Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-282

MH-60S

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

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

DoD Component

Navy

Responsible Office

Responsible Office

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Date Assigned July 28, 2011

References

SAR Baseline (Production Estimate)

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated November 9, 2002

Approved APB

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

Mission and Description

The MH-60S Multi-Mission Combat Support (HSC) has three mission areas designated as “Blocks”. Block 1 Combat Support provides Vertical Replenishment (VERTREP); internal transport of passengers, mail and cargo; Vertical On Board Delivery (VOD); Airhead Operations; and day/night Search and Rescue (SAR). Secondary roles include torpedo and drone recovery, Noncombatant Evacuation Operations (NEO), Sea Air Land (SEAL) and Explosive Ordnance Disposal (EOD) support.

Block 2 Airborne Mine Countermeasures (AMCM) provides an Organic AMCM capability for the Littoral Combat Ship (LCS) Mine Countermeasures Mission Package. Block 2A AMCM includes Carriage, Stream, Tow and Recovery System (CSTRS), Common Console, Auxiliary Fuel Tank, and Sonar Mine Detection Set (AQS-20A). Block 2B includes AES-1 Airborne Laser Mine Detection System (ALMDS), ASQ-235 Airborne Mine Neutralization System (AMNS), and ALQ-220 Organic Airborne and Surface Influence Sweep (OASIS).

Block 3 Armed Helo provides the Navy with organic Surface Warfare (SUW), Force Protection (FP), and Combat Search and Rescue (CSAR), capabilities. Additional Armed Helo mission areas include Special Warfare Support (SWS), Maritime Interdiction Operations (MIO), and Carrier (CV) Plane Guard/SAR.

These missions are vital to the Navy's role in power projection in the littoral areas of the world. The first 50 aircraft are only capable of performing Block 1 Combat Support Missions. Aircraft 51 to 275 will be capable of performing Block 1 Combat Support Missions, as well as Block 2 AMCM missions and Block 3 Armed Helo missions with installation of ancillary kits.

Executive Summary

The MH-60S program has delivered 208 of 275 helicopters as of January 31, 2012. In addition to the mission areas described in the Mission and Description section of this document, MH-60S helicopters have maintained a 24-hour/7-day per week presence in Kuwait and Iraq conducting Air Ambulance missions with the U.S. Army since 2004. MH-60S helicopters have been utilized extensively for Humanitarian Assistance and Disaster Relief (HADR), including support of the 2010 Haitian earthquake and 2011 Japanese earthquake and tsunami relief efforts. In 2011, the MH-60S completed the third Carrier Strike Group (CSG) deployment with Helicopter Sea Combat Squadron Nine (HSC-9) on the USS George H.W. Bush (CVN-77) and the fourth deployment of the MH-60S in a CSG is underway with HSC-12 on the USS Abraham Lincoln (CVN-72).

The FY 2012 National Defense Authorization Act and Consolidated Appropriations Act included Congressional authority to enter into the MH-60R/S Mission Systems and Common Cockpit Multiyear Procurement (MYP) contract (MY2) FY 2012-2016 as well as airframes for Army UH-60M/HH-60M helicopters and Navy MH-60R/MH-60S helicopters MYP contract (MY8) FY 2012-2016.

The MH-60R/S Mission Systems and Common Cockpit MY2 contract with Lockheed Martin Mission Systems and Sensors (LM MS2) is scheduled to be awarded in the second quarter of FY 2012. The MH-60R/S Airframe MY8 contract with Sikorsky Aircraft Corporation (SAC) is scheduled to be awarded in the third quarter of FY 2012.

MH-60S Armed Helicopter fixed forward weapons integration and test activities continued through 2011. Developmental testing of the 20 millimeter gun on the MH-60S was completed in 2011. An operational test/quick reaction assessment and fielding the 20 millimeter gun is planned for 2012. Risk reduction tests of unguided rockets on the MH-60S were conducted in 2011. Follow-on integration and qualification efforts for rockets are planned for 2012.

MH-60S Airborne Mine Countermeasures (AMCM) integration and test activities continued through 2011. Individual AMCM system operational test schedules were aligned with the Littoral Combat Ship (LCS) Mine Countermeasures (MCM) Mission Package (MP) schedule. An Operational Assessment (OA) of the MH-60S with AN/AQS-20A sonar was completed in 2011 along with developmental testing of the MH-60S with the Airborne Laser Mine Detection System (ALMDS). Testing of the MH-60S with the Airborne Mine Neutralizer System (AMNS) and Organic Airborne Surface Influence Sweep (OASIS) was also conducted in 2011, with plans to continue testing in 2012. An OA of the MH-60S ALMDS is planned for 2012. The program will experience a schedule breach for AMCM Initial Operational Capability (IOC) as a result of the alignment with the LCS MCM MP schedule. A Program Deviation Report (PDR) has been issued by the Program Manager.

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

Threshold Breaches

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

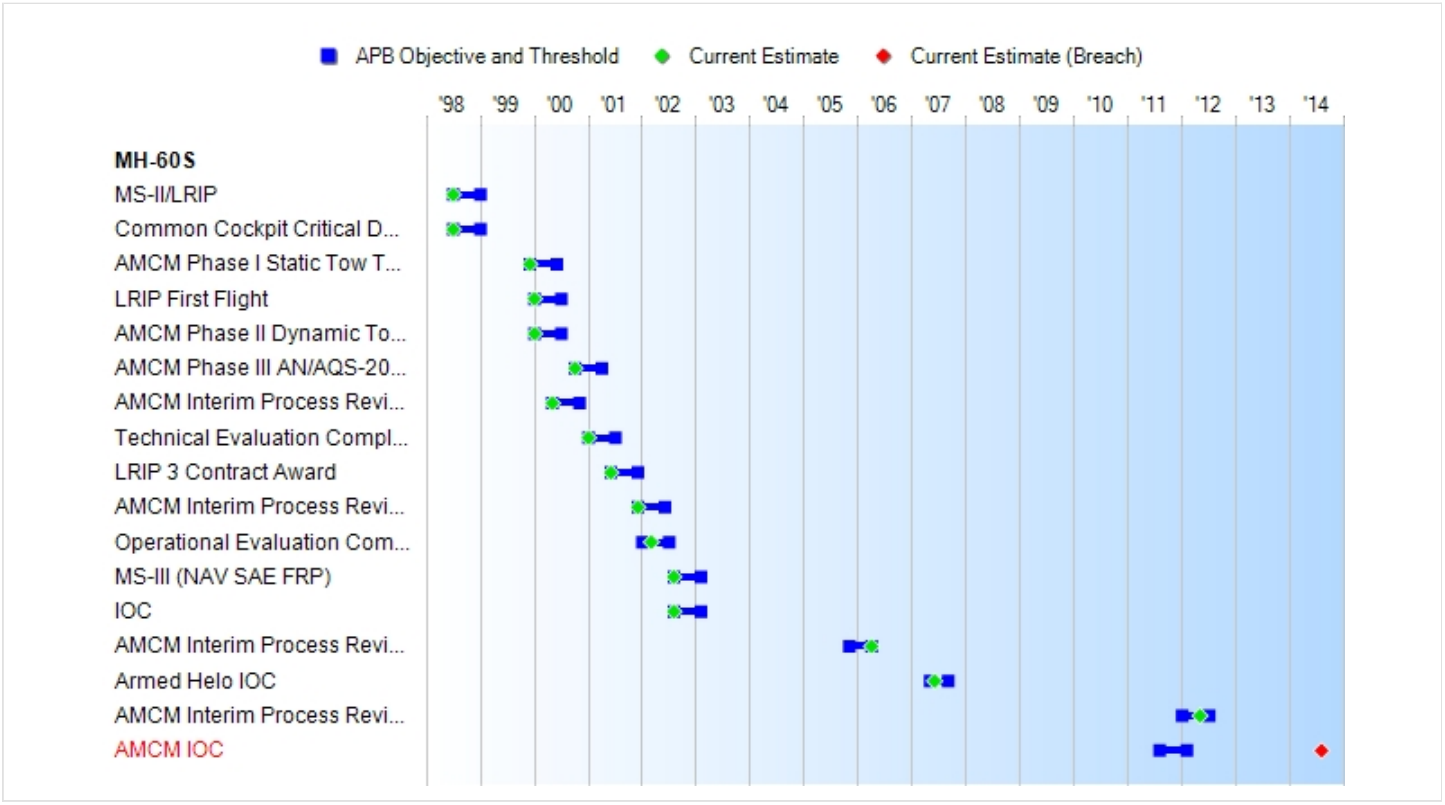
Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	Significant
	APUC	Significant

Explanation of Breach

This program realized a significant Nunn-McCurdy breach to the original baseline that was first reported in the December 2005 SAR. The supporting breach information and explanations can be found in the Unit Cost Report section of that SAR.

Schedule: Airborne Mine Countermeasure (AMCM) Initial Operational Capability (IOC) changed from August 2011 to August 2014. The change is based on alignment of the MH-60S AMCM schedule with the Littoral Combat Ship (LCS) Mine Countermeasures Mission Package schedule.

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'98
'99
'00
'01
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
MH-60S
MS-II/LRIP
Common Cockpit Critical D...
AMCM Phase I Static Tow T...
LRIP First Flight
AMCM Phase II Dynamic To...
AMCM Phase III AN/AQS-20...
AMCM Interim Process Revi...
Technical Evaluation Compl...
LRIP 3 Contract Award
AMCM Interim Process Revi...
Operational Evaluation Com...
MS-III (NAV SAE FRP)
IOC
AMCM Interim Process Revi...
Armed Helo IOC
AMCM Interim Process Revi...
AMCM IOC

Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	
MS-II/LRIP	JUL 1998	JUL 1998	JAN 1999	JUL 1998	
Common Cockpit Critical Design Review	JUL 1998	JUL 1998	JAN 1999	JUL 1998	
AMCM Phase I Static Tow Test and OEI Test	DEC 1999	DEC 1999	JUN 2000	DEC 1999	
LRIP First Flight	JAN 2000	JAN 2000	JUL 2000	JAN 2000	
AMCM Phase II Dynamic Tow Test	JAN 2000	JAN 2000	JUL 2000	JAN 2000	
AMCM Phase III AN/AQS-20 Tow Demonstration	OCT 2000	OCT 2000	APR 2001	OCT 2000	
AMCM Interim Process Review I	MAY 2000	MAY 2000	NOV 2000	MAY 2000	
Technical Evaluation Complete	JAN 2001	JAN 2001	JUL 2001	JAN 2001	
LRIP 3 Contract Award	JUN 2001	JUN 2001	DEC 2001	JUN 2001	
AMCM Interim Process Review II	DEC 2001	DEC 2001	JUN 2002	DEC 2001	
Operational Evaluation Complete	JAN 2002	JAN 2002	JUL 2002	MAR 2002	
MS-III (NAV SAE FRP)	AUG 2002	AUG 2002	FEB 2003	AUG 2002	
IOC	AUG 2002	AUG 2002	FEB 2003	AUG 2002	
AMCM Interim Process Review III	APR 2005	NOV 2005	APR 2006	APR 2006	
Armed Helo IOC	MAR 2006	MAY 2007	SEP 2007	JUN 2007	
AMCM Interim Process Review IV	N/A	JAN 2012	JUL 2012	MAY 2012	(Ch-1)
AMCM IOC	JUN 2005	AUG 2011	FEB 2012	**AUG 2014**[1]	(Ch-2)

[1] *APB Breach*

Acronyms And Abbreviations

AMCM - Airborne Mine Countermeasure
AN/AQS-20A - Sonar Mine Detection Set
IOC - Initial Operational Capability
LRIP - Low Rate Initial Production
MS - Milestone
NAV SAE FRP - Navy Service Acquisition Executive Full Rate Production
OEI - One Engine Inoperative

Change Explanations

(Ch-1) Airborne Mine Countermeasures (AMCM) IPR IV changed from January 2012 to May 2012 based on alignment with MH-60S AMCM operational test schedules.

(Ch-2) Airborne Mine Countermeasures (AMCM) IOC changed from August 2011 to August 2014. Change is based on alignment of the MH-60S AMCM schedule with the Littoral Combat Ship (LCS) Mine Countermeasures Mission Package schedule.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate	
*Airspeed-Vmax (KIAS) (Block 1 configuration)	175	175	150	154	154	
*Amphibious SAR Mission Radius (nm) (Block 1 configuration)	150	150	50	50	50	
*VERTREP Endurance (hrs) (Block 1 configuration)	3	3	1.75	1.85	1.85	
*VERTREP, External (lbs) (Block 1 configuration)	5,500	5,500	5,500	6,000	7,500	
*VOD (lbs) (Block 1 configuration)	5,500	5,500	5,500	5,000	5,500	
MTBF (hrs)	20.3	N/A	N/A	N/A	N/A	
MTTR (hrs)	3.6	N/A	N/A	N/A	N/A	
*Organic CSAR Overland Mission Radius (nm)	300	200	150	194	194	
*SWS Mission Radius (nm)	300	N/A	N/A	N/A	N/A	
*CV Plane Guard/SAR Mission Radius (nm)	200	200	100	114	114	
*AMCM Free Flight Endurance (mins)	150	150	120	169.9	169.9	(Ch-1)
*AMCM Hover Endurance (mins)	90	90	75	TBD	75	
*AMCM Tow Endurance (mins) /6	75	75	60	71.6	71.6	(Ch-1)
*AMCM Hot Temp Tow Endurance(105 deg F)	45	45	30	30	30	(Ch-1)
*AMCM Tow Turns (25 knot wind) (deg/sec)	1.5	1.5	1.0	1.5	1.5	(Ch-1)
*AMCM Wind Speed Tow (KIAS)	30	30	25	26	26	(Ch-1)
*AMCM Block 2 Information Dissemination (%)	95	N/A	N/A	N/A	N/A	
*AMCM Block 2 Information Integrity (%)	99	N/A	N/A	N/A	N/A	
*AMCM Block 2 Interoperability (%)	100	N/A	N/A	N/A	N/A	
*Armed Helo Airspeed-VMAX (KIAS)	165	130	130	135	135	
*Armed Helo FMC Rate	60	60	56	60	60	

(%)						
*Armed Helo MC Rate (%)	75	75	69	74	74	
*HC Interoperability (%)	100	N/A	N/A	N/A	N/A	
*Net Ready (%)	N/A	100	100	Met all evaluation criteria	100	
*Force Protection	N/A	Crash Worthy Seats Pilot 35G, 25G, 20G Crew 20G, 20G, 20G	Crash Worthy Seats Pilot 20G, 20G, 10G Crew 14G, 8G, 12G	Seats Designed to meet Pilot 35G, 25G, 20G Crew 18G, 14.5G, 14G	Crash Worthy Seats Pilot 35G, 25G, 20G, Crew 18G, 14.5G 14G	(Ch-2)
*Combat Survivability	N/A	Pred Survive 95% prior to launch 80% after launch	Warning & Protect RF/IR, Threat	Warning & Protect RF/IR, Threat	Warning & Protect RF/IR, Threat	
*Operational Availability (Ao) (%) (Block 2)	N/A	85	75	93.7	85	(Ch-1)
Information Awareness (%) (Block 1 & 3 configuration)	N/A	99.9	99	Met all evaluation criteria	99.9	
Information Dissemination (%) (Block 1 & 3)	N/A	95	95	Met all evaluation criteria	95	
Information Integrity (%) (Block 1 & 3)	N/A	99.999	99.99	Met all evaluation criteria	99.999	

Requirements Source:
MH-60S Operational Requirements Document (ORD) Change 2 dated February 15, 2008

Acronyms And Abbreviations

AMCM - Airborne Mine Countermeasures
Ao - Operational Availability
CSAR - Combat Search and Rescue
CV - Carrier
deg - Degree
F - Fahrenheit
FMC - Fully Mission Capable
G - Gravitational Load
HC - Helicopter Combat Support
hrs - Hours
KIAS - Knots Indicated Airspeed
lbs - Pounds
MC - Mission Capable
mins - Minutes

MTBF - Mean Time Between Failures
MTTR - Mean Time to Repair
nm - Nautical Miles
RF/IF - Radio Frequency/Infrared
SAR - Search and Rescue
sec - Seconds
SWS - Special Warfare Support
TBD - To Be Determined
VERTREP - Vertical Replenishment
VMAX - Velocity Maximum
VOD - Vertical Onboard Delivery

Change Explanations

(Ch-1) Current Estimate values for AMCM Free Flight Endurance, AMCM Tow Endurance, AMCM Hot Temperature Tow Endurance, AMCM Tow Turns, and AMCM Wind Speed changed based on the results of AMCM Developmental Testing completed in 2011.

(Ch-2) Current Estimate value for Force Protection was updated based on the results of analysis and developmental testing previously completed in 2007.

Memo

* Denotes Key Performance Parameters (KPPs)

Demonstrated Performance values for Information Awareness, Information Dissemination and Information Integrity changed from 'TBD' to 'net all evaluation criteria' based on the results of Navy Certification and Joint Interoperability testing.

Track To Budget

RDT&E				
APPN 1319	BA 05	PE 0604212N	(Navy)	
	Project 1709	ASW and Other Helo Development/MH-60S VERTREP		(Sunk)
	Project 2415	ASW and Other Helo Development/MH-60S Development , VERTREP		
	Project 2772	ASW and Other Helo Development/Sentient Sensor		(Sunk)
	Project 2773	ASW and Other Helo Development/MH-60S Engineering Development		(Sunk)
	Project 9213	ASW and Other Helo Development/ADV Tow Cable Design		(Sunk)
APPN 1319	BA 05	PE 0604216N	(Navy)	
	Project 3053	Multi-Mission Helicopter Upgrade Development/MH-60S AMCM		(Sunk)

Procurement				
APPN 1506	BA 01	PE 0204453N	(Navy)	
	ICN 0179	MH-60S (MYP)		
APPN 1506	BA 02	PE 0204453N	(Navy)	
	ICN 0240	MH-60S		(Sunk)
APPN 1506	BA 06	PE 0204453N	(Navy)	
	ICN 0605	MH-60S	(Shared)	

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY1998 $M			BY1998 $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	390.9	634.6	698.1	680.3	421.4	723.8	787.0
Procurement	4879.2	6062.0	6668.2	5948.9	5672.4	7134.8	7181.2
Flyaway	4030.6	--	--	4898.1	4699.2	--	5940.0
Recurring	3567.2	--	--	3933.1	4151.9	--	4732.4
Non Recurring	463.4	--	--	965.0	547.3	--	1207.6
Support	848.6	--	--	1050.8	973.2	--	1241.2
Other Support	700.3	--	--	898.3	807.8	--	1070.9
Initial Spares	148.3	--	--	152.5	165.4	--	170.3
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	5270.1	6696.6	N/A	6629.2	6093.8	7858.6	7968.2

Confidence Level For the 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	0	0	0
Procurement	237	271	275
Total	237	271	275

FY 2008 and FY 2009 supplementals added 4 additional aircraft (2 for Global War On Terrorism (GWOT) and 2 for Overseas Contingency Operations (OCO)).

Cost and Funding

Funding Summary

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

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	677.0	30.6	29.7	22.0	13.4	9.6	4.7	0.0	787.0
Procurement	5471.7	475.5	456.9	467.1	281.0	29.0	0.0	0.0	7181.2
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 2013 Total	6148.7	506.1	486.6	489.1	294.4	38.6	4.7	0.0	7968.2
PB 2012 Total	6163.3	514.4	479.1	476.1	281.8	29.7	0.0	0.0	7944.4
Delta	-14.6	-8.3	7.5	13.0	12.6	8.9	4.7	0.0	23.8

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	213	18	18	18	8	0	0	0	275
PB 2013 Total	0	213	18	18	18	8	0	0	0	275
PB 2012 Total	0	213	18	18	18	8	0	0	0	275
Delta	0	0	0	0	0	0	0	0	0	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
1997	--	--	--	--	--	--	6.9
1998	--	--	--	--	--	--	29.7
1999	--	--	--	--	--	--	36.8
2000	--	--	--	--	--	--	42.3
2001	--	--	--	--	--	--	30.5
2002	--	--	--	--	--	--	50.2
2003	--	--	--	--	--	--	24.1
2004	--	--	--	--	--	--	49.8
2005	--	--	--	--	--	--	77.9
2006	--	--	--	--	--	--	78.8
2007	--	--	--	--	--	--	81.3
2008	--	--	--	--	--	--	38.1
2009	--	--	--	--	--	--	43.2
2010	--	--	--	--	--	--	48.0
2011	--	--	--	--	--	--	39.4
2012	--	--	--	--	--	--	30.6
2013	--	--	--	--	--	--	29.7
2014	--	--	--	--	--	--	22.0
2015	--	--	--	--	--	--	13.4
2016	--	--	--	--	--	--	9.6
2017	--	--	--	--	--	--	4.7
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**787.0**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1998 $M	Non End Item Recurring Flyaway BY 1998 $M	Non Recurring Flyaway BY 1998 $M	Total Flyaway BY 1998 $M	Total Support BY 1998 $M	Total Program BY 1998 $M
1997	--	--	--	--	--	--	6.9
1998	--	--	--	--	--	--	29.5
1999	--	--	--	--	--	--	36.2
2000	--	--	--	--	--	--	41.0
2001	--	--	--	--	--	--	29.1
2002	--	--	--	--	--	--	47.5
2003	--	--	--	--	--	--	22.5
2004	--	--	--	--	--	--	45.2
2005	--	--	--	--	--	--	68.8
2006	--	--	--	--	--	--	67.5
2007	--	--	--	--	--	--	68.0
2008	--	--	--	--	--	--	31.3
2009	--	--	--	--	--	--	35.0
2010	--	--	--	--	--	--	38.4
2011	--	--	--	--	--	--	30.9
2012	--	--	--	--	--	--	23.6
2013	--	--	--	--	--	--	22.5
2014	--	--	--	--	--	--	16.4
2015	--	--	--	--	--	--	9.8
2016	--	--	--	--	--	--	6.9
2017	--	--	--	--	--	--	3.3
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**680.3**

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
1998	1	16.3	--	11.3	27.6	2.1	29.7
1999	5	109.7	--	--	109.7	28.0	137.7
2000	16	298.1	--	--	298.1	63.4	361.5
2001	15	218.8	--	6.3	225.1	94.3	319.4
2002	13	188.7	--	13.4	202.1	70.6	272.7
2003	15	251.2	--	37.3	288.5	75.5	364.0
2004	13	221.0	--	70.5	291.5	135.2	426.7
2005	15	258.0	--	61.2	319.2	79.4	398.6
2006	26	391.4	--	78.3	469.7	67.6	537.3
2007	18	315.0	--	37.1	352.1	124.4	476.5
2008	20	331.8	--	139.5	471.3	99.9	571.2
2009	20	348.6	--	145.3	493.9	78.3	572.2
2010	18	319.4	--	91.4	410.8	61.3	472.1
2011	18	311.5	--	154.4	465.9	66.2	532.1
2012	18	347.2	--	91.4	438.6	36.9	475.5
2013	18	352.2	--	59.6	411.8	45.1	456.9
2014	18	321.9	--	101.8	423.7	43.4	467.1
2015	8	131.6	--	108.8	240.4	40.6	281.0
2016	--	--	--	--	--	29.0	29.0
Subtotal	**275**	**4732.4**	**--**	**1207.6**	**5940.0**	**1241.2**	**7181.2**

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

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1998 $M	Non End Item Recurring Flyaway BY 1998 $M	Non Recurring Flyaway BY 1998 $M	Total Flyaway BY 1998 $M	Total Support BY 1998 $M	Total Program BY 1998 $M
1998	1	16.0	--	11.1	27.1	2.1	29.2
1999	5	106.4	--	--	106.4	27.2	133.6
2000	16	285.4	--	--	285.4	60.7	346.1
2001	15	207.0	--	6.0	213.0	89.2	302.2
2002	13	176.3	--	12.5	188.8	66.0	254.8
2003	15	230.1	--	34.2	264.3	69.2	333.5
2004	13	197.3	--	62.9	260.2	120.7	380.9
2005	15	224.0	--	53.1	277.1	68.9	346.0
2006	26	330.6	--	66.1	396.7	57.1	453.8
2007	18	260.0	--	30.6	290.6	102.7	393.3
2008	20	269.8	--	113.5	383.3	81.2	464.5
2009	20	279.5	--	116.5	396.0	62.8	458.8
2010	18	251.4	--	71.9	323.3	48.3	371.6
2011	18	240.9	--	119.3	360.2	51.2	411.4
2012	18	263.9	--	69.5	333.4	28.1	361.5
2013	18	263.2	--	44.6	307.8	33.7	341.5
2014	18	236.4	--	74.7	311.1	31.9	343.0
2015	8	94.9	--	78.5	173.4	29.3	202.7
2016	--	--	--	--	--	20.5	20.5
Subtotal	**275**	**3933.1**	**--**	**965.0**	**4898.1**	**1050.8**	**5948.9**

Cost Quantity Information
1506 | Procurement | Aircraft Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1998 $M
1998	1	16.0
1999	5	81.5
2000	16	237.5
2001	15	213.1
2002	13	178.6
2003	15	223.8
2004	13	186.5
2005	15	216.9
2006	26	348.7
2007	18	258.3
2008	20	283.0
2009	20	276.8
2010	18	252.2
2011	18	250.4
2012	18	259.3
2013	18	267.4
2014	18	260.4
2015	8	122.7
2016	--	--
Subtotal	**275**	**3933.1**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	7/8/1998	7/8/1998
Approved Quantity	37	37
Reference	ADM	ADM
Start Year	1998	1998
End Year	2001	2001

The Low Rate Initial Production (LRIP) quantity of 37 aircraft was set at the Milestone II decision on July 8, 1998, which was 15% of the total procurement quantity. The LRIP quantity was appropriate due to the low risk of integrating Navy H-60 Seahawk components into the Army H-60 Blackhawk as well as allowing use of an existing Army multi-year contract for procurement. The Current Total LRIP Quantity is more than 10% of the total procurement quantity.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Thailand	3/29/2007	2	64.1	Total Cost based on amended Letter of Offer and Acceptance (LOA) signed January 28, 2011.

Nuclear Cost

None

Unit Cost

Unit Cost Report

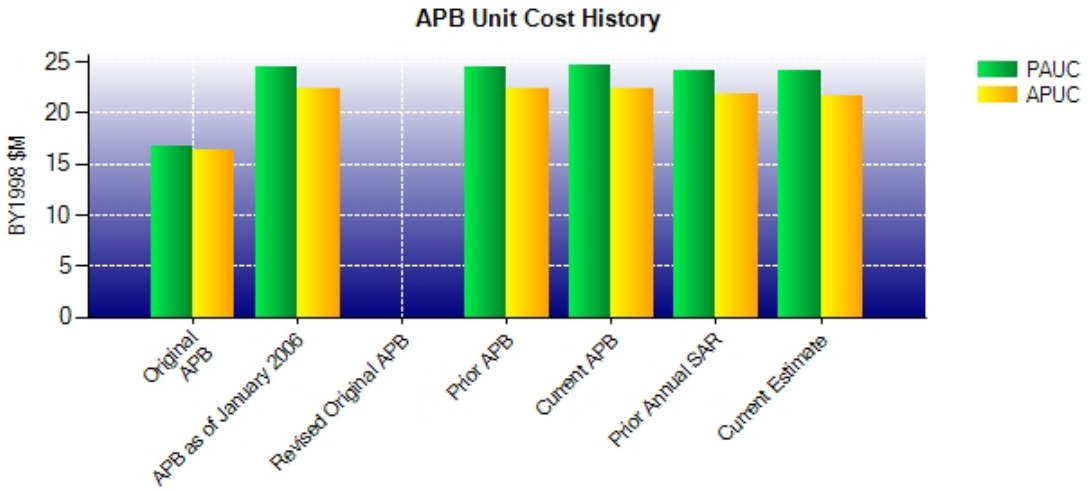
Unit Cost	BY1998 $M Current UCR Baseline (NOV 2010 APB)	BY1998 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	6696.6	6629.2	
Quantity	271	275	
Unit Cost	24.711	24.106	-2.45
Average Procurement Unit Cost (APUC)			
Cost	6062.0	5948.9	
Quantity	271	275	
Unit Cost	22.369	21.632	-3.29

Unit Cost	BY1998 $M Original UCR Baseline (JUL 1998 APB)	BY1998 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	2769.0	6629.2	
Quantity	166	275	
Unit Cost	16.681	24.106	**+44.51** [1]
Average Procurement Unit Cost (APUC)			
Cost	2698.0	5948.9	
Quantity	165	275	
Unit Cost	16.352	21.632	**+32.29** [1]

[1] **Nunn-McCurdy Breach**

This program realized a significant Nunn-McCurdy breach to the original baseline that was first reported in the December 2005 SAR. The supporting breach information and explanations can be found in the Unit Cost Report section of that SAR.

Unit Cost History



		BY1998 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	JUL 1998	16.681	16.352	19.567	19.334
APB as of January 2006	MAY 2005	24.369	22.369	28.489	26.328
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	DEC 2008	24.369	22.369	28.489	26.328
Current APB	NOV 2010	24.711	22.369	28.999	26.328
Prior Annual SAR	DEC 2010	24.159	21.816	28.889	26.211
Current Estimate	DEC 2011	24.106	21.632	28.975	26.113

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	
19.000	-0.766	-0.164	-0.001	2.211	3.739	0.000	1.693	6.712	25.712

Current SAR Baseline to Current Estimate (TY $M)

PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
25.712	0.644	-0.751	0.825	-0.016	1.517	0.000	1.044	3.263	28.975

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	
18.679	-0.765	-0.147	-0.001	1.123	3.352	0.000	1.693	5.255	23.934

Current SAR Baseline to Current Estimate (TY $M)

APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
23.934	0.613	-0.506	0.825	-0.167	0.370	0.000	1.044	2.179	26.113

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	APR 1998	JUL 1998	JUL 1998
Milestone III	N/A	SEP 2000	AUG 2002	AUG 2002
IOC	N/A	DEC 2001	AUG 2002	AUG 2002
Total Cost (TY $M)	N/A	3154.0	6093.8	7968.2
Total Quantity	N/A	166	237	275
Prog. Acq. Unit Cost (PAUC)	N/A	19.000	25.712	28.975

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	421.4	5672.4	--	6093.8
Previous Changes				
Economic	+6.9	+129.3	--	+136.2
Quantity	--	+770.4	--	+770.4
Schedule	--	+227.0	--	+227.0
Engineering	+16.2	-46.0	--	-29.8
Estimating	+292.0	+168.8	--	+460.8
Other	--	--	--	--
Support	--	+286.0	--	+286.0
Subtotal	+315.1	+1535.5	--	+1850.6
Current Changes				
Economic	+1.7	+39.2	--	+40.9
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+25.4	--	--	+25.4
Estimating	+23.4	-67.1	--	-43.7
Other	--	--	--	--
Support	--	+1.2	--	+1.2
Subtotal	+50.5	-26.7	--	+23.8
Total Changes	+365.6	+1508.8	--	+1874.4
CE - Cost Variance	787.0	7181.2	--	7968.2
CE - Cost & Funding	787.0	7181.2	--	7968.2

Summary Base Year 1998 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	390.9	4879.2	--	5270.1
Previous Changes				
Economic	--	--	--	--
Quantity	--	+572.5	--	+572.5
Schedule	--	+121.8	--	+121.8
Engineering	+13.3	-37.0	--	-23.7
Estimating	+240.2	+261.5	--	+501.7
Other	--	--	--	--
Support	--	+201.3	--	+201.3
Subtotal	+253.5	+1120.1	--	+1373.6
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+19.0	--	--	+19.0
Estimating	+16.9	-51.3	--	-34.4
Other	--	--	--	--
Support	--	+0.9	--	+0.9
Subtotal	+35.9	-50.4	--	-14.5
Total Changes	+289.4	+1069.7	--	+1359.1
CE - Cost Variance	680.3	5948.9	--	6629.2
CE - Cost & Funding	680.3	5948.9	--	6629.2

Previous Estimate: December 2010

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+1.7
Increased funding for new rocket capability. (Engineering)	+19.0	+25.4
Adjustment for current and prior escalation. (Estimating)	-1.0	-1.2
Revised estimate due to integration and sensor development for Airborne Mine Countermeasures (AMCM). (Estimating)	+17.9	+24.6
RDT&E Subtotal	+35.9	+50.5

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+39.2
Adjustment for current and prior escalation. (Estimating)	-14.6	-18.6
Decrease due to Sikorsky Airframe follow-on multi-year contract. (Estimating)	-21.6	-28.4
Decrease due to Lockheed Martin Common Cockpit follow-on multi-year contract. (Estimating)	-0.3	-0.1
Decrease in Government Furnished Equipment to reflect actuals. (Estimating)	-1.9	-2.9
Revised estimate of Non-Recurring Engineering costs. (Estimating)	-3.6	-4.6
Revised estimate for Ancillary costs and kit quantity re-phase. (Estimating)	-9.3	-12.5
Adjustment for current and prior escalation. (Support)	-2.0	-2.7
Increase in Other Support due to refinement of cost estimate. (Support)	+0.2	+0.1
Increase in Initial Spares due to refinement of cost estimate. (Support)	+2.7	+3.8
Procurement Subtotal	-50.4	-26.7

Contracts

Appropriation: Procurement

Contract Name	**Common Cockpit Follow On**
Contractor	Lockheed Martin Mission Systems & Sensors
Contractor Location	Owego, NY 13827
Contract Number, Type	N00019-06-C-0098, FFP
Award Date	December 30, 2009
Definitization Date	December 30, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
76.6	N/A	36	76.6	N/A	36	76.6	76.6

Cost And Schedule Variance Explanations

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

Contract Comments

The multi-year contract was awarded August 16, 2007 for MH-60R.

A contract modification was awarded December 30, 2009 for procurement of the MH-60S common cockpits for FY 2010 and FY 2011.

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

Appropriation: Procurement

Contract Name	**MH-60S Prod MY Contract Lots (9-13)**
Contractor	Sikorsky Aircraft Corporation (SAC)
Contractor Location	Stratford, CT 06615
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
1229.0	N/A	90	1333.0	N/A	94	1333.0	1333.0

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 aircraft quantity increase after initial contract award.

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

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	205	208	275	75.64%
Total Program Quantities Delivered	205	208	275	75.64%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	7968.2	Years Appropriated	16
Expenditures To Date	5518.8	Percent Years Appropriated	76.19%
Percent Expended	69.26%	Appropriated to Date	6654.8
Total Funding Years	21	Percent Appropriated	83.52%

Deliveries and expenditures are current as of January 31, 2012.

Operating and Support Cost

Assumptions And Ground Rules

Estimate Duration = FYs 2001-2034
MH-60S Fatigue Life = 10,000 hours or approximately 22 years
Aircraft Attrition Rate = 0.7% of Total Aircraft Inventory (TAI) per Year
Aircraft Pipeline Rate = 19.5% of TAI per Year
Total Procured MH-60S aircraft = 275 (4 already stricken)
Average Flight Hours per Month per Aircraft = 30
Total Operating Aircraft Years = 4,413

Date of Estimate: February 2012
Source: NAVAIR 4.2 Cost Department; Operating & Sustainment Division

The MH-60S Operating and Support (O&S) cost estimate was updated from the Navy Service Cost Position (SCP) dated November 1, 2010. Flight Hours were changed from 500 flight hours to 352 flight hours per year based on revised planning factors. Maintenance Cost consisting of Aviation Depot Level Repair (AVDLR) and Consumables were updated using a bottoms-up estimating model that is based on actual MH-60S reliability performance and cost instead of analogous data from other H-60 platforms. In addition, the MH-60S specific manning document and sundown plan is now being utilized instead of the analogous data from other H-60 platforms. The Base Year Total was calculated by multiplying the dollar per aircraft cost by the total number of aircraft years of the O&S cycle. A phased approach estimate includes the ramp-up of aircraft as they are introduced to the fleet through the retirement of the MH-60S aircraft from service with a total aircraft procurement of 275.

The antecedent system is the HH-60H aircraft. All costs are from the FY 2011 Navy Visibility and Management of Operating and Support Costs (VAMOSC) Aviation Type Model Series Report (ATMSR) database (data from 2009 through 2011) and the FY 2011 Aircraft Program Data File (APDF) Primary Authorized Aircraft (PAA). (6.0) Indirect Support is a function of Unit-Level Manpower costs.

Costs BY1998 $M		
Cost Element	MH-60S Average Annual Cost Per Aircraft	HH-60H Average Annual Cost Per Aircraft
Unit-Level Manpower	1.57	1.47
Unit Operations	0.13	0.13
Maintenance	1.30	1.39
Sustaining Support	0.07	0.08
Continuing System Improvements	0.20	0.19
Indirect Support	0.51	0.34
Other	0.00	0.00
Total Unitized Cost (Base Year 1998 $)	3.78	3.60

Total O&S Costs $M	MH-60S	HH-60H
Base Year	16681.0	--
Then Year	29188.0	--

As defined by the Cost Analysis and Program Evaluation Cost Estimating Guide of October 2007, disposal costs are not part of O&S. Disposal costs are not currently estimated for this program.