Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy											Date: May 2021	
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 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	383.558	489.699	406.406	256.903	-	256.903	-	-	-	-	-	-
3059: *CH-53K Development*	383.558	489.699	406.406	256.903	-	256.903	-	-	-	-	-	-

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

A. Mission Description and Budget Item Justification

The CH-53K is a next generation fly by wire heavy-lift helicopter that provides significant improvements in range, payload, performance, cargo handling, turn-around times, reliability, maintainability, interoperability and survivability. It is the only marinized heavy-lift helicopter in the world and the Department of Defense's only heavy-lift helicopter. The CH-53K mission is to support the Marine Air-Ground Task Force (MAGTF) Commander by providing assault support transport of heavy equipment, combat troops, and supplies, day or night under all weather conditions during expeditionary, joint, or combined operations.

- Provides a greater payload at greater ranges than any current or emerging rotorcraft to support the rapid transition of Joint and Coalition forces from contact to blunt layer activities in a contested environment.
- Addresses current connector shortfalls making it a critical enabler in the execution of distributed operations; a key component of the Marine Corps' Expeditionary Advanced Base Operations concept which supports the President's National Security Strategy, the Tri-Service Maritime Strategy and the Navy's Distributed Maritime Operational concept.
- Capable of integrating into the current battlefield and taking advantage of future technologies, such as manned/unmanned teaming and MAGTF digital interoperability.
- The modern fly by wire system provides greater safety, survivability, and reliability compared to other joint rotorcraft.
- When compared to the legacy aircraft, improves reliability and decreases operations and support costs by reducing maintenance man hours per flight hour while maximizing work effectiveness and efficiency.

Total aircraft quantities for the CH-53K program are 205 helicopters. This currently includes one Ground Test Vehicle (GTV), four Engineering Development Models (EDMs) for System Development and Demonstration (SDD), and four System Demonstration Test Articles (SDTAs) purchased with Research, Development, Test & Evaluation (RDT&E) funds. The remaining 196 aircraft are funded with Aircraft Procurement, Navy (APN).

The CH-53K SDD program received a successful Milestone C decision on 4 April 2017.

Remaining funding across the FYDP is required to complete SDD and IOT&E activities.

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 a full-rate production decision.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy					Date: May 2021
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*			
B. Program Change Summary ($ in Millions)	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**
Previous President's Budget	506.955	406.406	361.254	-	361.254
Current President's Budget	489.699	406.406	256.903	-	256.903
Total Adjustments	-17.256	0.000	-104.351	-	-104.351
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.037	0.000			
• SBIR/STTR Transfer	-17.219	0.000			
• Program Adjustments	0.000	0.000	-99.100	-	-99.100
• Rate/Misc Adjustments	0.000	0.000	-5.251	-	-5.251

Change Summary Explanation

$99.1M re-phased from FY 2022 to FY 2024 in order to appropriately align funding with development and test events as re-baselined in February 2020 Over-Target Baseline (OTB). This re-phase is consistent with monthly program updates provided to Congress.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy											Date: May 2021	
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 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**
3059: *CH-53K Development*	383.558	489.699	406.406	256.903	-	256.903	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 390

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 to conduct 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, four are System Demonstration Test Articles and 196 are funded with APN.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Air Vehicle Development	431.406	348.232	210.836	0.000	210.836
Articles:	-	-	-	-	-
FY 2021 Plans: 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.					
FY 2022 Base Plans: Continue to develop software and correct deficiencies discovered during IOT&E in support of the final deployable configuration.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
The decrease from FY 2021 to FY 2022 is due to the delivery of SDTA aircraft in FY 2021 and the completion of developmental test activities prior to entrance into IOT&E. Decrease is also attributable to $99.1M re-phased from FY 2022 to FY 2024 in order to appropriately align funding with development and test events as re-baselined in February 2020 Over-Target Baseline (OTB). This re-phase is consistent with monthly program updates provided to Congress.					
Title: Integrated Logistics Support and Test & Evaluation (T&E) ***Articles:*** ***FY 2021 Plans:*** 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 support of IOT&E. Continue component qualification, Government ground and flight test activities, as well as LFT&E efforts. ***FY 2022 Base Plans:*** Continue to refine and validate Product Support Packages and Supportability Test Plans to align with IOT&E and support the final deployable configuration. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The decrease from FY 2021 to FY 2022 is due to Integrated Logistics Support ramping down approaching IOC in Q4 FY 2021, and prototype training devices being delivered in FY 2021, which reduces training support costs.	47.741 -	45.923 -	36.305 -	0.000 -	36.305 -
Title: Systems Engineering & Project Management ***Articles:*** ***FY 2021 Plans:*** 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. ***FY 2022 Base Plans:***	10.552 -	12.251 -	9.762 -	0.000 -	9.762 -

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
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. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Decrease from FY 2021 to FY 2022 is due to decreased transportation and travel costs following delivery of SDTA aircraft in FY 2021. Decrease also represents a slight reduction in Engineering support.					
Accomplishments/Planned Programs Subtotals	489.699	406.406	256.903	0.000	256.903

C. 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
• APN / 0158 / 0158C: *CH-53K (Heavy Lift)*	1,062.606	1,308.805	1,469.167	-	1,469.167	-	-	-	-	-	-
• APN / 0605: *CH-53K - Initial Spares*	83.824	141.691	163.577	-	163.577	-	-	-	-	-	-
• APN / 0528: *H-53 Series*	19.902	15.446	27.991	-	27.991	-	-	-	-	-	-

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.

D. Acquisition Strategy

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212M / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development: SDD / SDTA Air Vehicle	SS/CPIF	Sikorsky : Stratford, CT	282.999	370.159	Dec 2019	283.122	Dec 2020	161.649	Dec 2021	-		161.649	-	-	-
GFE: Engines	SS/CPFF	GE : Lynn, MA	6.123	11.113	Jan 2020	0.645	Jan 2021	0.000		-		0.000	-	-	-
Primary Hardware Development-Other SAC	TBD	Sikorsky : Stratford, CT	24.000	44.653	Jan 2020	57.533	Jan 2021	42.444	Jan 2022	-		42.444	-	-	-
Primary Hardware Development	Various	Various : Various	24.036	5.481	Apr 2020	6.932	Apr 2021	6.374	Apr 2022	-		6.374	-	-	-
		Subtotal	337.158	431.406		348.232		210.467		-		210.467	-	-	N/A

Remarks

FY22 funding is in direct support of the System Development and Demonstration Aircraft (SDD) test program to align with IOT&E and support the final deployable configuration.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	NAWCAD : Lakehurst, NJ	0.535	3.198	Dec 2019	2.238	Dec 2020	2.124	Dec 2021	-		2.124	-	-	-
Integrated Logistics Support	WR	NAWCAD : Lakehurst, NJ	1.000	1.494	Dec 2019	0.185	Dec 2020	0.169	Dec 2021	-		0.169	-	-	-
Integrated Logistics Support	WR	Various : Various	4.596	0.655	Dec 2019	0.883	Dec 2020	0.555	Dec 2021	-		0.555	-	-	-
Integrated Logistics Support	C/CPFF	NSI : Lexington Park, MD	0.995	1.852	Apr 2020	1.403	Apr 2021	0.588	Apr 2022	-		0.588	-	-	-
Government Engineering Support	WR	NAWCTSD : Orlando, FL	0.612	0.289	Dec 2019	0.250	Dec 2020	0.200	Dec 2021	-		0.200	-	-	-
		Subtotal	7.738	7.488		4.959		3.636		-		3.636	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212M / *CH-53K*	Project (Number/Name) 3059 / *CH-53K Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various : Various	1.571	0.976	Dec 2019	0.653	Dec 2020	1.322	Dec 2021	-		1.322	-	-	-
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	22.552	32.212	Nov 2019	27.298	Dec 2020	26.761	Dec 2021	-		26.761	-	-	-
Operational Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.054	1.882	Dec 2019	8.248	Dec 2020	4.295	Dec 2021	-		4.295	-	-	-
Live Fire Test & Evaluation	WR	NAWCWD : China Lake, CA	2.030	5.183	Dec 2019	4.765	Dec 2020	0.660	Dec 2021	-		0.660	-	-	-
		Subtotal	26.207	40.253		40.964		33.038		-		33.038	-	-	N/A

Remarks

FY22 T&E funding to NAWCAD and WD supports the prime contractor (SDD/SDTA) schedule for flight test/hours and associated assets to align with IOT&E and support the final deployable configuration.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	1.726	0.968	Dec 2019	2.802	Dec 2020	1.855	Dec 2021	-		1.855	-	-	-
Government Engineering Support	WR	NAWCAD : Pax River, MD	7.331	7.357	Nov 2019	7.611	Dec 2020	6.736	Dec 2021	-		6.736	-	-	-
Program Management Support	C/CPFF	Zenetex : Herndon, VA	1.483	1.020	Mar 2020	0.000		0.000		-		0.000	-	-	-
Program Management Support	Various	Various : Various	1.660	0.942	Jun 2020	1.088	Dec 2020	1.074	Dec 2021	-		1.074	-	-	-
Travel	WR	NAWCAD : Pax River, MD	0.255	0.265	Nov 2019	0.750	Nov 2020	0.097	Nov 2021	-		0.097	-	-	-
		Subtotal	12.455	10.552		12.251		9.762		-		9.762	-	-	N/A

Remarks

FY22 support is required for in-house activities to include program management and engineering support for the Integrated Product teams to align with IOT&E and support the final deployable configuration.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212M / *CH-53K*	Project (Number/Name) 3059 / *CH-53K Development*	

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	383.558	489.699		406.406		256.903		-		256.903	-	-	N/A

Remarks

Requirements are stable; the program continues to execute the revised Joint Program Plan (JPP) established Feb 2019 and approved by the MDA, to address technical issues found during previous developmental test activities. Current RDT&E funding is aligned with this plan.

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212M / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

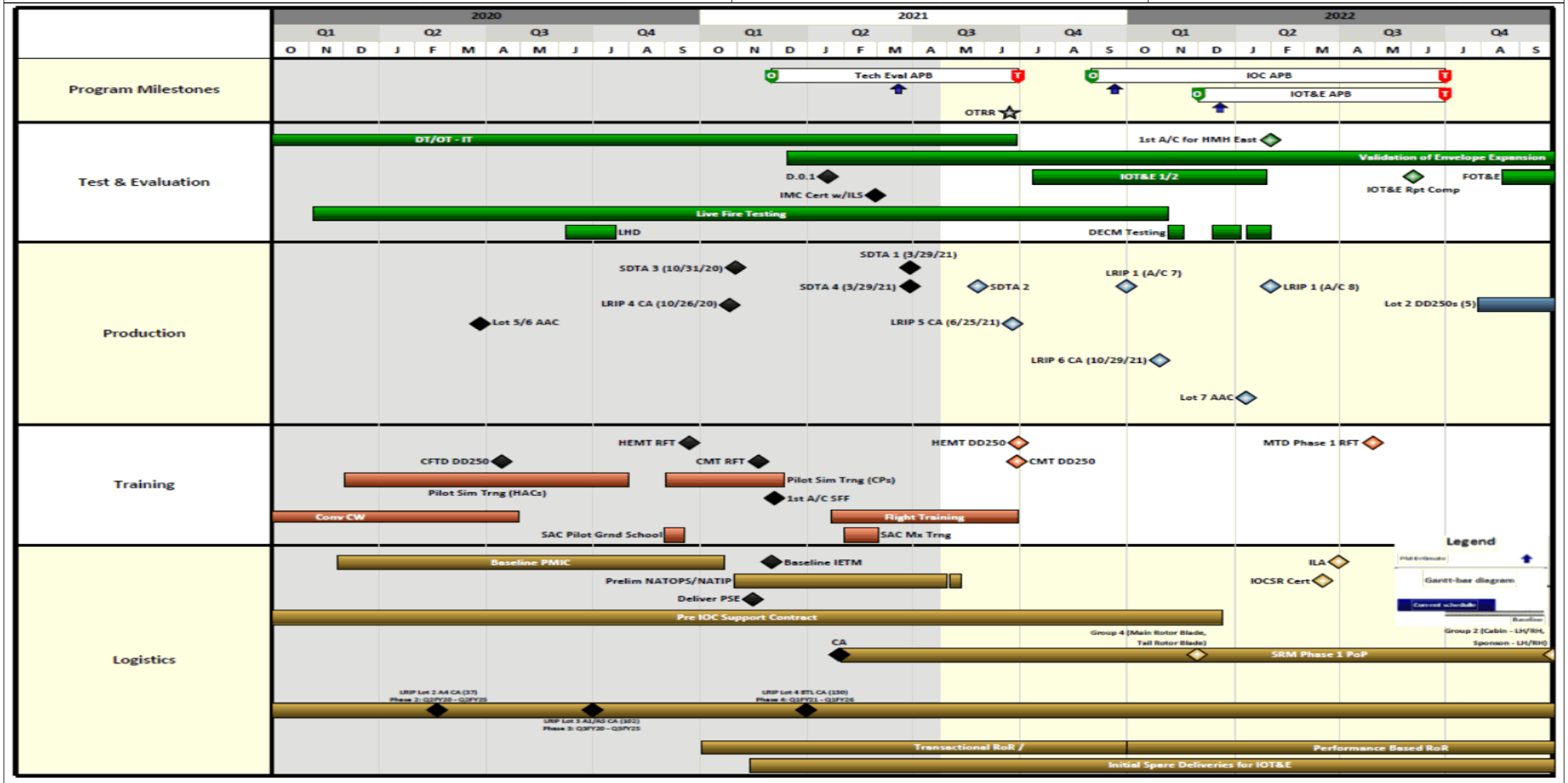

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212M / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CH-53K Development				
Acquisition Milestones: Milestones: Initial Operational Capability	4	2021	4	2021
Test & Evaluation: Developmental Test & Evaluation: Developmental Test / Operational Test - IT	1	2020	3	2021
Test & Evaluation: Operational Test & Evaluation: IOT&E	4	2021	2	2022
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #3	1	2021	1	2021
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #2	4	2021	4	2021
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #4	2	2021	2	2021
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #1	2	2021	2	2021
Production Milestones: LRIP / FRP Awards: Lot 4	1	2021	1	2021
Production Milestones: LRIP / FRP Awards: Lot 5	3	2021	3	2021
Production Milestones: LRIP / FRP Awards: Lot 6	1	2022	1	2022