Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-191

MH-60R Multi-Mission Helicopter (MH-60R)

As of December 31, 2012

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Program Name

MH-60R Multi-Mission Helicopter (MH-60R)

DoD Component

Navy

Responsible Office

Responsible Office

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Date Assigned July 28, 2011

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 22, 2006

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated November 29, 2010

Mission and Description

The MH-60R primary mission areas include Anti-Submarine Warfare (ASW) and Surface Warfare (SUW). Secondary mission areas include Search and Rescue, Vertical Replenishment (VERTREP), Naval Surface Fire Support (NSFS), logistics support, personnel transport, Medical Evacuation (MEDEVAC), and Very High Frequency/Ultra High Frequency (VHF/UHF) Link Communication Relay (COMREL). The MH-60R is the central component of the 'Navy Helicopter Master Plan' and the Chief of Naval Operations (CNO) approved Helicopter Concept of Operations (CONOPS) that replaces the aging SH-60B and SH-60F helicopters. The avionics upgrades over the existing SH-60B/F include: a glass cockpit common with the MH-60S; Airborne Low Frequency Sonar (ALFS) as a long range active dipping sonar; Electronic Support Measures (ESM) with expanded frequency coverage and location detection; Multi-Mode Radar (MMR) with long range search, Automatic Radar Periscope Detection and Discrimination (ARPDD); imaging Inverse Synthetic Aperature Radar (ISAR); Forward Looking Infra-Red (FLIR) for imaging and laser target designation; Commercial Off-The-Shelf Acoustic Processor (COTS AP) for acoustic processing for ALFS and sonobuoys; Integrated Self Defense (ISD); Advanced Precision Kill Weapon System (APKWS); and the Mission Planning System (MPS). MH-60R sensors and real-time exchange of tactical data with the host ship will bring a new dimension of battle space control to the Naval Commander.

Executive Summary

A total of 157 MH-60R aircraft have been delivered to the fleet as of March 29, 2013 with ten MH-60R squadrons having been established or transitioned from SH-60Bs. The fourth MH-60R operational deployment is currently underway and Helicopter Maritime Strike (HSM) Squadron 73 is currently detached aboard Littoral Combat Ship One (LCS-1), USS FREEDOM, for its initial deployment. Full Rate Production (FRP) deliveries to the fleet continue on-schedule in support of additional squadron stand-ups and transitions.

Presidents Budget (PB) FY 2014 reduced the MH-60R Program of Record (POR) by 11 aircraft from 291 to 280.

The MH-60R/S Mission Systems and Common Cockpit Multiyear Procurement (MYP) contract (MY2) with Lockheed Martin Mission Systems and Sensors (LM MS2) was awarded April 5, 2012. The MH-60R/S Airframe MYP contract (MY8) with Sikorsky Aircraft Corporation was awarded July 6, 2012. These two contracts will complete the MH-60R production buys. Procurement of 24 and 9 MH-60R's for Australia and Denmark respectively, are also being included as part of these Multi-Years.

Airborne Low Frequency Sonar (ALFS) is a primary MH-60R acoustic sensor. A contract was recently awarded to produce the next two production lots. To increase ALFS reliability, the program implemented a near term Reliability Improvement Accelerated Program (RIAP) and a long term Reliability Growth Initiative (RGI). Reliability and availability are being addressed through these comprehensive plans that leverage industry and organic capabilities.

The Automatic Radar Periscope Detection and Discrimination (ARPPD) System Development and Demonstration program continued during this period. Initial production deliveries of ARPDD equipped aircraft began in January 2013. The program is on track to meet our Initial Operating Capability objective of July 2013.

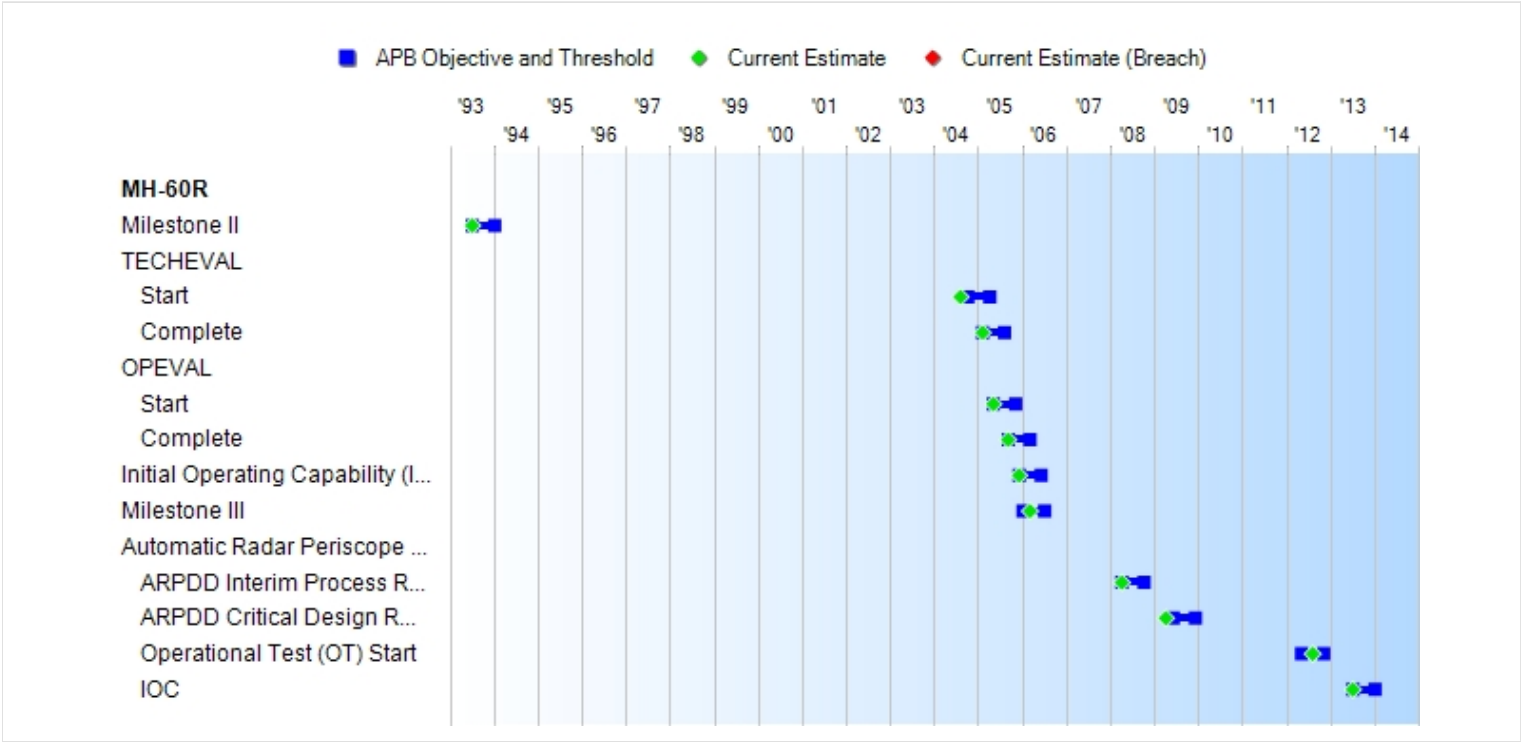
There are no significant software-related issues with this program at this time.

Threshold Breaches

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

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

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	
Milestone II	JUL 1993	JUL 1993	JAN 1994	JUL 1993	
TECHEVAL					
Start	OCT 2004	OCT 2004	APR 2005	AUG 2004	
Complete	FEB 2005	FEB 2005	AUG 2005	FEB 2005	
OPEVAL					
Start	MAY 2005	MAY 2005	NOV 2005	MAY 2005	
Complete	SEP 2005	SEP 2005	MAR 2006	SEP 2005	
Initial Operating Capability (IOC)	DEC 2005	DEC 2005	JUN 2006	DEC 2005	
Milestone III	JAN 2006	JAN 2006	JUL 2006	MAR 2006	
Automatic Radar Periscope Detection and Discriminator (ARPDD)					
ARPDD Interim Process Review (IPR) (System Design Development (SDD) Award)	N/A	APR 2008	OCT 2008	APR 2008	
ARPDD Critical Design Review (CDR)	N/A	JUN 2009	DEC 2009	APR 2009	
Operational Test (OT) Start	N/A	MAY 2012	NOV 2012	AUG 2012	(Ch-1)
IOC	N/A	JUL 2013	JAN 2014	JUL 2013	

Acronyms And Abbreviations

OPEVAL - Operational Evaluation
TECHEVAL - Technical Evaluation

Change Explanations

(Ch-1) ARPDD (OT) Start was delayed from May 2012 to August 2012 due to target and range availability. IOC remains on track for July 2013.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Availability (%): Mission Capable	82	82	70	82.3%	82%
Net Ready: All interfaces, services, policy-enforcement, controls, and data-sharing of the NCOW RM and GIG-KIPs will be satisfied to the requirements of the specific Joint integrated architecture products (including data correctness, data availability, and data processing), and information assurance accreditation specified in the threshold and objective values.	100% of requirements	100% of requirements	100% of enterprise - level or critical requirements	100% of enterprise - level or critical requirements	100% of enterprise - level or critical requirements
Crew Protection: Crashworthiness, Crew Restraint, and Egress	Crew Seating 35/25/20G, Passenger 20/20/20	Crew Seating 35/25/20G, Passenger 20/20/20	Crew Seating 20/20/20G, Passenger 14/13/12G	Crew Seating 20/20/20G, Passenger 14/13/12G	Crew Seating 20/20/20G, Passenger 14/13/12G

Requirements Source: Capability Production Document (CPD) dated November 28, 2005

Acronyms And Abbreviations

G - Gravitational Force
GIG - Global Information Grid
KIPs - Key Interface Profiles
NCOW RM - Net-Centric Operations & Warfare Reference Model

Change Explanations

None

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

Track To Budget

RDT&E				
APPN 1319	BA 05	PE 0604212N	(Navy)	
	Project H2412	ASW & OTHER HELO DEVELOPMENT/MH-60R LAMPS		(Sunk)
	ASW & Other HELO development/MH-60R Lamps			
APPN 1319	BA 05	PE 0604216N	(Navy)	
	Project 1707	MULTI-MISSION HELO UPGRADE DEVELOPMENT/MH-60R		
	Multi-Mission HELO Upgrade Development/MH-60R			
	Project H9215	MULTI-MISSION HELO UPGRADE DEVELOPMENT/MH-60 PMLCC		(Sunk)
	Multi-Mission HELO Upgrade Development/MH-60 PMLCC			

Procurement				
APPN 1506	BA 01	PE 0204243N	(Navy)	
	ICN 0182	MH-60R		
	MH-60R - Funding does not include initial spares			
APPN 1506	BA 06	PE 0204243N	(Navy)	
	ICN 0605		(Shared)	
	Light Airborne Multi-Purpose System spares			

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY2006 $M			BY2006 $M	TY $M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	1519.0	1718.9	1890.8	1841.8	1375.7	1570.4	1708.0
Procurement	9108.0	11360.2	12495.9	10510.6	10049.0	12573.5	11753.7
Flyaway	7386.3	--	--	8792.8	8176.2	--	9871.2
Recurring	6726.4	--	--	7458.1	7471.0	--	8383.6
Non Recurring	659.9	--	--	1334.7	705.2	--	1487.6
Support	1721.7	--	--	1717.8	1872.8	--	1882.5
Other Support	1535.1	--	--	1435.0	1682.7	--	1583.8
Initial Spares	186.6	--	--	282.8	190.1	--	298.7
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	10627.0	13079.1	N/A	12352.4	11424.7	14143.9	13461.7

Confidence Level for Current APB Cost 50% - 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	2	2	2
Procurement	252	298	278
Total	254	300	280

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2014 President's Budget / December 2012 SAR (TY$ M)

Appropriation	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
RDT&E	1662.7	6.9	17.6	10.8	10.0	0.0	0.0	0.0	1708.0
Procurement	8053.0	843.1	831.6	980.0	964.7	81.3	0.0	0.0	11753.7
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2014 Total	9715.7	850.0	849.2	990.8	974.7	81.3	0.0	0.0	13461.7
PB 2013 Total	9753.3	850.0	989.4	1216.7	1365.2	82.7	0.0	0.0	14257.3
Delta	-37.6	0.0	-140.2	-225.9	-390.5	-1.4	0.0	0.0	-795.6

Program funding and production quantities listed in this SAR are consistent with the FY 2014 President's Budget (PB). The FY 2014 PB did not reflect the enacted DoD appropriation for FY 2013, nor sequestration; it reflected the President's requested amounts for FY 2013.

Quantity	Undistributed	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	182	19	19	29	29	0	0	0	278
PB 2014 Total	2	182	19	19	29	29	0	0	0	280
PB 2013 Total	2	182	19	19	31	38	0	0	0	291
Delta	0	0	0	0	-2	-9	0	0	0	-11

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
1990	--	--	--	--	--	--	10.2
1991	--	--	--	--	--	--	28.5
1992	--	--	--	--	--	--	53.0
1993	--	--	--	--	--	--	72.7
1994	--	--	--	--	--	--	70.7
1995	--	--	--	--	--	--	70.0
1996	--	--	--	--	--	--	65.1
1997	--	--	--	--	--	--	55.2
1998	--	--	--	--	--	--	85.3
1999	--	--	--	--	--	--	209.0
2000	--	--	--	--	--	--	110.1
2001	--	--	--	--	--	--	77.8
2002	--	--	--	--	--	--	133.7
2003	--	--	--	--	--	--	89.9
2004	--	--	--	--	--	--	81.9
2005	--	--	--	--	--	--	80.1
2006	--	--	--	--	--	--	57.8
2007	--	--	--	--	--	--	28.9
2008	--	--	--	--	--	--	74.2
2009	--	--	--	--	--	--	67.9
2010	--	--	--	--	--	--	69.4
2011	--	--	--	--	--	--	54.4
2012	--	--	--	--	--	--	16.9
2013	--	--	--	--	--	--	6.9
2014	--	--	--	--	--	--	17.6
2015	--	--	--	--	--	--	10.8

2016	--	--	--	--	--	--	10.0
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**1708.0**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2006 $M	Non End Item Recurring Flyaway BY 2006 $M	Non Recurring Flyaway BY 2006 $M	Total Flyaway BY 2006 $M	Total Support BY 2006 $M	Total Program BY 2006 $M
1990	--	--	--	--	--	--	13.7
1991	--	--	--	--	--	--	36.8
1992	--	--	--	--	--	--	66.6
1993	--	--	--	--	--	--	89.2
1994	--	--	--	--	--	--	85.2
1995	--	--	--	--	--	--	82.7
1996	--	--	--	--	--	--	75.7
1997	--	--	--	--	--	--	63.4
1998	--	--	--	--	--	--	97.1
1999	--	--	--	--	--	--	235.3
2000	--	--	--	--	--	--	122.1
2001	--	--	--	--	--	--	85.1
2002	--	--	--	--	--	--	144.9
2003	--	--	--	--	--	--	96.0
2004	--	--	--	--	--	--	85.1
2005	--	--	--	--	--	--	81.1
2006	--	--	--	--	--	--	56.7
2007	--	--	--	--	--	--	27.7
2008	--	--	--	--	--	--	69.8
2009	--	--	--	--	--	--	63.1
2010	--	--	--	--	--	--	63.5
2011	--	--	--	--	--	--	48.5
2012	--	--	--	--	--	--	14.8
2013	--	--	--	--	--	--	5.9
2014	--	--	--	--	--	--	14.8
2015	--	--	--	--	--	--	8.9
2016	--	--	--	--	--	--	8.1
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**1841.8**

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
2000	5	175.9	--	25.8	201.7	35.3	237.0
2001	--	--	--	44.7	44.7	7.3	52.0
2002	--	--	--	11.2	11.2	3.8	15.0
2003	--	32.5	--	36.5	69.0	52.4	121.4
2004	4	168.4	--	68.4	236.8	108.7	345.5
2005	6	204.0	--	71.4	275.4	155.4	430.8
2006	12	394.8	--	58.2	453.0	204.0	657.0
2007	25	714.7	--	71.9	786.6	131.3	917.9
2008	28	868.9	--	95.2	964.1	115.6	1079.7
2009	30	924.8	--	121.7	1046.5	146.4	1192.9
2010	24	674.1	--	104.2	778.3	176.4	954.7
2011	24	729.1	--	90.1	819.2	253.2	1072.4
2012	24	736.9	--	155.5	892.4	84.3	976.7
2013	19	660.2	--	133.0	793.2	49.9	843.1
2014	19	664.2	--	92.8	757.0	74.6	831.6
2015	29	771.8	--	133.0	904.8	75.2	980.0
2016	29	663.3	--	174.0	837.3	127.4	964.7
2017	--	--	--	--	--	81.3	81.3
Subtotal	**278**	**8383.6**	**--**	**1487.6**	**9871.2**	**1882.5**	**11753.7**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2006 $M	Non End Item Recurring Flyaway BY 2006 $M	Non Recurring Flyaway BY 2006 $M	Total Flyaway BY 2006 $M	Total Support BY 2006 $M	Total Program BY 2006 $M
2000	5	192.9	--	28.3	221.2	38.7	259.9
2001	--	--	--	48.4	48.4	7.9	56.3
2002	--	--	--	12.0	12.0	4.1	16.1
2003	--	34.1	--	38.3	72.4	55.0	127.4
2004	4	172.1	--	69.9	242.0	111.2	353.2
2005	6	202.8	--	71.0	273.8	154.5	428.3
2006	12	381.9	--	56.3	438.2	197.3	635.5
2007	25	675.6	--	68.0	743.6	124.1	867.7
2008	28	809.1	--	88.7	897.8	107.6	1005.4
2009	30	849.1	--	111.7	960.8	134.4	1095.2
2010	24	605.1	--	93.5	698.6	158.4	857.0
2011	24	639.1	--	79.0	718.1	222.0	940.1
2012	24	633.6	--	133.7	767.3	72.5	839.8
2013	19	557.0	--	112.1	669.1	42.1	711.2
2014	19	549.9	--	76.9	626.8	61.7	688.5
2015	29	627.0	--	108.1	735.1	61.1	796.2
2016	29	528.8	--	138.8	667.6	101.6	769.2
2017	--	--	--	--	--	63.6	63.6
Subtotal	**278**	**7458.1**	**--**	**1334.7**	**8792.8**	**1717.8**	**10510.6**

Cost Quantity Information
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2006 $M
2000	5	192.9
2001	--	--
2002	--	--
2003	--	--
2004	4	169.2
2005	6	170.6
2006	12	326.7
2007	25	686.6
2008	28	781.5
2009	30	857.5
2010	24	631.4
2011	24	616.8
2012	24	613.3
2013	19	548.9
2014	19	514.8
2015	29	721.2
2016	29	626.7
2017	--	--
Subtotal	**278**	**7458.1**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	5/10/1999	4/5/2005
Approved Quantity	21	15
Reference	Navy Program Decision Meeting ADM	Navy Program Review ADM
Start Year	2002	2002
End Year	2007	2007

In May 1999, Low Rate Initial Production (LRIP) was approved by Assistant Secretary of the Navy Research, Development and Acquisition ASN(RDA) for a total LRIP quantity of 21, which was 8.6% of the total procurement (243).

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Denmark	12/6/2012	9	640.0	Total Cost based on Letter of Offer and Acceptance signed November 30, 2012. Foreign Military Sales (FMS) Case DE-P-SAE includes initial sustainment (spares, support equipment, pubs, training, tech support) and Mission Operational Flight Trainer.
Denmark	12/6/2012		308.7	Total Cost based on Letter of Offer and Acceptance signed November 30, 2012 for Sustainment Support to include Aircraft Spares, Support Equipment, Repair of Repairables, Publications, Technical Data, Technical Support and Training. FMS Case DE-P-GBP.
Australia	6/6/2011	24	2052.7	Total Cost based on Letter of Offer and Acceptance signed June 6, 2011. FMS Case AT-P-SCF includes initial sustainment (spares, support equipment, pubs, training, tech support) and Tactical Operational Flight Trainer.
Australia	6/6/2011		755.0	Total Cost based on Letter of Offer and Acceptance signed June 6, 2011 for ten years Through Life Support (TLS), Spares, Support Equipment, Publications, Technical Support and Training. FMS Cases AT-P-GTC and AT-P-GXO.

Nuclear Cost

None

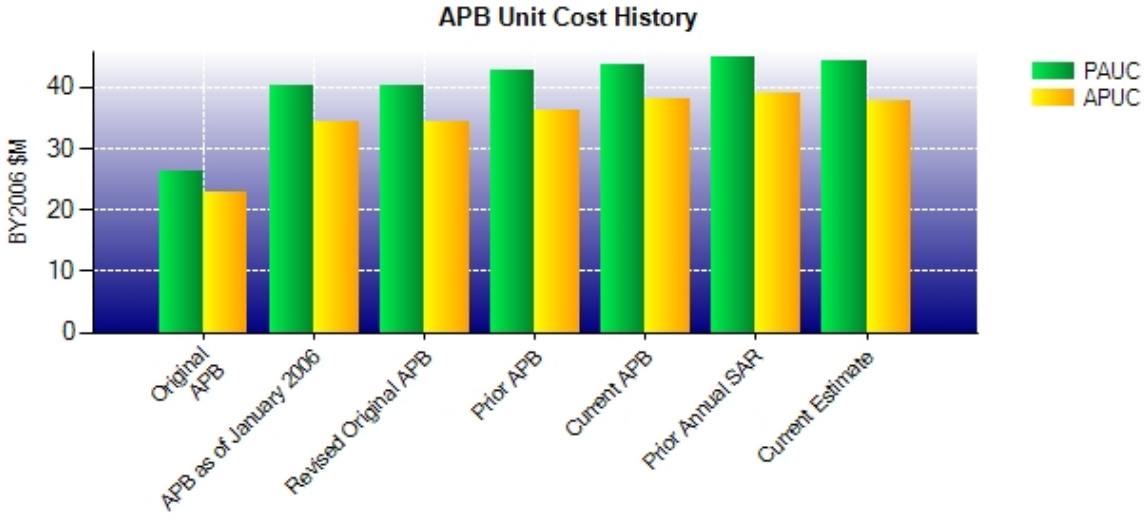
Unit Cost

Unit Cost Report

Unit Cost	BY2006 $M Current UCR Baseline (NOV 2010 APB)	BY2006 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	13079.1	12352.4	
Quantity	300	280	
Unit Cost	43.597	44.116	+1.19
Average Procurement Unit Cost (APUC)			
Cost	11360.2	10510.6	
Quantity	298	278	
Unit Cost	38.121	37.808	-0.82

Unit Cost	BY2006 $M Revised Original UCR Baseline (MAY 2004 APB)	BY2006 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	9894.9	12352.4	
Quantity	243	280	
Unit Cost	40.720	44.116	+8.34
Average Procurement Unit Cost (APUC)			
Cost	8361.1	10510.6	
Quantity	241	278	
Unit Cost	34.693	37.808	+8.98

Unit Cost History



		BY2006 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	JUN 1995	26.155	22.846	29.981	27.062
APB as of January 2006	MAY 2004	40.208	34.255	41.427	36.090
Revised Original APB	MAY 2004	40.208	34.255	41.427	36.090
Prior APB	SEP 2008	42.626	36.143	45.746	39.877
Current APB	NOV 2010	43.597	38.121	47.146	42.193
Prior Annual SAR	DEC 2011	44.955	38.974	48.994	43.525
Current Estimate	DEC 2012	44.116	37.808	48.078	42.279

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	
44.979	-1.370	-18.295	0.747	3.963	11.669	0.000	3.286	0.000	44.979

Current SAR Baseline to Current Estimate (TY $M)

PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
44.979	0.112	-1.552	0.451	1.422	2.629	0.000	0.037	3.099	48.078

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	
39.877	-1.249	-15.767	0.753	3.098	10.132	0.000	3.033	0.000	39.877

Current SAR Baseline to Current Estimate (TY $M)

APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
39.877	0.141	-1.087	0.454	0.585	2.272	0.000	0.037	2.402	42.279

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone I	N/A	N/A	N/A	N/A
Milestone II	N/A	JUL 1993	JUL 1993	JUL 1993
Milestone III	N/A	OCT 2001	JAN 2006	MAR 2006
IOC	N/A	MAR 2001	DEC 2005	DEC 2005
Total Cost (TY $M)	N/A	11424.7	11424.7	13461.7
Total Quantity	N/A	254	254	280
Prog. Acq. Unit Cost (PAUC)	N/A	44.979	44.979	48.078

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	1375.7	10049.0	--	11424.7
Previous Changes				
Economic	-8.6	-62.6	--	-71.2
Quantity	--	+1077.1	--	+1077.1
Schedule	--	+129.1	--	+129.1
Engineering	+205.7	+39.0	--	+244.7
Estimating	+105.9	+1336.7	--	+1442.6
Other	--	--	--	--
Support	--	+10.3	--	+10.3
Subtotal	+303.0	+2529.6	--	+2832.6
Current Changes				
Economic	+0.7	+101.9	--	+102.6
Quantity	--	-342.5	--	-342.5
Schedule	--	-2.8	--	-2.8
Engineering	+29.9	+123.6	--	+153.5
Estimating	-1.3	-705.2	--	-706.5
Other	--	--	--	--
Support	--	+0.1	--	+0.1
Subtotal	+29.3	-824.9	--	-795.6
Total Changes	+332.3	+1704.7	--	+2037.0
CE - Cost Variance	1708.0	11753.7	--	13461.7
CE - Cost & Funding	1708.0	11753.7	--	13461.7

Summary Base Year 2006 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	1519.0	9108.0	--	10627.0
Previous Changes				
Economic	--	--	--	--
Quantity	--	+900.5	--	+900.5
Schedule	--	+52.6	--	+52.6
Engineering	+187.0	+33.2	--	+220.2
Estimating	+112.2	+1173.5	--	+1285.7
Other	--	--	--	--
Support	--	-4.2	--	-4.2
Subtotal	+299.2	+2155.6	--	+2454.8
Current Changes				
Economic	--	--	--	--
Quantity	--	-275.0	--	-275.0
Schedule	--	-3.2	--	-3.2
Engineering	+24.8	+102.9	--	+127.7
Estimating	-1.2	-578.0	--	-579.2
Other	--	--	--	--
Support	--	+0.3	--	+0.3
Subtotal	+23.6	-753.0	--	-729.4
Total Changes	+322.8	+1402.6	--	+1725.4
CE - Cost Variance	1841.8	10510.6	--	12352.4
CE - Cost & Funding	1841.8	10510.6	--	12352.4

Previous Estimate: December 2011

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+0.7
Increase for Advanced Precision Kill Weapon System (APKWS) integration. (Engineering)	+24.8	+29.9
Adjustment for current and prior escalation. (Estimating)	-0.5	-0.5
Decrease in estimate for the refinement of the Automatic Radar Periscope Detection and Discrimination (ARPDD). (Estimating)	-0.5	-0.6
Decrease in estimate for Sustaining Engineering/Program Managment (SEPM) costs. (Estimating)	-0.2	-0.2
RDT&E Subtotal	+23.6	+29.3

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+101.9
Total Quantity variance resulting from the decrease of 11 aircraft. (Subtotal)	-302.6	-379.5
Quantity variance resulting from the decrease of 11 aircraft. (Quantity) (QR)	(-264.1)	(-331.2)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(-3.3)	(-4.1)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(-1.0)	(-1.3)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-34.2)	(-42.9)
Additional Quantity Change resulting from the decrease of 11 aircraft. (Quantity) (QR)	-10.9	-11.3
Schedule variance resulting from the delayed procurement of 2 aircraft from FY 2015 to FY 2016. (Schedule)	0.0	+1.3
Additional Schedule Variance due to change in quantity. (Schedule) (QR)	+0.1	0.0
Increase in engineering costs due to the incorporation of Sikorsky Airframe Engineering Change Proposals (ECPs). (Engineering)	+7.4	+9.0
Increase to include Non-Recurring Engineering (NRE) for Airborne Low Frequency Sonar (ALFS) Reliability Improvement Accelerated Plan (RIAP), Advanced Data Transfer System (ADTS), Data Fusion and Data Link enhancements, and Fatigue Life Substantiation. (Engineering)	+96.5	+115.9
Adjustment for current and prior escalation. (Estimating)	-30.2	-34.9
Revised estimate to reflect the application of new inflation indices. (Estimating)	-39.6	-48.9
Decrease in cost estimate for Sikorsky Airframe due to award of multi-year contract in July 2012. (Estimating)	-359.9	-440.6
Decrease in cost estimate for Lockheed Martin Mission Systems and Common Cockpit due to award of multi-year contract in April 2012. (Estimating)	-132.8	-159.1
Increase in cost estimate for Government Furnished Equipment (GFE) requirements and prior year actuals. (Estimating)	+24.9	+31.4
Decrease in cost estimate for refinement of Engineering Change Order (ECO) estimate. (Estimating)	-24.9	-30.4
Increase in cost estimate for addition of ALFS quantities from 206 to 209 units and re-phasing. (Estimating)	+9.8	+9.5
Increase in estimate for NRE associated with ALFS and other NRE. (Estimating)	+8.9	+10.7

Adjustment for current and prior escalation. (Support)	-4.5	-5.2
Increase in Other Support due to refined cost estimates. (Support)	+4.3	+4.7
Increase in Initial Spares due to refined cost estimates. (Support)	+0.5	+0.6
Procurement Subtotal	-753.0	-824.9

(QR) Quantity Related

Contracts

Appropriation: Procurement	
Contract Name	**LM MS2 MY Production Lots (5-9)**
Contractor	Lockheed Martin Mission Systems & Sensors (LM MS2)
Contractor Location	Owego, NY 13827-3998
Contract Number, Type	N00019-06-C-0098, FFP
Award Date	August 16, 2007
Definitization Date	August 16, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1065.0	N/A	139	1155.8	N/A	131	1155.8	1155.8

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 a contract modification awarded in December 2009 for additional scope for procurement of the Common Cockpit (CC) for FY 2010 - FY 2012.

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

Appropriation: Procurement

Contract Name	**SAC MY Production Lots (5-9)**
Contractor	Sikorsky Aircraft Corporation (SAC)
Contractor Location	Stratford, CT 06614-1378
Contract Number, Type	W58RGZ-08-C-0003, FFP
Award Date	December 12, 2007
Definitization Date	December 12, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
2090.0	N/A	139	1977.7	N/A	131	1977.7	1977.7

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 the reduction of aircraft quantities.

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

Appropriation: Procurement

Contract Name	**MH-60R Common Cockpit & Mission Systems (Lots 10-14)**
Contractor	Lockheed Martin Mission Systems and Sensors (LM MS2)
Contractor Location	1801 State RT 17C Owego, NY 13827-3998
Contract Number, Type	N00019-11-C-0020, FFP
Award Date	April 05, 2012
Definitization Date	April 05, 2012

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1107.7	N/A	131	1107.8	N/A	131	1050.5	1050.5

Cost And Schedule Variance Explanations

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

Contract Comments

This is the first time this contract is being reported.

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to a contract modification awarded in November 2012 for additional scope for the Common Cockpit (CC) for FY 2012.

The estimated price at completion is lower than current contract price due to the President's Budget (PB) 2014 reduction of 11 aircraft. The contract will be modified to reflect a total quantity of 120 aircraft.

Appropriation: Procurement

Contract Name	**MH-60R Airframe (Lots 10-14)**
Contractor	Sikorsky Aircraft Corporation (SAC)
Contractor Location	6900 Main Street Stratfort, CT 06614-1385
Contract Number, Type	W58RGZ-12-C-0008, FFP
Award Date	July 06, 2012
Definitization Date	July 06, 2012

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1934.7	N/A	131	1934.7	N/A	131	1826.3	1826.3

Cost And Schedule Variance Explanations

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

Contract Comments

This is the first time this contract is being reported.

The estimated price at completion is lower than current contract price due to the President's Budget (PB) 2014 reduction of 11 aircraft. The contract will be modified to reflect a total quantity of 120 aircraft.

Appropriation: Procurement

Contract Name	**Raytheon Integrated Defense Systems ALFS Lots 7 - 8**
Contractor	Raytheon Integrated Defense Systems
Contractor Location	Portsmouth, RI 02871-1087
Contract Number, Type	N00019-09-C-0096, FFP
Award Date	September 22, 2009
Definitization Date	September 22, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
81.1	N/A	23	148.3	N/A	41	148.3	148.3

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 a contract modification awarded in March 2010 for additional scope for procurement of 18 Lot 8 Airborne Low Frequency Sonar (ALFS) systems and two Sonar Transmitter/Receivers (ST/R). Contract modifications were awarded in FY 2013 for system reliability improvements.

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

Appropriation: Procurement

Contract Name	**Raytheon Integrated Defense Systems ALFS Lot 10 & 11**
Contractor	Raytheon Integrated Defense Systems
Contractor Location	Portsmouth, RI 02871-1087
Contract Number, Type	N00019-13-C-0012, FFP
Award Date	December 20, 2012
Definitization Date	December 20, 2012

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
158.6	N/A	48	158.6	N/A	48	158.6	158.6

Cost And Schedule Variance Explanations

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

Contract Comments

This is the first time this contract is being reported.

Appropriation: Procurement

Contract Name	**Raytheon Integrated Defense Systems ALFS Lot 9**
Contractor	Raytheon Integrated Defense Systems
Contractor Location	Portsmouth, RI 02871-1087
Contract Number, Type	N00019-11-C-0077, FFP
Award Date	September 27, 2011
Definitization Date	September 27, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
81.7	N/A	24	162.5	N/A	49	162.5	162.5

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 a contract modification awarded in December 2011 for additional scope for procurement of the 25 Royal Australian Navy (RAN) Airborne Low Frequency Sonar (ALFS) systems.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	155	155	278	55.76%
Total Program Quantities Delivered	157	157	280	56.07%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	13461.7	Years Appropriated	24
Expenditures To Date	8387.5	Percent Years Appropriated	85.71%
Percent Expended	62.31%	Appropriated to Date	10565.7
Total Funding Years	28	Percent Appropriated	78.49%

The above data is current as of 3/29/2013.

Operating and Support Cost

MH-60R

Assumptions and Ground Rules

Cost Estimate Reference:
Date of Estimate: March 2013
Source: NAVAIR 4.2 Cost Department; Operating & Sustainment Division

Cost estimate updated to reflect a reduction in the Primary Authorized Aircraft (PAA) and flight hours from the Milestone III estimate from 500 flight hours per year to 414 flight hours per year based on revised planning factors. Maintenance Costs consisting of Aviation Depot Level Repairable (AVDLR) and Consumables are now estimated using a bottoms up model, utilizing both historical costs and reliability performance to date for the MH-60R which includes the cost savings of new I-level capabilities, instead of the observed historical cost ratios from other similar H-60s. In addition, a MH-60R specific manning document and sundown plan is now being utilized instead of the legacy manning documents for other H-60 platforms. The Base Year total was calculated multiplying the dollar per aircraft cost by the total number of aircraft years of the Operating and Support (O&S) cycle. A phased approach estimate includes the ramp-up of aircraft as they are introduced to the fleet through the retirement of MH-60R aircraft from service with a total aircraft procurement of 280.

Sustainment Strategy:
-- Quantity: 280
-- Service Life (Useful Life): 10,000 Hours or 20 Years
--Estimated Duration = Fiscal Year (FY) 2002 to 2037
--Aircraft Attrition Rate = 0.5% of Total Active Inventory (TAI) per Year
--Aircraft Pipeline Rate = 10% of TAI per year
--Average Flight Hours per Month per Aircraft = 34.5
--Total Operating Aircraft Years = 4,933

Antecedent Information:
The antecedent system is the SH-60B/F aircraft. All costs are from the FY 2012 Navy Visibility and Management of Operating and Support Costs (VAMOSC) Aviation Type Model Series Report (ATMSR) database (data from 2009 through 2012) and the FY 2013 Aircraft Program Data File (APDF) PAA. (6.0) Indirect Support is a function of Unit-Level Manpower costs.

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.

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

Unitized O&S Costs BY2006 $K		
Cost Element	**MH-60R Average Annual Cost per Aircraft**	**SH-60B/F (Antecedent) Average Annual Cost per Aircraft**
Unit-Level Manpower	1875.6	1850.4
Unit Operations	210.0	210.0
Maintenance	2124.0	2123.0
Sustaining Support	88.6	104.5
Continuing System Improvements	230.3	224.0
Indirect Support	848.1	848.1
Other	0.0	0.0
Total	5376.6	5360.0

Unitized Cost Comments:

The Average Annual Cost Per Unit for the MH-60R is calculated by dividing the Total O&S Cost by the Total Operational Aircraft Years for the program.

	Total O&S Cost $M			
	Current Production APB Objective/Threshold		**Current Estimate**	
	MH-60R		**MH-60R**	**SH-60B/F (Antecedent)**
Base Year	36067.5	39674.3	26522.8	26441.0
Then Year	49181.1	N/A	37445.5	N/A

Total O&S Costs Comments:

For comparison purposes, the Base Year Antecedent Total O&S Costs is the product of the Antecedent's Average Annual Cost per Aircraft and the Operational Aircraft Years of the MH-60R.

2011 SAR (CY06$M): $26,504
Cost Estimating Methodologies: Estimated Change from 2011 SAR (-5.8%)
Cost Data Updates: Estimated Change from 2011 SAR (-7.6%)
Rates: Estimated Change from 2011 SAR (-0.8%)
Technical Inputs: Estimated Change from 2011 SAR (8.7%)
Programmatics/Planning Factors: Estimated Change from 2011 SAR (5.6%)
2012 SAR (CY06$M): Total Estimated Change from 2011 SAR (0.1%)

Disposal Costs

The Rough Order of Magnitude (ROM) estimated cost of the demil/disposal phase for the remaining aircraft is $70M (Base Year 2006). The estimate will be refined as the System Disposal Plan Annex to the Life Cycle Sustainment Plan is developed.