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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force **Date:** May 2021

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	1,658.703	238.457	63.054	66.355	0.000	66.355	-	-	-	-	-	-
654364: <i>Combat Rescue Helicopter</i>	1,658.703	238.457	63.054	66.355	0.000	66.355	-	-	-	-	-	-
Quantity of RDT&E Articles	-	1	-	-	-	-	-	-	-	-		

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. Onboard 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. In addition, 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, including Infrared Countermeasures (IRCM) testing, to address emerging threats and evolving mission needs.

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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.

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), Distributed Aperture Infrared Countermeasures (DAIRCM), 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, hardware 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.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver the HH-60W weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY20 \$0.000M was expended for civilian pay expenses in this program element, and in FY21 \$0.000M is forecasted for civilian pay expenses in this program element.

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	247.047	63.169	29.936	0.000	29.936
Current President's Budget	238.457	63.054	66.355	0.000	66.355
Total Adjustments	-8.590	-0.115	36.419	0.000	36.419
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-8.590	0.000			
• Other Adjustments	0.000	-0.115	36.419	0.000	36.419

Change Summary Explanation

FY 2020 funding decrease of \$8.590 million for Small Business Innovation Research.
FY 2022 funding request increase of \$36.419 million due to capabilities upgrade.

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<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 2021 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.</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 2021 to FY 2022 Increase/Decrease Statement: Funding increased due to additional mandatory cyber support efforts to correct identified deficiencies.</p>		191.266	13.177	26.106
<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> <p>FY 2021 Plans: Test and evaluate mission/defensive systems. Complete aircraft DT&E and begin IOT&E; complete LFT&E. Plan and execute DT&E and complete IOT&E planning for follow on Capability Upgrades effort.</p> <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 2021 to FY 2022 Increase/Decrease Statement: Funding decreased due to the transition from aircraft DT&E to Capability Upgrades testing.</p>		21.794	5.056	4.400
<p>Title: Capability Upgrades & Modernization</p>		25.397	44.821	35.849

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: Modernize the HH-60W fleet by studying, prototyping, testing and integrating developmental and non-developmental technologies into the platform.</p> <p>FY 2021 Plans: Conduct planning for an agile, flexible, long-term contracting solution to efficiently award emerging modernization opportunities to further the effectiveness of the HH-60W fleet. Continue modernization efforts based on user prioritized capabilities, including mandates, hardware changes for diminishing manufacturing sources, Deficiency Report Resolutions, studies, prototyping, testing and integration of emerging technologies, carry on equipment and support equipment opportunities. FY21 capability upgrade activities include development, integration and testing efforts for SADL/ADF removal, EO/IR and DAIRCM capabilities.</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, Operational Flight Programs, studies, prototyping, testing and integration of emerging technologies, carry on equipment, EO/IR, DAIRCM Capabilities, Link-16 upgrade compliance, MUOS, and support equipment opportunities.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Funding decreased due to adjustments in the program schedule and changes to technology readiness levels.</p>			
Accomplishments/Planned Programs Subtotals	238.457	63.054	66.355

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• MILCON Line Item 0207229F: <i>Combat Rescue Helicopter</i>	15.500	4.049	0.000	-	0.000	-	-	-	-	-	-
• APAF 04 Line Item H060WH: <i>Combat Rescue Helicopter</i>	850.535	1,083.909	792.221	-	792.221	-	-	-	-	-	-
• APAF 06 Line Item H060WH: <i>Combat Rescue Helicopter</i>	0.000	75.821	76.937	-	76.937	-	-	-	-	-	-
• APAF 05 H060WH: <i>HH-60W Combat Rescue Helicopter</i>	0.000	0.000	61.191	-	61.191	-	-	-	-	-	-

Remarks

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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 HH-60W development effort, the program office procured a total of ten aircraft as follows: four EMD aircraft, five SDTA aircraft, and one modernization flight test aircraft. In addition, the HH-60W program office will procure necessary ground and flight assets required for both DT and IOT&E. The FY20 PB added the modernization flight test aircraft.

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, with associated spares and support elements/equipment, as well as Type 1 training and course-ware 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.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	1,537.799	154.302	Jan 2020	9.623	Jan 2021	17.006	Jan 2022	-		17.006	-	-	-
Acquisition of additional HH-60W training devices	C/FFP	Logistics Services Int'l : TBD	21.000	9.812	Aug 2020	0.000		4.600	Mar 2022	-		4.600	-	-	-
HH-60W Capability Upgrades and Modernization	C/TBD	TBD : TBD	8.987	25.397	Jan 2020	44.821	Dec 2020	35.849	Jan 2022	-		35.849	-	-	-
Subtotal			1,567.786	189.511		54.444		57.455		-		57.455	-	-	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	25.838	27.152		3.554		4.500		-		4.500	-	-	-
Subtotal			25.838	27.152		3.554		4.500		-		4.500	-	-	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	26.603	21.794	Dec 2019	5.056	Dec 2020	4.400	Dec 2021	-		4.400	-	-	-
Subtotal			26.603	21.794		5.056		4.400		-		4.400	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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		-		0.000	-	-	-
HH-60W Other PMA	Various	Various : Various	9.715	-		-		0.000	Oct 2021	-		0.000	-	-	-
Subtotal			38.476	-		-		0.000		-		0.000	-	-	N/A
Project Cost Totals			1,658.703	238.457		63.054		66.355		-		66.355	-	-	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 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 2022 Air Force **Date:** May 2021

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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
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 2022 Air Force **Date:** May 2021

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	2020	4	2022
HH-60W CRH Training System EMD Development	1	2020	4	2022
HH-60W Test and Evaluation	1	2020	4	2026
Developmental Test and Evaluation	1	2020	4	2021
Capability Upgrades and Modernization	1	2020	4	2026
Required Assets Available for Initial Operational Capability	2	2021	2	2021