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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605229F / HH-60W
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	1,897.160	32.196	62.255	58.974	0.000	58.974	26.368	30.973	2.189	2.238	339.830	2,452.183
654364: <i>Combat Rescue Helicopter</i>	1,897.160	32.196	62.255	58.974	0.000	58.974	26.368	30.973	2.189	2.238	339.830	2,452.183
Quantity of RDT&E Articles	10	-	-	-	-	-	-	-	-	-		

Program MDAP/MAIS Code: 479

A. Mission Description and Budget Item Justification

The HH-60W program will replace the aging HH-60G. The HH-60G currently supports the Air Force's core function of Personnel Recovery. The primary mission of the HH-60G is to conduct day / night / marginal weather Combat Search and Rescue (CSAR) in order to recover downed aircrew or other isolated personnel in hostile or non-permissive environments.

The HH-60W will be capable of employment day or night, in adverse weather, and across the full spectrum of threats to include chemical, biological, radiological, and nuclear. On-board defensive capabilities will permit the HH-60W system to operate with less risk than legacy systems in an increased threat environment. An in-flight air refueling capability will provide an airborne alert capability and extend its combat mission range. The HH-60W system is capable of conducting combat search and rescue airborne mission commander duties. The aircraft will be self-supporting to the maximum extent practical. The HH-60W system may also conduct other collateral missions inherent in their capabilities to conduct Personnel Recovery, such as non-conventional assisted recovery, non-conventional evacuation operations, defense support to civil authorities, civil search and rescue, international aid, emergency aeromedical evacuation, disaster/humanitarian relief, counterdrug activities, support for National Aeronautics and Space Administration flight operations, and insertion/extraction of combat forces.

The HH-60W development program will procure a total of ten aircraft as follows: four Engineering, Manufacturing, and Development (EMD) aircraft, five System Demonstration Test Article (SDTA) aircraft, and one modernization flight test aircraft. The FY20 PB added the modernization flight test aircraft. The HH-60W program office will procure necessary ground and flight assets required for both Development Test (DT) and Initial Operational Test & Evaluation (IOT&E). The HH-60W EMD program includes development of the complete HH-60W training system to include HH-60W Weapon System Trainer (WST), Operational Flight Trainer (OFT), Airframe Systems Trainer (AST), Avionics Desktop Trainer (AVDTT), other training devices, with associated spares and support equipment, as well as Type 1 training and courseware required to perform flight, aircrew and maintenance training. Other development efforts include a systems integration laboratory, an avionics integration support facility, procurement of data rights and licenses, spares, SDTA aircraft, Government test, and product support. The HH-60W program will also pursue modernization efforts to develop and integrate enhancements in mission/defensive systems and additional system upgrades to address critical capability gaps. The program office will utilize the additional flight test aircraft in support of modernization efforts to address emerging threats and evolving mission needs.

The Delta Training Device (DTD) effort will procure additional training assets, including but not limited to, maintenance and aircrew Crew Chief Part Task Trainers (CCPTT), aircrew Hoist Procedural Trainers (HPT), Virtual Reality (VR)/Mixed Reality (MR) maintenance aircrew trainers, associated spares and support equipment, as well as Type 1 training.

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Capability upgrades and modernization development efforts for the HH-60W may include, but are not limited to, the following priorities: Situational Awareness Data Link/ Automatic Direction Finder Removal (SADL/ADF), Directional Infrared Countermeasures (DIRCM), Electro Optical/Infrared Tactical Overlay (EO/IR), Global Positioning System Anti-Jam/Anti-Spoof, Degraded Visual Environment system, Integrated Vehicle Health Monitoring System Control, Video Data Link, Radio Frequency Jammer, Mobile User Objective System (MUOS), Electronic Flight Bags, and Automated Dependent Surveillance Broadcast - In Device. Capability upgrades and modernization also supports inclusion for mandates, system enhancements, hardware and software changes for diminishing manufacturing sources and Deficiency Report Resolutions. In addition, studies, development, prototyping, testing and integration of emerging technology and support equipment opportunities to increase the effectiveness of the platform are considered in capability upgrades and modernization initiatives.

The HH-60W program funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver HH-60W weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2021 \$0.000 million was expended for civilian pay expenses in this program element, and in FY 2022 \$4.500 million is forecasted for civilian pay expenses in this program element.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	63.054	66.355	0.000	0.000	0.000
Current President's Budget	32.196	62.255	58.974	0.000	58.974
Total Adjustments	-30.858	-4.100	58.974	0.000	58.974
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-4.100			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-30.004	0.000			
• SBIR/STTR Transfer	-0.854	0.000			
• Other Adjustments	0.000	0.000	58.974	0.000	58.974

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Change Summary Explanation

FY 2021 funding was reduced by a total of \$30.858 million which included a \$30.004 reprogramming action for higher Air Force priorities and \$0.854 million for Small Business Innovation Research.

FY 2022 funding was reduced by \$4.100 million due to a Congressional Directed Reduction for contract award delays.

The FY 2022 President's Budget submittal did not reflect FY2023 through FY2026 funding. Therefore, an explanation of the change between two budget positions for FY2023 cannot be made in a relevant manner.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>Title: HH-60W Development</p> <p>Description: Develop a new helicopter, associated training system and support elements that leverage fielded, non-developmental technologies to recapitalize the HH-60G fleet.</p> <p>FY 2022 Plans: Continue development efforts on HH-60W aircraft, training systems, modernization and associated product support, including developing and integrating mission/defensive systems to address capability gaps. Continue conducting required testing. Continue pre-operational support, training, maintenance support, facilities support, and integration. Continue studies, analysis and training courses. The EMD program is scheduled to wind down with emphasis on deficiency resolution and support of IOT&E.</p> <p>FY 2023 Base Plans: Continue tactical cross domain solutions to include but not limited to developing and integrating mission/defensive systems and conduct required testing, training and integration and engineering and product support data analysis efforts.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Funding decreased due to ramp down of modern air combat environment simulator and primary developmental efforts.</p>	6.537	19.628	12.096	0.000	12.096
<p>Title: HH-60W Government Test and Evaluation</p> <p>Description: Conduct test and evaluation on the HH-60W and associated training systems to support DT&E, IOT&E, Live Fire Test and Evaluation (LFT&E), and other test planning and organizational support.</p>	2.995	3.900	4.000	0.000	4.000

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C. Accomplishments/Planned Programs (\$ in Millions)						
		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>FY 2022 Plans: Test and evaluate mission/defensive systems. Complete aircraft IOT&E. Continue DT&E and IOT&E for Capability Upgrades program.</p> <p>FY 2023 Base Plans: Continue developmental and operational test for Capability Upgrades program.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Funding increased due to start of developmental test efforts on Capability Upgrades and additional IOT&E efforts.</p>						
<p>Title: Capability Upgrades & Modernization</p> <p>Description: Modernize the HH-60W fleet by studying, prototyping, testing and integrating developmental and non-developmental technologies into the platform.</p> <p>FY 2022 Plans: Award an agile, flexible contract solution to efficiently modernize the HH-60W fleet. Continue modernization efforts based on user prioritized capabilities, mandates, diminishing manufacturing sources and material shortages, Deficiency Report Resolutions, Operational Flight Programs, studies, prototyping testing and integration of emerging technologies, carry-on equipment, EO/IR, DIRCM capabilities and support equipment opportunities.</p> <p>FY 2023 Base Plans: Continue modernization efforts to include prioritized capabilities, mandates, diminishing manufacturing sources and material shortages, Deficiency Report Resolutions, Operational Flight Programs, studies, prototyping testing and integration of emerging technologies, carry-on equipment, EO/IR, DIRCM capabilities and support equipment opportunities</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p>		22.664	38.727	42.878	0.000	42.878

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Funding increased due to ramp up of capability upgrades and modernization efforts, including but not limited to support for mandates, system enhancements, hardware and software changes, and deficiency resolution.					
Accomplishments/Planned Programs Subtotals	32.196	62.255	58.974	0.000	58.974

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• MILCON Line Item 0207229F: <i>Combat Rescue Helicopter</i>	4.049	0.000	8.300	-	8.300	0.000	0.000	0.000	-	0.000	12.349
• APAF 04 Line Item H060WH: <i>Combat Rescue Helicopter</i>	938.309	743.921	707.018	-	707.018	310.920	42.095	0.000	0.000	0.000	2,742.263
• APAF 06 Line Item H060WH: <i>Combat Rescue Helicopter</i>	90.494	76.937	159.691	-	159.691	0.000	0.000	0.000	117.136	0.000	444.258
• APAF 05 H060WH: <i>HH-60W Combat Rescue Helicopter</i>	0.000	0.000	3.083	-	3.083	103.475	107.818	102.692	104.915	0.000	421.983

Remarks

E. Acquisition Strategy
 Procure a new helicopter and associated training systems, and support elements that leverage fielded non-developmental technologies to recapitalize the HH-60G fleet.

Under the development effort, the HH-60W program will procure a total of ten aircraft as follows: four Engineering, Manufacturing, and Development (EMD) aircraft, five System Demonstration Test Article (SDTA) aircraft, and one modernization flight test aircraft. The FY20 PB added the modernization flight test aircraft. The HH-60W program office will procure necessary ground and flight assets required for both Development Test (DT) and Initial Operational Test & Evaluation (IOT&E).

The main HH-60W program includes development of the complete HH-60W system to include delivery of ten aircraft, associated training systems to include WST, OFT, AVDTT, AST, other Part Task Trainers, associated spares and support elements/equipment, as well as Type 1 training and courseware required to perform flight, aircrew and maintenance training. An additional prime contract was awarded to develop and acquire additional training devices. Other efforts include, but are not limited to development of a systems integration laboratory and an avionics integration support facility, as well as procurement of data rights and licenses, spares, SDTA and product support for the EMD effort. The HH-60W modernization effort will maximize, where possible, opportunities for production line cut-in to minimize the amount of future post-production modifications needed.

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<p>The current contract types for this effort are predominantly Fixed Price. As originally planned following source selection, a formal HH-60W Training System Requirements Analysis (TSRA) was completed in Sep 2015. This analysis identified additional training requirements not accounted for in the original contract. These additional training devices, associated spares, support equipment, Type 1 Training and initial contractor support were competitively awarded in Aug 18.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 654364 / Combat Rescue Helicopter
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HH-60W aircraft development, integration, test articles, trainers, support and contractor test	C/FPIF	Sikorsky Aircraft Corporation : Stratford, CT	1,692.101	0.716	Jan 2021	6.594	May 2022	4.463	Jan 2023	-		4.463	2.016	1,705.890	-
Acquisition of additional HH-60W training devices	C/FFP	Various : TBD	30.812	2.810	Jan 2022	5.100	May 2022	0.000	Mar 2023	-		0.000	0.000	38.722	-
HH-60W Capability Upgrades and Modernization- DO1	C/FPIF	Sikorsky Aircraft Corp : Stratford, CT	34.384	22.664	Apr 2021	38.727	May 2022	42.878	Jan 2023	-		42.878	130.857	269.510	-
Subtotal			1,757.297	26.190		50.421		47.341		-		47.341	132.873	2,014.122	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HH-60W product support related to aircraft development, integration, test articles, trainers and contractor test	Various	Various : TBD	52.990	2.561	Sep 2021	3.434	Dec 2022	3.133	Jan 2023	-		3.133	2.226	64.344	-
Direct Cite Civ Pay	Various	AFLCMC : TBD	0.000	-		4.500	May 2022	4.500	Oct 2022	-		4.500	10.500	19.500	-
Subtotal			52.990	2.561		7.934		7.633		-		7.633	12.726	83.844	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HH-60W planning and testing to support developmental and operational test, live fire test and other weapon system testing and support	PO	413th Test Squadron : Eglin AFB, FL	48.397	2.995	Dec 2021	3.900	Apr 2022	4.000	Dec 2022	-		4.000	8.986	68.278	-
Subtotal			48.397	2.995		3.900		4.000		-		4.000	8.986	68.278	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 654364 / Combat Rescue Helicopter
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HH-60W A&AS Support	C/CPFF	EPASS : Dayton, OH	28.761	-		-		-		-		-	0.000	28.761	-
HH-60W Other Program Support Costs	Various	Various : Various	9.715	0.450	Sep 2021	-		-		-		-	0.000	10.165	-
Subtotal			38.476	0.450		-		-		-		-	0.000	38.926	N/A

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		1,897.160	32.196	62.255	58.974	-	58.974	154.585	2,205.170	N/A

Remarks
 FINANCIAL PERFORMANCE: HH-60W is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the HH-60W EMD contract is primarily a FPIF contract with progress payments. Ten percent of incurred costs are withheld until the end of the contract, when they are liquidated. Mandatory funding obligations, progress payment restrictions and DFAS withholds will cause the program to lag traditional expenditure benchmarks, painting an inaccurate portrait of overall program health.

FY20+: Transitioned Management Services to 3010.

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 654364 / Combat Rescue Helicopter
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FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

HH-60W	
HH-60W EMD Development	
HH-60W CRH Training System EMD Development	
HH-60W Test and Evaluation	
Developmental Test and Evaluation	
Capability Upgrades and Modernization	
Required Assets Available for Initial Operational Capability	■

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 654364 / Combat Rescue Helicopter
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
HH-60W				
HH-60W EMD Development	1	2021	2	2023
HH-60W CRH Training System EMD Development	1	2021	2	2023
HH-60W Test and Evaluation	1	2021	4	2027
Developmental Test and Evaluation	1	2021	4	2021
Capability Upgrades and Modernization	1	2021	4	2027
Required Assets Available for Initial Operational Capability	2	2021	2	2021