Selected Acquisition Report (SAR)

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

E-2D AHE

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

E-2D Advanced Hawkeye

DoD Component

Navy

Responsible Office

Responsible Office

CAPT Shane Gahagan
Program Executive Officer Tactical Aircraft Programs (PEO(T))(PMA-231)
BLDG #2272, Suite 455, NAVAIRSYSCOM
47123 Buse Road, Unit IPT
Patuxent River, MD 20670-1547
shane.gahagan@navy.mil

Phone 301-757-7363
Fax 301-757-7238
DSN Phone 757-7363
DSN Fax --

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

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, milti-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 accros 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, including the reset of the Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC) values. The program is currently in developmental test through FY 2011 with two System Development & Demonstration (SD&D) aircraft and two Pilot Production aircraft based at Naval Air Station Patuxent River, Maryland and one Pilot Production aircraft based at Norfolk Naval Air Station. The SD&D phase is 95% complete. The first Operational Assessment (OA) was conducted in the first quarter FY 2009. The second OA was conducted fourth quarter FY 2010-first quarter FY 2011. Initial Operational Test and Evaluation is planned for the first quarter of FY 2012. The program received authorization for the first and second of four planned lots of Low Rate Initial Production (LRIP) aircraft at MS C. A LRIP contract was awarded on June 15, 2009 for Lot 1 and Advanced Procurement for Lot 2. On January 28, 2010, a contract was awarded for LRIP Lot 2 and the Advanced Procurement for Lot 3 was awarded on March 15, 2010. A contract for a Lot 2 plus up of one aircraft was awarded on July 22, 2010. A Defense Acquisition Board for approval to procure Lots 3 and 4 and Advanced Procurement for full rate production Lot 1 was successfully held on March 16, 2011.

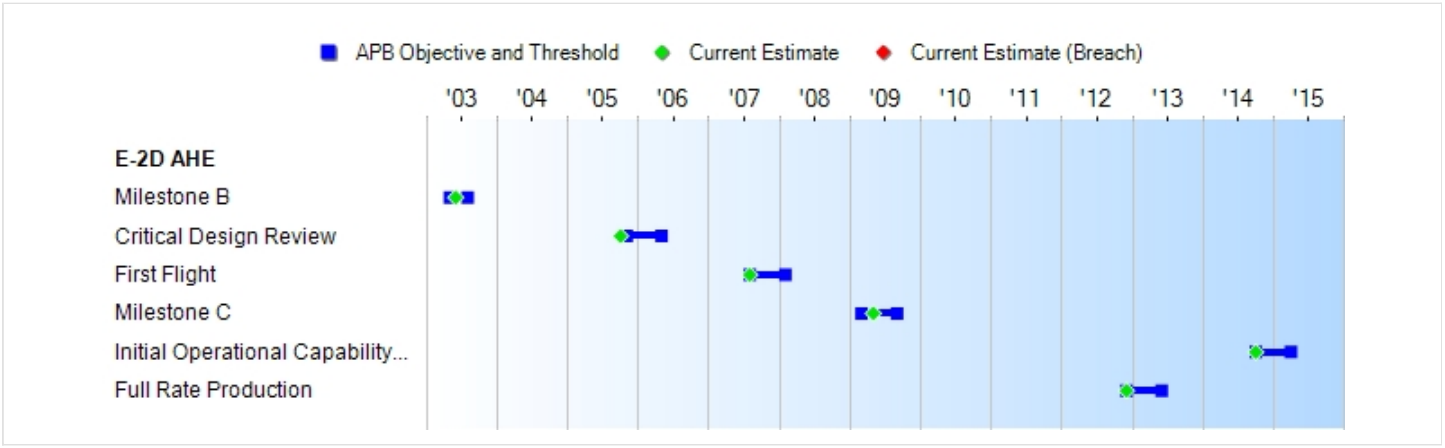
There are no significant software-related issues on this program at this time.

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

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
Initial Operational Capability (IOC)	OCT 2014	OCT 2014	APR 2015	OCT 2014
Full Rate Production	DEC 2012	DEC 2012	JUN 2013	DEC 2012

Change Explanations

None

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate	
Radar Operational Availability Ao	=>0.98	=>0.98	=>0.85	0.98	>=0.98	(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 - FY20)	Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =<	Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =<	Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =<	Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =<	Aircrew Os =< 323 Maintenance Os/Es =< 34 / 1303 Support Os/Es =< 12 / 683 Training Os/Es =<	

	76 / 60	76 / 60	76 / 60	76 / 60	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	2.28 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	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	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	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	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

	table, (3) 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 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	declaration 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	declaration 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	declaration 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, JROC approved March 3, 2009.

Acronyms And Abbreviations

AHE - Advanced Hawkeye
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

(Ch-0) The Network-Centric Military Operations (Network Readiness) performance characteristic current estimate remains at Threshold because that is the E-2C level of Network-Centric capability and there are currently no plans to expend resources to achieve the Objective for E-2D.

(Ch-1) Radar Operational Availability was changed from >=0.96 to >=0.98 due to observed test data.

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 060500 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 060500	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	4382.7	4014.3	4014.3	4278.7
Procurement	13281.9	13281.9	14610.1	12716.8	14968.5	14968.5	14136.9
Flyaway	11427.4	--	--	10813.6	12897.5	--	12028.2
Recurring	11078.6	--	--	10462.2	12492.1	--	11624.9
Non Recurring	348.8	--	--	351.4	405.4	--	403.3
Support	1854.5	--	--	1903.2	2071.0	--	2108.7
Other Support	1493.1	--	--	1532.4	1676.0	--	1703.8
Initial Spares	361.4	--	--	370.8	395.0	--	404.9
MILCON	46.7	46.7	51.4	40.8	48.6	48.6	42.3
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	17468.6	17468.6	N/A	17140.3	19031.4	19031.4	18457.9

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

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
FY2012 President's Budget / December 2010 SAR (TY$ M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	3723.4	171.1	111.0	78.6	66.6	42.1	54.8	31.1	4278.7
Procurement	1324.2	961.4	1275.1	1359.0	1630.9	1429.1	1445.7	4711.5	14136.9
MILCON	26.9	0.0	15.4	0.0	0.0	0.0	0.0	0.0	42.3
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2012 Total	5074.5	1132.5	1401.5	1437.6	1697.5	1471.2	1500.5	4742.6	18457.9
PB 2011 Total	5090.8	1132.5	1210.3	1389.0	1590.3	1580.0	1634.2	5277.2	18904.3
Delta	-16.3	0.0	191.2	48.6	107.2	-108.8	-133.7	-534.6	-446.4

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	5	0	0	0	0	0	0	0	0	5
Production	0	5	4	6	7	8	8	8	24	70
PB 2012 Total	5	5	4	6	7	8	8	8	24	75
PB 2011 Total	5	5	4	5	7	8	8	8	25	75
Delta	0	0	0	1	0	0	0	0	-1	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	--	--	--	--	--	--	468.0
2010	--	--	--	--	--	--	346.2
2011	--	--	--	--	--	--	171.1
2012	--	--	--	--	--	--	111.0
2013	--	--	--	--	--	--	78.6
2014	--	--	--	--	--	--	66.6
2015	--	--	--	--	--	--	42.1
2016	--	--	--	--	--	--	54.8
2017	--	--	--	--	--	--	31.1
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**4278.7**

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	--	--	--	--	--	--	585.3
2006	--	--	--	--	--	--	624.0
2007	--	--	--	--	--	--	491.7
2008	--	--	--	--	--	--	788.4
2009	--	--	--	--	--	--	464.5
2010	--	--	--	--	--	--	339.8
2011	--	--	--	--	--	--	165.6
2012	--	--	--	--	--	--	105.8
2013	--	--	--	--	--	--	73.7
2014	--	--	--	--	--	--	61.4
2015	--	--	--	--	--	--	38.2
2016	--	--	--	--	--	--	48.8
2017	--	--	--	--	--	--	27.3
Subtotal	**5**	**--**	**--**	**--**	**--**	**--**	**4382.7**

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	404.2	--	--	404.2	67.9	472.1
2010	3	590.5	--	21.8	612.3	167.6	779.9
2011	4	741.5	--	19.7	761.2	200.2	961.4
2012	6	1073.2	--	20.1	1093.3	181.8	1275.1
2013	7	1173.8	--	20.5	1194.3	164.7	1359.0
2014	8	1355.1	--	20.9	1376.0	254.9	1630.9
2015	8	1203.0	--	21.3	1224.3	204.8	1429.1
2016	8	1205.2	--	21.7	1226.9	218.8	1445.7
2017	8	1202.4	--	22.1	1224.5	214.7	1439.2
2018	8	1273.0	--	82.5	1355.5	170.3	1525.8
2019	8	1330.8	--	83.7	1414.5	188.0	1602.5
2020	--	--	--	69.0	69.0	75.0	144.0
Subtotal	**70**	**11624.9**	**--**	**403.3**	**12028.2**	**2108.7**	**14136.9**

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	--	71.9	--	--	71.9	--	71.9
2009	2	397.7	--	--	397.7	66.8	464.5
2010	3	573.5	--	21.2	594.7	162.8	757.5
2011	4	709.6	--	18.9	728.5	191.6	920.1
2012	6	1010.8	--	18.9	1029.7	171.2	1200.9
2013	7	1087.2	--	19.0	1106.2	152.5	1258.7
2014	8	1234.1	--	19.0	1253.1	232.2	1485.3
2015	8	1077.3	--	19.1	1096.4	183.4	1279.8
2016	8	1061.2	--	19.1	1080.3	192.7	1273.0
2017	8	1041.1	--	19.1	1060.2	185.9	1246.1
2018	8	1083.8	--	70.2	1154.0	145.0	1299.0
2019	8	1114.0	--	70.1	1184.1	157.4	1341.5
2020	--	--	--	56.8	56.8	61.7	118.5
Subtotal	**70**	**10462.2**	**--**	**351.4**	**10813.6**	**1903.2**	**12716.8**

Cost Quantity Information
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2009 $M
2008	--	--
2009	2	415.8
2010	3	535.4
2011	4	688.1
2012	6	975.5
2013	7	1069.8
2014	8	1123.3
2015	8	1221.6
2016	8	1077.4
2017	8	1055.7
2018	8	1008.4
2019	8	1291.2
2020	--	--
Subtotal	**70**	**10462.2**

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

Fiscal Year	Total Program TY $M
2008	10.1
2009	--
2010	16.8
2011	--
2012	15.4
Subtotal	**42.3**

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

Fiscal Year	Total Program BY 2009 $M
2008	10.0
2009	--
2010	16.3
2011	--
2012	14.5
Subtotal	**40.8**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	6/13/2003	6/11/2009
Approved Quantity	22	15
Reference	E-2D AHE MS B ADM	E-2D AHE MS C ADM
Start Year	2009	2009
End Year	2012	2012

A total of 15 LRIP aircraft (includes one FY 2012 supplemental) are planned representing 20% of the total quantity. The currently planned LRIP quantity is the minimum required to maintain the industrial base and ensure successful transition to Full Rate Production. 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 representing 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

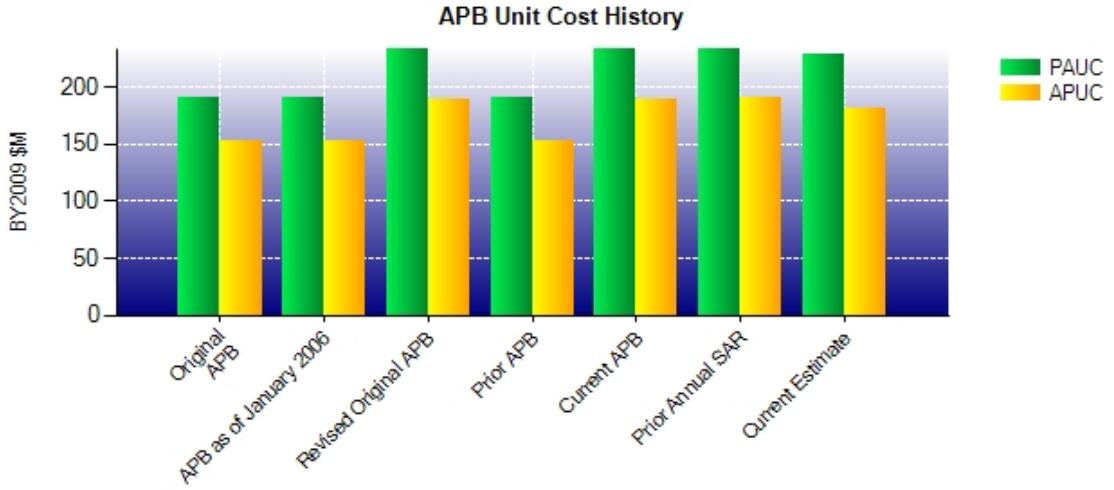
Unit Cost

Unit Cost Report

Unit Cost	BY2009 $M Current UCR Baseline (JUL 2009 APB)	BY2009 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	17468.6	17140.3	
Quantity	75	75	
Unit Cost	232.915	228.537	-1.88
Average Procurement Unit Cost (APUC)			
Cost	13281.9	12716.8	
Quantity	70	70	
Unit Cost	189.741	181.669	-4.25

Unit Cost	BY2009 $M Revised Original UCR Baseline (JUL 2009 APB)	BY2009 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	17468.6	17140.3	
Quantity	75	75	
Unit Cost	232.915	228.537	-1.88
Average Procurement Unit Cost (APUC)			
Cost	13281.9	12716.8	
Quantity	70	70	
Unit Cost	189.741	181.669	-4.25

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 2009	233.065	189.854	252.057	211.997
Current Estimate	DEC 2010	228.537	181.669	246.105	201.956

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	-2.205	0.000	-0.352	2.932	-8.811	0.000	0.789	-7.647	246.105

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	-2.326	0.000	-0.377	0.154	-10.177	0.000	0.846	-11.880	201.956

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	18457.9
Total Quantity	N/A	75	75	75
Prog. Acq. Unit Cost (PAUC)	N/A	199.760	253.752	246.105

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	-2.8	-138.1	-0.1	-141.0
Quantity	--	--	--	--
Schedule	--	-5.9	--	-5.9
Engineering	+31.3	--	--	+31.3
Estimating	-22.2	+5.5	-4.6	-21.3
Other	--	--	--	--
Support	--	+9.8	--	+9.8
Subtotal	+6.3	-128.7	-4.7	-127.1
Current Changes				
Economic	+0.4	-24.7	-0.1	-24.4
Quantity	--	--	--	--
Schedule	--	-20.5	--	-20.5
Engineering	+177.8	+10.8	--	+188.6
Estimating	+79.9	-717.9	-1.5	-639.5
Other	--	--	--	--
Support	--	+49.4	--	+49.4
Subtotal	+258.1	-702.9	-1.6	-446.4
Total Changes	+264.4	-831.6	-6.3	-573.5
CE - Cost Variance	4278.7	14136.9	42.3	18457.9
CE - Cost & Funding	4278.7	14136.9	42.3	18457.9

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	+30.0	--	--	+30.0
Estimating	-22.1	+3.1	-4.5	-23.5
Other	--	--	--	--
Support	--	+4.8	--	+4.8
Subtotal	+7.9	+7.9	-4.5	+11.3
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+161.3	+9.4	--	+170.7
Estimating	+73.5	-626.3	-1.4	-554.2
Other	--	--	--	--
Support	--	+43.9	--	+43.9
Subtotal	+234.8	-573.0	-1.4	-339.6
Total Changes	+242.7	-565.1	-5.9	-328.3
CE - Cost Variance	4382.7	12716.8	40.8	17140.3
CE - Cost & Funding	4382.7	12716.8	40.8	17140.3

Previous Estimate: December 2009

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.4
Adjustment for current and prior escalation. (Estimating)	-0.4	-0.4
Increase due to ARC-210 upgrade, Guard Radio, Link 16 Multi-function Information Distribution System (MIDs)-Low Volume Terminal (LVT), and In-Flight Refueling. (Engineering)	+161.3	+177.8
Decrease due to Below Threshold Reprogramming (BTR) of funding for Small Business Innovative Research and other Navy Reprioritization. (Estimating)	-22.1	-22.9
Decrease due to labor rate adjustments. (Estimating)	-5.1	-5.6
Increase due to updated estimate for Follow-on Test and Evaluation. (Estimating)	+57.6	+62.6
Increase due to updated estimate for Mode 5. (Estimating)	+43.5	+46.2
RDT&E Subtotal	+234.8	+258.1

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-24.7
Acceleration of procurement buy profile due to movement of 1 aircraft from FY 2019 to FY 2012. (Schedule)	0.0	-20.5
Adjustment for current and prior escalation. (Estimating)	+1.0	+0.9
Increase due to ARC-210 upgrade, Guard Radio, Link 16 Multi-function Information Distribution System (MIDs)-Low Volume Terminal (LVT), and In-Flight Refueling. (Engineering)	+9.4	+10.8
Decrease due to projected savings from a FY 2014-FY 2018 Mult-Year Procurement. (Estimating)	-575.6	-651.6
Decrease due to rephasing of Mode 5 and In-Flight Refueling efforts. (Estimating)	-36.3	-40.6
Decrease due to revised estimates form updates for actuals and revised forward pricing rates. (Estimating)	-15.4	-26.6
Adjustment for current and prior escalation. (Support)	+0.3	+0.4
Increase in Other Support due to sustaining and integrated logistics support. (Support)	+37.3	+43.0
Increase in Initial Spares due to increased costs and aircraft buy profile adjustment. (Support)	+6.3	+6.0
Procurement Subtotal	-573.0	-702.9

MILCON	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.1
Decrease due to Navy reprioritization. (Estimating)	-1.4	-1.5
MILCON Subtotal	-1.4	-1.6

Contracts

Appropriation: Procurement

Contract Name	**LRIP LOT 1**
Contractor	Northrop Grumman Systems Corporation
Contractor Location	Bethpage, NY 11714-3582
Contract Number, Type	N00019-08-C-0027/1, FPIF
Award Date	December 26, 2007
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
50.4	N/A	N/A	403.0	436.5	2	396.7	403.0

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2010)	+14.7	+6.1
Previous Cumulative Variances	+3.0	+13.2
Net Change	+11.7	-7.1

Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to lower than anticipated material costs. The unfavorable net change in the schedule variance is due to the early receipt of material.

Contract Comments

The difference between the initial target and current target is because this contract was initially awarded in December 2007 as an advanced acquisition contract for the Low Rate Initial Production (LRIP) Lot 1 as a Not to Exceed contract in the amount of $50.4M. The contract was definitized on June 15, 2009 and transitioned to a Fixed Price Incentive contract for the procurement of two aircraft with the current contract value of $403.0M.

Appropriation: Procurement

Contract Name	**LRIP LOT 2**
Contractor	Northrop Grumman Corporation
Contractor Location	Bethpage, NY 11714-3582
Contract Number, Type	N00019-08-C-0027/2, FPIF
Award Date	June 15, 2009
Definitization Date	January 28, 2010

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	531.6	564.5	3	531.6	531.6

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2010)	+9.0	+6.8
Previous Cumulative Variances	--	--
Net Change	+9.0	+6.8

Cost And Schedule Variance Explanations

The favorable cumulative cost variance is due to less than anticipated labor costs on associated tasks. The favorable cumulative schedule variance is due to early receipt of materials.

Contract Comments

The difference between the initial target and current target is because this contract was initially awarded in June 2009 as the advanced acquisition of Low Rate Initial Production (LRIP) Lot 2 as a Not to Exceed Contract in the amount of $54.6M. The contract was definitized on January 28, 2010 and transitioned to a Fixed Price Incentive contract for the procurement of three aircraft with a current contract value of $531.6M.

Appropriation: Procurement

Contract Name	**LRIP LOT 3 Advanced Acquisition**
Contractor	Northrop Grumman Corporation
Contractor Location	Bethpage, NY 11714-3582
Contract Number, Type	N00019-10-C-0044/4, FFP
Award Date	March 15, 2010
Definitization Date	

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	94.6	N/A	N/A	94.6	94.6

Cost And Schedule Variance Explanations

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

Contract Comments

This contract was awarded on March 15, 2010 as the advanced acquisition for the LRIP Lot 3 as a Not To Exceed (NTE) contract. Although this contract is identified as FFP, it is a 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	0	0	70	0.00%
Total Program Quantities Delivered	5	5	75	6.67%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	18457.9	Years Appropriated	10
Expenditures To Date	4252.4	Percent Years Appropriated	52.63%
Percent Expended	23.04%	Appropriated to Date	6207.0
Total Funding Years	19	Percent Appropriated	33.63%

Actual quantity reflects delivery of System Development and Demonstration (SD&D) aircraft, SD&D #1 and SD&D #2 and Pilot Production Aircraft #1, #2, and #3. Total Expenditures to Date is as of March 24, 2011.

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 PAA: 64
Aircraft Flight Hours Life Limit: 9600
Pipeline Rate: 10.0%
Attrition Rate: 0.4%
Total Operating Flight Hours: 594,591
Total Operating Aircraft Years: 1267
Date of estimate: February 2011

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

Total O&S costs are calculated by multiplying the Total Average Annual Cost Per Aircraft ($11.2M) by the number of aircraft (73) and then multiplying that number by the operating years per aircraft (20). This will provide the Base Year dollar projection. Inflation indices are then used to calculate the Then Year dollars.

The Antecedent Program is the E-2C Reproduction.

Costs BY2009 $M		
Cost Element	**E-2D AHE Average Annual Cost Per Aircraft**	**E-2C Reproduction Average Annual Cost Per Aircraft**
Unit-Level Manpower	2.3	3.5
Unit Operations	0.4	0.4
Maintenance	6.0	4.5
Sustaining Support	0.4	0.4
Continuing System Improvements	1.1	0.4
Indirect Support	1.0	1.0
Other	--	--
Total Unitized Cost (Base Year 2009 $)	11.2	10.2

Total O&S Costs $M	E-2D AHE	E-2C Reproduction
Base Year	16239.2	--
Then Year	24420.5	--