|----------------|----------------|-------------------|
| Delivered to Date | Planned to Date | Actual to Date | Total Quantity | Percent Delivered |
| Development | 5 | 5 | 5 | 100.00% |
| Production | 11 | 11 | 70 | 15.71% |
| Total Program Quantity Delivered | 16 | 16 | 75 | 21.33% |

| Expended and Appropriated (TY \$M) | | | |
|------------------------------------|---------|----------------------------|---------|
| Total Acquisition Cost | 21820.7 | Years Appropriated | 14 |
| Expended to Date | 8078.4 | Percent Years Appropriated | 58.33% |
| Percent Expended | 37.02% | Appropriated to Date | 11212.8 |
| Total Funding Years | 24 | Percent Appropriated | 51.39% |

The above data is current as of February 23, 2015.

Actual quantity reflects delivery of System Development and Demonstration (SD&D) aircraft, SD&D #1 and #2; Pilot Production Aircraft #1, #2, and #3; LRIP Lot 1 #1 and #2, LRIP Lot 2 #1, #2, and #3, LRIP Lot 3 #1, #2, #3, #4, and #5, and LRIP Lot 4 #1.

Operating and Support Cost

Cost Estimate Details

| | |
|---------------------------------|-------------------|
| Date of Estimate: | January 26, 2015 |
| Source of Estimate: | POE |
| Quantity to Sustain: | 73 |
| Unit of Measure: | Aircraft |
| Service Life per Unit: | 20.00 Years |
| Fiscal Years in Service: | FY 2011 - FY 2045 |

Inflation Indices Utilized: FY 2015 OSD rates

Flight Hours per Aircraft per Month: 40 (assumes no change in utilization associated with the E-2D AHE Aerial Refueling effort)

Number of Aircraft per Carrier AEW Squadron: 5

Total Number of Primary Authorized Aircraft (PAA): 66

- Ten 5 aircraft Carrier Airborne Early Warning squadrons
- One 12 aircraft Fleet Replacement Squadron (FRS)
- 2 aircraft at Air Test and Evaluation Squadron One (VX-1)*
- 2 aircraft at Naval Strike Air Warfare Center (NSAWC)*

Aircraft Flight Hours Life Limit: 9,600

Pipeline Rate: 10%

Attrition Rate: 0.3%

Total Operating Flight Hours: 578,161

Total Operating Aircraft Years: 1,304

*PAA beyond Primary Mission Aircraft Authorized (PMAA) and FRS aircraft are typically not included in Naval Air Systems Command (NAVAIR) 4.2 O&S cost estimates; however, PAA for VX-1 and NSAWC are included in the E-2D AHE O&S cost estimate. The O&S cost estimate excludes the two PAA for the NAVAIR-owned aircraft, which are not fleet-owned assets.

Sustainment Strategy

The E-2D AHE initial sustainment concept for E-2D AHE unique parts is Interim Contractor Support through Material Support Date (MSD) with common systems supported organically. For the period of MSD (1st Quarter FY 2016) through Navy Support Date (4th Quarter FY 2019), Naval Supply Systems Command Weapons System Support will support E-2D AHE unique systems through conventional and/or performance-based repair contracts with Original Equipment Manufacturers. With few exceptions, E-2D AHE unique systems have been designated as Core Capabilities and the program is pursuing the establishment of organic capabilities to comply with the U.S. Code Title 10 requirements. As these capabilities are established, business case analyses will be conducted to determine the best value sustainment strategies, whether it is organic or public-private partnership.

The Operating Inventory Utilization per Unit is 40 Flight Hours per Month.

Antecedent Information

The antecedent program is the E-2C. Annual costs for the antecedent program are based upon a three-year average of Naval Visibility and Management of Operating and Support Costs (VAMOSOC) data from FY 2010 - FY 2012 where costs for the three years are summed and then divided by the sum of aircraft count for the three years. The average number of aircraft in the three-year VAMOSOC dataset is 58.33. Since Naval VAMOSOC does not capture Indirect Support costs, the E-2C Indirect Support cost is calculated by multiplying the E-2C Unit-Level Manpower by the ratio of E-2D AHE Indirect Support to E-2D AHE Unit-Level Manpower.

For comparison purposes, the Total O&S Cost is the product of the Antecedent's Average Annual Cost per Unit and the Operating Aircraft Years of the E-2D AHE.

| Cost Element | Annual O&S Costs BY2009 \$M | |
|--------------------------------|--|---|
| | E-2D AHE Average Annual Cost Per Aircraft | E-2C (Antecedent) Average Annual Cost Per Aircraft |
| Unit-Level Manpower | 2.772 | 2.700 |
| Unit Operations | 0.513 | 0.415 |
| Maintenance | 6.361 | 3.535 |
| Sustaining Support | 0.595 | 0.207 |
| Continuing System Improvements | 1.486 | 1.034 |
| Indirect Support | 0.972 | 0.946 |
| Other | 0.000 | 0.000 |
| Total | 12.699 | 8.837 |

The flight hour utilization rate for E-2C is 30.8 hours per aircraft per month, which contributes to the delta in Unit Operations and Maintenance cost between the E-2D AHE and E-2C. Differences between the sum of the individual cost elements and the total cost are due to the rounding of the costs of the individual cost elements.

| Item | Total O&S Cost \$M | | | |
|------------------|---|------------------|---------|-------------------|
| | E-2D AHE | | | E-2C (Antecedent) |
| | Current Production APB Objective/Threshold | Current Estimate | | |
| Base Year | 17334.7 | 19068.2 | 16559.5 | 11522.3 |
| Then Year | 23824.4 | N/A | 23620.6 | N/A |

Equation to Translate Annual Cost to Total Cost

Average Annual Aircraft O&S Cost = Total O&S Cost / Total Operating Aircraft Years

$$\$12.699 \text{ (BY 2009 \$M)} = \$16559.5 \text{ (BY 2009 \$M)} / 1304$$

| O&S Cost Variance | | |
|--|----------------|---|
| Category | BY 2009 \$M | Change Explanations |
| Prior SAR Total O&S Estimates - Dec 2013 SAR | 17075.5 | |
| Programmatic/Planning Factors | 16.8 | Update based on FY 2016 PB procurement schedule |
| Cost Estimating Methodology | 0.0 | |
| Cost Data Update | -477.0 | Update to Depot-Level Repairable & Consumable Cost Per Flight Hour (CPFH) based on updated component pricing information; Incorporated FY 2016 PB O&M,N data; Incorporated FY 2014 actuals; Update to engine module repair prices |
| Labor Rate | -83.4 | Update to FY 2015 Military Composite Pay Rates |
| Energy Rate | -22.1 | Update to JP-5 fuel price |
| Technical Input | -69.5 | Update to Depot Planned Maintenance Interval (PMI) Workload Standards; Update to flight hours based on FY 2016 PB hours; Update to engine module reliability |
| Other | 119.2 | Corrected FRS phased stand-up in cost model |
| Total Changes | -516.0 | |
| Current Estimate | 16559.5 | |

Disposal Estimate Details

| | |
|--|---|
| Date of Estimate: | January 26, 2015 |
| Source of Estimate: | POE |
| Disposal/Demilitarization Total Cost (BY 2009 \$M): | Total costs for disposal of all Aircraft are 17.2 |

The estimate will be refined based on future updates to the *E-2D Deactivation, Demilitarization & Disposal (3D) Plan*.