Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy											Date: May 2021	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604264N *I Air Crew Systems 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**
Total Program Element	156.160	18.652	21.376	22.746	-	22.746	-	-	-	-	-	-
0606: *Aircrew System Development*	156.160	18.652	16.379	19.672	-	19.672	-	-	-	-	-	-
9099: *Physiological Episodes*	0.000	0.000	4.997	3.074	-	3.074	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Aircrew Systems Development program provides Engineering and Manufacturing Development of Aviation Life Support Systems to protect aircrew and flight deck personnel from current and future threats including: directed energy weapons, chemical/biological/radiological agents/fallout, ballistic projectiles, temperature extremes, heat/fire, low concentration oxygen environments, high dynamic forces during emergency egress, hearing loss, and high "G" forces. The program also provides development for the following capabilities: night vision capability, hearing and head protection, aircrew endurance, aircrew performance, man mounted data display, communications, clothing, in flight restraint and stability emergency egress and descent, escape and evasion, survival and rescue, crash protection, and anthropometric sizing for small aircrew. Acquisition initiatives include: competition, the application of streamlining initiatives, use of non-developmental items, joint and tri-service developments, and the pursuit of NATO/allied cooperative ventures, which expedite introduction of new products into Navy and Marine Corps fixed and rotary wing aircraft, reduce costs, and promote commonality.

The Physiological Episodes program provides for the development and fielding of a system that monitors aircrew physiological parameters and warns of state of health or performance degradation that may result in loss of consciousness or ability to safely conduct the flight and for other physiological episode mitigation efforts. There are several efforts currently in development.

JUSTIFICATION FOR BUDGET ACTIVITY:
This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy					Date: May 2021
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604264N *I Air Crew Systems Development*		
B. Program Change Summary ($ in Millions)	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**
Previous President's Budget	19.172	21.445	23.043	-	23.043
Current President's Budget	18.652	21.376	22.746	-	22.746
Total Adjustments	-0.520	-0.069	-0.297	-	-0.297
• Congressional General Reductions	-	-0.069			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.520	0.000			
• Rate/Misc Adjustments	0.000	0.000	-0.297	-	-0.297

Change Summary Explanation

Funding:
Decrease since the previous President's Budget submission is due to changes in support and working capital fund rates.

Schedule:

1. The following major changes were made to the Laser Eye Protection (LEP) schedule based on programmatic updates and execution requirements:
-LEP Operations & Support Phase moved from Q4FY22 through Q1FY25 to Q4FY22 through Q4FY25
-LEP TRR moved from Q4FY20 to Q2FY21
-LEP Test & Evaluation: DT moved from Q1FY21 through Q2FY21 to Q3FY21
-LEP EMD (Qty 91) Delivery moved from Q3FY20 through Q4FY20 to Q1FY21

2. The following major changes were made to the Enhanced Visual Acuity (EVA) schedule. The delays occurred because the Engineering and Manufacturing Development (EMD) contract was in a stop-work status for seven months due to a GAO protest (denied Jan '20) and a subsequent Court of Federal Claims protest (denied Apr '20). Additional schedule updates were made following government/vendor IBR:
-EVA EMD Phase moved from Q3FY19 through Q1FY23 to Q3FY20 through Q4FY23
-EVA PDR moved from Q4FY20 to Q1FY22
-EVA SRR II moved from Q2FY20 to Q4FY20
-EVA CDR moved from Q2FY21 to Q3FY22
-EVA TRR moved from Q2FY22 to Q3FY23
-EVA Developmental Testing moved from Q2FY21 through Q1FY22 to Q3FY22 through Q4FY22
-EVA IT-B2 moved from Q3FY22 through Q1FY23 to Q3FY23 through Q4FY23

-EVA EDM (Qty 8) Delivery moved from Q2FY21 through Q1FY23 to Q1FY23

3. The following major changes were made to the Physiological Monitoring (PM) schedule based on technical discovery and maturation of requirements:
-PM IOC moved from 4QFY21 to 4QFY22
-PM Milestone C moved from Q3FY20 to Q3FY21
-PM Integration Contract Award moved from 3QFY21 to 3QFY22
-PM Production Contract Award moved from 3QFY22 to 3QFY23
-PM LRIP 1 Delivery moved from 2QFY22 through 4QFY22 to 4QFY23 through 2QFY24

Technical: Not Applicable

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 0604264N / *Air Crew Systems Development*	Project (Number/Name) 0606 / *Aircrew System 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
0606: *Aircrew System Development*	156.160	18.652	16.379	19.672	-	19.672	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

AIRCREW SYSTEMS: Laser Eye Protection (LEP), Enhanced Visual Acuity (EVA), Aircrew Systems (AS), and Hearing Protection and Speech Intelligibility (HPSI).

Under the above projects, LEP provides Fixed and Rotary wing pilots/aircrew with both self and threat multi-wavelength protection during day/night unaided and Night Vision Goggle aided missions. LEP will consist of a suite of products to include spectacles, goggles and visors. The LEP (visor, spectacle or goggle format) is being developed for compatibility with all required USN/USMC aircraft, Aviation Life Support Equipment, cockpit displays, night vision and fire control systems. EVA provides advanced day/night vision/Head Up Display (HUD) capability to address critical capability gaps in low and no light illumination levels (night vision). EVA will be integrated on current aircraft through a common interface allowing incremental, modular approach to fielding full capability and future upgrades. Future increments will provide enhanced aircrew situational awareness in degraded visual environment. Aircrew Systems includes State of the Art (SOA) and Survival Systems which provides for technology pacing through continuing evaluation of survival, clothing and other aircrew systems in order to fill capability gaps, develop aircrew endurance and performance, safety and enhance survivability. HPSI provides for protection of aircrew from temporary hearing damage and permanent hearing loss and allows for effective comprehension of radio or Internal Communication System (ICS) transmissions for safety of flight and mission effectiveness.

AIRCRAFT SYSTEMS: Aircraft Systems include studies for Advanced Crash Protection, SOA, and Survival Systems. SOA provides for the yearly evaluation of the survival systems that evaluate performance, develop endurance, fill capability gaps for safety and enhanced survivability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Aircrew System Development	14.823	14.552	17.476	0.000	17.476
Articles:	-	-	-	-	-
Description: Laser Eye Protection (LEP) provides Spectacles (both multi-wavelength self and threat protection), goggles, and Laser Eye Protection Improvement Program (LEPIP) which monitors emerging threats and changes to technology. Enhanced Visual Acuity (EVA) provides advanced night vision/Head Up Display (HUD) capability to address critical capability gaps in low and no light illumination (Night Vision). Future increments will provide enhanced visibility in degraded visual environments. AS includes State of the Art (SOA).					
FY 2021 Plans:					

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Laser Eye Protection (LEP): Continue research and development of the next increment of threat spectacle, conduct Test Readiness Review (TRR), conduct Initial Production Readiness Review (IPRR), complete Developmental Testing (including ground and flight test), conduct System Verification Review/ Production Readiness Review (SVR/PRR), and prepare all documentation for MS-C decision review. Enhanced Visual Acuity (EVA): Complete Integrated Baseline Review (IBR) State of the Art (SOA): Continue a yearly evaluation and authorization of the survival, clothing, and other aircrew systems items. Identification, testing and approval of items that provide upgraded performance, fill capability gaps, improve aircrew endurance, improve aircrew performance and safety and enhance survivability. ***FY 2022 Base Plans:*** Laser Eye Protection (LEP): Hold MS-C decision review, award and execute LRIP contract, conduct Physical Configuration Audit (PCA), deliver LRIP assets to one squadron, and award FRP contract. Enhanced Visual Acuity (EVA): Complete Preliminary Design Review (PDR) and Critical Design Review (CDR), deliver four Engineering Mass Models to support laboratory testing, and begin laboratory, ground and integration lab developmental testing (DT). State of the Art (SOA): Continue a yearly evaluation and authorization of survival, clothing, and other aircrew systems items. Provide identification, testing, and approval of items that provide up-to-date technology to fill capability gaps, improve aircrew endurance, improve aircrew performance and safety, and enhance survivability. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase of $2.924M from FY21 to FY22 is due to a significant increase in RDTE efforts for the EVA program (to include the continuing execution of the engineering, manufacturing, and development contract, the scheduled delivery of four mass models and the start of developmental testing) and Naval Aviation life support requirements for HPSI.					
Title: Aircraft Systems Development	3.829	1.827	2.196	0.000	2.196
Articles:	-	-	-	-	-
Description: Aircraft Systems includes Advanced Crash Protection, State of the Art (SOA), and Survival Systems.					
FY 2021 Plans:					

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
State of the Art (SOA): Continue a yearly evaluation and authorization to include identification, testing and approval of items that provide upgraded performance, fill capability gaps, improve endurance, improve performance and safety and enhance survivability. Establishment of Cooperative Research and Development Agreement (CRADA) with the purpose of developing an in-mask sensor to aid requirements maturation and in understanding a sub-set of physiological conditions of Naval Aviators in flight. ***FY 2022 Base Plans:*** State of the Art (SOA): Continue a yearly evaluation and authorization of survival, clothing, and other aircrew systems items. Provide identification, testing, and approval of items that provide up-to-date technology to fill capability gaps, improve aircrew endurance, improve aircrew performance and safety, and enhance survivability. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** No significant change from FY21 to FY22.					
Accomplishments/Planned Programs Subtotals	18.652	16.379	19.672	0.000	19.672

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
• OPN/4268: *Aviation Life Support*	33.345	22.205	43.633	-	43.633	-	-	-	-	-	-
• APN/0575: *Aviation Life Support Mods*	39.762	45.401	2.477	-	2.477	-	-	-	-	-	-

Remarks

Note: Aviation Life Support is only a portion of OPN Line Item 4268.

D. Acquisition Strategy

Leverage Commercial-Off-The-Shelf/Non-Developmental Items where possible. Full and open competition, utilizing negotiated best value procedures, was utilized for the EVA engineering, development and manufacturing contract. Due to the technical complexity and uncertainty associated with design and development, EVA is utilizing a cost plus fixed fee contract. The LEP program has conducted a full and open competition resulting in the award of a Cost Plus Fixed Fee contract for

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

development/Non-Recurring Engineering with Fixed Price options for production units and technical data. Production options will include a Low Rate Initial Production (LRIP) lot as well as Full Rate Production lots. LRIP assets will be used to meet the program Initial Operational Capability requirement.

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System 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
Systems Eng Laser Eye Protection (LEP)	WR	NAWCAD : Patuxent River, MD	12.218	1.329	Jan 2020	1.290	Nov 2020	0.000		-		0.000	-	-	-
Systems Eng Laser Eye Protection (LEP)	C/FFP	NAVAIR : Patuxent River, MD	2.981	0.609	Dec 2019	0.000		0.000		-		0.000	-	-	-
Systems Eng Aircrew Systems	WR	Various : Various	17.496	1.477	Nov 2019	1.366	Dec 2020	3.626	Dec 2021	-		3.626	-	-	-
Systems Eng Aircraft Systems	WR	Various : Various	45.975	3.829	Dec 2019	1.827	Dec 2020	2.196	Dec 2021	-		2.196	-	-	-
System Eng Enhanced Visual Acuity	C/CPFF	NAVAIR : Patuxent River, MD	7.713	5.171	May 2020	8.600	Nov 2020	8.929	Nov 2021	-		8.929	-	-	-
System Eng Enhanced Visual Acuity	WR	NAWCAD : Patuxent River, MD	16.374	2.078	Oct 2019	2.489	Nov 2020	4.404	Nov 2021	-		4.404	-	-	-
Systems Eng Physiological Episode Protection	WR	NAWCAD : Patuxent River, MD	3.940	3.111	Nov 2019	0.000		0.000		-		0.000	-	-	-
Systems Eng O2 Cart	C/CPFF	NAWCAD : Patuxent River, MD	1.600	1.000	Dec 2019	0.000		0.000		-		0.000	-	-	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	34.569	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	142.866	18.604		15.572		19.155		-		19.155	-	-	N/A

Remarks

Increase of $2.260M from FY21 to FY22 under Systems Eng Aircrew Systems (Various) is due to Naval Aviation life support requirements for HPSI. Increase of $1.915M from FY21 to FY22 under System Eng Enhanced Visual Acuity (NAWCAD: Patuxent River, MD) is due to a significant increase in RDTE efforts for EVA as indicated on the associated schedule. These efforts include the continuing execution of the Design and Development contract and the additional workload associated with the scheduled development and delivery of four Mass Models by the contractor.

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
T&E Enhanced Visual Acuity	WR	Various : Patuxent River, MD	0.000	0.000		0.758	Oct 2020	0.467	Nov 2021	-		0.467	-	-	-

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 0604264N / *Air Crew Systems Development*	Project (Number/Name) 0606 / *Aircrew System 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
		Subtotal	0.000	0.000		0.758		0.467		-		0.467	-	-	N/A

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
Travel	WR	Various : Various	1.371	0.048	Dec 2019	0.049	Dec 2020	0.050	Oct 2021	-		0.050	-	-	-
Prior year Mgmt Svcs no longer funded in the FYDP	Various	Various : Various	11.923	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	13.294	0.048		0.049		0.050		-		0.050	-	-	N/A

	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	156.160	18.652		16.379		19.672		-		19.672	-	-	N/A

Remarks

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

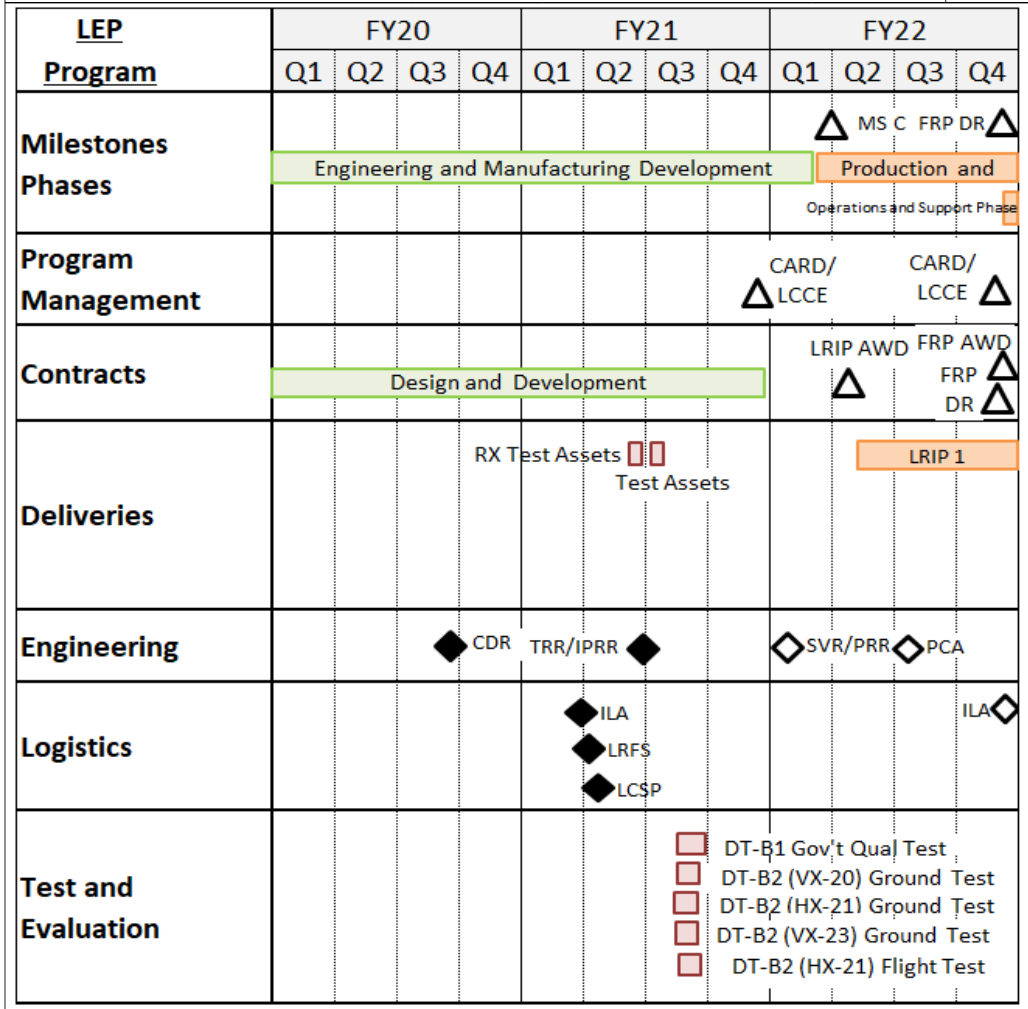
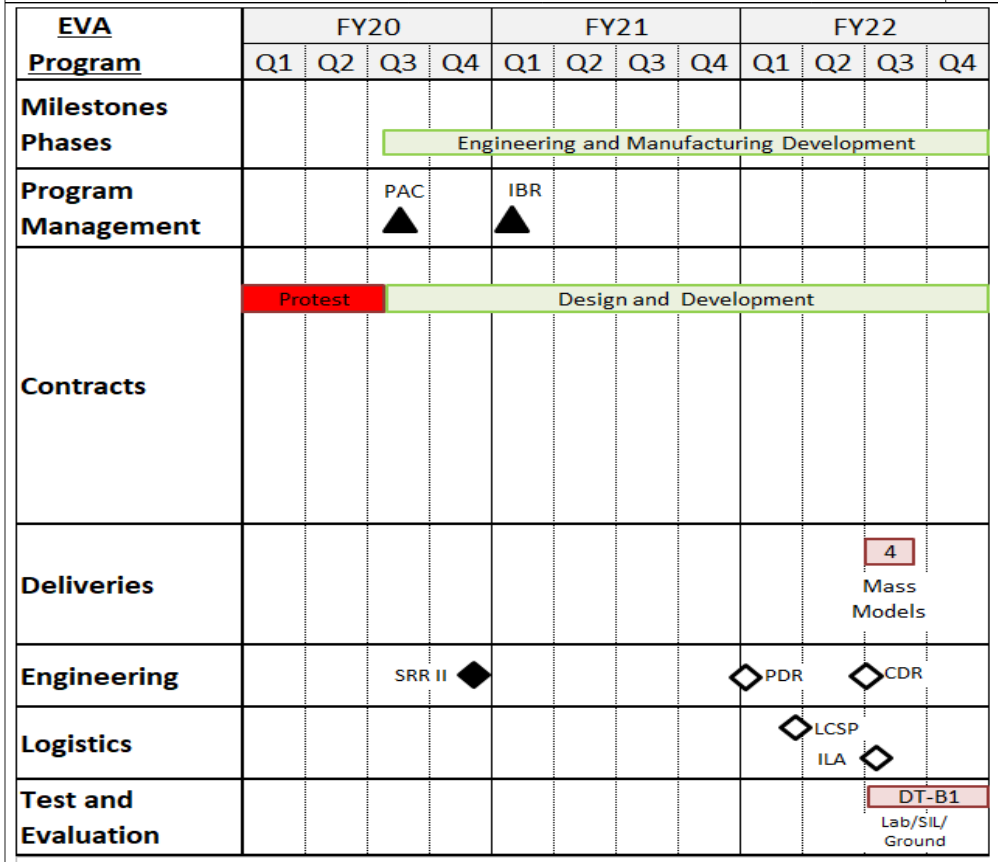


Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*



*This schedule shows an initial assessment of about a 12 month delay compared to PB21 schedule. This is due to source selection delays and the Engineering and Manufacturing Development (EMD) contract being in a stop-work status for seven months due to a GAO protest (denied Jan '20) and a subsequent Court of Federal Claims protest (denied Apr '20).

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Laser Eye Protection (LEP)				
Acquisition Milestones: Milestones: LEP Milestone C	1	2022	1	2022
Acquisition Milestones: Milestones: LEP FRP Decision	4	2022	4	2022
Acquisition Milestones: Phases: LEP Engineering & Manufacturing Development Phase	1	2020	1	2022
Acquisition Milestones: Phases: LEP Production & Deployment Phase	1	2022	4	2022
Acquisition Milestones: Phases: LEP Operations & Support Phase	4	2022	4	2022
System Development: Reviews: LEP CDR	3	2020	3	2020
System Development: Reviews: LEP TRR	2	2021	2	2021
System Development: Reviews: LEP SVR/PRR	1	2022	1	2022
System Development: Reviews: LEP PCA	3	2022	3	2022
Test & Evaluation: DT	3	2021	3	2021
Production Milestones: Contract Awards: LEP LRIP 1 (OPN)	2	2022	2	2022
Production Milestones: Contract Awards: LEP FRP 1 (OPN)	4	2022	4	2022
Deliveries: LEP EMD	2	2021	3	2021
Deliveries: LEP LRIP	2	2022	4	2022
Enhanced Visual Acuity (EVA)				
Acquisition Milestones: Phases: EVA Engineering & Manufacturing Development Phase	3	2020	4	2022
System Development: Reviews: EVA SRR II	4	2020	4	2020
System Development: Reviews: EVA PDR	1	2022	1	2022
System Development: Reviews: EVA CDR	3	2022	3	2022
Test and Evaluation: EVA Developmental Testing DT-B1	3	2022	4	2022

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 0604264N / *Air Crew Systems Development*	Project (Number/Name) 9099 / *Physiological Episodes*	

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
9099: *Physiological Episodes*	0.000	0.000	4.997	3.074	-	3.074	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Proj 9099 PHYSIOLOGICAL EPISODES:
The Physiological Episodes program provides for the development and fielding of a system that monitors pilot physiological parameters and warns of state of health or performance degradation that may result in loss of consciousness or ability to safely conduct the flight and for other physiological episode mitigation efforts. There are several efforts currently in development.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Physiological Monitoring	0.000	4.997	3.074	0.000	3.074
Articles:	-	-	-	-	-
FY 2021 Plans: Physiological Episode Protection: Mitigate risk of loss of aircrew and Tactical and Training jet platforms due to Physiological Episodes using a monitoring and alert system(s). Develop, prototype, and test a physiological monitoring system that detects physiological episodes and provides a warning in time to enable the aircrew to execute emergency procedures and recover safely. Establishment of Cooperative Research and Development Agreement (CRADA) with the purpose of developing an in-mask sensor to aid requirements maturation and in understanding a sub-set of physiological conditions of Naval Aviators in flight.					
FY 2022 Base Plans: Physiological Episode Protection: Continue lab and flight test for evaluation purposes of the physiological monitoring prototypes. Down selection of prototypes will occur this FY. Integration into one system will follow down-select. Continuation of CRADA efforts with the purpose of developing an in-mask sensor to aid requirements maturation and in understanding a sub-set of physiological conditions of Naval Aviators in flight.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: FY21 to FY22 decrease of $1.923M is due to transition to procurement.					
Accomplishments/Planned Programs Subtotals	0.000	4.997	3.074	0.000	3.074

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 9099 / *Physiological Episodes*

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
• OPN/4268: *Aviation Life Support*	0.000	0.000	3.600	-	3.600	-	-	-	-	-	-

Remarks

Note: Physiological Monitoring (SY 127) is only a portion of Aviation Life Support, LI 4268.

D. Acquisition Strategy

Of the six prototyping contracts awarded using Other Transaction Authority (OTA) through the Army Contracting Command (ACC NJ) via the Defense Innovation Unit (DIU), four OTAs remain as candidates for integration and production follow-on. Strategy will depend on further prototyping results. In addition, a Cooperative Research and Development Agreement (CRADA) is in place with the purpose of developing an in-mask sensor to aid requirements maturation and in understanding a sub-set of physiological conditions of Naval Aviators in flight.

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 9099 / *Physiological Episodes*

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
Systems Eng Physiological Episodes	WR	Various : Various	0.000	0.000		0.207	Dec 2020	0.213	Dec 2021	-		0.213	-	-	-
Systems Eng Physiological Episodes	WR	NAWCAD : Patuxent River, MD	0.000	0.000		4.790	Nov 2020	2.416	Nov 2021	-		2.416	-	-	-
		Subtotal	0.000	0.000		4.997		2.629		-		2.629	-	-	N/A

Remarks

Performing activity has ben updated from "Various" to "NAWCAD (Patuxent River, MD)" as appropriate resources have been identified to perform Systems Engineering functions.

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
T&E Physiological Episodes	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.000		0.445	Nov 2021	-		0.445	-	-	-
		Subtotal	0.000	0.000		0.000		0.445		-		0.445	-	-	N/A

	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	0.000	0.000		4.997		3.074		-		3.074	-	-	N/A

Remarks

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 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 9099 / *Physiological Episodes*

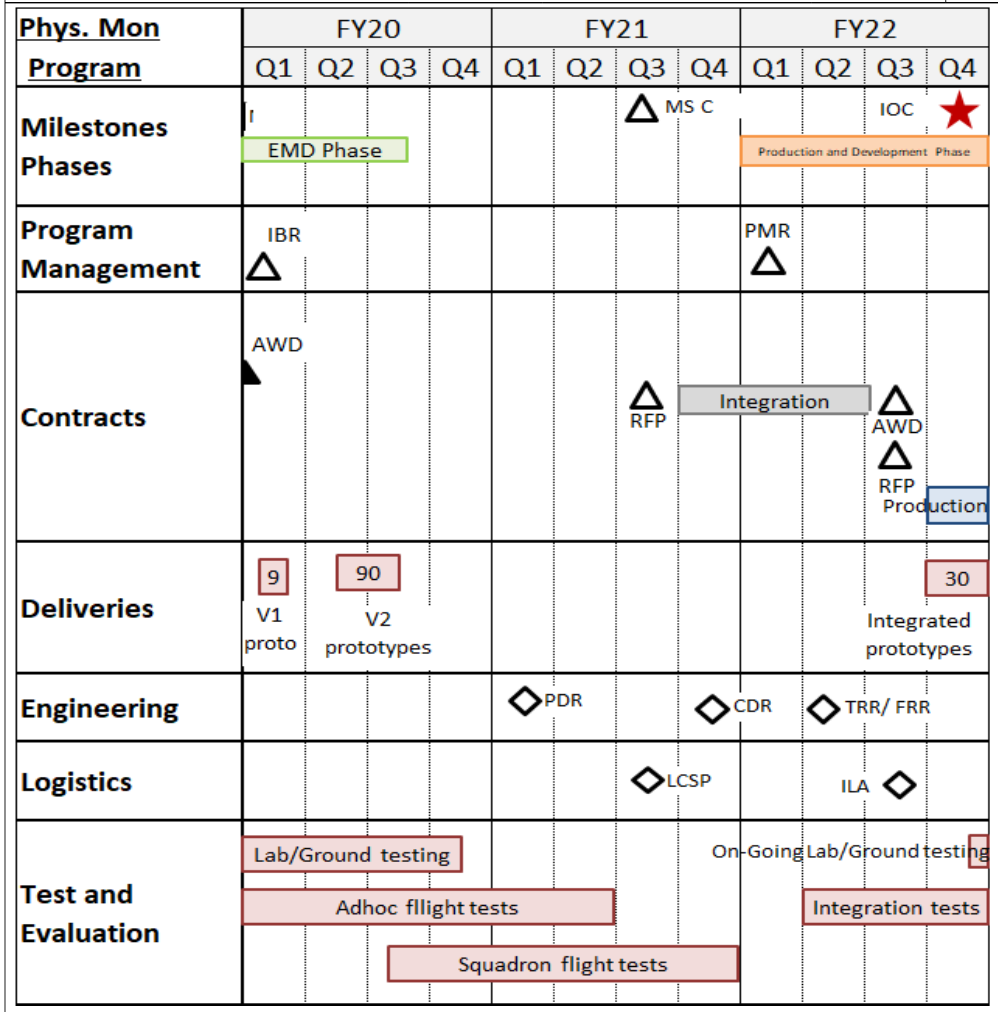


Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 9099 / *Physiological Episodes*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Physiological Episodes				
Acquisition Milestones: Milestones: PM: Milestone C	3	2021	3	2021
Acquisition Milestones: Milestones: PM: IOC	4	2022	4	2022
Acquisition Milestones: Phases: PM EMD Phase	1	2020	3	2020
Acquisition Milestones: Phases: PM Production & Development	1	2022	4	2022
System Development: Reviews: PM: PDR	1	2021	1	2021
System Development: Reviews: PM: CDR	4	2021	4	2021
System Development: Reviews: PM: TRR/FRR	2	2022	2	2022
Test & Evaluation: PM: Lab/Ground Testing	1	2020	4	2020
Test & Evaluation: PM: Adhoc Flight Tests	1	2020	2	2021
Test & Evaluation: PM: Squadron Flight Tests	3	2020	4	2021
Test & Evaluation: PM: Integration Tests	2	2022	4	2022
Test & Evaluation: PM: Ongoing Lab/Ground Testing	4	2022	4	2022
Production Milestones: Contract Award: PM: Integration Contract Award	3	2022	3	2022
Deliveries: PM: V1 Prototypes Delivery	1	2020	1	2020
Deliveries: PM: V2 Prototypes Delivery	2	2020	3	2020
Deliveries: PM: Integrated Prototypes Delivery	3	2022	4	2022