Selected Acquisition Report (SAR)

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

MH-60S

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

MH-60S FLEET COMBAT SUPPORT HELICOPTER

DoD Component

Navy

Responsible Office

Responsible Office

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Date Assigned November 27, 2007

References

SAR Baseline (Production Estimate)

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

Approved APB

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 Carrier Strike Group and Expeditionary Strike Group. 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 187 of 275 helicopters as of January 25, 2011. In addition to the mission areas described in the Mission and Description section of this document, MH-60S helicopters have maintained a 24/7 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 relief effort. In 2010, MH-60S helicopters were deployed as part of the USS Abraham Lincoln (CVN-72) Carrier Strike Group.

An updated Acquisition Program Baseline (APB) for the MH-60S was approved by Assistant Secretary of the Navy, Research, Development and Acquisition (ASN(RDA)) on November 29, 2010. The APB revised the Airborne Mine Countermeasure (AMCM) Initial Operational Capability (IOC) and AMCM Interim Program Review (IPR) IV milestone dates and Research, Development, Test and Evaluation (RDT&E) cost parameters.

MH-60S AMCM integration and test activities continued through 2010. Reliability improvements were made to AMCM Carriage, Stream, Tow and Recovery System (CSTRS) components. During 2010, as part of the MH-60S Armed Helo capability, integration of Forward Firing Weapons (FFWs) and correction of deficiencies related to the Multi-Spectral Targeting System continued, and flight test evaluation with rockets was completed.

A joint Army/Navy Airframe Multiyear Procurement (MYP) 7 contract with Sikorsky Aircraft Corporation (SAC) was awarded on December 12, 2007 covering Fiscal Years (FY) 2007-2011. A Follow-on joint Army/Navy MYP 8 contract is currently in work for FY 2012-2016. Planned contract award is December 2011, pending Congressional approval.

A follow-on MYP with Lockheed Martin Mission Systems and Sensors (LM MS2) for the procurement of the MH-60R/S Common Cockpits, MH-60R Mission Avionics Systems and related supplies and services for FY 2012-2016 is in work. Planned contract award is December 2011, pending Congressional approval.

There are no significant software related issues for the program at this time.

Threshold Breaches

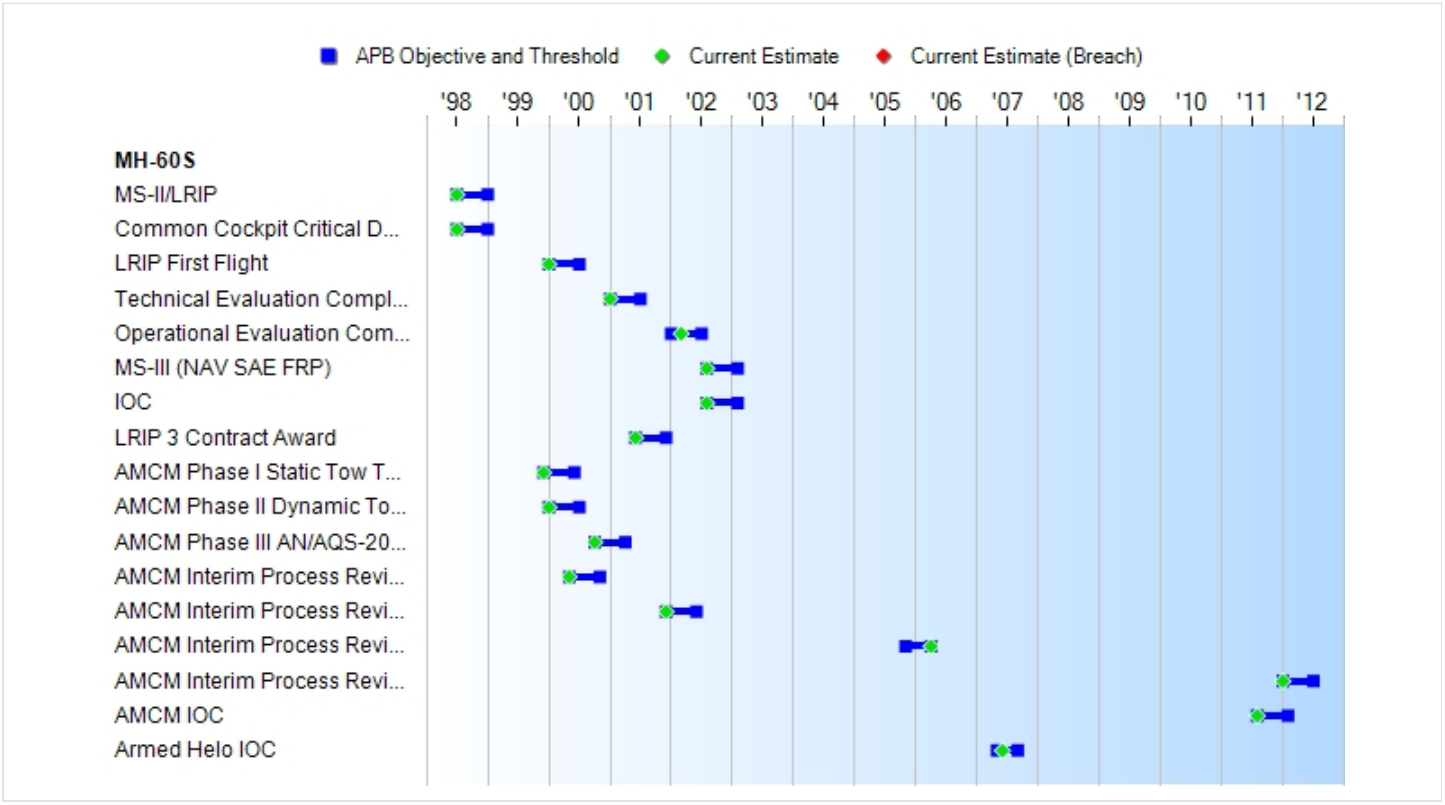
APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

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

Explanation of Breach

This program reflects 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


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'98
'99
'00
'01
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
MH-60S
MS-II/LRIP
Common Cockpit Critical D...
LRIP First Flight
Technical Evaluation Compl...
Operational Evaluation Com...
MS-III (NAV SAE FRP)
IOC
LRIP 3 Contract Award
AMCM Phase I Static Tow T...
AMCM Phase II Dynamic To...
AMCM Phase III AN/AQS-20...
AMCM Interim Process Revi...
AMCM Interim Process Revi...
AMCM Interim Process Revi...
AMCM Interim Process Revi...
AMCM IOC
Armed Helo 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	
LRIP First Flight	JAN 2000	JAN 2000	JUL 2000	JAN 2000	
Technical Evaluation Complete	JAN 2001	JAN 2001	JUL 2001	JAN 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	
LRIP 3 Contract Award	JUN 2001	JUN 2001	DEC 2001	JUN 2001	
AMCM Phase I Static Tow Test and OEI Test	DEC 1999	DEC 1999	JUN 2000	DEC 1999	
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	
AMCM Interim Process Review II	DEC 2001	DEC 2001	JUN 2002	DEC 2001	
AMCM Interim Process Review III	APR 2005	NOV 2005	APR 2006	APR 2006	
AMCM Interim Process Review IV	N/A	JAN 2012	JUL 2012	JAN 2012	(Ch-1)
AMCM IOC	JUN 2005	AUG 2011	FEB 2012	AUG 2011	(Ch-1)
Armed Helo IOC	MAR 2006	MAY 2007	SEP 2007	JUN 2007	

Acronyms And Abbreviations

AMCM - Airborne Mine Countermeasure
AN/AQS-20A - Sonar Mine Detection Set
APB - Acquisition Program Baseline
IOC - Initial Operational Capability
LRIP - Low Rate Initial Production
MS - Milestone
NAV SAE FRP - Navy Service Acquisition Executive Full Rate Production
OEI - Office of Environmental Information
SAE - Service Acquisition Executive

Change Explanations

(Ch-1) Airborne Mine Countermeasures (AMCM) IOC changed from April 2011 to August 2011 and AMCM Interim Program Review (IPR) IV changed from July 2011 to January 2012. Changes are based on the schedule to complete Block 2 AMCM Operational Test (OT) events. In 2008, the MH-60S with the AN/AQS-20A was preemptively removed from OT in response to Commander Operational Test and Evaluation (COTF) anomaly reports that indicated reliability thresholds for AMCM mission equipment may not be met. Fixes were subsequently implemented and testing was conducted in 2009 and 2010 to prove robustness. AMCM IPR IV will occur after the AMCM IOC milestone and receipt of the OT report.

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	(Ch-1)
MTTR (hrs)	3.6	N/A	N/A	N/A	N/A	(Ch-1)
*Organic CSAR Overland Mission Radius (nm)	300	200	150	194	194	
*SWS Mission Radius (nm)	300	N/A	N/A	N/A	N/A	(Ch-1)
*CV Plane Guard/SAR Mission Radius (nm)	200	200	100	114	114	
*AMCM Free Flight Endurance (mins)	150	150	120	TBD	136	
*AMCM Hover Endurance (mins)	90	90	75	TBD	75	
*AMCM Tow Endurance (mins) /6	75	75	60	TBD	70.7	
*AMCM Hot Temp Tow Endurance(105 deg F)	45	45	30	TBD	45	
*AMCM Tow Turns (25 knot wind) (deg/sec)	1.5	1.5	1.0	TBD	1.1	
*AMCM Wind Speed Tow (KIAS)	30	30	25	TBD	25	
*AMCM Block 2 Information Dissemination (%)	95	N/A	N/A	N/A	N/A	(Ch-1)
*AMCM Block 2 Information Integrity (%)	99	N/A	N/A	N/A	N/A	(Ch-1)
*AMCM Block 2 Interoperability (%)	100	N/A	N/A	N/A	N/A	(Ch-1)
*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	(Ch-1)
*Net Ready (%)	N/A	100	100	TBD	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	TBD	Crash Worthy Seats Pilot 20G, 20G, 10G Crew 14G, 8G, 12G	
*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	TBD	85	(Ch-2)
Information Awareness (%) (Block 1 & 3 configuration)	N/A	99.9	99	TBD	99.9	(Ch-2)
Information Dissemination (%) (Block 1 & 3)	N/A	95	95	TBD	95	(Ch-2)
Information Integrity (%) (Block 1 & 3)	N/A	99.999	99.99	TBD	99.999	(Ch-2)

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

Acronyms And Abbreviations

AMCM - Airborne Mine Countermeasure
CSAR - Combat Search and Rescue
CV - Carrier
deg - Degree
F - Fahrenheit
FMC - Fully Mission Capable
HC - Helicopter Combat Support
hrs - Hours
KIAS - Knots Indicated Airspeed
lbs - Pounds
MC - Mission Capable
min - Minutes
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 On Board Delivery

Change Explanations

(Ch-1) The Acquisition Program Baseline (APB), dated November 29, 2010, was updated since the last Selected Acquisition Report (SAR). These performance characteristics have been deleted since the Production Baseline APB in order to align the APB with the approved changes to the Operational Requirements Document (ORD).

(Ch-2) The Acquisition Program Baseline (APB), dated November 29, 2010, was updated since the last Selected Acquisition Report (SAR). These parameters have been added to the performance characteristics table to align it with the complete list of Key Performance Parameters (KPPs) in the Operational Requirements Document (ORD).

Memo

* Denotes Key Performance Parameters (KPPs)

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	644.4	421.4	723.8	736.5
Procurement	4879.2	6062.0	6668.2	5999.3	5672.4	7134.8	7207.9
Flyaway	4030.6	--	--	4949.4	4699.2	--	5972.7
Recurring	3567.2	--	--	3966.9	4151.9	--	4751.1
Non Recurring	463.4	--	--	982.5	547.3	--	1221.6
Support	848.6	--	--	1049.9	973.2	--	1235.2
Other Support	700.3	--	--	900.0	807.8	--	1068.6
Initial Spares	148.3	--	--	149.9	165.4	--	166.6
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	6643.7	6093.8	7858.6	7944.4

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

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	637.0	38.9	30.6	20.2	9.6	0.1	0.1	0.0	736.5
Procurement	4937.5	549.9	483.8	458.9	466.5	281.7	29.6	0.0	7207.9
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 2012 Total	5574.5	588.8	514.4	479.1	476.1	281.8	29.7	0.0	7944.4
PB 2011 Total	5608.7	588.8	514.0	475.9	474.0	284.0	30.3	0.0	7975.7
Delta	-34.2	0.0	0.4	3.2	2.1	-2.2	-0.6	0.0	-31.3

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	195	18	18	18	18	8	0	0	275
PB 2012 Total	0	195	18	18	18	18	8	0	0	275
PB 2011 Total	0	195	18	18	18	18	8	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	--	--	--	--	--	--	42.7
2010	--	--	--	--	--	--	47.9
2011	--	--	--	--	--	--	38.9
2012	--	--	--	--	--	--	30.6
2013	--	--	--	--	--	--	20.2
2014	--	--	--	--	--	--	9.6
2015	--	--	--	--	--	--	0.1
2016	--	--	--	--	--	--	0.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**736.5**

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	--	--	--	--	--	--	68.9
2006	--	--	--	--	--	--	67.5
2007	--	--	--	--	--	--	68.0
2008	--	--	--	--	--	--	31.3
2009	--	--	--	--	--	--	34.7
2010	--	--	--	--	--	--	38.5
2011	--	--	--	--	--	--	30.8
2012	--	--	--	--	--	--	23.9
2013	--	--	--	--	--	--	15.5
2014	--	--	--	--	--	--	7.2
2015	--	--	--	--	--	--	0.1
2016	--	--	--	--	--	--	0.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**644.4**

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	--	136.1	467.9	101.1	569.0
2009	20	350.9	--	144.1	495.0	77.3	572.3
2010	18	320.2	--	87.5	407.7	64.4	472.1
2011	18	324.9	--	169.2	494.1	55.8	549.9
2012	18	343.3	--	95.3	438.6	45.2	483.8
2013	18	353.0	--	62.5	415.5	43.4	458.9
2014	18	324.5	--	102.5	427.0	39.5	466.5
2015	8	134.3	--	109.0	243.3	38.4	281.7
2016	--	--	--	--	--	29.6	29.6
Subtotal	**275**	**4751.1**	**--**	**1221.6**	**5972.7**	**1235.2**	**7207.9**

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	69.0	346.1
2006	26	330.7	--	66.1	396.8	57.1	453.9
2007	18	260.1	--	30.6	290.7	102.8	393.5
2008	20	270.2	--	110.8	381.0	82.4	463.4
2009	20	282.4	--	116.1	398.5	62.2	460.7
2010	18	254.4	--	69.5	323.9	51.2	375.1
2011	18	254.4	--	132.5	386.9	43.6	430.5
2012	18	264.5	--	73.5	338.0	34.8	372.8
2013	18	267.5	--	47.3	314.8	32.9	347.7
2014	18	241.8	--	76.4	318.2	29.4	347.6
2015	8	98.4	--	79.9	178.3	28.1	206.4
2016	--	--	--	--	--	21.3	21.3
Subtotal	**275**	**3966.9**	**--**	**982.5**	**4949.4**	**1049.9**	**5999.3**

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	348.8
2007	18	258.4
2008	20	283.3
2009	20	279.4
2010	18	254.1
2011	18	261.9
2012	18	262.4
2013	18	273.2
2014	18	266.0
2015	8	125.5
2016	--	--
Subtotal	**275**	**3966.9**

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. The LRIP 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.

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

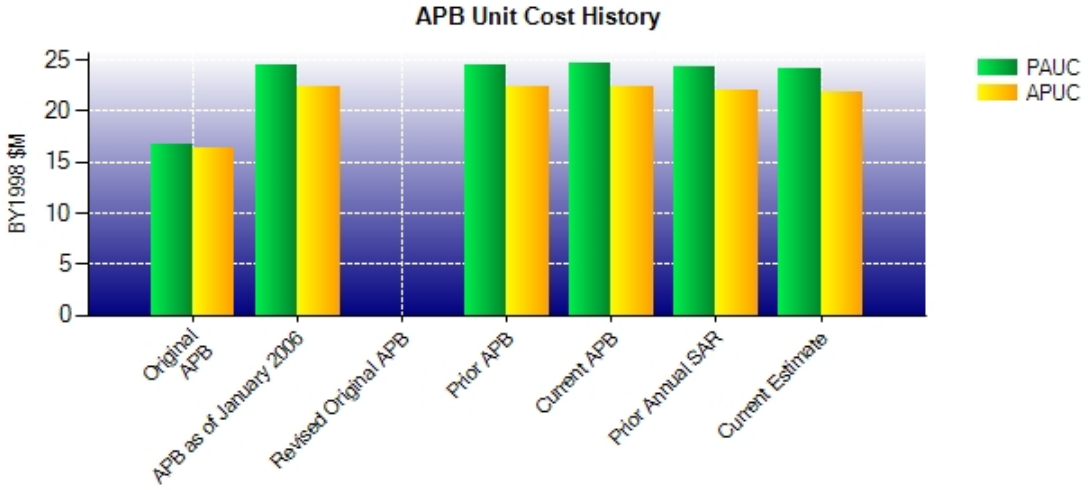
Unit Cost	BY1998 $M Current UCR Baseline (NOV 2010 APB)	BY1998 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	6696.6	6643.7	
Quantity	271	275	
Unit Cost	24.711	24.159	-2.23
Average Procurement Unit Cost (APUC)			
Cost	6062.0	5999.3	
Quantity	271	275	
Unit Cost	22.369	21.816	-2.47

Unit Cost	BY1998 $M Original UCR Baseline (JUL 1998 APB)	BY1998 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	2769.0	6643.7	
Quantity	166	275	
Unit Cost	16.681	24.159	**+44.83** [1]
Average Procurement Unit Cost (APUC)			
Cost	2698.0	5999.3	
Quantity	165	275	
Unit Cost	16.352	21.816	**+33.41** [1]

[1] **Nunn-McCurdy Breach**

This program reflects a significant Nunn-McCurdy breach to the original baseline that was first reported in the December 2005 Selected Acquisition Report (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 2009	24.238	21.931	29.003	26.371
Current Estimate	DEC 2010	24.159	21.816	28.889	26.211

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	0.495	-0.751	0.825	-0.108	1.676	0.000	1.040	3.177	28.889

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	0.470	-0.505	0.825	-0.167	0.614	0.000	1.040	2.277	26.211

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	7944.4
Total Quantity	N/A	166	237	275
Prog. Acq. Unit Cost (PAUC)	N/A	19.000	25.712	28.889

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	+6.8	+133.3	--	+140.1
Quantity	--	+770.4	--	+770.4
Schedule	--	+227.0	--	+227.0
Engineering	+16.2	-51.6	--	-35.4
Estimating	+279.4	+215.0	--	+494.4
Other	--	--	--	--
Support	--	+285.4	--	+285.4
Subtotal	+302.4	+1579.5	--	+1881.9
Current Changes				
Economic	+0.1	-4.0	--	-3.9
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	+5.6	--	+5.6
Estimating	+12.6	-46.2	--	-33.6
Other	--	--	--	--
Support	--	+0.6	--	+0.6
Subtotal	+12.7	-44.0	--	-31.3
Total Changes	+315.1	+1535.5	--	+1850.6
CE - Cost Variance	736.5	7207.9	--	7944.4
CE - Cost & Funding	736.5	7207.9	--	7944.4

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	-41.3	--	-28.0
Estimating	+230.4	+297.9	--	+528.3
Other	--	--	--	--
Support	--	+200.8	--	+200.8
Subtotal	+243.7	+1151.7	--	+1395.4
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	+4.3	--	+4.3
Estimating	+9.8	-36.4	--	-26.6
Other	--	--	--	--
Support	--	+0.5	--	+0.5
Subtotal	+9.8	-31.6	--	-21.8
Total Changes	+253.5	+1120.1	--	+1373.6
CE - Cost Variance	644.4	5999.3	--	6643.7
CE - Cost & Funding	644.4	5999.3	--	6643.7

Previous Estimate: December 2009

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+0.1
Adjustment for current and prior escalation. (Estimating)	-0.2	-0.2
Refinement of Airborne Mine Countermeasures (AMCM) cost estimate due to integration and sensor develpment issues. (Estimating)	+10.0	+12.8
RDT&E Subtotal	+9.8	+12.7

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-4.0
Increase in revised cost estimate for the incorporation of an Airframe Engineering Change Proposal for Integrated Mechanical Diagnostic System (IMDS). (Engineering)	+4.3	+5.6
Adjustment for current and prior escalation. (Estimating)	+0.7	+0.5
Decrease in revised cost estimate for Sikorsky Airframe follow-on multi-year contract costs. (Estimating)	-0.4	-0.6
Increase in revised cost estimate for Lockheed Martin Common Cockpit follow-on multi-year contract costs. (Estimating)	+2.1	+2.8
Decrease in revised cost estimate for Government Furnished Equipment (GFE) requirements and prior year actuals. (Estimating)	-19.4	-24.3
Decrease in revised cost estimate for refinement of Non-recurring Engineering costs for obsolescence associated with Sikorsky and Lockheed Martin multi-year contracts. (Estimating)	-8.8	-10.7
Decrease in revised cost estimate for Ancillary costs and kit quantity re-phase. (Estimating)	-10.6	-13.9
Adjustment for current and prior escalation. (Support)	+0.2	+0.5
Increase in Other Support due to refinement of cost estimate (Support)	+0.9	+0.9
Decrease in Initial Spares due to refinement of cost estimate. (Support)	-0.6	-0.8
Procurement Subtotal	-31.6	-44.0

Contracts

Appropriation: Procurement

Contract Name	**Common Cockpit Multiyear**
Contractor	Lockheed Martin Mission Systems & Sensors
Contractor Location	Owego, NY 13827
Contract Number, Type	N00019-04-C-0028, FFP
Award Date	December 29, 2003
Definitization Date	December 29, 2003

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
237.5	N/A	141	237.5	N/A	141	237.5	237.5

Cost And Schedule Variance Explanations

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

Contract Comments

This contract is over 90% complete and will no longer be reported.

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.

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 Contract Target Price increased based on an aircraft quantity increase after initial contract award.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	189	190	275	69.09%
Total Program Quantities Delivered	189	190	275	69.09%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	7944.4	Years Appropriated	15
Expenditures To Date	4967.9	Percent Years Appropriated	75.00%
Percent Expended	62.53%	Appropriated to Date	6163.3
Total Funding Years	20	Percent Appropriated	77.58%

Deliveries and expenditures reported as of March 21, 2011.

Operating and Support Cost

Assumptions And Ground Rules

Estimate Duration = Fiscal Years 2001-2034
MH-60S Fatigue Life = 10,000 hours or approximately 22 years
Aircraft Attrition Rate = 0.8%
Aircraft Pipeline Rate = 15% of Total Aircraft Inventory (TAI)
Total Procured MH-60S aircraft = 275 (4 already stricken)
Average flight hours per month per aircraft = 41.67
Total Operating Aircraft Years = 4494

The MH-60S Operating and Support (O&S) cost estimate reflects the Navy Service Cost Position (SCP), dated November 1, 2010. Costs are expressed in terms of cost per aircraft per year using the Milestone III O&S estimate with Armed Helicopter and Airborne Mine Counter Measures (AMCM) estimated costs included. The Base Year total was calculated 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 MH-60S aircraft from service with a total aircraft inventory of 275.

The antecedent system is the HH-60H aircraft. All costs are from the FY 2008 Navy Visibility and Management of Operating and Support Costs (VAMOSC) Aviation Type Model Series Report (ATMSR) database and the FY 2008 Aircraft Program Data File (APDF) Primary Authorized Aircraft (PAA). ATMSR (1.0) Unit-Level Manpower data was adjusted to account for composite pay rate burdening deficiencies. (6.0) Indirect Support is a function of Unit-Level Manpower costs.

Reporting was changed from the 1992 Cost Analysis Improvement Group (CAIG) Operations & Support (O&S) format to the 2007 Cost Assessment and Program Evaluation (CAPE) format.

Costs BY1998 $M		
Cost Element	MH-60S Average Annual Cost Per Aircraft	HH-60H Average Annual Cost Per Aircraft
Unit-Level Manpower	1.99	2.02
Unit Operations	0.11	0.15
Maintenance	1.66	1.99
Sustaining Support	0.06	0.09
Continuing System Improvements	0.08	0.10
Indirect Support	0.44	0.44
Other	0.00	0.00
Total Unitized Cost (Base Year 1998 $)	4.34	4.79

Total O&S Costs $M	MH-60S	HH-60H
Base Year	19549.0	--
Then Year	33808.0	--