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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 0605212N / 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	5,714.569	329.367	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,043.936
3059: CH-53K Development	5,714.569	329.367	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,043.936
Program MDAP/MAIS Code: Project MDAP/MAIS Code(s): 390												
Note Funds decrease from FY 2018 to FY 2019 due to transfer of effort to new PE 0605212M beginning in FY 2019.												
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 0605212N / 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	340.758	0.000	0.000	-	0.000
Current President's Budget	329.367	0.000	0.000	-	0.000
Total Adjustments	-11.391	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-11.391	0.000			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
Change Summary Explanation					
Funds decrease from FY 2018 to FY 2019 due to transfer of effort to new PE 0605212M beginning in FY 2019.					
Technical: N/A					
Schedule: N/A					

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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 0605212N / 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	5,714.569	329.367	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,043.936
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 390												
Note FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N.												
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), are 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 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 pause further expenditure. In order to minimize RDT&E funding shortfalls, the program will discontinue SDTA 5&6 efforts and DD-250 SDTA 5 & 6 parts to become Government property and provide these arts to the production line to make use of the parts to the Government's benefit. Only SDTA 1-4 will remain to be utilized as previously planned. The program of record of aircraft quantity remains at 200 with the remaining 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.												
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 Articles:								260.485	0.000	0.000	0.000	0.000
								-	-	-	-	-
FY 2019 Plans: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N.												
FY 2020 Base Plans:												

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Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0605212N / 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
N/A													
FY 2020 OCO Plans: N/A													
Title: Integrated Logistics Support and Test & Evaluation (T&E) Articles:									43.971 -	0.000 -	0.000 -	0.000 -	0.000 -
FY 2019 Plans: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N.													
FY 2020 Base Plans: N/A													
FY 2020 OCO Plans: N/A													
Title: Systems Engineering & Project Management Articles:									24.911 -	0.000 -	0.000 -	0.000 -	0.000 -
FY 2019 Plans: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N.													
FY 2020 Base Plans: N/A													
FY 2020 OCO Plans: N/A													
Accomplishments/Planned Programs Subtotals									329.367	0.000	0.000	0.000	0.000
C. Other Program Funding Summary (\$ in Millions)													
Line Item	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		
• APN / 0158 / 0158C: CH-53K (Heavy Lift)	949.651	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1,407.402		
• APN / 0605: CH-53K - Initial Spares	77.103	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	77.103		
Remarks PB-19 Realigned the CH-53K Development Efforts from PE 0605212N/CH-53K to this PE 0605212M/CH-53K.													

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
FY19 and beyond is captured in PE0605212M/CH-53K APN/0158/0158C: CH-53K Advanced and Regular Procurement (APN-1) APN/0605: CH-53K Spares (APN-6)											
D. Acquisition Strategy											
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.											
E. Performance Metrics											
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

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212N / CH-53K	Project (Number/Name) 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:	SS/CPPIF	Sikorsky : Stratford, CT	4,490.324	244.606	Dec 2017	0.000		0.000		-		0.000	0.000	4,734.930	4,734.930
Ancillary Hardware Development: DECM	SS/CPFF	Northrup Grumman : Falls Church, VA	26.361	7.679	Jan 2018	0.000		0.000		-		0.000	0.000	34.040	34.040
GFE: Various	Various	Various : Various	66.217	1.200	Dec 2017	0.000		0.000		-		0.000	0.000	67.417	67.417
GFE: Engines	SS/CPFF	GE : Lynn, MA	129.661	7.000	Jan 2018	0.000		0.000		-		0.000	0.000	136.661	136.661
Incentive Fees	SS/CPPIF	Sikorsky : Stratford, CT	73.383	0.000	Jan 2018	0.000		0.000		-		0.000	0.000	73.383	73.383
RAA: JUONS-S0-0010 (DAIRCM)	TBD	Various : Various	53.000	0.000		0.000		0.000		-		0.000	0.000	53.000	53.000
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	73.400	0.000		0.000		0.000		-		0.000	0.000	73.400	73.400
Subtotal			4,912.346	260.485		0.000		0.000		-		0.000	0.000	5,172.831	N/A

Remarks

Primary Hardware Development Target Value of Contract includes System Demonstration Test Articles (SDTAs).
 Ancillary Hardware Development provides funding for Defensive Electronic Countermeasures (DECM) contract.
 GFE:Engines provides funding for SDTA engine contract.
 FY17-18 Incentive Fees are a contractual requirement as potential schedule incentives based on continued progress of the SDTA aircraft.

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	9.248	1.360	Dec 2017	0.000		0.000		-		0.000	0.000	10.608	-
Integrated Logistics Support	WR	NAWCAD : Lakehurst, NJ	23.622	1.200	Dec 2017	0.000		0.000		-		0.000	0.000	24.822	-
Integrated Logistics Support	WR	NADEP : Cherry Point, NC	19.116	1.458	Dec 2017	0.000		0.000		-		0.000	0.000	20.574	-
Integrated Logistics Support	C/CPFF	GDIT : Fairfax, VA	20.673	1.960	Apr 2018	0.000		0.000		-		0.000	0.000	22.633	22.633

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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 Support	WR	Various : Various	39.420	1.792	Dec 2017	0.000		0.000		-		0.000	0.000	41.212	-
Government Engineering Support	WR	NAWCTSD : Orlando, FL	9.323	2.257	Dec 2017	0.000		0.000		-		0.000	0.000	11.580	-
Studies & Analyses	WR	NSWC : Crane, IN	3.500	0.000		0.000		0.000		-		0.000	0.000	3.500	-
Studies & Analyses	Various	Various : Various	22.127	0.000		0.000		0.000		-		0.000	0.000	22.127	-
Subtotal			147.029	10.027		0.000		0.000		-		0.000	0.000	157.056	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	30.884	1.500	Dec 2017	0.000		0.000		-		0.000	0.000	32.384	-
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	99.348	27.945	Dec 2017	0.000		0.000		-		0.000	0.000	127.293	-
Operational Test & Evaluation	WR	COMPTEVFOR : Norfolk, VA	4.827	1.099	Dec 2017	0.000		0.000		-		0.000	0.000	5.926	-
Live Fire Test & Evaluation	WR	NAWCWD : China Lake, CA	16.440	3.400	Dec 2017	0.000		0.000		-		0.000	0.000	19.840	-
Subtotal			151.499	33.944		0.000		0.000		-		0.000	0.000	185.443	N/A
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	29.927	3.500	Dec 2017	0.000		0.000		-		0.000	0.000	33.427	-

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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 0605212N / CH-53K	Project (Number/Name) 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	347.122	17.542	Dec 2017	0.000		0.000		-		0.000	0.000	364.664	-
Program Management Support	C/CPFF	Camber : Huntsville, AL	41.708	0.000		0.000		0.000		-		0.000	0.000	41.708	41.708
Program Management Support	C/CPFF	Zenetix : Herndon, VA	16.729	2.744	Jan 2018	0.000		0.000		-		0.000	0.000	19.473	19.473
Program Management Support	Various	Various : Various	62.091	1.000	Dec 2017	0.000		0.000		-		0.000	0.000	63.091	-
Travel	WR	NAWCAD : Pax River, MD	4.168	0.125	Dec 2017	0.000		0.000		-		0.000	0.000	4.293	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.950	0.000		0.000		0.000		-		0.000	0.000	1.950	-
Subtotal			503.695	24.911		0.000		0.000		-		0.000	0.000	528.606	N/A

Remarks
Management Services requirements continue to decrease FY17-18 as both Government and Contractor support transitions to the CH-53K Production program.

	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	5,714.569	329.367	0.000	0.000	-	0.000	0.000	6,043.936	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy	Date: March 2019
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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212N / CH-53K	Project (Number/Name) 3059 / CH-53K Development
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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 Development																												
Hardware Development																												
Software Development																												
Reviews																												
Development Deliveries																												
Test & Evaluation																												
Developmental Test & Evaluation																												
Operational Test & Evaluation																												
Deliveries																												
Sys. Dem. Test Articles (RDT&E)			1 ▼																									

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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 0605212N / <i>CH-53K</i>	Project (Number/Name) 3059 / <i>CH-53K Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>CH-53K Development</i>				
Acquisition Milestones: Milestones: Milestone C	3	2017	3	2017
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #3	3	2018	3	2018