Selected Acquisition Report (SAR)

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

E-2D AHE

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

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

DoD Component

Navy

Responsible Office

Responsible Office

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Date Assigned June 9, 2008

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 July 31, 2009

Mission and Description

The E-2D Advanced Hawkeye (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 will provide early warning of hostile threats and provide the force with the right data to prosecute any engagement. Key capabilities along with the radar include the Identification Friend or Foe (IFF) system and Electronic Support Measures for surveillance and combat ID, 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 modernization effort, the Navy also invested in integrating a full glass cockpit and full Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) 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 Advanced Hawkeye (E-2D AHE) program was granted authority to enter the Production and Deployment Phase (Milestone (MS) C) in June 2009. The Program received a new Acquisition Program Baseline (APB) on July 31, 2009 that rebaselined the program to a Production Baseline and replaced the original APB previously approved in June 2003, consequently resetting the Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC) values. The System Development and Demonstration (SD&D) phase flight test program is 100% complete. An Operational Test Readiness Review was successfully conducted on February 1, 2012 certifying entry into Initial Operational Test and Evaluation (IOT&E). IOT&E will continue through August 2012. A Defense Acquisition Board for approval to procure Low Rate Initial Production (LRIP) Lots 3 and 4 and Advanced Procurement for Full Rate Production (FRP) Lot 1 was successfully held on March 16, 2011. Contracts were awarded on July 15, 2011, January 24, 2012, and February 1, 2012 for LRIP Lot 3, LRIP Lot 4, and Advanced Procurement FRP Lot 1, respectively. To date, seven aircraft have been delivered, with thirteen aircraft in LRIP Lots 2, 3, and 4 to be delivered by FY 2015. The total Program of Record is 75 aircraft. The program is on schedule for an FRP Review in the first quarter of FY 2013. The FY 2013 President's Budget (PB 2013) reduced annual funding starting in FY 2013, resulting in a reduced annual procurement quantity of E-2D AHE aircraft. This extended the planned procurement schedule by two years, as the total procurement of E-2D AHE aircraft has not changed.

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

Threshold Breaches

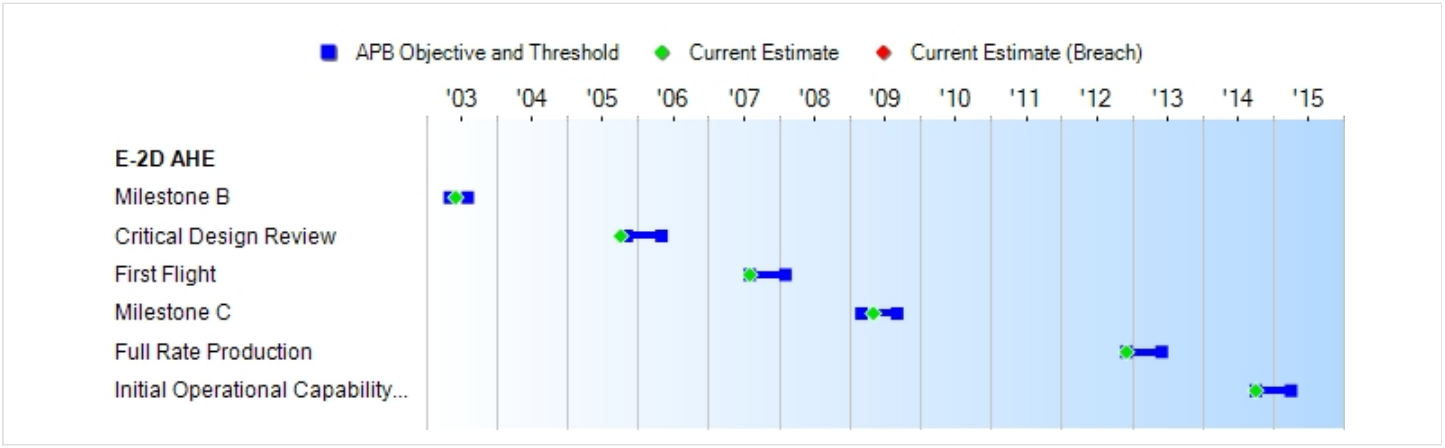
APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☑
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

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

Explanation of Breach

The Research, Development, Test, and Evaluation (RDT&E) cost projection in the FY 2013 President's Budget (PB 2013) is $4692.7M, which is an increase of $552.7M (13.4% above the objective value of $4140.0M). The RDT&E cost breach results from the addition of future incremental capabilities, including In-Flight Refueling, Counter Electronic Attack, Secret Internet Protocol Router Tactical Chat, and Long Range Tracking Enhancements, as well as Follow-on Test and Evaluation costs.

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate
Milestone B	MAY 2003	MAY 2003	AUG 2003	JUN 2003
Critical Design Review	NOV 2005	NOV 2005	MAY 2006	OCT 2005
First Flight	AUG 2007	AUG 2007	FEB 2008	AUG 2007
Milestone C	MAR 2009	MAR 2009	SEP 2009	MAY 2009
Full Rate Production	DEC 2012	DEC 2012	JUN 2013	DEC 2012
Initial Operational Capability (IOC)	OCT 2014	OCT 2014	APR 2015	OCT 2014

Change Explanations

None

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Radar Ao	=>0.98	=>0.98	=>0.85	0.98	>=0.98
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	2.27 hours at a station distance of 200nm	2.28 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	25,200 feet above MSL at mission profile	25,200 feet above MSL at mission profile
Level Flight Airspeed	=>300 knots true airspeed below 18,000 feet MSL	=>300 knots true airspeed below 18,000 feet MSL	=>300 knots true airspeed below 18,000 feet MSL	323.6 knots true airspeed below 18,000 feet MSL	323.6 knots true airspeed below 18,000 feet MSL
Network-Centric Military Operations (Network Readiness)	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)	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)	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	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	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

	NCOW RM Enterprise Services (4) IA requirements include availability, integrity, authenticat-ion, confidential-ity, 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	NCOW RM Enterprise Services (4) IA requirements include availability, integrity, authenticat-ion, confidential-ity, 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	table (3) NCOW RM Enterprise Services (4) IA requirements including availability integrity, authenticat-ion, confidential-ity, non-repudiation, 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	table (3) NCOW RM Enterprise Services (4) IA requirements including availability integrity, authenticatio n, confidentiality , non-repudiation, 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	table (3) NCOW RM Enterprise Services (4) IA requirements including availability integrity, authenticatio n, confidentiality , non-repudiation, 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

Requirements Source:
E-2D Advanced Hawkeye Capability Development Document (CDD) for Milestone C dated September 15, 2008, Joint Requirements Oversight Council (JROC) approved March 3, 2009.

Acronyms And Abbreviations

AHE - Advanced Hawkeye
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

Change Explanations

None

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

Track To Budget

General Memo
APPN 1506 ICN 019500 and APPN 1506 ICN 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 1319	BA 05	PE 0604234N	(Navy)
	Project 3051	Advanced Hawkeye	

Procurement			
APPN 1506	BA 01	PE 0204152N	(Navy)
	ICN 019500	E-2D AHE	(Shared)
APPN 1506	BA 06	PE 0204152N	(Navy)
	ICN 060510	Initial Spares - E-2D	(Shared)

MILCON			
APPN 1205	BA 01	PE 0805976N	(Navy)
		Facilities Restoration and Mod-Training	
APPN 1205	BA 01	PE 0815976N	(Navy)
		Facilities New Footprint - Trainers	

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2009 $M			BY2009 $M	TY $M		
Appropriation	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	4140.0	4140.0	4554.0	**4692.7**[1]	4014.3	4014.3	4638.1
Procurement	13281.9	13281.9	14610.1	13977.9	14968.5	14968.5	16055.4
Flyaway	11427.4	--	--	11832.8	12897.5	--	13591.6
Recurring	11078.6	--	--	11451.6	12492.1	--	13136.7
Non Recurring	348.8	--	--	381.2	405.4	--	454.9
Support	1854.5	--	--	2145.1	2071.0	--	2463.8
Other Support	1493.1	--	--	1747.1	1676.0	--	2019.3
Initial Spares	361.4	--	--	398.0	395.0	--	444.5
MILCON	46.7	46.7	51.4	41.6	48.6	48.6	43.7
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	17468.6	17468.6	N/A	18712.2	19031.4	19031.4	20737.2

[1] ***APB Breach***

Confidence Level for the Current APB Cost is 50%-

The Independent Cost Estimate (ICE) to support the E-2D AHE Milestone C decision, like all life-cycle cost estimates previously performed by the Cost Assessment and Program Evaluation (CAPE), is built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department 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 (MDAP). 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.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	5	5	5
Procurement	70	70	70
Total	75	75	75

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	3891.3	111.0	119.1	125.0	129.5	112.9	119.5	29.8	4638.1
Procurement	2471.4	1074.8	1040.1	1176.6	1418.6	1372.6	1548.0	5953.3	16055.4
MILCON	28.3	15.4	0.0	0.0	0.0	0.0	0.0	0.0	43.7
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	6391.0	1201.2	1159.2	1301.6	1548.1	1485.5	1667.5	5983.1	20737.2
PB 2012 Total	6207.0	1401.5	1437.6	1697.5	1471.2	1500.5	1470.3	3272.3	18457.9
Delta	184.0	-200.3	-278.4	-395.9	76.9	-15.0	197.2	2710.8	2279.3

Project Unit C226 not included. FY 2012 Congressional Add is not within scope of approved Program of Record.

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	5	0	0	0	0	0	0	0	0	5
Production	0	10	5	5	5	7	6	7	25	70
PB 2013 Total	5	10	5	5	5	7	6	7	25	75
PB 2012 Total	5	9	6	7	8	8	8	8	16	75
Delta	0	1	-1	-2	-3	-1	-2	-1	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 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
2002	--	--	--	--	--	--	74.2
2003	--	--	--	--	--	--	106.6
2004	--	--	--	--	--	--	325.5
2005	--	--	--	--	--	--	541.7
2006	--	--	--	--	--	--	595.6
2007	--	--	--	--	--	--	480.8
2008	--	--	--	--	--	--	784.8
2009	--	--	--	--	--	--	467.9
2010	--	--	--	--	--	--	346.0
2011	--	--	--	--	--	--	168.2
2012	--	--	--	--	--	--	111.0
2013	--	--	--	--	--	--	119.1
2014	--	--	--	--	--	--	125.0
2015	--	--	--	--	--	--	129.5
2016	--	--	--	--	--	--	112.9
2017	--	--	--	--	--	--	119.5
2018	--	--	--	--	--	--	29.8
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**4638.1**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2009 $M	Non End Item Recurring Flyaway BY 2009 $M	Non Recurring Flyaway BY 2009 $M	Total Flyaway BY 2009 $M	Total Support BY 2009 $M	Total Program BY 2009 $M
2002	--	--	--	--	--	--	85.8
2003	--	--	--	--	--	--	121.5
2004	--	--	--	--	--	--	360.9
2005	--	--	--	--	--	--	585.2
2006	--	--	--	--	--	--	624.0
2007	--	--	--	--	--	--	491.7
2008	--	--	--	--	--	--	788.2
2009	--	--	--	--	--	--	464.0
2010	--	--	--	--	--	--	338.0
2011	--	--	--	--	--	--	161.2
2012	--	--	--	--	--	--	104.5
2013	--	--	--	--	--	--	110.3
2014	--	--	--	--	--	--	113.8
2015	--	--	--	--	--	--	115.9
2016	--	--	--	--	--	--	99.2
2017	--	--	--	--	--	--	103.2
2018	--	--	--	--	--	--	25.3
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**4692.7**

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
2008	--	72.2	--	--	72.2	--	72.2
2009	2	404.5	--	--	404.5	67.6	472.1
2010	3	590.5	--	21.8	612.3	167.5	779.8
2011	5	915.9	--	19.7	935.6	211.7	1147.3
2012	5	909.7	--	20.1	929.8	145.0	1074.8
2013	5	869.8	--	20.5	890.3	149.8	1040.1
2014	5	959.2	--	20.9	980.1	196.5	1176.6
2015	7	1206.8	--	21.3	1228.1	190.5	1418.6
2016	6	1131.0	--	21.7	1152.7	219.9	1372.6
2017	7	1281.7	--	22.1	1303.8	244.2	1548.0
2018	7	1310.9	--	23.0	1333.9	204.4	1538.3
2019	7	1336.8	--	23.7	1360.5	170.2	1530.7
2020	7	1324.9	--	79.6	1404.5	153.5	1558.0
2021	4	822.8	--	87.6	910.4	157.2	1067.6
2022	--	--	--	72.9	72.9	185.8	258.7
Subtotal	**70**	**13136.7**	**--**	**454.9**	**13591.6**	**2463.8**	**16055.4**

Annual Funding BY$
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2009 $M	Non End Item Recurring Flyaway BY 2009 $M	Non Recurring Flyaway BY 2009 $M	Total Flyaway BY 2009 $M	Total Support BY 2009 $M	Total Program BY 2009 $M
2008	--	71.8	--	--	71.8	--	71.8
2009	2	396.5	--	--	396.5	66.2	462.7
2010	3	568.2	--	21.0	589.2	161.2	750.4
2011	5	865.7	--	18.6	884.3	200.1	1084.4
2012	5	845.3	--	18.7	864.0	134.7	998.7
2013	5	794.7	--	18.7	813.4	136.8	950.2
2014	5	861.1	--	18.8	879.9	176.3	1056.2
2015	7	1064.2	--	18.8	1083.0	167.9	1250.9
2016	6	979.7	--	18.8	998.5	190.5	1189.0
2017	7	1090.6	--	18.8	1109.4	207.8	1317.2
2018	7	1095.7	--	19.2	1114.9	170.9	1285.8
2019	7	1097.6	--	19.5	1117.1	139.7	1256.8
2020	7	1068.6	--	64.2	1132.8	123.8	1256.6
2021	4	651.9	--	69.4	721.3	124.6	845.9
2022	--	--	--	56.7	56.7	144.6	201.3
Subtotal	**70**	**11451.6**	**--**	**381.2**	**11832.8**	**2145.1**	**13977.9**

Cost Quantity Information
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2009 $M
2008	--	--
2009	2	414.7
2010	3	530.7
2011	5	845.3
2012	5	810.0
2013	5	828.9
2014	5	827.4
2015	7	1079.8
2016	6	962.9
2017	7	1090.3
2018	7	1093.4
2019	7	1094.2
2020	7	1117.4
2021	4	756.6
2022	--	--
Subtotal	**70**	**11451.6**

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

Fiscal Year	Total Program TY $M
2008	11.5
2009	--
2010	16.8
2011	--
2012	15.4
Subtotal	**43.7**

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

Fiscal Year	Total Program BY 2009 $M
2008	11.4
2009	--
2010	16.0
2011	--
2012	14.2
Subtotal	**41.6**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	6/11/2009	4/3/2011
Approved Quantity	15	15
Reference	E-2D AHE MS C ADM	E-2D AHE LRIP Lots 3 and 4 ADM
Start Year	2009	2009
End Year	2012	2012

The current total Low Rate Initial Production (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 Full Rate Production.

The 15 planned LRIP aircraft (including one FY 2012 supplemental) represent 20% of the total quantity. Pursuant to section 2400 of Title 10, United States Code (U.S.C.), the first SAR after Milestone B reported that a total of 22 LRIP aircraft were planned, which represented 30% of the total quantity. The reduction in LRIP quantities is due to the production quantity ramp changes.

Foreign Military Sales

None

Nuclear Cost

None

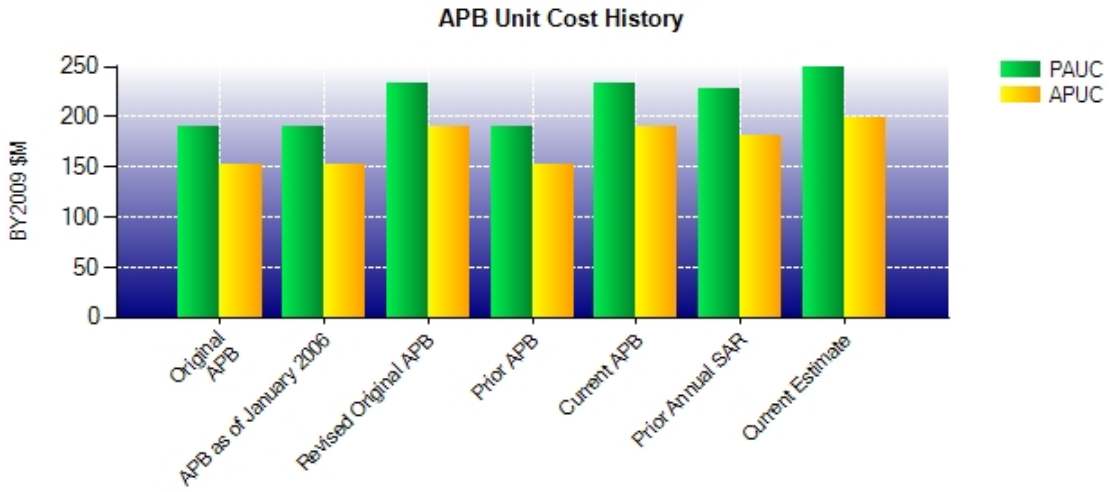
Unit Cost

Unit Cost Report

Unit Cost	BY2009 $M Current UCR Baseline (JUL 2009 APB)	BY2009 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	17468.6	18712.2	
Quantity	75	75	
Unit Cost	232.915	249.496	+7.12
Average Procurement Unit Cost (APUC)			
Cost	13281.9	13977.9	
Quantity	70	70	
Unit Cost	189.741	199.684	+5.24

Unit Cost	BY2009 $M Revised Original UCR Baseline (JUL 2009 APB)	BY2009 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	17468.6	18712.2	
Quantity	75	75	
Unit Cost	232.915	249.496	+7.12
Average Procurement Unit Cost (APUC)			
Cost	13281.9	13977.9	
Quantity	70	70	
Unit Cost	189.741	199.684	+5.24

Unit Cost History



		BY2009 $M		TY $M	
	Date	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	JUN 2003	189.977	152.732	199.760	166.551
Current APB	JUL 2009	232.915	189.741	253.752	213.836
Prior Annual SAR	DEC 2010	228.537	181.669	246.105	201.956
Current Estimate	DEC 2011	249.496	199.684	276.496	229.363

SAR Unit Cost History

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

Initial PAUC Dev Est	Changes								PAUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
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 Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
253.752	0.789	0.000	10.056	5.081	1.717	0.000	5.100	22.744	276.496

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

Initial APUC Dev Est	Changes								APUC Prod Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
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 Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
213.836	0.743	0.000	10.774	0.154	-1.609	0.000	5.464	15.527	229.363

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	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	20737.2
Total Quantity	N/A	75	75	75
Prog. Acq. Unit Cost (PAUC)	N/A	199.760	253.752	276.496

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	4014.3	14968.5	48.6	19031.4
Previous Changes				
Economic	-2.4	-162.8	-0.2	-165.4
Quantity	--	--	--	--
Schedule	--	-26.4	--	-26.4
Engineering	+209.1	+10.8	--	+219.9
Estimating	+57.7	-712.4	-6.1	-660.8
Other	--	--	--	--
Support	--	+59.2	--	+59.2
Subtotal	+264.4	-831.6	-6.3	-573.5
Current Changes				
Economic	+9.2	+214.8	+0.6	+224.6
Quantity	--	--	--	--
Schedule	--	+780.6	--	+780.6
Engineering	+161.2	--	--	+161.2
Estimating	+189.0	+599.8	+0.8	+789.6
Other	--	--	--	--
Support	--	+323.3	--	+323.3
Subtotal	+359.4	+1918.5	+1.4	+2279.3
Total Changes	+623.8	+1086.9	-4.9	+1705.8
CE - Cost Variance	4638.1	16055.4	43.7	20737.2
CE - Cost & Funding	4638.1	16055.4	43.7	20737.2

Summary Base Year 2009 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	4140.0	13281.9	46.7	17468.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+191.3	+9.4	--	+200.7
Estimating	+51.4	-623.2	-5.9	-577.7
Other	--	--	--	--
Support	--	+48.7	--	+48.7
Subtotal	+242.7	-565.1	-5.9	-328.3
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	+519.8	--	+519.8
Engineering	+143.4	--	--	+143.4
Estimating	+166.6	+499.4	+0.8	+666.8
Other	--	--	--	--
Support	--	+241.9	--	+241.9
Subtotal	+310.0	+1261.1	+0.8	+1571.9
Total Changes	+552.7	+696.0	-5.1	+1243.6
CE - Cost Variance	4692.7	13977.9	41.6	18712.2
CE - Cost & Funding	4692.7	13977.9	41.6	18712.2

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+9.2
Adjustment for current and prior escalation. (Estimating)	-5.3	-5.5
Increase due to Secure Internet Protocol Router (SIPR) Chat, E-2D Hawkeye Integrated Fire Control Training, Long Range Tracking, and Counter Electronic Attack. (Engineering)	+143.4	+161.2
Revised estimate for In-Flight Refueling. (Estimating)	+184.7	+208.9
Reduction due to Below Threshold Reprogramming of funding for Small Business Innovative Research and other Navy Reprioritization. (Estimating)	-8.4	-9.3
Decrease due to labor rate adjustments. (Estimating)	-1.7	-2.0
Decrease due to revised economic assumptions. (Estimating)	-2.7	-3.1
RDT&E Subtotal	+310.0	+359.4

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+214.8
Stretch-out of procurement buy profile due to movement of twelve aircraft in multiple years and addition of two production lots FY 2012 - FY 2021. (Schedule)	0.0	+160.1
Additional schedule variance due to movement of twelve aircraft in multiple years and addition of two production lots FY 2012 - FY 2021. (Schedule)	+519.8	+620.5
Adjustment for current and prior escalation. (Estimating)	-29.9	-31.7
Revised estimate to reflect actuals and incorporation of forward pricing rates. (Estimating)	-27.2	-20.1
Increase due to removal of projected savings from a FY 2014 - FY 2018 Multi-Year Procurement. (Estimating)	+556.5	+651.6
Adjustment for current and prior escalation. (Support)	-6.5	-6.9
Increase in Other Support due to addition of two production lots. (Support)	+219.9	+294.7
Increase in Initial Spares due to aircraft procurement buy profile adjustment. (Support)	+28.5	+35.5
Procurement Subtotal	+1261.1	+1918.5

MILCON	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.6
Adjustment for current and prior escalation. (Estimating)	-0.6	-0.6
Increase due to Navy Reprioritization. (Estimating)	+1.4	+1.4
MILCON Subtotal	+0.8	+1.4

Contracts

Appropriation: Procurement

Contract Name	**LRIP Lot 2**
Contractor	Northrop Grumman Corporation
Contractor Location	South Oyster Bay Road Bethpage, NY 11714-3582
Contract Number, Type	N00019-08-C-0027/2, FPIF
Award Date	June 15, 2009
Definitization Date	June 15, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
54.6	N/A	N/A	544.3	579.0	3	544.3	544.3

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/30/2011)	+11.6	+3.4
Previous Cumulative Variances	+9.0	+6.8
Net Change	+2.6	-3.4

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to material costs being less than planned as well as efficiencies gained in labor associated with the aircraft build learning curve.

The unfavorable net change in the schedule variance is due to the early receipt of material.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to this contract being initially awarded June 15, 2009 as an advanced acquisition of Low Rate Initial Production (LRIP) Lot 2 as a Not To Exceed Contract in the amount of $54.6M. The contract transitioned to a Fixed Price Incentive Firm contract for the procurement of three aircraft with a current contract value of $544.3M.

Appropriation: Procurement

Contract Name	**LRIP LOT 3**
Contractor	Northrop Grumman Corporation
Contractor Location	South Oyster Bay Road Bethpage, NY 11714-3582
Contract Number, Type	N00019-10-C-0044/4, FFP
Award Date	March 15, 2010
Definitization Date	July 22, 2011

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	N/A	836.9	N/A	5	836.9	836.9

Cost And Schedule Variance Explanations

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

Contract Comments

The difference between the initial contract price target and the current contract price target is due to this contract being initially awarded on March 15, 2010 as an advanced acquisition contract for the Low Rate Initial Production (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 $836.9M.

Appropriation: Procurement

Contract Name	**LRIP Lot 4**
Contractor	Northrop Grumman Corporation
Contractor Location	South Oyster Bay Road Bethpage, NY 11714-3582
Contract Number, Type	N00019-10-C-0044/5, FFP
Award Date	April 13, 2011
Definitization Date	January 24, 2012

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	N/A	786.3	N/A	5	786.3	786.3

Cost And Schedule Variance Explanations

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

Contract Comments

The difference between the initial contract price target and the current contract price target is due to this contract being initially awarded on April 13, 2011 as an advanced acquisition contract for the Low Rate Initial Production (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 $786.3M.

Appropriation: Procurement

Contract Name	**FRP Lot 1 Advanced Acquisition**
Contractor	Northrop Grumman Corporation
Contractor Location	South Oyster Bay Road Bethpage, NY 11714-3582
Contract Number, Type	N00019-12-C-0063/5, FFP
Award Date	February 01, 2012
Definitization Date	

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	N/A	157.9	N/A	N/A		

Cost And Schedule Variance Explanations

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

Contract Comments

This contract has not yet been definitized. This is the first time this contract is being reported. On February 1, 2012, the advanced acquisition contract for the Full Rate Production (FRP) Lot 1 was awarded as a Not To Exceed (NTE) contract. Although this contract is identified as FFP, it is an NTE modification.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	5	5	5	100.00%
Production	2	2	70	2.86%
Total Program Quantities Delivered	7	7	75	9.33%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	20737.2	Years Appropriated	11
Expenditures To Date	4962.3	Percent Years Appropriated	52.38%
Percent Expended	23.93%	Appropriated to Date	7592.2
Total Funding Years	21	Percent Appropriated	36.61%

Actual quantity reflects delivery of System Development and Demonstration (SD&D) aircraft, SD&D #1 and SD&D #2; Pilot Production Aircraft #1, #2, and #3; and Low Rate Initial Production (LRIP) Lot 1 #1 and #2. Total Deliveries and Expenditures to Date are as of January 31, 2012.

Operating and Support Cost

Assumptions And Ground Rules

ASSUMPTIONS ARE FOR FLEET SQUADRONS:

Flight Hours Per Aircraft Per Month: 40
Number of Aircraft/Squadron: 5
Total Number of Aircraft: 73
Total Number of Operating Years per Aircraft: 20
Total Number of Primary Authorized Aircraft (PAA): 64
Aircraft Flight Hours Life Limit: 9,600
Pipeline Rate: 10.0%
Attrition Rate: 0.3%
Total Operating Flight Hours: 604,191
Total Operating Aircraft Years: 1,279
Date/Source of Estimate: February 2012/Naval Air Systems Command 4.2.2

Costs are reflected in FY 2009 Constant (Base Year (BY)) Dollars in Millions.

Total FY 2009 BY O&S cost is $16,929M. Total Average Annual Cost per Aircraft ($13.2M) is determined by dividing the total O&S cost by the total operating aircraft years. Inflation indices are then used to calculate the Then Year dollars.

The Antecedent Program is the E-2C Reproduction.

Over the course of their lives, legacy systems have experienced and continue to experience service life adjustments and system modifications that make the compilation of Total O&S cost by assuming a static service life (e.g. 25 years) not credible.

Additionally, the capture of O&S data in available reporting systems has changed significantly over time. Visibility and Management of Operating and Support Costs (VAMOSC), the Navy's official system for collecting and reporting O&S cost, provides cost from 1997 to the present. The cost data for platforms in existence prior to 1997 is either unavailable or incomplete. Therefore, sufficient historical data and resources do not exist to create a comparable, credible Total O&S cost.

The E-2C Reproduction Program last reported O&S costs in the FY 2006 SAR. However, the E-2C programmatic baseline and future planning factors have subsequently changed, and the scope and format for O&S costs have been updated. Additionally, the E-2C Reproduction Program only includes a subset of the total number of legacy E-2C’s and therefore does not capture the total number or cost for the system which the E-2D is replacing.

Disposal costs are not included in the O&S phase, and these costs are not included in the estimate.

Costs BY2009 $M		
Cost Element	**E-2D AHE Average Annual Cost Per Aircraft**	**E-2C Reproduction Average Annual Cost Per Aircraft**
Unit-Level Manpower	2.9	3.5
Unit Operations	0.5	0.4
Maintenance	7.0	4.1
Sustaining Support	0.4	0.3
Continuing System Improvements	1.3	0.5
Indirect Support	1.1	1.0
Other	--	--
Total Unitized Cost (Base Year 2009 $)	13.2	9.8

Total O&S Costs $M	E-2D AHE	E-2C Reproduction
Base Year	16929.8	--
Then Year	25514.2	--