

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy										Date: May 2017		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	1,555.085	17.518	5.275	5.371	-	5.371	2.549	2.551	2.604	2.655	Continuing	Continuing
1707: MH-60 Development	1,555.085	17.518	5.275	5.371	-	5.371	2.549	2.551	2.604	2.655	Continuing	Continuing
Program MDAP/MAIS Code: Project MDAP/MAIS Code(s): 191												
Note Commencing in FY 2017, this Program Element 0604216N, Project Unit 1707, changes from MH-60R Development to MH-60 Development to encompass both MH-60R and MH-60S activities.												
A. Mission Description and Budget Item Justification This Program Element includes funding for the development and support of future systems and improvements to current systems of the MH-60R/S. The MH-60R/S Multi-Mission helicopter provides battle group protection and adds significant capability in coastal littorals and regional conflicts. The MH-60R represents a significant avionics improvement to the H-60 series helicopters, greatly enhancing combat effectiveness in the primary mission areas of Anti-Submarine Warfare, Electronic Warfare, and Surface Warfare which includes the fast attack craft/fast in-shore attack craft (FAC/FIAC) threat response capabilities. Secondary MH-60R mission areas include search and rescue, vertical replenishment, naval surface fire support, logistics support, naval special warfare, strike warfare, personnel transport and medical evacuation. The MH-60S Multi-Mission helicopter conducts search and rescue, vertical replenishment, and airhead operations. Armed Helo and Airborne Mine Countermeasures (AMCM) were added as primary mission areas for the MH-60S as block upgrades to the platform. AMCM provides the Littoral Combat Ship the airborne portion of the Mine Countermeasures Mission Package. Armed Helo provides Special Warfare Support, Combat Search and Rescue, Surface Warfare and Maritime Interdiction Operations capability to address FAC/FIAC threat. MH-60S secondary roles include torpedo and drone recovery, noncombatant evacuation operations, and SEAL team and Explosive Ordnance Disposal support.												
FY17 funding for active/passive aircraft survivability equipment Phases II and III were cancelled due to the Distributed Aperture Infrared Countermeasures MH-60 Joint Urgent Operational Needs. FY17 funding will be used for Very High Frequency Omni Ranging (VOR)/Instrument Landing System (ILS) validation/verification integration.												
FY 2018 budget request funds VOR/ILS, System Configuration 18 and Service Life Assessment Program operational usage spectrum update to support fatigue life assessment of MH-60R aircraft structure and subsystem conditions. FY 2018 budget request also funds developmental activities including capability studies, open hardware and software architectures definition; avionics, mission system, air vehicle kinematic performance, and interoperability studies; and associated affordability studies in support of MH-60 Mid-Life Upgrade planning.												

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B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	18.858	5.275	4.089	-	4.089
Current President's Budget	17.518	5.275	5.371	-	5.371
Total Adjustments	-1.340	0.000	1.282	-	1.282
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.030	0.000			
• SBIR/STTR Transfer	-0.310	0.000			
• Program Adjustments	0.000	0.000	1.257	-	1.257
• Rate/Misc Adjustments	0.000	0.000	0.025	-	0.025
Change Summary Explanation					
FY 2018 increase of \$1.257M for an Usage Spectrum Update, Mid-Life Upgrade Studies, and System Configuration 18 testing activities that were not funded in the previous President's Budget.					
Reprogramming decrease in FY 2016 of \$1.030M due to cancellation of Active/Passive Aircraft Survivability efforts.					
Schedule: Very High Frequency Omni Ranging/Instrument Landing System schedule delayed due to availability of personnel and changes to scope of the development effort.					
Technical: Commencing in FY 2017, this Program Element 0604216N, Project Unit 1707, changes from MH-60R Development to MH-60 Development to encompass both MH-60R and MH-60S activities.					

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy										Date: May 2017		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev				Project (Number/Name) 1707 / MH-60 Development			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1707: MH-60 Development	1,555.085	17.518	5.275	5.371	-	5.371	2.549	2.551	2.604	2.655	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 191												

## A. Mission Description and Budget Item Justification

The primary mission areas of the MH-60R include anti-submarine warfare, electronic warfare, and surface warfare which includes the Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) threat response capabilities. Secondary mission areas include search and rescue, vertical replenishment, naval surface fire support, logistics support, personnel transport and medical evacuation. The MH-60R is executing upgrades to communication, navigation, identification friend or foe, multi-spectral targeting system/forward looking infrared radar, automatic radar periscope detection and discrimination, weapons, data link, safety, maintenance, airframe and mission planning systems. Advanced Precision Kill Weapon System integration will support surface warfare and maritime interdiction operations by providing forward firing weapons, which includes rockets and anti-swarm weapons, by addressing the FAC/FIAC threat. Analyze the effectiveness of active/passive aircraft survivability equipment on the MH-60R by assessing the effectiveness of platform mission and susceptibility characteristics to include current/future Infrared Countermeasure systems, evaluating threat data (acquisition range and countermeasure effectiveness) and mission requirements, assessing mission effectiveness/ susceptibility trade-space for aircraft survivability equipment systems/improvements and recommend options for susceptibility/vulnerability reductions. The MH-60S Multi-Mission helicopter conducts search and rescue, vertical replenishment, and airhead operations. Armed Helo and Airborne Mine Countermeasures (AMCM) were added as primary mission areas for the MH-60S as block upgrades to the platform. AMCM provides the Littoral Combat Ship the airborne portion of the Mine Countermeasures Mission Package. Armed Helo provides Special Warfare Support, Combat Search and Rescue, Surface Warfare and Maritime Interdiction Operations capability to address FAC/FIAC threat. MH-60S secondary roles include torpedo and drone recovery, noncombatant evacuation operations, and SEAL team and Explosive Ordnance Disposal support. Very High Frequency Omni Ranging/Instrument Landing System(VOR/ILS) provides precision approach capability ashore and to supplement currently available Precision Approach Radar controlled approaches. MH-60R is the lead platform for integration of the Multifunctional Information Distribution System Low Volume Terminal Block Upgrade 2. The MH-60R Service Life Assessment Program (SLAP) is assessing the primary aircraft structure and subsystem condition of the MH-60R fleet in order to determine what modifications are necessary to extend the aircraft design life limits to allow it to meet Chief of Naval Operations operational inventory requirements through FY 2035. Without SLAP, aircraft are retired from the USN inventory when design service life limits are reached directly impacting fleet Anti-Submarine Warfare, Anti-Surface Warfare, Surveillance, Communications Relay, Naval Gunfire Support, Search and Rescue and logistics support.

FY 2018 budget request funds VOR/ILS, System Configuration 18 and SLAP operational usage spectrum update to support fatigue life assessment of MH-60R aircraft structure and subsystem conditions. Efforts include product development, government engineering, integrated logistics support, modeling and simulation and developmental and operational testing. FY 2018 budget request also fund developmental activities including capability studies, open hardware and software architectures definition; avionics, mission system, air vehicle kinematic performance, and interoperability studies; and associated affordability studies in support of MH-60 Mid-Life Upgrade planning.

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy				Date: May 2017		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev		Project (Number/Name) 1707 / MH-60 Development		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<b>Title:</b> Avionics H/W and S/W Development		8.512	2.147	0.684	0.000	0.684
<b>Articles:</b>		-	-	-	-	-
<b>Description:</b> 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: Pre-planned Product Improvements and automatic radar periscope detection and discrimination. Advanced Precision Kill Weapon System (APKWS) and active/passive self defense efforts address the Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) threat. Conduct FAC/FIAC demonstration utilizing anti-swarm weapon. Very High Frequency Omni Ranging (VOR)/Instrument Landing System (ILS) provides precision approach cabability.						
<b>FY 2016 Accomplishments:</b> Continue support of APKWS with the development of software for Multi Target Spectrum to improve FAC/FIAC solutions. Develop software for MH-60R, the lead platform for Multifunctional Information Distribution System Block Upgrade 2, in support of Battle Group Tactical Data Link Network Centric Warfare. Commence active/passive aircraft survivability (in place of Helicopter Infrared Suppression System (HIRSS) due to incompatibility of HIRSS with MH-60R) and VOR/ILS activities.						
<b>FY 2017 Plans:</b> Continue VOR/ILS activities. Commence Service Life Assessment Program (SLAP) of MH-60R aircraft structure and subsystem conditions. Efforts include product development, government engineering, integrated logistics support, modeling and simulation and developmental and operational testing.						
<b>FY 2018 Base Plans:</b> Complete VOR/ILS activities and continue SLAP of MH-60R aircraft structure and subsystem conditions. VOR/ILS efforts include government engineering, integrated logistics support, and developmental and operational testing.						
<b>FY 2018 OCO Plans:</b> N/A						
<b>Title:</b> Engineering and Logistics		1.659	1.447	1.702	0.000	1.702
<b>Articles:</b>		-	-	-	-	-
<b>FY 2016 Accomplishments:</b>						

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Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev		Project (Number/Name) 1707 / MH-60 Development				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<p>Continue to provide engineering specialists, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support APKWS and active/passive aircraft survivability, and commence Very High Frequency Omni Ranging (VOR)/Instrument Landing System (ILS) engineering efforts and multifunctional information distribution system - low volume terminal block upgrade 2 modeling and simulation efforts.</p> <p><b>FY 2017 Plans:</b></p> <p>Continue to provide MH-60R engineering specialists, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support Very High Frequency Omni Ranging (VOR)/Instrument Landing System (ILS) engineering efforts. Analyze Fixed Forward Firing Weapons (FFFW)/Rockets and Advanced Precision Kill Weapon System (APKWS) mixed loads integration for Digital Rocket Launcher (DRL) on MH-60S.</p> <p>Commence Service Life Assessment Program (SLAP) of MH-60R aircraft structure and subsystem conditions.</p> <p><b>FY 2018 Base Plans:</b></p> <p>Continue to provide MH-60 engineering specialists, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support VOR/ILS engineering efforts. Continue initial SLAP efforts to include operational usage spectrum update in support of initial fatigue life assessment. Commence MH-60 Mid-Life Upgrade capability studies and develop initial open architectures, avionics, mission system, and air vehicle development cost and schedule planning estimates. Commence System Configuration 18 engineering support and finish FFFW/Rockets and APKWS mixed loads integration for DRL on MH-60S.</p> <p><b>FY 2018 OCO Plans:</b></p> <p>N/A</p>								
<p><b>Title:</b> Test and Evaluation</p> <p><b>Articles:</b></p> <p><b>FY 2016 Accomplishments:</b></p> <p>Continue APKWS test and evaluation efforts. Commence VOR/ILS test and evaluation efforts and commence Multifunctional Information Distribution System-Low Volume Terminal Block Upgrade 2 modeling and simulation activities.</p> <p><b>FY 2017 Plans:</b></p>				7.347 -	1.681 -	2.985 -	0.000 -	2.985 -

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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>

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

FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
17.518	5.275	5.371	0.000	5.371

Continue MH-60R VOR/ILS test and evaluation efforts. Evaluate operational test results of MH-60S FFFW & APKWS mixed loads integration with DRL in counter Fast Attack Craft/Fast Inshore Attack Craft scenario and develop corrective action plans to address identified deficiencies in support of follow-on test.

***FY 2018 Base Plans:***

Commence System Configuration 18 test support and finish MH-60R Very High Frequency Omni Ranging/Instrument Landing System (VOR/ILS) test and evaluation efforts.

***FY 2018 OCO Plans:***

N/A

### Accomplishments/Planned Programs Subtotals

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

<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u> <u>Base</u>	<u>FY 2018</u> <u>OCO</u>	<u>FY 2018</u> <u>Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN-1 BLI:018200: <i>MH-60R</i>	887.037	61.177	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	11,126.394
• APN-6 BLI:060510: <i>MH-60R spares</i>	1.023	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	300.454
• APN-5 BLI:053000: <i>SH60 Series</i>	37.644	63.771	50.088	-	50.088	40.582	54.529	38.370	34.003	Continuing	Continuing

## Remarks

APN5/053000 reflects only MH-60R specific OSIP 001-06 funding.

### D. Acquisition Strategy

Advanced Precision Kill Weapon System and VOR/ILS will be developed using cost plus incentive fee type contracts.

## E. Performance Metrics

Successfully support developmental and operation test activities to qualify aircraft modifications/upgrades.

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy												Date: May 2017			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev					Project (Number/Name) 1707 / MH-60 Development				
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw/SW Dev, Advanced Precision Kill Weapon System (APKWS)	SS/CPIF	Lockheed Martin : Owego, NY	5.076	0.000		0.000		0.000		-		0.000	0.000	5.076	5.076
Primary Hdw Dev. APKWS	SS/CPIF	Sikorsky : Stratford, CT	0.225	0.000		0.000		0.000		-		0.000	0.000	0.225	0.225
Primary SW Dev. Fast Attack Craft/Fast In-Shore Attack Craft (FAC/FIAC) demo	SS/BOA	Lockheed Martin : Owego, NY	3.058	2.498	Mar 2016	0.037	Mar 2017	0.000		-		0.000	0.000	5.593	5.593
Primary SW Dev. FAC/ FIAC	SS/BOA	Raytheon : McKinney, TX	0.000	0.957	May 2016	0.000		0.000		-		0.000	0.000	0.957	0.957
Primary Hdw/SW Dev, Instrument Landing System	SS/CPFF	Lockheed Martin : Owego, NY	0.000	1.249	Oct 2016	0.627	Oct 2017	0.000		-		0.000	0.000	1.876	1.876
Primary Hdw/SW Dev, Instrument Landing System	SS/CPIF	Sikorsky : Stratford, CT	0.000	1.808	Apr 2017	0.592	Apr 2018	0.000		-		0.000	0.000	2.400	2.400
Primary HDW/SW Dev, Usage Spectrum Update	SS/CPIF	Sikorsky : Stratford, CT	0.000	0.000		0.000		0.684	Apr 2018	-		0.684	0.000	0.684	0.520
Primary Hdw Dev, Multifunctional Information Distribution System - Low Volume Terminal Block Upgrade	SS/CPFF	Lockheed Martin : Owego, NY	0.000	2.000	Apr 2016	0.000		0.000		-		0.000	0.000	2.000	2.000
Prior year Product Dev Cost no longer funded in the FYDP	Various	Various : Various	1,157.533	0.000		0.000		0.000		-		0.000	0.000	1,157.533	-
Primary Hdw Dev, Avionics FFFW	MIPR	Army, DOTC : Picatinny, NJ	0.000	0.000		0.891	Jan 2017	0.000		-		0.000	0.000	0.891	-
Subtotal			1,165.892	8.512		2.147		0.684		-		0.684	0.000	1,177.235	-

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy											Date: May 2017				
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev					Project (Number/Name) 1707 / MH-60 Development				
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support, Projects commencing prior to FY16	WR	NAWC AD : Patuxent River, MD	12.954	1.197	Nov 2015	0.960	Dec 2016	0.000		-		0.000	Continuing	Continuing	Continuing
Government eng spt, Very High Frequency Omni Ranging/Instrument Landing Sysem (VOR ILS)	Various	Various : Various	0.000	0.000		0.326	Dec 2016	0.250	Nov 2017	-		0.250	Continuing	Continuing	Continuing
Government eng spt, Active/Passive Aircraft Survivability	WR	Various : Various	0.000	0.423	Nov 2015	0.000		0.000		-		0.000	0.000	0.423	-
Government eng spt, Usage Spectrum Update	C/BA	TBD : TBD	0.000	0.000		0.000		0.920	Nov 2017	-		0.920	0.000	0.920	-
Prior year support cost no longer funded in the FYDP	Various	Various : Various	148.770	0.000		0.000		0.000		-		0.000	0.000	148.770	-
MH-60S Forward Firing Weapons/Rockets Government Engineering Support	Various	Various : Various	0.000	0.000		0.107	Dec 2016	0.225	Dec 2017	-		0.225	0.000	0.332	-
Government Eng Support , System Configuration 18	Various	Various : Various	0.000	0.000		0.000		0.057	Nov 2017	-		0.057	0.000	0.057	-
Government Eng Support, Mid-Life Upgrade	Various	Various : Various	0.000	0.000		0.000		0.200	Nov 2017	-		0.200	0.000	0.200	-
Subtotal			161.724	1.620		1.393		1.652		-		1.652	-	-	-
Remarks															
1. FY 2016 costs for government engineering support for projects commencing prior to FY 2016 include automatic radar periscope detection and discrimination and advanced precision kill weapon system.															
2. FY 2017 Very High Frequency Omni Ranging/Instrument Landing System decrease cost to observe the qualification kit installation at Naval Air Station (NAS) Patuxent River, Maryland and NAS North Island, California.															



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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy												Date: May 2017			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev				Project (Number/Name) 1707 / MH-60 Development					
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E), Projects commencing prior to FY16	WR	NAWC AD : Patuxent River, MD	160.600	7.298	Nov 2015	0.572	Feb 2017	0.000		-		0.000	0.000	168.470	-
Operation Test & Evaluation (OT&E),Projects commencing prior to FY16	WR	COMOPTEVFOR : Norfolk, VA	15.396	0.049	Feb 2016	0.002	Mar 2017	0.000		-		0.000	0.000	15.447	-
Developmental Test & Evaluation (DT&E), Very High Frequency Omni Ranging (VOR)/Instrument Landing System (ILS)	WR	NAWC AD : Patuxent River, MD	0.000	0.000		0.051	Feb 2017	0.410	Nov 2017	-		0.410	0.840	1.301	-
OT&E, VOR/ILS	WR	COMOPTEVFOR : Norfolk, VA	0.000	0.000		0.000		0.410	Nov 2017	-		0.410	0.283	0.693	-
Prior year T&E costs no longer funded in the FYDP	Various	various : various	12.280	0.000		0.000		0.000		-		0.000	0.000	12.280	-
DT&E, System Configuration 18	Various	Various : Various	0.000	0.000		0.000		1.165	Nov 2017	-		1.165	0.000	1.165	-
DT&E, MH-60S Forward Firing Weapons/Rockets	Various	Various : Various	0.000	0.000		1.056	Mar 2017	1.000	Nov 2017	-		1.000	0.000	2.056	-
Subtotal			188.276	7.347		1.681		2.985		-		2.985	1.123	201.412	-
Remarks															
1. Commencing in FY 2016 test and evaluation costs will be broken out by individual project. FY 2016 costs for test and evaluation supports Advanced Precision Kill Weapon System (APKWS).															
2. FY 2018 costs for test and evaluation supports commencement of VOR/ILS development test and operational test activities.															

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Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
1319 / 5					PE 0604216N / Multi-Mssn Helicopter Upgrade Dev					1707 / MH-60 Development					
<b>Management Services (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAWC AD : Patuxent River, MD	4.937	0.039	Nov 2015	0.054	Oct 2016	0.050	Nov 2017	-		0.050	0.174	5.254	-
Prior year Mgmt Serv cost no longer funded in the FYDP	Various	Various : Various	34.256	0.000		0.000		0.000		-		0.000	0.000	34.256	-
<b>Subtotal</b>			39.193	0.039		0.054		0.050		-		0.050	0.174	39.510	-
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			1,555.085	17.518		5.275		5.371		-		5.371	-	-	-
<b>Remarks</b>															

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**Exhibit R-4, RDT&E Schedule Profile: FY 2018 Navy**

Date: May 2017

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PE 0604216N / Multi-Mssn Helicopter

*Upgrade Dev*

Project (Number/Name)	Start Date	End Date	Duration (Days)	Team Lead	Status	Notes
101	2023-01-01	2023-01-15	15	John Doe	Completed	Project completed successfully.
102	2023-01-16	2023-02-01	16	Jane Smith	In Progress	On track for completion.
103	2023-02-02	2023-02-15	14	Mike Johnson	On Hold	Waiting for client feedback.
104	2023-02-16	2023-03-01	15	Sarah Lee	Planned	Initial planning phase.
105	2023-03-02	2023-03-15	14	David Kim	Completed	Project completed successfully.
106	2023-03-16	2023-03-31	15	Emily White	In Progress	On track for completion.
107	2023-04-01	2023-04-15	15	Chris Brown	On Hold	Waiting for client feedback.
108	2023-04-16	2023-05-01	16	Alex Green	Planned	Initial planning phase.
109	2023-05-02	2023-05-15	14	Olivia Black	Completed	Project completed successfully.
110	2023-05-16	2023-05-31	16	Noah Grey	In Progress	On track for completion.

1707 / MH-60 Development

PE 0604216N: Multi-Mission Helicopter Upgrade Development					FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Acquisition Milestones																																
Milestones																																
Systems Development																																
APKWS					APKWS integration development																											
Service Life Assessment Program (SLAP)										Usage Spectrum Update																						
																	Fatigue Life Assessment															
Mid-Life Upgrade (MLU) Studies														MLU Studies																		
Multifunction Information Distribution System (MIDS)-Low Volume Terminal (LVT)					MIDS-LVT development																											
Very High Frequency Omni Ranging/Instrument Landing System (ILS)													VOR ILS Development																			
Active/Passive Aircraft Survivability					Platform Mission/Susceptibility Analysis																											
Forward Firing Weapons/Rockets Deficiencies										Correction of Deficiencies																						
Test and Evaluation					APKWS DT																											
					APKWS OT																											

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**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details: FY 2018 Navy</b>			<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60 Development</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>PE 0604216N: Multi-Mission Helicopter Upgrade Development</i></b>				
Systems Development: APKWS: APKWS integration development	1	2016	4	2016
Systems Development: Service Life Assessment Program (SLAP): Usage Spectrum Update	3	2017	4	2018
Systems Development: Fatigue Life Assessment	1	2019	4	2022
Systems Development: Mid-Life Upgrade (MLU) Studies: MLU Studies	2	2018	4	2018
Systems Development: Multifunction Information Distribution System (MIDS)-Low Volume Terminal (LVT): Block Upgrade 2 Integration	2	2016	3	2017
Systems Development: Multifunction Information Distribution System (MIDS)-Low Volume Terminal (LVT): Schedule Detail	1	2016	1	2022
Systems Development: Very High Frequency Omni Ranging/Instrument Landing System (ILS): ILS integration	4	2017	3	2018
Systems Development: Active/Passive Aircraft Survivability: Phase I - Platform Mission and Susceptibility Analysis	2	2016	3	2016
Systems Development: Forward Firing Weapons/Rockets Deficiencies: Correction of Deficiencies	2	2017	3	2018
Systems Development: Test and Evaluation: APKWS DT	1	2016	2	2016
Systems Development: Test and Evaluation: APKWS OT	2	2016	4	2016
Systems Development: Test and Evaluation: VOR ILS DT	2	2018	3	2018
Systems Development: Test and Evaluation: VOR ILS OT	2	2018	3	2018
Systems Development: Test and Evaluation: System Configuration 18 (SC18)	1	2018	4	2018