



Selected Acquisition Report (SAR)

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



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

As of June 30, 2009

Defense Acquisition Management
Information Retrieval
(DAMIR)

UNCLASSIFIED

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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 (E-2D AHE)

DoD Component

Navy

Responsible Office

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References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 13, 2003

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 an all-weather, twin engine, carrier-based, Airborne Command, Control and Surveillance aircraft designed to extend task force defense perimeters. The AHE mission is to provide advance warning of approaching enemy surface units and aircraft, to vector interceptors or strike aircraft to attack, and to provide area surveillance, intercept, search and rescue, communications relay, and strike/air traffic control. Key AHE objectives include improved battle space target detection and situational awareness, especially in the littorals; support of Theater Air Missile Defense (TAMD) operations; and improved Operational Availability. Using the E-2C Hawkeye configuration as a baseline, the E-2D AHE includes the AN/APY-9 RADAR system; upgraded electronically scanned Identification, Friend or Foe (IFF) system; modernized tactical cockpit; new Intercommunication System (ICS); generator and cooling upgrades to support all capabilities; and investments to reduce Total Ownership Cost (TOC). Additionally, the E-2D will comply with the Chief of Naval Operations' system safety mandates and Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements.

Executive Summary

This quarterly exception SAR is being submitted by the E-2D Advanced Hawkeye (AHE) Program to report a Nunn-McCurdy unit cost breach. In addition, this SAR includes the SAR rebaseline of the E-2D AHE program from development to production after approval of Milestone C (MS C).

On February 13, 2009, the E-2D AHE Program briefed the Overarching IPT (OIPT) in preparation for a MS C Defense Acquisition Board (DAB). The OIPT recommended proceeding forward to the DAB as originally scheduled. In preparation for the DAB, a number of cost estimates were prepared. On March 12, 2009, the Navy Center for Cost Analysis (NCCA) validated the Naval Air Systems Command (NAVAIR) Cost Department, AIR-4.2 generated life-cycle cost estimate, resulting in a significant cost breach to Average Procurement Unit Cost (APUC) and Program Acquisition Unit Cost (PAUC). Total Procurement and Total Research, Development, Test and Evaluation (RDT&E) also breached. The Cost Analysis Improvement Group (CAIG) also conducted an Independent Cost Estimate and reported a significant cost breach to APUC and PAUC on March 26, 2009. Major factors contributing to the APUC and PAUC increases included inaccurate cost estimating of the radar at MS B and production quantity ramp changes extending the program two years more than originally anticipated at MS B.

An Acquisition Program Baseline (APB) Deviation Report was submitted on April 3, 2009. On April 14, 2009, Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)) issued an Acquisition Decision Memorandum (ADM) stating concern with the program's cost growth and directed the program perform a review process similar to the one for a critical Nunn-McCurdy breach to be completed and submitted for USD(AT&L) review within 30 days for determination of the path forward. As part of this review process, the CAIG updated their estimate on May 21, 2009 showing the program at a Nunn-McCurdy critical breach level due to the addition of pension liability adjustments. The review process was completed on May 22, 2009 with the Integrated Product Teams (IPTs) briefing the OIPT lead. The OIPT Lead directed the Navy to consider an accelerated production ramp to achieve cost reduction to mitigate the critical breach.

A critical Nunn-McCurdy review outbrief/MS C DAB was held May 26, 2009 and an updated APB Deviation Report was submitted announcing a revised significant breach to APUC and PAUC based on the estimate by the CAIG using a revised production ramp. The revised ramp accelerates aircraft production by moving six (6) aircraft to within the Future Years Defense Program (FYDP) and ends procurement one year early.

In coordination with the Office of the Secretary of Defense (OSD), the Navy declared a critical Nunn-McCurdy breach on June 11, 2009 based on the CAIG's estimate of May 21, 2009 using the program of record (non-accelerated) production ramp. An ADM was issued by USD(AT&L) acknowledging the critical breach. All required actions for the Nunn-McCurdy critical breach, pursuant to section 2433a of title 10, United States Code (U.S.C.) as mandated by the Weapon Systems Acquisition Reform Act (WSARA) of 2009 were completed. USD(AT&L) rescinded the MS B and a root cause analysis was completed. USD(AT&L) then reviewed the program and business case analysis, and made the certifications required by subsection 2366b(d) of title 10, U.S.C. to allow the program to re-enter the acquisition process at MS C. The Navy was directed to use the accelerated production ramp briefed at the May 26, 2009 DAB. The updated cost estimate to support the E-2D MS C approval, like all life-cycle cost estimates previously performed by the CAIG, is not consistent with the 80% confidence level specified in the WSARA of 2009, section 101, subsection 2334(d)(1). The estimate is, like all previous CAIG estimates, built upon a product-oriented work breakdown structure, based on historical cost information to the maximum extent possible, and most importantly, based on conservative assumptions that are consistent with actual demonstrated successful contractor and government performance. This justification was reviewed by USD(AT&L).

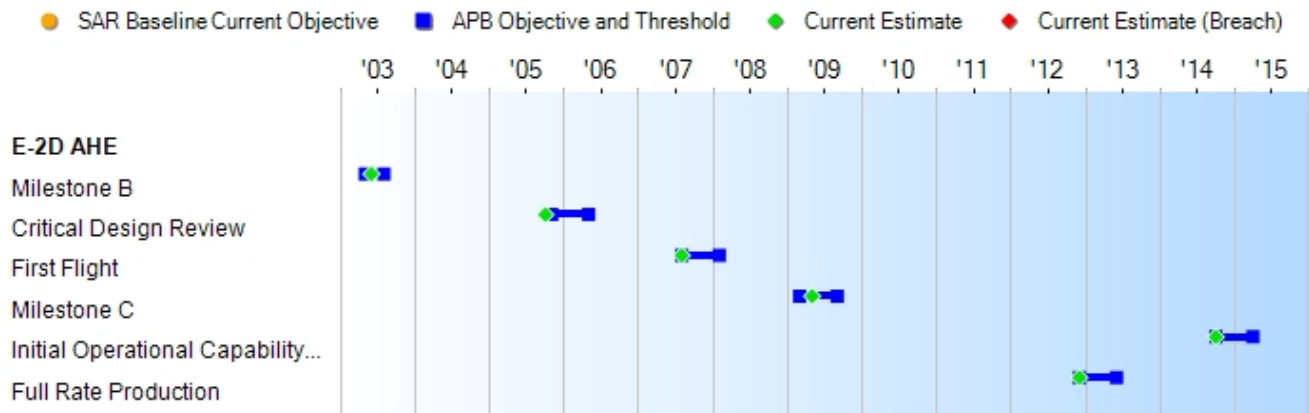
On June 11, 2009, a MS C ADM approved the E-2D AHE program to enter into the Production and Deployment Phase, specifically Low Rate Initial Production (LRIP) Lots 1 and 2 and to contract for LRIP Lot 3 Long Lead Procurement items. A new MS C Production APB was approved on July 31, 2009.

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

Threshold Breaches

APB Breaches		Explanation of Breach
Schedule	<input type="checkbox"/>	In coordination with the Office of the Secretary of Defense, the Navy declared a critical Nunn-McCurdy breach on June 11, 2009 based on the Cost Analysis Improvement Group (CAIG) estimate of May 21, 2009 using the program of record (non-accelerated) production ramp. On June 11, 2009, an Acquisition Decision Memorandum (ADM) was issued by Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)) acknowledging the critical breach and directing the Navy to use the accelerated production ramp.
Performance	<input type="checkbox"/>	
Cost	<input type="checkbox"/>	
RDT&E	<input type="checkbox"/>	
Procurement	<input type="checkbox"/>	
MILCON	<input type="checkbox"/>	The Nunn-McCurdy Breaches for Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC) are identified here as significant based on the cost estimate by the CAIG using the accelerated production ramp as briefed at the Milestone C Defense Acquisition Board on May 26, 2009. An Acquisition Program Baseline Program Deviation Report was submitted that same day based on the CAIG estimate. The revised ramp accelerates aircraft production by moving six (6) aircraft to within the Future Years Defense Program (FYDP) and ends procurement one year early.
Acq O&M	<input type="checkbox"/>	
O&S Cost	<input type="checkbox"/>	
Unit Cost	<input type="checkbox"/>	
PAUC	<input type="checkbox"/>	
APUC	<input type="checkbox"/>	A revised APB was approved July 31, 2009 by USD(AT&L).
Nunn-McCurdy Breaches		
Current UCR Baseline		
PAUC	Significant	
APUC	Significant	
Original UCR Baseline		
PAUC	None	
APUC	None	

Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	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 (Ch-1)
Initial Operational Capability (IOC)	Apr 2011	Oct 2014	Apr 2015	Oct 2014 (Ch-2)
Full Rate Production	Dec 2012	Dec 2012	Jun 2013	Dec 2012

Change Explanations

(Ch-1) E-2D AHE Milestone C Defense Acquisition Board was rescheduled from March 2009 to May 2009. It was held May 26, 2009.

(Ch-2) IOC has changed from April 2011 to October 2014 due to a redefining of IOC. IOC has been redefined from the previous "Fleet Squadron Ready to Test" to reflect the more widely accepted definition equating to "Readiness for the First Operational Deployment." IOC will be declared when the first E-2D Advanced Hawkeye squadron is maned, trained, and is ready to begin deployment preparations.

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Production Objective/Threshold	Demonstrated Performance	Current Estimate	
Radar Operational Availability Ao				
=>0.98	=>0.98	=>0.85	0.90	>=0.95 (Ch-1)
Survivability - Safe Egress In Crash				
N/A	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. (Ch-2)
Manpower (Full Operational Capability - FY20)				
N/A	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 (Ch-2)
Unrefueled Time On Station				
N/A	=>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 (Ch-2)
Flat Turn Service Ceiling				
N/A	=>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 (Ch-2)
Level Flight Airspeed				
N/A	=>300 knots true	=>300 knots true	323.6 knots true	323.6 knots true (Ch-2)

	airspeed below 18,000 feet MSL	airspeed below 18,000 feet MSL	airspeed below 18,000 feet MSL	airspeed below 18,000 feet MSL	
Network-Centric Military Operations (Network Readiness)					
N/A	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 availability, and consistent data processing specified in the applicable joint and system integrated architecture views	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, 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	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, 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	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, 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	(Ch-2)

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

Requirements Reference

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

Change Explanations

(Ch-1) Radar Operational Availability now has demonstrated performance derived from flight test data gathered as of May 2009. Based on this, the current estimate has changed from greater than or equal to 0.98 to greater than or equal to 0.95.
(Ch-2) Key Performance Parameters (KPPs) initially approved in the August 31, 2007 Capabilities Development Document (CDD).

Acronyms and Abbreviations

ATO - Approval to Operate
DAA - Designated Approval Authority
DISR - DoD Information Technology Standards and Profile Registry
Es - Enlisted
FY - Fiscal Year
g - gravity
GIG - Global Information Grid
IA - Information Assurance
IATO - Interim Authority 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 ICN 0195 and APPN 1506 ICN 060510 are shared with the E-2C Reproduction program, which was funded through FY07 and no longer requires ACAT reporting as it is over 90% expended. E-2D AHE procurement funding begins in FY08, as shown in the funding summary.

RDT&E

Appn	BA	PE
Navy	1319 05	0604234N
	Project	Name
	3051	Advanced Hawkeye

Procurement

Appn	BA	PE
Navy	1506 01	0204152N
	Line Item	Name
	019500	E-2D AHE
Navy	1506 06	0204152N
	Line Item	Name
	060510	Initial Spares - E-2D (Shared)

MILCON

Appn	BA	PE
Navy	1205 01	0805976N
	Project	Name
		Facilities Restoration and Mod-Training
Navy	1205 01	0815976N
	Project	Name
		Facilities New Footprint - Trainers

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2009 \$M			BY 2009 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Production Objective	Current Estimate
RDT&E	3709.8	4140.0	4554.0	4140.0	3490.0	4014.3	4014.3
Procurement	10538.5	13281.9	14610.1	13281.9	11492.0	14968.5	14968.5
Flyaway	--	--	--	11427.4	--	--	12897.5
Recurring	--	--	--	11078.6	--	--	12492.1
Non Recurring	--	--	--	348.8	--	--	405.4
Support	--	--	--	1854.5	--	--	2071.0
Other Support	--	--	--	1493.1	--	--	1676.0
Initial Spares	--	--	--	361.4	--	--	395.0
MILCON	0.0	46.7	51.4	46.7	0.0	48.6	48.6
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	14248.3	17468.6	N/A	17468.6	14982.0	19031.4	19031.4

The Base Year for the program has been updated from FY 2002 to FY 2009 using the following deflators:

Appn Category	Deflation Factor
RDT&E	1.16550117
Procurement	1.16550117
MILCON	1.16550117

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Production	Current Estimate
RDT&E		6	5
Procurement		69	70
Total		75	75

Cost and Funding

Funding Summary

Appropriation Summary									
Jun 2009 Exception SAR (TY \$M)									
Appropriation	Prior	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	To Complete	Total
RDT&E	2911.9	482.8	367.2	161.3	62.0	26.5	2.6	0.0	4014.3
Procurement	72.2	472.0	667.3	996.5	1243.0	1381.0	1602.9	8533.6	14968.5
MILCON	11.5	0.0	18.7	0.0	18.4	0.0	0.0	0.0	48.6
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun 2009 Total	2995.6	954.8	1053.2	1157.8	1323.4	1407.5	1605.5	8533.6	19031.4
PB 2009 Total	2971.5	1110.2	937.2	929.0	873.2	818.5	1067.5	8724.0	17431.1
Delta	24.1	-155.4	116.0	228.8	450.2	589.0	538.0	-190.4	1600.3

Quantity Summary										
Jun 2009 Exception SAR (TY \$M)										
Quantity	Undistributed	Prior	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	To Complete	Total
Development	5	0	0	0	0	0	0	0	0	5
Production	0	0	2	2	4	6	7	8	41	70
Jun 2009 Total	5	0	2	2	4	6	7	8	41	75
PB 2009 Total	5	0	3	3	4	4	4	5	47	75
Delta	0	0	-1	-1	0	2	3	3	-6	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	--	--	--	--	--	--	74.2
2003	--	--	--	--	--	--	106.6
2004	--	--	--	--	--	--	325.5
2005	--	--	--	--	--	--	541.7
2006	--	--	--	--	--	--	595.6
2007	--	--	--	--	--	--	482.5
2008	--	--	--	--	--	--	785.8
2009	--	--	--	--	--	--	482.8
2010	--	--	--	--	--	--	367.2
2011	--	--	--	--	--	--	161.3
2012	--	--	--	--	--	--	62.0
2013	--	--	--	--	--	--	26.5
2014	--	--	--	--	--	--	2.6
Subtotal	5	--	--	--	--	--	4014.3

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	--	--	--	--	--	--	85.8
2003	--	--	--	--	--	--	121.5
2004	--	--	--	--	--	--	360.9
2005	--	--	--	--	--	--	585.3
2006	--	--	--	--	--	--	624.0
2007	--	--	--	--	--	--	493.5
2008	--	--	--	--	--	--	789.2
2009	--	--	--	--	--	--	478.9
2010	--	--	--	--	--	--	359.6
2011	--	--	--	--	--	--	155.5
2012	--	--	--	--	--	--	58.7
2013	--	--	--	--	--	--	24.7
2014	--	--	--	--	--	--	2.4
Subtotal	5	--	--	--	--	--	4140.0

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	408.2	--	--	408.2	63.8	472.0	
2010	2	461.0	--	21.8	482.8	184.5	667.3	
2011	4	761.6	--	19.7	781.3	215.2	996.5	
2012	6	1036.3	--	20.1	1056.4	186.6	1243.0	
2013	7	1197.5	--	20.5	1218.0	163.0	1381.0	
2014	8	1341.8	--	20.9	1362.7	240.2	1602.9	
2015	8	1368.5	--	21.3	1389.8	197.3	1587.1	
2016	8	1400.1	--	21.7	1421.8	222.4	1644.2	
2017	8	1436.6	--	22.1	1458.7	193.9	1652.6	
2018	8	1512.8	--	83.0	1595.8	155.3	1751.1	
2019	9	1495.5	--	84.2	1579.7	182.2	1761.9	
2020	--	--	--	70.1	70.1	66.6	136.7	
Subtotal	70	12492.1	--	405.4	12897.5	2071.0	14968.5	

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	400.6	--	--	400.6	62.6	463.2	
2010	2	445.8	--	21.1	466.9	178.4	645.3	
2011	4	724.1	--	18.7	742.8	204.7	947.5	
2012	6	968.1	--	18.8	986.9	174.3	1161.2	
2013	7	1098.9	--	18.8	1117.7	149.6	1267.3	
2014	8	1209.5	--	18.8	1228.3	216.6	1444.9	
2015	8	1211.8	--	18.9	1230.7	174.6	1405.3	
2016	8	1217.8	--	18.9	1236.7	193.5	1430.2	
2017	8	1227.5	--	18.9	1246.4	165.6	1412.0	
2018	8	1269.7	--	69.7	1339.4	130.4	1469.8	
2019	9	1233.0	--	69.4	1302.4	150.3	1452.7	
2020	--	--	--	56.8	56.8	53.9	110.7	
Subtotal	70	11078.6	--	348.8	11427.4	1854.5	13281.9	

Cost Quantity Information		
1506 Procurement Aircraft Procurement, Navy		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2009 \$M
2008	--	--
2009	2	417.1
2010	2	407.3
2011	4	687.3
2012	6	950.2
2013	7	1081.6
2014	8	1209.2
2015	8	1211.0
2016	8	1216.6
2017	8	1224.7
2018	8	1244.1
2019	9	1429.5
2020	--	--
Subtotal	70	11078.6

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	TY \$M
	Total Program
2008	11.5
2009	--
2010	18.7
2011	--
2012	18.4
Subtotal	48.6

Annual Funding 1205 MILCON Military Construction, Navy and Marine Corps	
Fiscal Year	BY 2009 \$M
	Total Program
2008	11.4
2009	--
2010	18.1
2011	--
2012	17.2
Subtotal	46.7

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	6/13/2003	6/11/2009
Approved Quantity	22	14
Reference	E-2D AHE MS B ADM	E-2D AHE MS C ADM
Start Year	2009	2009
End Year	2012	2012

A total of 14 LRIP aircraft are planned representing 19% 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 State Code (U.S.C.), the first SAR after MS 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 Costs

None

Unit Cost

Unit Cost Report

Item	BY 2009 \$M	BY 2009 \$M	% Change
	Current UCR Baseline (Jun 2003 APB)	Current Estimate (Jun 2009 SAR)	
Program Acquisition Unit Cost			
Cost	14248.3	17468.6	
Quantity	75	75	
Unit Cost	189.977	232.915	+22.60¹
Average Procurement Unit Cost			
Cost	10538.5	13281.9	
Quantity	69	70	
Unit Cost	152.732	189.741	+24.23¹

Item	BY 2009 \$M	BY 2009 \$M	% Change
	Original UCR Baseline (Jun 2003 APB)	Current Estimate (Jun 2009 SAR)	
Program Acquisition Unit Cost			
Cost	14248.3	17468.6	
Quantity	75	75	
Unit Cost	189.977	232.915	+22.60
Average Procurement Unit Cost			
Cost	10538.5	13281.9	
Quantity	69	70	
Unit Cost	152.732	189.741	+24.23

Item	TY \$M		TY % Change
	Current UCR Baseline (Jun 2003 APB)	Current Estimate (Jun 2009 SAR)	
Program Acquisition Unit Cost (PAUC)			
Cost	14982.0	19031.4	
Unit Cost	199.760	253.752	+27.03
Average Procurement Unit Cost (APUC)			
Cost	11492.0	14968.5	
Unit Cost	166.551	213.836	+28.39

Item	TY \$M		TY % Change
	Original UCR Baseline (Jun 2003 APB)	Current Estimate (Jun 2009 SAR)	
Program Acquisition Unit Cost (PAUC)			
Cost	14982.0	19031.4	
Unit Cost	199.760	253.752	+27.03
Average Procurement Unit Cost (APUC)			
Cost	11492.0	14968.5	
Unit Cost	166.551	213.836	+28.39

¹ Nunn-McCurdy Breach

Unit Cost Breach Data		
Changes From Previous SAR	\$M/Qty.	Percent
PAUC (BY \$M)	24.774	+11.90
APUC (BY \$M)	22.790	+13.65
PAUC Quantity		0.00
PAUC (TY \$M)	21.337	+9.18
APUC (TY \$M)	19.086	+9.80

Initial SAR Information - Jun 2003	BY2002 \$M	TY \$M
Program Acquisition Cost	12225.0	14982.0

Unit Cost PAUC Changes

There has been a breach in PAUC. A combination of factors contributed to the PAUC breach: estimating increase in System Development & Demonstration (SD&D), radar, antenna, and material cost growth, added capabilities, production rate variance, cost escalation indices changes, Congressional actions, and military construction.

Unit Cost APUC Changes

There has been a breach in APUC. A combination of factors contributed to the APUC breach: inaccurate cost estimating of the radar at Milestone B (MS B), production quantity profile changes extending the program two years more than originally anticipated at MS B, and pension liability adjustments.

Impact of Performance or Schedule Changes

Program Management or Control

An assessment of the program management structure was included in the review process similar to the one for a critical Nunn-McCurdy breach, directed by the Acquisition Decision Memorandum of April 14, 2009 from Under Secretary of Defense for Acquisition, Technology, and Logistics. The thorough evaluation determined that the E-2D program is adequate to manage and control costs.

Cost Control Actions

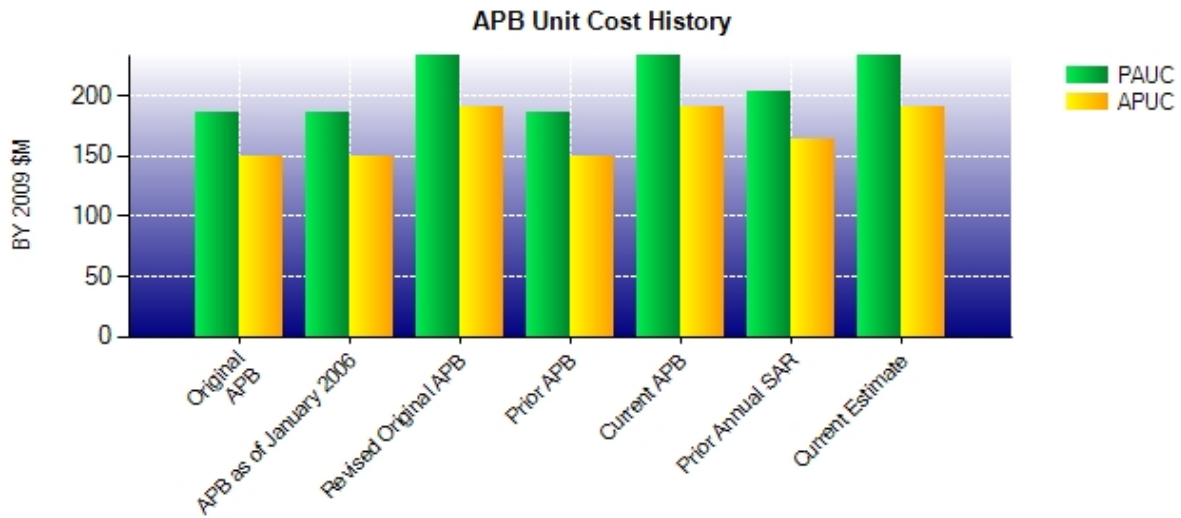
To offset cost growth and keep the program affordable, it was determined at the May 26, 2009 Defense Acquisition Board to accelerate procurement of six aircraft between fiscal years (FY) 2012 and FY 2014, and complete procurement in FY 2019 vice FY2020. These actions will reduce cost growth through the more economical production rates.

Nunn-McCurdy Comments

In coordination with the Office of the Secretary of Defense, the Navy declared a critical Nunn-McCurdy breach on June 11, 2009 based on the Cost Analysis Improvement Group (CAIG) estimate of May 21, 2009 using the program of record (non-accelerated) production ramp. On June 11, 2009, an Acquisition Decision Memorandum (ADM) was issued by Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)) acknowledging the critical breach and directing the Navy to use the accelerated production ramp.

The Nunn-McCurdy Breaches for Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC) are identified here as significant based on the cost estimate by the CAIG using the accelerated production ramp as briefed at the Milestone C Defense Acquisition Board on May 26, 2009. An Acquisition Program Baseline Program Deviation Report was submitted that same day based on the CAIG estimate. The revised ramp accelerates aircraft production by moving six (6) aircraft to within the Future Years Defense Program (FYDP) and ends procurement one year early.

Unit Cost History



Item	Date	BY 2009 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Jun 2003	185.935	149.486	199.760	166.551
APB as of January 2006	Jun 2003	185.935	149.486	199.760	166.551
Revised Original APB	Jul 2009	232.915	189.741	253.752	213.836
Prior APB	Jun 2003	185.935	149.486	199.760	166.551
Current APB	Jul 2009	232.915	189.741	253.752	213.836
Prior Annual SAR	Dec 2007	203.712	163.403	232.415	194.750
Current Estimate	Jun 2009	232.915	189.741	253.752	213.836

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current 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)									
Initial APUC Development Estimate	Changes								APUC Current 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

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	N/A	Jun 2003
Milestone C	N/A	Mar 2009	N/A	May 2009
IOC	N/A	Apr 2011	N/A	Oct 2014
Total Cost (TY \$M)	N/A	14982.0	N/A	19031.4
Total Quantity	N/A	75	N/A	75
PAUC	N/A	199.760	N/A	253.752

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3490.0	11492.0	--	14982.0
Previous Changes				
Economic	+138.5	+647.1	--	+785.6
Quantity	-126.5	+126.5	--	--
Schedule	--	+652.5	--	+652.5
Engineering	+143.9	+336.4	--	+480.3
Estimating	+86.6	+333.9	--	+420.5
Other	--	--	--	--
Support	+66.1	+44.1	--	+110.2
Subtotal	+308.6	+2140.5	--	+2449.1
Current Changes				
Economic	-7.2	-338.1	--	-345.3
Quantity	--	--	--	--
Schedule	--	-425.6	--	-425.6
Engineering	+81.4	+7.3	+48.6	+137.3
Estimating	+141.5	+1583.6	--	+1725.1
Other	--	--	--	--
Support	--	+508.8	--	+508.8
Subtotal	+215.7	+1336.0	+48.6	+1600.3
Adjustments	--	--	--	--
Total Changes	+524.3	+3476.5	+48.6	+4049.4
Current Estimate	4014.3	14968.5	48.6	19031.4

Summary BY 2009 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3709.8	10538.5	--	14248.3
Previous Changes				
Economic	--	--	--	--
Quantity	-116.7	+116.7	--	--
Schedule	--	+242.5	--	+242.5
Engineering	+147.4	+288.8	--	+436.2
Estimating	+116.0	+486.6	--	+602.6
Other	--	--	--	--
Support	+67.5	+13.5	--	+81.0
Subtotal	+214.2	+1148.1	--	+1362.3
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	-246.9	--	-246.9
Engineering	+78.1	+6.2	+46.7	+131.0
Estimating	+137.9	+1380.7	--	+1518.6
Other	--	--	--	--
Support	--	+455.3	--	+455.3
Subtotal	+216.0	+1595.3	+46.7	+1858.0
Adjustments	--	--	--	--
Total Changes	+430.2	+2743.4	+46.7	+3220.3
Current Estimate	4140.0	13281.9	46.7	17468.6

Previous Estimate: December 2007

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-7.2
Increase due to the addition of Mode 5/S Requirement. (Engineering)	+78.1	+81.4
Adjustment for current and prior escalation. (Estimating)	+1.0	+1.0
Increase due to revised estimates for current contract values. (Estimating)	+135.7	+138.9
Increase due to rate adjustments. (Estimating)	+8.3	+8.6
Decrease due to Below Threshold Realignment (BTR) of funding for Small Business Innovative Research and other Navy Reprioritization. (Estimating)	-7.1	-7.0
RDT&E Subtotal	+216.0	+215.7

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-338.1
Acceleration of procurement buy profile in multiple years. (Schedule)	0.0	-119.6
Additional schedule variance due to acceleration of procurement buy profile in multiple years and reduction of one production lot. (Schedule)	-246.9	-306.0
Increase due to addition of Identification Friend or Foe Mode 5 capability. (Engineering)	+6.2	+7.3
Adjustment for current and prior escalation. (Estimating)	+4.6	+4.7
Increase due to updated Cost Analysis Improvement Group (CAIG) estimate for Milestone C. (Estimating)	+1376.1	+1578.9
Adjustment for current and prior escalation. (Support)	+0.6	+0.6
Increase in Other Support due to updated CAIG estimate for Milestone C. (Support)	+314.1	+350.7
Increase in Initial Spares due to updated CAIG estimate for Milestone. (Support)	+140.6	+157.5
Procurement Subtotal	+1595.3	+1336.0

MILCON	\$M	
Current Change Explanations	Base Year	Then Year
Increase due to addition of E-2D MILCON trainer facility requirements. (Engineering)	+46.7	+48.6
MILCON Subtotal	+46.7	+48.6

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: Advanced Hawkeye SD&D
Contractor: Northrop-Grumman Corp.
Contractor Location: Bethpage, NY 11714
Contract Number: N00019-03-C-0057
Contract Type: Cost Plus Award Fee (CPAF)
Award Date: August 04, 2003
Definitization Date: August 04, 2003

Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1936.0	N/A	0	2051.8	N/A	0	2277.8	2277.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (5/29/2009)	-144.9	-13.5
Previous Cumulative Variances	-136.4	-13.0
Net Change	-8.5	-0.5
Percent Variance	-7.84%	-0.73%
Percent Complete	+93.22%	

Cost and Schedule Variance Explanations

General Contract Variance Explanation

The unfavorable net cost variance is due to cost growth in the Radar Mission Systems, rotodome, T56-A-427 engines, and drawing growth.

The unfavorable schedule variance is primarily the result of Radar Mission Systems and Ground/Flight test.

Notes

An Over Target Baseline (OTB) of \$166.0M was implemented in June 2006.

The Program Manager's Estimate At Completion (EAC) increased from \$2222.5M in the December 2007 SAR to \$2277.8M in the current SAR due to changes in the Contract Budget Base.

The difference between the initial and current target contract price is due to the negotiation and award of the Propulsion System Control, Monitoring, and Maintenance System (PSCMMS), Onboard Oxygen Generation System (OBOGS), Cooperative Engagement Capability (CEC), aircraft change directives, Halon Replacement, Mode 5 transponder, and Automatic Power Reserve (APR) testing.

Contract Identification

Appropriation: RDT&E
Contract Name: Advanced Hawkeye SD&D (Pilot Production)
Contractor: Northrop-Grumman Corp
Contractor Location: Bethpage, NY 11714-3582
Contract Number: N00019-03-C-0057/2
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: July 09, 2007
Definitization Date: July 09, 2007

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
407.9	N/A	3	445.8	N/A	3	445.8	445.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (5/29/2009)	+5.9	+1.2
Previous Cumulative Variances	+1.1	+6.8
Net Change	+4.8	-5.6
Percent Variance	+1.87%	+0.38%
Percent Complete	+78.20%	

Cost and Schedule Variance Explanations**General Contract Variance Explanation**

The favorable net cost variance is due to the early receipt of material.

The unfavorable net schedule variance is due to taking credit for early materiel delivery.

Notes

The Program Manager's Estimate At Completion (EAC) increased from \$408.4M in the December 2007 SAR to \$445.8M in the current SAR due to changes in Contract Budget Base.

The difference between the initial and current target contract price is due to the negotiation and award of Cooperative Engagement Capability (CEC), Halon Replacement, Electromagnetic Interface Reduction System (EMIRS) hardware, and T-56-A-427 engines.

Contract Identification

Appropriation: RDT&E
Contract Name: LRIP LOT 1
Contractor: Northrop Grumman Systems Corporation
Contractor Location: Bethpage, NY 11714-3582
Contract Number: N00019-08-C-0027/1
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: December 26, 2007
Definitization Date: December 26, 2007

Contract Price							
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	3	378.0	N/A	2	378.0	378.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0
Percent Variance		
Percent Complete		

Cost and Schedule Variance Explanations**Notes**

This contract was initially awarded in Dec 2007 as the Advanced Acquisition for the Low Rate Initial Production (LRIP) Lot 1 as a Firm Fixed Price contract. The transition to a Fixed Price Incentive contract was awarded June 15, 2009. Earned Value Management reporting is expected to begin September 2009 and will be included in the next SAR.

Contract Identification

Appropriation: Procurement
Contract Name: LRIP LOT 2 Advanced Acquisition
Contractor: Northrop Grumman Corporation
Contractor Location: Bethpage, NY 11714-3582
Contract Number: N00019-08-C-0027/2
Contract Type: Firm Fixed Price (FFP)
Award Date: June 15, 2009
Definitization Date: June 15, 2009

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

Cost and Schedule Variance Explanations

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

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	5	40.00%
Production	0	0	70	0.00%
Total Program Quantity Delivered	2	2	75	2.67%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	19031.4	Years Appropriated	8
Expended to Date	3053.5	Percent Years Appropriated	42.11%
Percent Expended	16.04%	Appropriated to Date	3950.4
Total Funding Years	19	Percent Appropriated	20.76%

Actual quantity reflects delivery of System Development and Demonstration (SD&D) aircraft, SD&D #1 and SD&D #2.

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: 20
 Date of estimate: June 2009

Mission Pay & Allowance includes Squadron Personnel only.

Indirect costs have been updated to not include speciality training, (for consistency with Advanced Hawkeye (AHE) Critical Design results). The E-2D O&S costs have been updated to reflect 5 aircraft per squadron.

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 (\$13.3M) times the number of aircraft (73) and then multiplying that number by the operating years (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.

Cost Estimate Reference:

None

Sustainment Strategy:

None

Antecedent Information:

None

Unitized O&S Costs BY2009 \$M		
Cost Element	E-2D AHE Average Annual Cost Per Aircraft	E-2C Reproduction (Antecedent) Average Annual Cost Per Aircraft
Mission Pay & Allowance	3.900	3.200
Unit Level Consumption	5.000	2.800
Intermediate Maintenance	0.400	1.200
Depot Maintenance	1.100	1.100
Contractor Support	0.200	0.000
Sustaining Support	1.600	0.600
Indirect	1.100	0.800
Other	--	--
Total	13.300	9.700

Unitized Cost Comments:

None

Item	Total O&S Cost \$M			
	E-2D AHE		Current Estimate	E-2C Reproduction (Antecedent)
	Current Production APB Objective/Threshold			
Base Year	19394.0	21333.4	19394.0	12823.6
Then Year	31555.7	N/A	31555.7	19815.0

Total O&S Cost Comment

None

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2009 \$M):