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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>			PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i>								
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	134.436	55.792	17.673	-	17.673	6.871	3.817	5.219	-	0.000	223.808
1707: <i>MH-60R Development</i>	69.436	55.792	17.673	-	17.673	6.871	3.817	5.219	-	0.000	158.808
9999: <i>Congressional Adds</i>	65.000	-	-	-	-	-	-	-	-	0.000	65.000

A. Mission Description and Budget Item Justification

This Program Element includes funding for the development support for the improvements to current systems for the MH-60R development. The MH-60R has one primary mission area and one secondary mission area. The primary mission areas of the MH-60R include Anti-Submarine Warfare and Surface Warfare. Secondary mission areas include Search and Rescue, Vertical Replenishment, Naval Surface Fire Support, logistics support, personnel transport and Medical Evacuation.

This Program Element includes Congressional Add funding for Situational Awareness Technology Insert.

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	75.284	55.792	15.244	-	15.244
Current President's Budget	134.436	55.792	17.673	-	17.673
Total Adjustments	59.152	-	2.429	-	2.429
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.053	-			
• SBIR/STTR Transfer	-1.604	-			
• Program Adjustments	-	-	2.764	-	2.764
• Section 219 Reprogramming	-0.440	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.335	-	-0.335
• Congressional General Reductions	0.009	-	-	-	-
Adjustments					
• Congressional Add Adjustments	61.240	-	-	-	-

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *MH-60R/S Situational Awareness Technology Insert*

FY 2010	FY 2011
65.000	-

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Congressional Add Details (\$ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Congressional Add Subtotals for Project: 9999	65.000	-
Congressional Add Totals for all Projects	65.000	-

Change Summary Explanation

Technical: Not applicable.

Schedule:

Test & Evaluation, SAU-07-000 test moved from 3Q/2010-3Q/2011 to 2Q/2011-1Q/2012 due to contract definitization which resulted in a revised schedule.

Production Milestones and Production deliveries changed to reflect ARPDD production incorporation versus Multiyear Production Deliveries.

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i>	PROJECT 1707: <i>MH-60R Development</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1707: <i>MH-60R Development</i>	69.436	55.792	17.673	-	17.673	6.871	3.817	5.219	-	0.000	158.808
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The primary mission areas of the MH-60R include Anti-Submarine Warfare and Surface Warfare. Secondary mission areas include Search and Rescue, Vertical Replenishment, Naval Surface Fire Support, logistics support, personnel transport and Medical Evacuation. The MH-60R provides direct support to the Carrier Strike Group and provides Link Communications Relay via VHF/UHF, Link-16, and Common Data Link (CDL) with the incorporation of Interface Design Specification (SAU-07-000) full data exchange via CDL. Ku-Band will be provided to DDG-1000, CVN-78 Class and LCS platforms. Aircraft Ship Integrated Secure and Traverse reduces operational requirements aboard ships by eliminating the need for hauldown capability and providing automatic movements for aircraft on deck. The MH-60R is Post-Milestone III; executing Pre-Planned Product Improvements (P3I) to Air Vehicle and Mission systems. P3I includes upgrades to communication, navigation, Identification Friend or Foe (IFF), Multi-Spectral Targeting System(MTS)/Forward Looking Infrared Radar (FLIR), Automatic Radar Periscope Detection and Discrimination (ARPDD), weapons, data link, safety, maintenance, airframe and mission planning systems. IFF Mode 5 Interrogator capability is being embedded into the APS-147 Radar to provide positive determination of friendly combatants beyond visual range. The current magnesium gearbox is being replaced with aluminum gearbox to reduce corrosion and improve total ownership cost.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012
Title: Avionics H/W and S/W Development	40.154	38.347	8.564
Articles:	0	0	0
<p>Description: Supports aircraft integration, problem investigation and resolution, lab management and upgrades, hardware investigations, and repairs in support of the test program. Provides for Integrated Logistics Support and Program Management Board Support and subvendor support. Avionics hardware and software development and integration to include: P3I/Link-16, Radar (ARPDD), IFF Mode 5 interrogator, Communications, GPS, Acoustics and post processing. Mission planning, MTS/FLIR, Weapons, Stores and self defense, Data fusion, and Logistics products including Integrated Electronic Technical Manuals. ARPDD provides an automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from clutter and confusion targets. This capability is suitable for air and surface platforms. The current magnesium gearbox is being replaced with aluminum gearbox to reduce corrosion and improve total ownership cost.</p> <p>FY 2010 Accomplishments: Continued ARPDD System Design and Development, P3I integration testing, and conducted ARPDD integrated testing.</p> <p>FY 2011 Plans:</p>			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Continue ARPDD SDD, P3I integration testing, IFF Mode 5, and ARPDD integrated testing. FY 2012 Plans: Continue ARPDD SDD, P3I integration testing, IFF Mode 5, and ARPDD integrated testing. Begin aluminum gearbox development.				
Title: Common Data Link Description: Avionics P3I Upgrade for the CDL and reversability between C-Band and KuBand software design interface (SAU-07-000) provides connectivity and full data exchange with DDG-1000, LCS and CVN-78 Class. FY 2010 Accomplishments: Continued SAU-07-000 software design and interface efforts. FY 2011 Plans: Begin SAU-07-000 testing.		12.182 Articles: 0	0.600 0	-
Title: Engineering and Logistics FY 2010 Accomplishments: Continued to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support P3I integration testing, SAU-07-000 testing, ARPDD SDD, and conduct ARPDD integrated testing. FY 2011 Plans: Continue to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support P3I integration testing, SAU-07-000 testing, ARPDD SDD, and conduct ARPDD integrated testing. FY 2012 Plans: Continue to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support P3I integration testing, SAU-07-000 testing, ARPDD SDD, and conduct ARPDD integrated testing.		8.339 Articles: 0	11.138 0	2.891 0
Title: Avionics Testing and Evaluation		8.761 Articles: 0	5.707 0	6.218 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p><i>FY 2010 Accomplishments:</i> Continued to provide MH-60R Mission Avionics testing, Avionics Mission P3I, and ARPDD testing and evaluation efforts.</p> <p><i>FY 2011 Plans:</i> Continue to provide MH-60R Mission Avionics testing, Avionics Mission P3I, and ARPDD testing and evaluation efforts. Begin IFF Mode 5 Interrogator testing and evaluation efforts.</p> <p><i>FY 2012 Plans:</i> Continue to provide MH-60R Mission Avionics testing, Avionics Mission P3I, and ARPDD testing and evaluation efforts. Begin IFF Mode 5 Interrogator testing and evaluation efforts.</p>			
Accomplishments/Planned Programs Subtotals	69.436	55.792	17.673

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• APN-1 BLI:018200: <i>MH-60R</i>	931.686	1,059.939	1,000.456	0.000	1,000.456	978.716	1,063.435	1,133.222	1,351.345	83.502	12,429.288
• APN-6 BLI: 060510: <i>MH-60R</i>	24.809	45.288	27.737	0.000	27.737	1.156	0.000	0.000	0.000	0.000	289.768
• APN-5 BLI: 053000: <i>SH60 Series</i>	33.492	21.484	37.887	0.000	37.887	47.397	57.940	56.739	58.275	502.284	864.144

D. Acquisition Strategy

Initial Operating Capability (IOC) was achieved in Dec 05 and the Milestone III, Full Rate Production decision occurred in March 2006. As the SH-60B and SH-60F reach the end of their service life, the MH-60R serves as the replacement weapon system. The MH-60R weapon system began fielding in FY2006. The mission systems include Common Cockpit, Airborne Low Frequency Sonar, sonobuoy launcher, Commercial-off-the-Shelf Acoustics Processor, Electronic Support Measure, MTS/FLIR system, Multi Mission Radar, ARPDD, CDL Hawklink, Integrated Self Defense and weapons capability. P3I upgrades will be integrated, tested, and fielded to ensure increased capabilities are provided to the Fleet User.

E. Performance Metrics

Successfully achieve IOC for the Automatic Radar Periscope Detection and Discriminator upgrade to the MH-60R Multi-Mode Radar. Improve ESM Mission Data Load performance prior to next operational deployment and determine if any long term ESM software/hardware fixes are required. Determine solutions to the Automatic Video Tracking lock and Eye-safe Laser Range Finder labeling prior to next operational deployment.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i>	PROJECT 1707: <i>MH-60R Development</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev, Avionics (LMSI)	SS/CPFF	Lockheed Martin:Owego, NY	811.459	38.347	Nov 2010	4.964	Nov 2011	-		4.964	0.000	854.770	854.770
Primary Hdw Dev, Avionics (SAU)	SS/CPIF	Lcokheed Martin:Owego, NY	16.582	0.600	Feb 2011	-		-		-	0.000	17.182	17.182
Primary Hdw Dev, Airframe (SAC)	SS/FFP	Sikorsky:Straford, CT	-	-		3.600	Jan 2012	-		3.600	7.900	11.500	11.500
All Product Dev Cost from FY93-FY10	Various	Various:Not Specified	280.389	-		-		-		-	0.000	280.389	280.389
Subtotal			1,108.430	38.947		8.564		-		8.564	7.900	1,163.841	1,163.841

Remarks

Primary Hdw Dev, Airframe (SAC) Prior Year contract erroneously reported as SS/CPAF
 Primary Hdw Dev, Avionics (CDL) Award Fee 7%

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWC AD:Patuxent River, MD	7.904	4.561	Nov 2010	1.593	Nov 2011	-		1.593	0.767	14.825	
Government Engineering Support	WR	NAWC WD:China Lake, CA	13.010	3.610	Nov 2010	0.743	Nov 2011	-		0.743	0.000	17.363	
Government Engineering Support	Various	Various:Various	3.146	1.357	Nov 2010	0.555	Nov 2011	-		0.555	0.770	5.828	
All Product Dev Cost From FY93-FY10	Various	Various:Various	123.477	-		-		-		-	0.000	123.477	
Subtotal			147.537	9.528		2.891		-		2.891	1.537	161.493	

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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC AD:Patuxent River, MD	126.799	5.212	Nov 2010	4.264	Nov 2011	-		4.264	5.915	142.190	
Operation Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	11.389	0.495	Nov 2010	1.954	Nov 2011	-		1.954	0.555	14.393	
All T&E costs from FY93-FY10	Various	various:various	11.688	-		-		-		-	0.000	11.688	
Subtotal			149.876	5.707		6.218		-		6.218	6.470	168.271	

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various:Various	25.476	0.910	Nov 2010	-		-		-	0.000	26.386	
Travel	WR	NAWC AD:Patuxent River, MD	4.525	0.700	Nov 2010	-		-		-	0.000	5.225	
All Mangement cost from FY03- FY10	Various	Various:Various	9.667	-		-		-		-	0.000	9.667	
Subtotal			39.668	1.610		-		-		-	0.000	41.278	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		1,445.511	55.792		17.673		-	17.673	15.907	1,534.883	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade</i> <i>Dev</i>	PROJECT 1707: <i>MH-60R Development</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i>	PROJECT 1707: <i>MH-60R Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>PE 0604216N: Multi-Mission Helicopter Upgrade Development</i>				
Acquisition Milestones: Milestones: ARPDD IOC	4	2013	4	2013
Systems Development: HW/SW P3: P3 Integration	1	2010	2	2011
Systems Development: HW/SW ARPDD: ARPDD Integration Test	3	2010	2	2012
Systems Development: HW/SW SAU-07-000: SAU-07-000 Test	2	2011	1	2012
Test & Evaluation: P3 Integration: P3 Integration	1	2010	2	2011
Test & Evaluation: ARPDD: ARPDD OT	3	2012	4	2012
Production Milestones: ARPDD Contract: ARPDD Contract	1	2010	4	2012
Production Milestones: ARPDD: ARPDD	4	2011	4	2011
Production Milestones: Deliveries: ARPDD Production Incorporation	3	2013	3	2013

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	65.000	-	-	-	-	-	-	-	-	0.000	65.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Add

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011
Congressional Add: MH-60R/S Situational Awareness Technology Insert	65.000	-
FY 2010 Accomplishments: N/A		
Congressional Adds Subtotals	65.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds

E. Performance Metrics

Not required for Congressional Adds