

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605212M / CH-53K							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	336.945	516.955	-	516.955	251.359	20.631	21.090	21.500	Continuing	Continuing
3059: CH-53K Development	0.000	0.000	326.945	516.955	-	516.955	251.359	20.631	21.090	21.500	Continuing	Continuing
9999: Congressional Adds	0.000	0.000	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000

**Program MDAP/MAIS Code:**  
**Project MDAP/MAIS Code(s):** 390

## Note

PB-19 realigned the CH-53K Development Efforts from PE 0605212N /CH-53K to this PE 0605212M /CH-53K.

## A. Mission Description and Budget Item Justification

The CH-53 is the only marinized heavy-lift helicopter in the world and is the Marine Corps only heavy-lift helicopter. The CH-53 mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. An improved CH-53 is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53K "King Stallion" will provide improvements in range and payload, performance, cargo handling, turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC).

Total aircraft quantities for the CH-53K program are 205 helicopters. This currently includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD) purchased with Research, Development, Test & Evaluation (RDT&E) funds. Of the remaining 200 aircraft, six were System Demonstration Test Articles (SDTAs) and are incrementally funded using RDT&E funds and 194 aircraft are funded with Aircraft Procurement, Navy (APN). The SDTAs will be used to prove out production and integration processes on a pilot production line, and to provide aircraft for Initial Operational Test and Evaluation. Development contract overruns resulted in insufficient funding levels to continue work on SDTA 5&6 and the contract was modified to avoid further expenditure. The program will discontinue SDTA 5&6 efforts and DD-250 SDTA 5&6 parts to become Government property. Only SDTA 1-4 will remain to be utilized as previously planned. The program of record of aircraft quantity remains 200, four of which are SDTA and 196 aircraft to be APN funded. The proposed plan has been provided during the Above Threshold Reprogramming briefings/discussions, Requests for Information responses, and will be footnoted in the Selected Acquisition Report.

**JUSTIFICATION FOR BUDGET ACTIVITY:** This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production decision.

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Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0605212M / CH-53K			
B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	0.000	326.945	296.281	-	296.281
Current President's Budget	0.000	336.945	516.955	-	516.955
Total Adjustments	0.000	10.000	220.674	-	220.674
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	220.386	-	220.386
• Rate/Misc Adjustments	0.000	0.000	0.288	-	0.288
<b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b>					
<b>Project: 9999: Congressional Adds</b>					
Congressional Add: <i>Wireless Intercom System</i>					
Congressional Add: <i>Common Lightweight Cargo System</i>					
Congressional Add Subtotals for Project: 9999					
Congressional Add Totals for all Projects					
<b>Change Summary Explanation</b>					
FY 2020 funds CH-53K SDD activities to include additional ground and flight test of one GTV, four EDMs and four SDTAs, associated subsystems and components.					
Technical: Not applicable.					
Schedule: Not applicable.					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605212M / CH-53K				Project (Number/Name) 3059 / CH-53K Development			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
3059: CH-53K Development	0.000	0.000	326.945	516.955	-	516.955	251.359	20.631	21.090	21.500	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 390												
Note PB-19 realigned the CH-53K Development Efforts from PE 0605212N /CH-53K to this PE 0605212M /CH-53K.												
A. Mission Description and Budget Item Justification The CH-53 is the only marinized heavy-lift helicopter in the world and is the Marine Corps only heavy-lift helicopter. The CH-53 mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. An improved CH-53 is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53K "King Stallion" will provide improvements in range and payload, performance, cargo handling, turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC).  Total aircraft quantities for the CH-53K program are 205 helicopters. This currently includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD) purchased with Research, Development, Test & Evaluation (RDT&E) funds. Of the remaining 200 aircraft, six were System Demonstration Test Articles (SDTAs) and are incrementally funded using RDT&E funds and 194 aircraft are funded with Aircraft Procurement, Navy (APN). The SDTAs will be used to prove out production and integration processes on a pilot production line, and to provide aircraft for Initial Operational Test and Evaluation. Development contract overruns resulted in insufficient funding levels to continue work on SDTA 5&6 and the contract was modified to avoid further expenditure. The program will discontinue SDTA 5&6 efforts and DD-250 SDTA 5&6 parts to become Government property. Only SDTA 1-4 will remain to be utilized as previously planned. The program of record of aircraft quantity remains 200, four of which are SDTAs and 196 aircraft to be APN funded. The proposed plan has been provided during the Above Threshold Reprogramming briefings/discussions, Requests for Information responses, and will be footnoted in the Selected Acquisition Report.  FY 2020 RDT&E funds CH-53K SDD activities to include additional ground and flight test of one GTV, four EDMs and four SDTAs, associated subsystems and components.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Air Vehicle Development								0.000	278.645	457.423	0.000	457.423
Articles:								-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019			
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0605212M / CH-53K	Project (Number/Name) 3059 / CH-53K Development			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<b>FY 2019 Plans:</b> Continue additional ground and flight test of the CH-53K GTV, EDMs and their associated subsystems and components in preparation of IOT&E. Continue to evaluate and implement producability, reliability and capability improvements during fabrication and assembly of System Demonstration Test Articles.						
<b>FY 2020 Base Plans:</b> Continue additional ground and flight test of the CH-53K GTV, EDMs and their associated subsystems and components in preparation of IOT&E. Continue to evaluate and implement producability, reliability and capability improvements during fabrication and assembly of System Demonstration Test Articles.						
<b>FY 2020 OCO Plans:</b> N/A						
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> The increase from FY 2019 to FY 2020 in the Air Vehicle Development line is in direct support of the System Development and Demonstration Aircraft (SDD) and Test Program to continue flight test and correction of deficiencies in preparation of IOT&E and to achieve IOC in FY 2021.						
<b>Title:</b> Integrated Logistics Support and Test & Evaluation (T&E)		0.000	33.902	39.198	0.000	39.198
<b>Articles:</b>		-	-	-	-	-
<b>FY 2019 Plans:</b> Continue to perform in-house, field activity and contractor execution of Integrated Logistic Support and Developmental Test program. Continue to refine and validate Product Support Packages and Supportability Test Plans in preparation of IOT&E. Continue component qualification, Government ground and flight test activities, as well as LFT&E efforts.						
<b>FY 2020 Base Plans:</b> Continue to perform in-house, field activity and contractor execution of Integrated Logistic Support and Developmental Test program. Continue to refine and validate Product Support Packages and Supportability Test Plans in preparation of IOT&E. Continue component qualification, Government ground and flight test activities, as well as LFT&E efforts.						
<b>FY 2020 OCO Plans:</b> N/A						
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy			<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0605212M / CH-53K		<b>Project (Number/Name)</b> 3059 / CH-53K Development

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
The increase from FY19 to FY20 includes Live Fire Test and Evaluation (LFT&E) funds in support of the Survivability KPP and required for FRP. FY20 LFT&E efforts are conducting test article set up and execution of live fire tests. FY20 Integrated Logistics Support, and T&E funding to NAWCAD and WD, supports the prime contractor (SDD/SDTA) schedule for additional flight test/hours and associated assets in support of test activities of IOT&E and to achieve IOC in FY21.						
<b>Title:</b> Systems Engineering & Project Management		0.000	14.398	20.334	0.000	20.334
<b>Articles:</b>		-	-	-	-	-
<b>FY 2019 Plans:</b> Continue to perform in-house, field activity and contractor execution of test program Integrated Product Teams. Continue to plan for, and execute, Correction of Deficiencies identified during component qualification and flight test. Efforts include engineering, program management and test program travel.						
<b>FY 2020 Base Plans:</b> Continue to perform in-house, field activity and contractor execution of test program Integrated Product Teams. Continue to plan for, and execute, Correction of Deficiencies identified during component qualification and flight test. Efforts include engineering, program management and test program travel.						
<b>FY 2020 OCO Plans:</b> N/A						
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> The increase from FY19 to FY20 in the Systems Engineering and Project Management is in direct support of the SDD Aircraft Systems Engineering and correction of deficiencies in preparation of IOT&E and to achieve IOC in FY21.						
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	326.945	516.955	0.000	516.955

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• APN / 0158 / 0158C: CH-53K (Heavy Lift)	949.651	1,168.678	1,022.890	-	1,022.890	1,667.124	2,254.425	2,187.746	2,332.634	11,551.227	23,592.126
• APN / 0605: CH-53K - Initial Spares	77.103	59.040	98.824	-	98.824	72.087	34.466	14.961	16.729	Continuing	Continuing
• APN / 0528: H-53 Series	0.000	19.032	23.075	-	23.075	20.206	28.571	33.254	19.972	Continuing	Continuing

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<b>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u>FY 2020</u>	<u>FY 2020</u>	<u>FY 2020</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Complete</u>	<u>Total Cost</u>
<b>Remarks</b>											
APN/0158/0158C: CH-53K Advanced and Regular Procurement (APN-1)											
APN/0605: CH-53K Spares (APN-6)											
APN/0528: CH-53K OSIP #s 007-19 Correction of Deficiencies and 008-19 Production Upgrades											
<b>D. Acquisition Strategy</b>											
On 31 October 2005, the Defense Acquisition Board (DAB) reviewed the CH-53K program for a Milestone (MS) B decision on entry to Systems Design and Development (SDD). The Under Secretary of the Defense for Acquisition, Technology and Logistics (USD AT&L) signed the Acquisition Decision Memorandum (ADM) allowing the program to proceed with SDD on 22 December 2005. The CH-53K program was initiated as an Acquisition Category 1D program, based on total estimated costs for Research, Development, Test and Evaluation and Aircraft Procurement, Navy. The SDD prime contract was awarded sole-source contract to Sikorsky Aircraft Corporation on 5 April, 2006, following the MS B decision. SDD efforts will develop and document technology maturations, selections, and integration into CH-53E design modifications for a new CH-53K variant; produce one CH-53K Ground Test Vehicle and four CH-53K Engineering Developmental Models; and conduct and support Test and Evaluation activities fulfilling milestone exit criteria. In FY13 the SDD contract was modified to include four System Demonstration Test Articles (SDTAs). In FY15 the SDD contract was modified to add the long-lead/critical parts for the two additional SDTA aircraft. The T408-GE-400 engines for SDTAs 1-4, which were converted from Contractor Furnished Equipment to Government Furnished Equipment, were placed on contract in FY14. Additionally, a contract option was exercised in FY15 to provide engines for SDTAs 5-6. On 30 March 2017, the DAB reviewed the CH-53K program for a MS C decision allowing entry into Production and the ADM was signed by USD AT&L on 4 April 2017 resulting in an ACAT 1C designation.											
<b>E. Performance Metrics</b>											
Since MS B, the program team has followed a disciplined, event-driven, design and development process. The program completed Preliminary Design Review in September 2008 and conducted Critical Design Review in July 2010. System meets or exceeds all Key Performance Parameters.											

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy** **Date:** March 2019

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605212M / CH-53K	<b>Project (Number/Name)</b> 3059 / CH-53K Development
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Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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 Hardware Development: SDD / SDTA Air Vehicle	SS/CPIF	Sikorsky : Stratford, CT	0.000	0.000		226.100	Dec 2018	410.100	Dec 2019	-		410.100	0.000	636.200	757.534
GFE: Engines	SS/CPFF	GE : Lynn, MA	0.000	0.000		6.338	Jan 2019	6.300	Jan 2020	-		6.300	0.000	12.638	17.539
Primary Hardware Development, Capability Improvement	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Primary Hardware Development:-Other SAC	TBD	Sikorsky : Stratford, CT	0.000	0.000		36.000	Jan 2019	35.300	Jan 2020	-		35.300	0.000	71.300	71.300
Primary Hardware Development	Various	Various : Various	0.000	0.000		10.207	Apr 2019	5.723	Apr 2020	-		5.723	0.000	15.930	11.029
<b>Subtotal</b>			0.000	0.000		278.645		457.423		-		457.423	Continuing	Continuing	N/A

**Remarks**

FY20 funding increase is in direct support of the System Development and Demonstration Aircraft (SDD) test program to prepare for IOT&E and to achieve IOC in FY21.  
Government Furnished Equipment/Engines provides funding for SDTA Engine contract.

Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Development Support	Various	NAWCAD : Lakehurst, NJ	0.000	0.000		1.150	Dec 2018	1.173	Dec 2019	-		1.173	0.000	2.323	-
Integrated Logistics Support	WR	NAWCAD : Lakehurst, NJ	0.000	0.000		1.038	Dec 2018	1.223	Dec 2019	-		1.223	0.000	2.261	-
Integrated Logistics Support	WR	NADEP : Cherry Point, NC	0.000	0.000		1.325	Dec 2018	1.352	Dec 2019	-		1.352	0.000	2.677	-
Integrated Logistics Support-OLD PM CONTRACT	C/CPFF	GDIT : Fairfax, VA	0.000	0.000		1.900	Apr 2019	0.000		-		0.000	0.000	1.900	1.900
Integrated Logistics Support	WR	Various : Various	0.000	0.000		2.539	Dec 2018	2.590	Dec 2019	-		2.590	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWCTSD : Orlando, FL	0.000	0.000		0.750	Dec 2018	0.250	Dec 2019	-		0.250	0.000	1.000	-

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Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605212M / CH-53K				Project (Number/Name) 3059 / CH-53K Development					
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Integrated Logistics Spt-NEW PM CONTRACT	C/CPFF	NSI : Lexington Park, MD	0.000	0.000		0.000		1.610	Apr 2020	-		1.610	0.000	1.610	1.610
Subtotal			0.000	0.000		8.702		8.198		-		8.198	Continuing	Continuing	N/A
Remarks NAWC TSD training systems previously captured under "Integrated Logistic Support - Various" are now contained in the Government Engineering support line.															
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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	WR	Various : Various	0.000	0.000		0.600	Dec 2018	1.100	Dec 2019	-		1.100	0.000	1.700	-
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	0.000	0.000		22.500	Dec 2018	23.400	Nov 2019	-		23.400	0.000	45.900	-
Operational Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.000	0.000		1.100	Dec 2018	1.500	Dec 2019	-		1.500	0.000	2.600	-
Live Fire Test & Evaluation	WR	NAWCWD : China Lake, CA	0.000	0.000		1.000	Dec 2018	5.000	Dec 2019	-		5.000	0.000	6.000	-
Subtotal			0.000	0.000		25.200		31.000		-		31.000	0.000	56.200	N/A
Remarks FY20 Live Fire Test and Evaluation funds are in support of the Survivability KPP and required for FRP. FY20 efforts are conducting test article set up and execution of live fire tests. Increase of FY20 T&E funding to NAWCAD and WD supports the prime contractor (SDD/SDTA) schedule for additional flight test/hours and associated assets in support of test activities of IOT&E and to achieve IOC in FY21.															
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Contractor Engineering Support	Various	Various : Various	0.000	0.000		2.848	Dec 2018	2.905	Dec 2019	-		2.905	Continuing	Continuing	Continuing



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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy** **Date:** March 2019

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605212M / CH-53K	<b>Project (Number/Name)</b> 3059 / CH-53K Development
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Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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	WR	NAWCAD : Pax River, MD	0.000	0.000		8.399	Dec 2018	14.270	Nov 2019	-		14.270	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Zenetix : Herndon, VA	0.000	0.000		2.208	Jan 2019	2.195	Jan 2020	-		2.195	3.110	7.513	7.513
Program Management Support	Various	Various : Various	0.000	0.000		0.833	Dec 2018	0.850	Dec 2019	-		0.850	Continuing	Continuing	Continuing
Travel	WR	NAWCAD : Pax River, MD	0.000	0.000		0.110	Dec 2018	0.114	Nov 2019	-		0.114	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	0.000		14.398		20.334		-		20.334	Continuing	Continuing	N/A

**Remarks**  
Increase of FY20 Gov't Eng support is required for the additional in house activities to include program management and engineering support for the Integrated Product teams in preparation of IOT&E and to achieve IOC in FY21.

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	0.000	0.000	326.945	516.955	-	516.955	Continuing	Continuing	N/A

**Remarks**  
Items with continuing in CTC (FY's 23 and beyond) are not part of the ACAT 1C program. Primary Hardware Development Capability Improvement will support efforts beyond the FYDP.

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy

Date: March 2019

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0605212M / CH-53K

Project (Number/Name)  
3059 / CH-53K Development

CH-53K Development	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1Q	2Q	3Q	4Q	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					System Demonstration phase											IOC ▲			FRP ▲									
System Development																												
Hardware Development																												
Software Development																												
Reviews																												
Development Deliveries																												
Capability Improvements																												
Test & Evaluation																												
Developmental Test & Evaluation					Developmental Test/TECHEVAL																							
Operational Test & Evaluation																IOT&E												
Deliveries																												
Sys. Dem. Test Articles (RDT&E)									1 ▼							1 ▼												
									1 ▼																			

2020PB - 0605212M - 3059

Schedule reflects proposed plan as cited on the R2; as such, SDTA 5 & 6 deliveries have been removed

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**Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy**

**Date:** March 2019

**Appropriation/Budget Activity**

1319 / 5

**R-1 Program Element (Number/Name)**

PE 0605212M / CH-53K

**Project (Number/Name)**

3059 / CH-53K Development

CH-53K Development	FY 2018				FY2019				FY 2020				FY 2021				FY 2022				FY 2023				FY2024			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Production Milestones (0158):</b>																												
Production LRIP Awards																												
LRIP 2							6																					
LRIP 3							8																					
LRIP 4									6																			
LOT 5												12																
LOT 6															19													
LOT 7																			18									
LOT 8																									19			
Production LRIP Deliveries											1	1																
															1	2	2	1										
																	1	2	2	2	1							
																					1	4	1					
																								2	5	4	1	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Navy			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605212M / CH-53K	<b>Project (Number/Name)</b> 3059 / CH-53K Development	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>CH-53K Development</b>				
Acquisition Milestones: Milestones: System Demonstration phase	1	2019	3	2019
Acquisition Milestones: Milestones: Initial Operational Capability	4	2021	4	2021
Acquisition Milestones: Milestones: Full Rate Production	3	2022	3	2022
System Development: Capability Improvements: Capability Improvements	1	2023	4	2024
Test & Evaluation: Developmental Test & Evaluation: Developmental Test / Operational Test - IT	1	2019	2	2021
Test & Evaluation: Operational Test & Evaluation: IOT&E	3	2021	4	2021
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #2	1	2020	1	2020
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #4	1	2020	1	2020
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #1	3	2021	3	2021
Deliveries: Production Delivery: Aircraft 1	4	2020	4	2020
Deliveries: Production Delivery: Aircraft 2	1	2021	1	2021
Deliveries: Production Delivery: Aircraft 3	4	2021	4	2021
Deliveries: Production Delivery: Aircraft 4	1	2022	1	2022
Deliveries: Production Delivery: Aircraft 5	1	2022	1	2022
Deliveries: Production Delivery: Aircraft 6	2	2022	2	2022
Deliveries: Production Delivery: Aircraft 7	2	2022	2	2022
Deliveries: Production Delivery: Aircraft 8	3	2022	3	2022
Deliveries: Production Delivery: Aircraft 9	3	2022	3	2022
Deliveries: Production Delivery: Aircraft 10	4	2022	4	2022

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2020 Navy

Date: March 2019

## Appropriation/Budget Activity

1319 / 5

## R-1 Program Element (Number/Name)

PE 0605212M / CH-53K

## Project (Number/Name)

3059 / CH-53K Development

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: Production Delivery: Aircraft 11	4	2022	4	2022
Deliveries: Production Delivery: Aircraft 12	1	2023	1	2023
Deliveries: Production Delivery: Aircraft 13	1	2023	1	2023
Deliveries: Production Delivery: Aircraft 14	2	2023	2	2023
Deliveries: Production Delivery: Aircraft 15	2	2023	2	2023
Deliveries: Production Delivery: Aircraft 16	3	2023	3	2023
Deliveries: Production Delivery: Aircraft 17	3	2023	3	2023
Deliveries: Production Delivery: Aircraft 18	4	2023	4	2023
Deliveries: Production Delivery: Aircraft 19	4	2023	4	2023
Deliveries: Production Delivery: Aircraft 20	4	2023	4	2023
Deliveries: Production Delivery: Aircraft 21	4	2023	4	2023
Deliveries: Production Delivery: Aircraft 22	1	2024	1	2024
Deliveries: Production Delivery: Aircraft 23	1	2024	1	2024
Deliveries: Production Delivery: Aircraft 24	1	2024	1	2024
Deliveries: Production Delivery: Aircraft 25	2	2024	2	2024
Deliveries: Production Delivery: Aircraft 26	2	2024	2	2024
Deliveries: Production Delivery: Aircraft 27	2	2024	2	2024
Deliveries: Production Delivery: Aircraft 28	2	2024	2	2024
Deliveries: Production Delivery: Aircraft 29	2	2024	2	2024
Deliveries: Production Delivery: Aircraft 30	3	2024	3	2024
Deliveries: Production Delivery: Aircraft 31	3	2024	3	2024
Deliveries: Production Delivery: Aircraft 32	3	2024	3	2024
Deliveries: Production Delivery: Aircraft 33	3	2024	3	2024
Deliveries: Production Delivery: Aircraft 34	3	2019	3	2019
Deliveries: Production LRIP Awards: LRIP 2	3	2019	3	2019
Deliveries: Production LRIP Awards: LRIP 3	3	2019	3	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0605212M / CH-53K		Project (Number/Name) 3059 / CH-53K Development	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Deliveries: Production LRIP Awards: LRIP 4		2	2020	2	2020
Deliveries: Production LRIP Awards: Lot 5		2	2021	2	2021
Deliveries: Production LRIP Awards: Lot 6		2	2022	2	2022
Deliveries: Production LRIP Awards: Lot 7		2	2023	2	2023
Deliveries: Production LRIP Awards: Lot 8		2	2024	2	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605212M / CH-53K				Project (Number/Name) 9999 / Congressional Adds			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
9999: Congressional Adds	0.000	0.000	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

The CH-53 is the only marinized heavy-lift helicopter in the world and is the Marine Corps only heavy-lift helicopter. The CH-53 mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. An improved CH-53 is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53K "King Stallion" will provide improvements in range and payload, performance, cargo handling, turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC).

The Wireless Intercommunication System (ICS) will enable the CH-53K crew the capability for simultaneous use, highly reliable, jam resistant, secure and non-secure voice communications in an electronic warfare environment.

The Common Lightweight Cargo Floor will provide an integrated flooring system solution which reduces aircraft weight and improves capability of the restraint locking system.

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

	FY 2018	FY 2019
<b>Congressional Add:</b> Wireless Intercom System	0.000	5.000
<b>FY 2018 Accomplishments:</b> N/A		
<b>FY 2019 Plans:</b> Commence development of a Wireless Intercommunication System (ICS) which will enable crew capability for simultaneous use, highly reliable, jam resistant, secure and non-secure voice communications in an electronic warfare environment.		
<b>Congressional Add:</b> Common Lightweight Cargo System	0.000	5.000
<b>FY 2018 Accomplishments:</b> N/A		
<b>FY 2019 Plans:</b> Commence efforts for the Common Lightweight Cargo system which will provide an integrated flooring system solution which reduces aircraft weight and improves capability of the restraint locking system		
<b>Congressional Adds Subtotals</b>	0.000	10.000

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212M / CH-53K	Project (Number/Name) 9999 / Congressional Adds
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> N/A		
<b>E. Performance Metrics</b> N/A		



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605212M / CH-53K				Project (Number/Name) 9999 / Congressional Adds					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Product Developmnet Common Lightweight Cargo	TBD	Sikorsky : Strafford, CT	0.000	0.000		5.000	Aug 2019	0.000		-		0.000	0.000	5.000	5.000
Product Developmenet Wireless Intercom System	TBD	Axnes : TBD	0.000	0.000		5.000	May 2019	0.000		-		0.000	0.000	5.000	5.000
Subtotal			0.000	0.000		10.000		0.000		-		0.000	0.000	10.000	N/A
Remarks															
FY19 CONGRESSIONAL ADD: The Common Lightweight Cargo System and Wireless Intercom System provides new and improved capability to the CH53-K aircraft that support the overall Heavy-lift mission.															
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.000		10.000		0.000		-		0.000	0.000	10.000	N/A
Remarks															

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PE 0605212M: CH-53K  
Navy

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9999 / Congressional Adds

Proj 9999	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Congressional Add																												
Common Lightweight Cargo System								Contract Award ◆																				
								Requirements / Gap Analysis	System Design & Development																			
													CDR ▲															
													Prototype Production		Installation & Fit Check													
Wireless Intercommunicaiton System (ICS)							Contract Award ◆		System Design & Development	Test System Production	Installation & Flight Test																	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Navy			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605212M / CH-53K	<b>Project (Number/Name)</b> 9999 / Congressional Adds	

**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>Proj 9999</b>				
Common Lightweight Cargo System: Contract Award	4	2019	4	2019
Common Lightweight Cargo System: Requirements / Gap Analysis	4	2019	1	2020
Common Lightweight Cargo System: System Design & Development	2	2020	1	2021
Common Lightweight Cargo System: Critical Design Review	1	2021	1	2021
Common Lightweight Cargo System: Prototype Production	1	2021	3	2021
Common Lightweight Cargo System: Installation & Fit Check	4	2021	4	2021
Wireless Intercommunication System (ICS): Contract Award	3	2019	3	2019
Wireless Intercommunication System (ICS): System Design & Development	4	2019	1	2020
Wireless Intercommunication System (ICS): Test System Production	2	2020	2	2020
Wireless Intercommunication System (ICS): Installation & Flight Test	3	2020	4	2020