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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy										Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	5,375.468	339.101	340.758	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,055.327
3059: CH-53K Development	5,375.468	339.101	340.758	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,055.327
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 0605212N 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 includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD), to be purchased with Research, Development, Test & Evaluation (RDT&E) funds. Of the remaining 200 aircraft, six will be System Demonstration Test Articles (SDTAs) and will be incrementally funded using RDT&E funds. 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. The remaining 194 aircraft will be Aircraft Procurement, Navy funded. 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 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605212N / CH-53K
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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	404.810	340.758	330.755	-	330.755
Current President's Budget	339.101	340.758	0.000	-	0.000
Total Adjustments	-65.709	0.000	-330.755	-	-330.755
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-11.707	0.000			
• Program Adjustments	0.000	0.000	-330.321	-	-330.321
• Rate/Misc Adjustments	0.000	0.000	-0.434	-	-0.434
• Congressional General Reductions Adjustments	-0.002	-	-	-	-
• Congressional Directed Reductions Adjustments	-54.000	-	-	-	-

Change Summary Explanation

Funds decrease from FY 2018 to FY 2019 due to transfer of effort to new PE 0605212N beginning in FY 2019.

Technical: N/A

Schedule: N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
3059: CH-53K Development	5,375.468	339.101	340.758	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6,055.327
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 includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD), to be purchased with Research, Development, Test & Evaluation (RDT&E) funds. Of the remaining 200 aircraft, six will be System Demonstration Test Articles (SDTAs) and will be incrementally funded using RDT&E funds. 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. SDTAs are shown in the year of contract award vice year of delivery. The remaining 194 aircraft will be Aircraft Procurement, Navy funded.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Air Vehicle Development Articles:								249.417	271.876	0.000	0.000	0.000
								-	-	-	-	-
FY 2018 Plans: Continue ground and flight test of the CH-53K GTV, EDMs and their associated subsystems and components. Continue to evaluate and implement producability, reliability and capability improvements during fabrication and assembly of System Demonstration Test Articles (SDTA) 4-6. Delivery of Ancillary Defensive Electronic Countermeasures (DECM) hardware and software to Prime Contractor for integration.												
FY 2019 Base Plans:												

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N.						
Title: Integrated Logistics Support and Test & Evaluation (T&E) Articles:		56.653 -	43.971 -	0.000 -	0.000 -	0.000 -
FY 2018 Plans: Perform in-house, field activity and contractor support of Integrated Logistic support. Continue to refine and validate Product Support Packages in preparation for IOT&E, as well as Supportability Test Plans. Continue component qualification, Government ground and flight test activities, as well as begin LFT&E efforts on the GTV. FY 2019 Base Plans: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N. FY 2019 OCO Plans: N/A FY 2018 to FY 2019 Increase/Decrease Statement: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N.						
Title: Systems Engineering & Project Management Articles:		33.031 -	24.911 -	0.000 -	0.000 -	0.000 -
FY 2018 Plans: Continue to perform in-house, field activity and contractor support of test program Integrated Product Teams as workforce continues to transition to the CH-53K production program. Monitor and plan for Correction of Deficiencies identified during component qualification and flight test. Efforts include engineering, program management and test program travel. FY 2019 Base Plans: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N. FY 2019 OCO 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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A												
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 and beyond are realigned under PE 0605212M / CH-53K. FY18 ends efforts under this PE 0605212N.												
Accomplishments/Planned Programs Subtotals								339.101	340.758	0.000	0.000	0.000
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost	
• APN / 0158 / 0158C: CH-53K (Heavy Lift)	416.484	714.651	1,274.883	-	1,274.883	1,375.696	1,888.964	2,263.281	2,287.373	13,621.794	23,884.426	
• APN / 0605: CH-53K - Initial Spares	68.408	41.656	59.040	-	59.040	114.611	100.920	16.803	17.144	Continuing	Continuing	
• APN / 0528: H-53 Series	0.000	0.000	19.032	-	19.032	31.446	21.407	27.799	36.326	27.083	163.093	
Remarks												
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												
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.												

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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>

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 2019 Navy **Date:** February 2018

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 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	4,257.238	199.948	Dec 2016	252.568	Dec 2017	0.000		-		0.000	0.000	4,709.754	4,709.754
Ancillary Hardware Development: DECM	SS/CPFF	Northrup Grumman : Falls Church, VA	17.789	8.572	Jan 2017	7.679	Jan 2018	0.000		-		0.000	0.000	34.040	34.040
GFE: Various	Various	Various : Various	64.262	1.955	Dec 2016	1.200	Dec 2017	0.000		-		0.000	0.000	67.417	-
GFE: Engines	SS/CPFF	GE : Lynn, MA	102.108	27.553	Jan 2017	7.000	Jan 2018	0.000		-		0.000	0.000	136.661	136.661
Incentive Fees	SS/CPIF	Sikorsky : Stratford, CT	95.132	11.389	Dec 2016	3.429	Jan 2018	0.000		-		0.000	0.000	109.950	109.950
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	-
Subtotal			4,662.929	249.417		271.876		0.000		-		0.000	0.000	5,184.222	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.
 Government Furnished Equipment/Engines provides funding for SDTA engine contract.
 FY17-19 Incentive Fees are a contractual requirement as potential schedule incentives based on continued progress of the SDTA aircraft.

Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	7.729	1.519	Dec 2016	1.360	Dec 2017	0.000		-		0.000	0.000	10.608	-
Integrated Logistics Support	WR	NAWCAD : Lakehurst, NJ	20.194	3.428	Dec 2016	1.200	Dec 2017	0.000		-		0.000	0.000	24.822	-
Integrated Logistics Support	WR	NADEP : Cherry Point, NC	16.059	3.057	Dec 2016	1.458	Dec 2017	0.000		-		0.000	0.000	20.574	-
Integrated Logistics Support	C/CPFF	GDIT : Fairfax, VA	17.767	2.906	Apr 2017	1.960	Apr 2018	0.000		-		0.000	0.000	22.633	22.633

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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					
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	37.345	2.075	Dec 2016	1.792	Dec 2017	0.000		-		0.000	0.000	41.212	-
Government Engineering Support	WR	NAWCTSD : Orlando, FL	5.937	3.386	Dec 2016	2.257	Dec 2017	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			130.658	16.371		10.027		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 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	26.634	4.250	Dec 2016	1.500	Dec 2017	0.000		-		0.000	0.000	32.384	-
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	67.905	31.443	Dec 2016	27.945	Dec 2017	0.000		-		0.000	0.000	127.293	-
Operational Test & Evaluation	WR	COMPTEVFOR : Norfolk, VA	3.670	1.157	Dec 2016	1.099	Dec 2017	0.000		-		0.000	0.000	5.926	-
Live Fire Test & Evaluation	WR	NAWCWD : China Lake, CA	13.008	3.432	Dec 2016	3.400	Dec 2017	0.000		-		0.000	0.000	19.840	-
Subtotal			111.217	40.282		33.944		0.000		-		0.000	0.000	185.443	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	25.730	4.197	Dec 2016	3.500	Dec 2017	0.000		-		0.000	0.000	33.427	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy **Date:** February 2018

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 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	324.068	23.054	Dec 2016	17.542	Dec 2017	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	12.278	4.451	Jan 2017	2.744	Jan 2018	0.000		-		0.000	0.000	19.473	19.473
Program Management Support	Various	Various : Various	60.962	1.129	Dec 2016	1.000	Dec 2017	0.000		-		0.000	0.000	63.091	-
Travel	WR	NAWCAD : Pax River, MD	3.968	0.200	Dec 2016	0.125	Dec 2017	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			470.664	33.031		24.911		0.000		-		0.000	0.000	528.606	N/A

Remarks
Management Services requirements continue to decrease FY17-19 as both Government and Contractor support transitions to the CH-53K Production program.

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5,375.468	339.101	340.758	0.000	-	0.000	0.000	6,055.327	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy																							Date: February 2018						
Appropriation/Budget Activity 1319 / 5										R-1 Program Element (Number/Name) PE 0605212N / CH-53K								Project (Number/Name) 3059 / CH-53K Development											
CH-53K Development		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
		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																											
				MSC ▲																									
System Development																													
Hardware Development																													
Software Development																													
Reviews																													
Development Deliveries																													
Test & Evaluation																													
Developmental Test & Evaluation		Developmental Test/TECHEVAL																											
Operational Test & Evaluation		OT-B1 ▼																											
Deliveries																													
Sys. Dem. Test Articles (RDT&E)								1 ▼																					
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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212N / CH-53K	Project (Number/Name) 3059 / CH-53K Development

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CH-53K Development				
Acquisition Milestones: Milestones: System Demonstration phase	1	2017	4	2018
Acquisition Milestones: Milestones: Milestone C	3	2017	3	2017
Test & Evaluation: Developmental Test & Evaluation: Developmental Test / TECHEVAL	1	2017	4	2018
Test & Evaluation: Operational Test & Evaluation: OT-B1	1	2017	1	2017
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #1	3	2018	3	2018