Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy											Date: April 2022	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0702207N *I Depot Maintenance (NON-IF)*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	318.366	35.435	35.030	26.248	-	26.248	46.194	28.073	11.974	12.089	Continuing	Continuing
3030: *FA-18 SLAP*	260.543	16.540	8.569	11.323	-	11.323	21.720	8.165	2.556	2.569	Continuing	Continuing
3182: *T-45 SLAP*	37.671	6.443	4.564	0.320	-	0.320	0.596	0.132	0.000	0.000	0.000	49.726
3384: *MH-60 SLAP*	20.152	12.452	21.897	14.605	-	14.605	23.878	19.776	9.418	9.520	Continuing	Continuing

A. Mission Description and Budget Item Justification

3030: A significant portion of the F/A-18 and EA-18G airframe is believed to have additional inherent capability and a life extension is possible for many portions of the airframe. The F/A-18 Service Life Assessment Program (SLAP) is assessing the structural and subsystem conditions of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft design life limits to allow it to achieve Chief of Naval Operations (CNO) inventory requirements. This effort is required to be conducted for these airframes and subsystems to ascertain what actions and modifications must be taken to safely operate each system beyond its designed life until the targeted end of service life. Without SLAP and the follow on Service Life Extension Program (SLEP), aircraft are retired from the USN inventory when a design service life metric is reached. RDTE funds will support aircraft teardown to validate SLAP analysis, identify unknown fatigue areas and assess the aircraft's material condition.

3182: The T-45 aircraft structure is currently fatigue limited to 14,400 flight hours based on initial full-scale fatigue tests. This service life limit prevents the T-45 fleet from meeting Integrated Production Plan (IPP) past 2025. Studies demonstrate that the 14,400 flight hour service life can be extended, with a Service Life Extension Program (SLEP), to 21,600 flight hours, which will support meeting IPP until 2035. A T-45 Structural Service Life Assessment Program (SLAP) was completed in February 2012. In order for the T-45 to meet IPP until 2035, it is also necessary to assess the subsystems of the T-45 in their ability to remain viable.

In FY13 an initial subsystem assessment, based on the updated fleet aircraft usage spectrum and future predicted training missions of the T-45 aircraft, found 79 dispositions requiring further analysis, teardowns, age explorations, recertification and/or testing . The assessment of the subsystems that make up these 79 dispositions will address all critical subsystems required and their ability to maintain IPP/NTR until 2035, analysis and studies will be conducted to outline improvements, assess manufacturing capabilities, prototype redesign and test of subsystems for trainer aircraft.

3384: MH-60 SLAP is assessing the primary aircraft structure and subsystem condition of the MH-60S fleet in order to evaluate the airframe's ability to meet its designed service life of 10,000 hours. SLAP will determine the efforts necessary to extend the aircraft design life limits to meet CNO operational inventory requirements through FY 2035. The highest flight time MH-60S helicopters are expected to exceed the design life limit in 2024, at which time as many as 30 aircraft per year could be removed from flight status without a SLAP and follow-on SLEP directly impacting Combat Logistics, Surface Warfare (SUW), Combat Search and Rescue (CSAR), Naval Special Warfare (NSW) Support, Airborne Mine Countermeasures (AMCM), and operational capabilities and capacity. MH-60 SLAP is comprised of two distinct assessments: Fatigue Life Assessment (FLA), which will establish the fatigue life of the aircraft and air vehicle systems and Subsystem Life Assessment (SLA), which will examine subsystems that are critical to safe operations and identify risk mitigation strategies for critical components. FLA consists of structural investigations of the cockpit beams, main gearbox beams/frames, upper deck, engine mount, lower tub, main landing gear, tail landing gear, cargo hook, transition splice and tie-down fittings/

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy	Date: April 2022
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0702207N *I Depot Maintenance (NON-IF)*

structure, tailcone, tail gearbox, intermediate gearbox, stabilator, manufactured joints/splices, and flight controls support structure. SLA will evaluate engines, rotor brake, hydraulic, flight controls, avionics components and infrastructure to identify over-and-above inspections, overhaul intervals or replacement schedules to fly beyond the current design limit assumption. Analysis will be further refined, augmented with aircraft, specific system and wiring teardowns, inspections, and tests; data analysis; and development of models and tools, producing results that will continue inform SLEP ECP development. Engineering for design/development will ramp for Engineering Change Proposals (ECPs) for a phased SLEP solution. Additionally, a plan will be developed to convert the MH-60S Block 1 aircraft to Block 3B aircraft, extending the mission profile for these aircraft and ultimately providing the fleet with more flight hours.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	43.090	36.880	0.000	-	0.000
Current President's Budget	35.435	35.030	26.248	-	26.248
Total Adjustments	-7.655	-1.850	26.248	-	26.248
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.850			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-6.137	0.000			
• SBIR/STTR Transfer	-1.518	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Adjustments to Budget Year	-	-	26.248	-	26.248

Change Summary Explanation

Cost:

PU 3030: Not Applicable

PU 3182: FY2023 funding request was reduced by $0.306 million to account for the availability of prior year execution balances.

PU 3384: FY2023 funding request was reduced by $0.642 million to account for the availability of prior year execution balances.

Technical:

PU 3030: Not Applicable

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy	Date: April 2022
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0702207N *I Depot Maintenance (NON-IF)*

Schedule:

PU 3030:
- Updated G Slap Balance Load Award from Q1 FY21 to Q4 FY21
- Updated Composite SLAP Award from Q2 FY21 to Q3 FY23

PU 3182: Not applicable

PU 3384: Not applicable

FY 2023 funding increase reflects the fact that the FY 2022 President’s Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0702207N / *Depot Maintenance (NON-IF)*	Project (Number/Name) 3030 / *FA-18 SLAP*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3030: *FA-18 SLAP*	260.543	16.540	8.569	11.323	-	11.323	21.720	8.165	2.556	2.569	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F/A-18 and EA-18G Service Life Assessment Program (SLAP) is assessing the structural and subsystem conditions of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve Chief of Naval Operations (CNO) inventory requirements. The goal of the F/A-18 SLAP program is to identify critical structures and components that can achieve the extended service life limit goals. SLAP consists of structural investigations of the main landing gear, arresting hook and catapult back-up structures, vertical tails, wings and fuselage. A second effort is to evaluate the subsystem components (hydraulics, wiring, actuators, etc) to identify over and above inspections, overhaul intervals or replacement schedules to fly past design life limits. The current life limits for the F/A-18 E/F are 6,000 Flight Hours (FH), 2,250 catapults/arrestments (Cat/Traps) and 15,750 total landings; EA-18G are 7,500 FH, 2,550 CAT/Traps and 17,850 total landings. The F/A-18 SLAP program of record states the SLAP goals as 10,000 FH, 2,917 Cat/Traps and 18,750 total landings. The primary objective of F/A-18 and EA-18G SLAP is to determine if the stated SLAP goals are feasible and to determine what modifications are required, if applicable, to extend the airframe. An increase in total landings and flight hours would allow the F/A-18 aircraft to operate for a prolonged period of time in order to meet CNO inventory requirements. The requirements are integrated with the Joint Strike Fighter planned introduction to ensure mission readiness. This effort is required to be conducted for these airframes and subsystems to ascertain what actions and modifications must be taken to safely operate each system beyond its designed life until the targeted end of service life.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: F/A-18 SLAP	4.004	3.899	3.871	0.000	3.871
Articles:	-	-	-	-	-
Description: The current design life limits do not support USN inventory requirements. Funding supports assessing the structural and component condition of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve CNO inventory requirements.					
FY 2022 Plans: Continue stress analysis of numerous data points to provide exploitation of complete structural fatigue testing with the expectation of extending the current service life of F/A-18E/F from the design limits to the SLAP goals. Crack growth analysis will be performed to determine recurring requirements to extend the platform beyond its current service life limits. Several ECPs have been developed and are being executed to address changes to the Aircraft fuselage and wing structure to meet a service life of 10,000 hours.					
FY 2023 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue stress/fatigue/structural/crack growth analyses of numerous data points and conduct required Finite Element Model (FEM) runs/correlation as well as subsystems efforts with the expectation of extending the current service life of F/A-18E/F from the design limits to the SLAP goals in order to prepare for SLEP execution. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of $.028 from FY2022 to FY2023 is due to a large portion of the structures analysis being completed.					
Title: EA-18G SLAP	12.536	4.670	7.452	0.000	7.452
Articles:	-	-	-	-	-
Description: The current design life limits do not support USN inventory requirements. Funding supports assessing the structural condition of the EA-18G fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve CNO inventory requirements. The EA-18G SLAP leverages lessons learned from the F/A-18 A-F SLAP in order to achieve efficiencies in continuity of operations. ***FY 2022 Plans:*** Continuation of ongoing stress/fatigue/structural analysis of numerous data points as well as Finite Element Model (FEM) runs/correlation and subsystems efforts to provide exploitation of complete structural/fatigue and subsystem testing with the expectation of extending the current service life of EA-18G from the design limits to the SLAP goals. Locations encompass the forward, center and aft fuselage, inner and outer wings, as well as landing gear. Sonic and Thermal analysis will be performed on numerous structural and composite skin locations to assess elevated temperatures with the expectation of extending the current life of the EA-18G Growler. Aircraft Teardown assessments continue to be performed to analyze the fatigue and material condition of fleet aircraft to determine what modifications or inspections are required to extend the current life of the aircraft. Crack growth analysis will be performed to determine recurring requirements to extend the platform beyond its current service life limits. These engineering results will address aircraft fuselage and wing structure changes required to meet service life beyond 7,500 hours. ***FY 2023 Base Plans:*** Continuation of ongoing stress/fatigue/structural analysis of numerous data points as well as Finite Element Model (FEM) runs/correlation and subsystems efforts to provide exploitation of complete structural/fatigue and subsystem testing with the expectation of extending the current service life of EA-18G from the design limits to the SLAP goals. Locations encompass the forward, center and aft fuselage, inner and outer wings, as well as					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
landing gear. Sonic and Thermal analysis will be performed on numerous structural and composite skin locations to assess elevated temperatures with the expectation of extending the current life of the EA-18G Growler. Aircraft Teardown assessments continue to be performed to analyze the fatigue and material condition of fleet aircraft to determine what modifications or inspections are required to extend the current life of the aircraft. Crack growth analysis will be performed to determine recurring requirements to extend the platform beyond its current service life limits. These engineering results will address aircraft fuselage and wing structure changes required to meet service life beyond 7,500 hours. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase of $2.782 from FY2022 to FY2023 is due to ramp up of structures analysis, including Master Event Spectrum (MES) Iterations and Balanced Loads Conditions efforts.					
Accomplishments/Planned Programs Subtotals	16.540	8.569	11.323	0.000	11.323

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• APN/0525: *F-18 Series (OSIP 020-14)*	367.890	324.399	480.663	-	480.663	668.229	945.654	1,036.635	1,195.716	Continuing	Continuing
• APN/0505: *F/A-18EF & EA-18G Modernization & Sustainment*	399.348	445.721	572.681	-	572.681	629.256	518.199	522.603	542.178	5,769.676	9,399.662

Remarks

D. Acquisition Strategy

The Service Life Assessment Program (SLAP) program employs sole source contracts with Boeing, the aircraft prime manufacturer. SLAP further decomposes program of record goals into smaller discrete steps, developing requirements to extend flight hours (FH) from 6,000 to 10,000. These efforts will provide the raw engineering data to develop aircraft modifications to extend total aircraft landings, Cat/Traps, and FH. The F/A-18 and EA-18G SLAP Program consists of two major engineering efforts: the aircraft structural assessment and the aircraft subsystems assessment. Both efforts are broken into multiple phases which develop tools and models, evaluate current aircraft usage and develop concepts to extend aircraft life to meet CNO inventory objectives. The program will utilize structural fatigue testing data and actual fleet usage data with the expectation of extending the service life of the F/A-18 aircraft. Conducting both F/A-18E/F and EA-18G SLAP to study the aircraft lifetime will provide a better estimate of aircraft service life and a follow on Service Life Extension Program (SLEP).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development SLAP F/A-18 E/F	SS/CPFF	Boeing : St. Louis, MO	167.277	3.183	Dec 2020	2.863	Dec 2021	2.666	Dec 2022	-		2.666	Continuing	Continuing	Continuing
Product Development SLAP EA-18G	SS/CPFF	Boeing : St. Louis, MO	13.176	11.312	Dec 2020	3.286	Dec 2021	5.847	Dec 2022	-		5.847	Continuing	Continuing	Continuing
Prior Year Prod Dev cost no longer funded in FYDP	SS/CPFF	Boeing : St. Louis, MO	28.775	0.000		0.000		0.000		-		0.000	0.000	28.775	28.775
		Subtotal	209.228	14.495		6.149		8.513		-		8.513	Continuing	Continuing	N/A

Remarks

Increase from FY 2022 to FY2023 is due to ramp up of stress/fatigue/structures analysis for the EA-18G SLAP Product Development.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SLAP F/A-18 E/F	WR	NAWCAD : Patuxent River, MD	11.503	0.373	Dec 2020	0.380	Dec 2021	0.537	Dec 2022	-		0.537	Continuing	Continuing	Continuing
SLAP F/A-18 E/F	WR	FRC Southwest : San Diego, CA	8.704	0.218	Dec 2020	0.223	Dec 2021	0.227	Dec 2022	-		0.227	Continuing	Continuing	Continuing
SLAP EA-18G	WR	NAWCAD : Patuxent River, MD	1.150	0.713	Dec 2020	0.689	Dec 2021	0.897	Dec 2022	-		0.897	Continuing	Continuing	Continuing
SLAP EA-18G	WR	FRC Southwest : San Diego, CA	0.600	0.408	Dec 2020	0.416	Dec 2021	0.424	Dec 2022	-		0.424	Continuing	Continuing	Continuing
SLAP F/A-18 E/F	WR	FRC Southeast : Jacksonville, FL	0.000	0.000		0.127	Dec 2021	0.129	Dec 2022	-		0.129	0.402	0.658	-
SLAP EA-18G	WR	FRC Southeast : Jacksonville, FL	0.000	0.000		0.175	Dec 2021	0.179	Dec 2022	-		0.179	0.554	0.908	-
Prior Year Support cost no longer funded in FYDP	Various	Various : Various	6.525	0.000		0.000		0.000		-		0.000	0.000	6.525	-
		Subtotal	28.482	1.712		2.010		2.393		-		2.393	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation EA-18G	WR	NAWCAD : Patuxent River, MD	0.157	0.102	Dec 2020	0.104	Dec 2021	0.106	Dec 2022	-		0.106	Continuing	Continuing	Continuing
Prior Year Test and Evaluation cost no longer funded in FYDP	Various	Various : Various	9.396	0.000		0.000		0.000		-		0.000	0.000	9.396	-
		Subtotal	9.553	0.102		0.104		0.106		-		0.106	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAVAIR : Patuxent River, MD	0.501	0.075	Oct 2020	0.075	Oct 2021	0.075	Oct 2022	-		0.075	Continuing	Continuing	Continuing
Program Management Support (Seaport-CSS)	C/CPFF	Tekla : Patuxent River, MD	0.052	0.034	Apr 2021	0.107	Apr 2022	0.109	Apr 2023	-		0.109	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Engility : Patuxent River, MD	1.105	0.122	Dec 2020	0.124	Dec 2021	0.127	Dec 2022	-		0.127	Continuing	Continuing	Continuing
Prior Year Management Services cost no longer funded in FYDP	Various	Various : Various	11.622	0.000		0.000		0.000		-		0.000	0.000	11.622	-
		Subtotal	13.280	0.231		0.306		0.311		-		0.311	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	260.543	16.540		8.569		11.323		-		11.323	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*

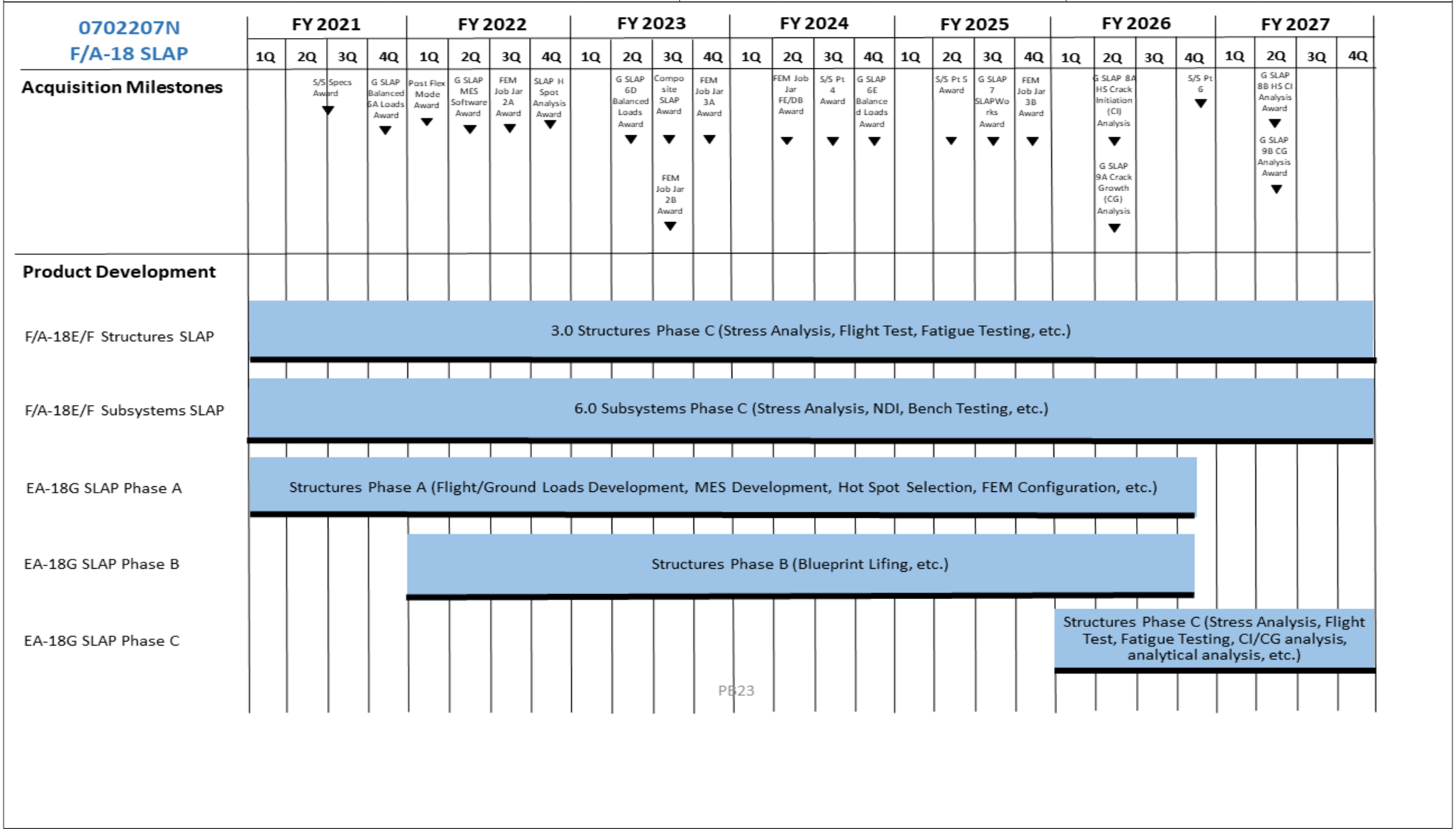

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Service Life Assessment Program F/A-18 & EA-18G				
F/A-18E/F SLAP: Structures: 3.0 Structures Analysis Phase C	1	2021	4	2027
F/A-18E/F SLAP: Subsystems: 6.0 Subsystems Analysis Phase C	1	2021	4	2027
EA-18G SLAP: Structures: Analysis Phase A	1	2021	4	2026
EA-18G SLAP: Structures: Analysis Phase B	1	2022	4	2026
EA-18G SLAP: Structures: Analysis Phase C	1	2026	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0702207N / *Depot Maintenance (NON-IF)*	Project (Number/Name) 3182 / *T-45 SLAP*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3182: *T-45 SLAP*	37.671	6.443	4.564	0.320	-	0.320	0.596	0.132	0.000	0.000	0.000	49.726
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The T-45 Service Life Assessment Program (SLAP) is assessing the structural and subsystem conditions of the T-45 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve Chief of Naval Operations (CNO) inventory requirements. The goal of the T-45 SLAP program is to identify critical structures and components that can extend the aircraft designed service life to support IPP and Naval Flight Officer Training Requirements (NTR) until 2035. This initial subsystem assessment, based on the updated fleet aircraft usage spectrum and future predicted training missions of the T-45 aircraft, found 79 dispositions requiring further analysis, teardowns, age explorations, recertification and/or testing. The assessment of the subsystems that make up these 79 dispositions will address all critical subsystems required and their ability to maintain IPP/NTR until 2035, analysis and studies will be conducted to outline improvements, assess manufacturing capabilities, prototype redesign and test of subsystems for trainer aircraft. The current life limits for the T-45 is 14,400 Flight Hours (FH). The T-45 SLAP program of record states the SLAP goals is 21,600 FH. This effort is required to be conducted for these subsystems to ascertain what actions and modifications must be taken to safely operate each system beyond its designed life until the targeted end of service life.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: T-45 SLAP	6.443	4.564	0.320	0.000	0.320
Articles:	-	-	-	-	-
Description: Funding supports development, integration, test, and certification of a Subsystem SLAP to determine modifications necessary to extend service life through 2035.					
FY 2022 Plans: Complete Subsystem SLAP activities, engineering studies, fatigue, endurance and cyclic testing of actual parts.					
FY 2023 Base Plans: N/A					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: PU 3182: Decrease of $4.251 from FY2022 to FY2023 accounts for reductions in contracting costs associated with the final year of execution for T-45 Structural Service Life Assessment Program (SLAP).					
Accomplishments/Planned Programs Subtotals	6.443	4.564	0.320	0.000	0.320

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3182 / *T-45 SLAP*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• APN/0569: *T-45 Service Life Ext Prg (SLEP) OSIP 022-14*	154.409	158.772	201.670	-	201.670	181.206	180.806	193.585	197.321	212.498	2,896.208

Remarks

D. Acquisition Strategy

The subsystem SLAP is a sole source contract effort with Boeing, the aircraft prime contractor. SLAP consists of an analysis of the aircraft subsystems (e.g., Global Positioning System Inertial Navigation Assembly or Mission Data Processor). The analysis will facilitate the future development of subsystem modifications and/or redesigns necessary to extend their life until 2035.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3182 / *T-45 SLAP*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development SLAP T-45	SS/CPFF	Boeing : St. Louis, MO	22.092	5.774	Mar 2021	3.584	Feb 2022	0.000		-		0.000	0.477	31.927	31.594
Product Development SLAP T-45 NACES	C/FFP	Martin Baker : United Kingdom	0.450	0.000		0.000		0.000		-		0.000	0.000	0.450	0.450
		Subtotal	22.542	5.774		3.584		0.000		-		0.000	0.477	32.377	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Technical Support	WR	NAWCAD : Patuxent River, MD	7.978	0.480	Nov 2020	0.732	Nov 2021	0.320	Nov 2022	-		0.320	0.191	9.701	-
Engineering Technical Support	WR	NADEP : Jacksonville, FL	2.840	0.129	Nov 2020	0.190	Nov 2021	0.000		-		0.000	0.030	3.189	-
Engineering and Logistics Support	WR	NAWCTSD : Orlando, FL	0.041	0.040	Nov 2020	0.038	Nov 2021	0.000		-		0.000	0.020	0.139	-
Prior Year Support Costs no longer in FYDP	Various	Various : Various	3.708	0.000		0.000		0.000		-		0.000	0.000	3.708	-
		Subtotal	14.567	0.649		0.960		0.320		-		0.320	0.241	16.737	N/A

Remarks

Broke out engineering and logistics support for NAWCTSD Orlando, FL to show actuals.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAVAIR : Patuxent River, MD	0.562	0.020	Nov 2020	0.020	Nov 2021	0.000		-		0.000	0.010	0.612	-
		Subtotal	0.562	0.020		0.020		0.000		-		0.000	0.010	0.612	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0702207N / *Depot Maintenance (NON-IF)*	Project (Number/Name) 3182 / *T-45 SLAP*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	37.671	6.443		4.564		0.320		-		0.320	0.728	49.726	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3182 / *T-45 SLAP*

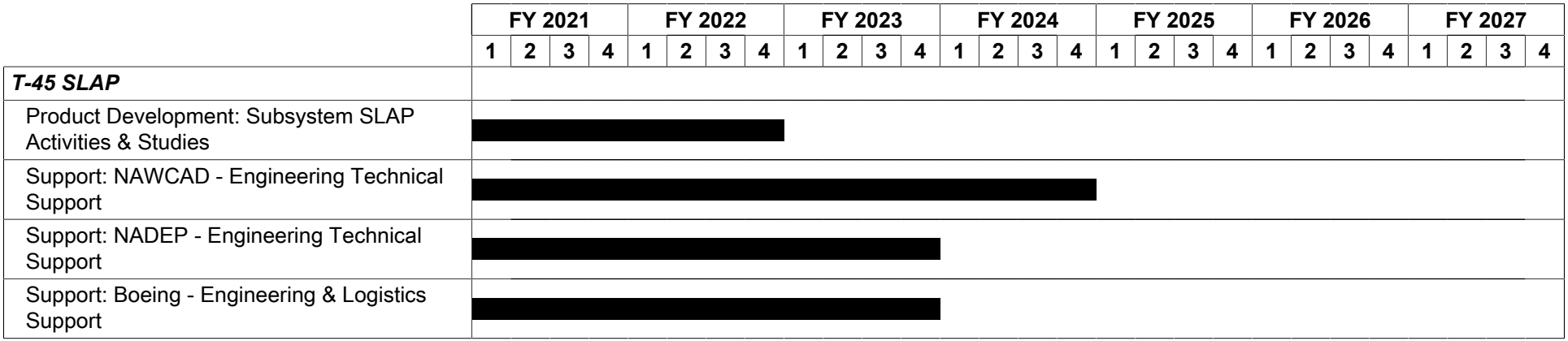

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3182 / *T-45 SLAP*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
T-45 SLAP				
Product Development: Subsystem SLAP Activities & Studies	1	2021	4	2022
Support: NAWCAD - Engineering Technical Support	1	2021	4	2024
Support: NADEP - Engineering Technical Support	1	2021	4	2023
Support: Boeing - Engineering & Logistics Support	1	2021	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0702207N / *Depot Maintenance (NON-IF)*	Project (Number/Name) 3384 / *MH-60 SLAP*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3384: *MH-60 SLAP*	20.152	12.452	21.897	14.605	-	14.605	23.878	19.776	9.418	9.520	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

MH-60 SLAP is assessing the primary aircraft structure and subsystem condition of the MH-60S fleet in order to evaluate the airframe's ability to meet its designed service life of 10,000 hours. SLAP will determine the efforts necessary to extend the aircraft design life limits to meet Chief of Naval Operations (CNO) operational inventory requirements through FY 2035. The highest flight time MH-60S helicopters are expected to exceed the design life limit in 2024, at which time as many as 30 aircraft per year could be removed from flight status without a SLAP and follow-on Service Life Extension Program (SLEP). MH-60 SLAP is comprised of two distinct assessments: FLA, which will establish the fatigue life of the aircraft and air vehicle systems and Subsystem Life Assessment (SLA), which will examine subsystems that are critical to safe operations and identify risk mitigation strategies for critical components. FLA consists of structural investigations of the cockpit beams, main gearbox beams/frames, upper deck, engine mount, lower tub, main landing gear, tail landing gear, cargo hook, transition splice and tie-down fittings/structure, tailcone, tail gearbox, intermediate gearbox, stabilator, manufactured joints/splices, and flight controls support structure. SLA will evaluate engines, rotor brake, hydraulic, flight controls, avionics components and infrastructure, etc., to identify over-and-above inspections, overhaul intervals or replacement schedules to fly beyond the current design limit assumption.

FY 2023 budget request funds to continue the SLAP analysis and engineering development that needs to occur to extend the useful life of the MH-60S until transition to Future Vertical Lift-Maritime Strike (FVL-MS). Design and development engineering will continue for inspection intervals, component replacement intervals, and other strategies that will result in Engineering Change Proposals (ECP's) for the phased SLEP solution. The ECP development effort to convert the MH-60S Block 1 aircraft to Block 3B aircraft, engineering development efforts will continue, extending the mission profile for these aircraft and ultimately providing the fleet with more flight hours. Preliminary efforts for the MH-60R usage spectrum which would be required for a future Fatique Life Assessment will be conducted.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: MH-60 SLAP	12.452	21.897	14.605	0.000	14.605
Articles:	-	-	-	-	-
Description: The current design life limits do not support United States Navy inventory requirements to bridge to a follow-on program procurement. The MH-60S will begin reaching conditional 10,000 hour service life limits in 2024. No full-scale fatigue test or comprehensive structural analysis was performed during initial development. Funding will support assessing the structural and subsystem condition of the MH-60S fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to bridge that gap.					
FY 2022 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3384 / *MH-60 SLAP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Conduct SLEP engineering development and analysis that needs to occur to extend the useful life of the MH-60S until transition to Future Vertical Lift-Maritime Strike (FVL-MS). Continue the Block 3B upgrade, engineering development for tired wiring, and repair and replacement modifications. Continue engineering design and development efforts for Engineering Change Proposals (ECPs) in support of a phased SLEP solution. ***FY 2023 Base Plans:*** Continute to conduct SLEP engineering development and analysis that needs to occur to extend the useful life of the MH-60S until transition to Future Vertical Lift-Maritime Strike (FVL-MS). Continue the Block 3B upgrade, engineering development for tired wiring, and repair and replacement modifications. Continue engineering design and development efforts for Engineering Change Proposals (ECPs) in support of a phased SLEP solution. Initial engineering in support of MH-60R Usage Spectrum. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of $7.292 since PB22 in FY23 is due to completion of FLA and Block Upgrade Development efforts along with the movement of funds to other Navy priorities due to the refined estimates for ECP development in a phased SLEP mod approach.					
Accomplishments/Planned Programs Subtotals	12.452	21.897	14.605	0.000	14.605

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• APN/0530: *MH-60 Series*	0.000	0.000	8.996	-	8.996	25.315	25.697	45.770	45.337	Continuing	Continuing

Remarks

OSIP 001-23 MH-60S SLEP Only relates to PE/PU 3384.

D. Acquisition Strategy

The SLAP program employs a sole source contract with Lockheed Martin; the aircraft prime manufacturer; a sole source contract with General Electric, the engine provider; sole source contracts with MERCER and Eclypse for data analysis and tool development; a sole source contract with STADCO, the alignment fixture provider; and government engineering and logistics expertise at Naval Air Station Patuxent River, MD; H-60 Fleet Support Team at Cherry Point, NC; and Naval Air Station North Island, Coronado, CA. Analyses from the SLAP efforts will provide the engineering data necessary to develop aircraft structural, component, and subsystem

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3384 / *MH-60 SLAP*

modifications to extend service life flight hour limits in order to avoid flight line inventory shortfalls. The MH-60S SLAP consists of two major engineering efforts: the FLA and the aircraft SLA. These efforts are broken into multiple phases which develop tools and models, assess current aircraft usage, and develop concepts to extend aircraft life to meet Chief of Naval Operations objectives. The program will combine exploitation of aircraft deep look inspections and actual historical fleet usage. Conducting MH-60S SLAP to study the aircraft lifetime will define aircraft service life and is required to determine scope of the future follow-on SLEP.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3384 / *MH-60 SLAP*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Fatigue Life Assessment MH-60S	SS/CPFF	Lockheed Martin : Owego, NY	8.783	2.786	Dec 2020	1.600	Dec 2021	0.000		-		0.000	0.000	13.169	13.169
MH-60S ECP SLEP Development	SS/CPFF	Lockheed Martin : Owego, NY	0.000	0.000		9.889	May 2022	6.748	May 2023	-		6.748	69.744	86.381	86.381
Block Upgrade Development	SS/CPFF	Lockheed Martin : Owego, NY	0.000	5.878	Jan 2021	6.289	Jan 2022	3.129	Jan 2023	-		3.129	0.000	15.296	15.463
Prior Year Prod Dev Cost no longer funded in FYDP	Various	Various : Various	4.240	0.000		0.000		0.000		-		0.000	0.000	4.240	4.240
		Subtotal	13.023	8.664		17.778		9.877		-		9.877	69.744	119.086	N/A

Remarks

FY 2023 Decrease of $7.901 in Product Development since the prior President's Budget Submission is due to the movement of requirements from MH-60 PMA299 to FVL-MS.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SLAP MH-60S	WR	NAWCAD : Patuxent River, MD	2.901	1.570	Nov 2020	1.466	Nov 2021	1.834	Nov 2022	-		1.834	Continuing	Continuing	Continuing
SLAP MH-60S	WR	Various : Various	1.886	1.200	Nov 2020	1.118	Nov 2021	1.140	Nov 2022	-		1.140	Continuing	Continuing	Continuing
Eng & Tech Srvc (Non FFRDC)	Various	Various : Various	0.555	0.205	May 2021	0.190	May 2022	0.250	Nov 2022	-		0.250	0.000	1.200	Continuing
SLAP MH-60R Usage Spectrum	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.250	Oct 2022	-		0.250	0.000	0.250	-
		Subtotal	5.342	2.975		2.774		3.474		-		3.474	Continuing	Continuing	N/A

Remarks

FY 2023 Support increase of $.700 since the prior President's Budget Submission reflects efforts required to support SLEP ECP Development.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3384 / *MH-60 SLAP*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support SLAP MH-60S	WR	NAWCAD : Patuxent River, MD	0.629	0.750	Nov 2020	0.765	Nov 2021	0.721	Nov 2022	-		0.721	Continuing	Continuing	Continuing
Mgmt Supt Services (Non FFRDC)	Various	Various : Various	1.119	0.045	May 2021	0.562	May 2022	0.514	May 2023	-		0.514	0.000	2.240	Continuing
Travel	Various	NAVAIR : Patuxent River, MD	0.039	0.018	Oct 2020	0.018	Oct 2021	0.019	Oct 2022	-		0.019	0.000	0.094	-
		Subtotal	1.787	0.813		1.345		1.254		-		1.254	Continuing	Continuing	N/A

Remarks

FY23 reduction in Management Services of $.091 since the prior President's Budget Submission is due to other miscellaneous/rate adjustments.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	20.152	12.452		21.897		14.605		-		14.605	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3384 / *MH-60 SLAP*

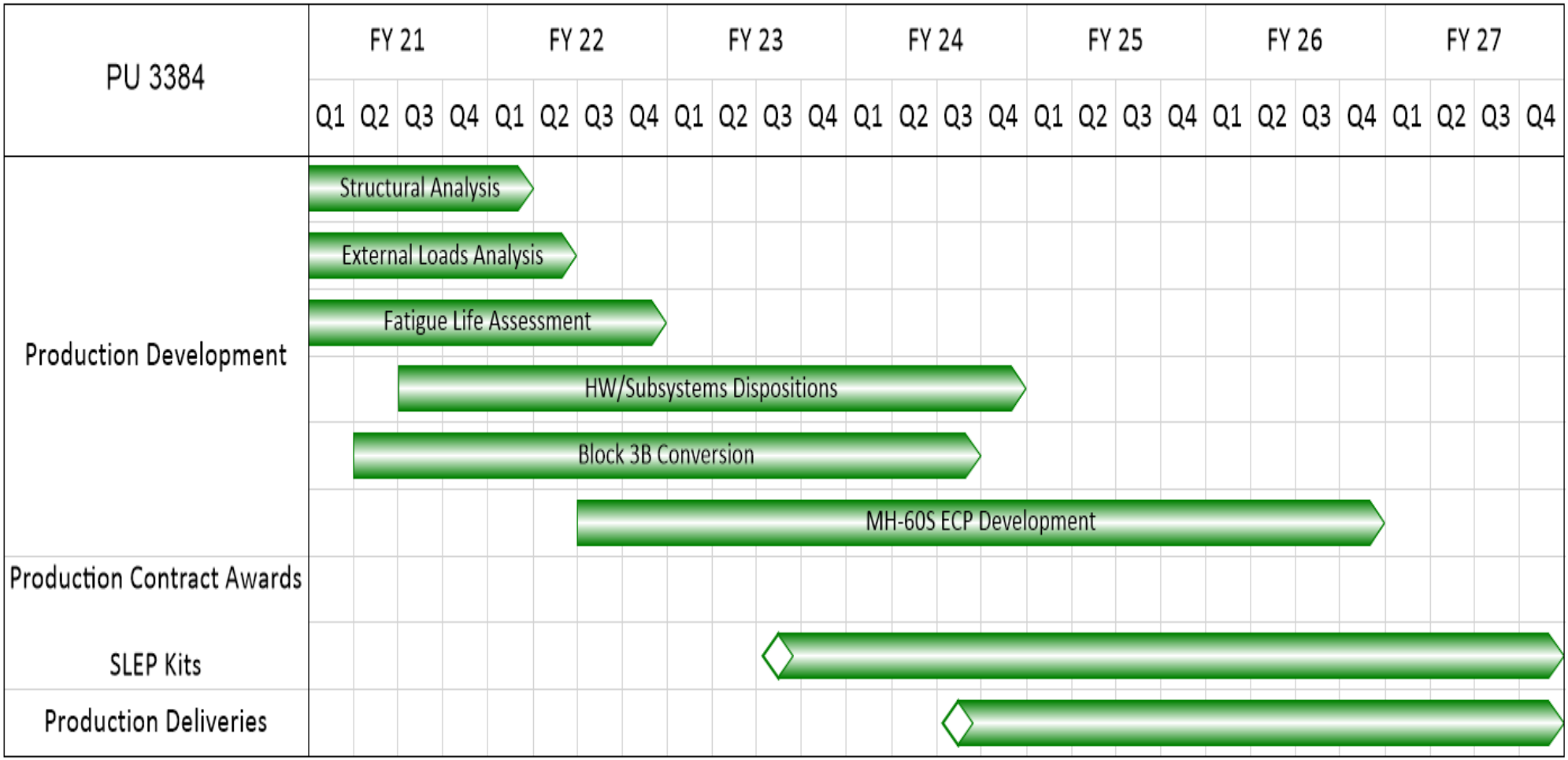

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3384 / *MH-60 SLAP*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3384				
Structural Analysis	1	2021	1	2022
External Loads Analysis	1	2021	2	2022
Fatigue Life Assessment	1	2021	4	2022
HW/Subsystems Dispositions	3	2021	4	2024
Block 3B Conversion	2	2021	3	2024
MH-60S ECP Development	3	2022	4	2026
Production Contract Awards: Block 3B Conv./SLEP Kits	3	2023	3	2023
Production Contract Awards: Production Deliveries	4	2024	4	2024