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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604126N *I Airborne Mine Countermeasures*							
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	25.366	19.672	17.889	18.669	-	18.669	-	-	-	-	-	-
2131: *Assault Breaching System*	25.366	16.778	14.889	18.669	-	18.669	-	-	-	-	-	-
9999: *Congressional Adds*	0.000	2.894	3.000	0.000	-	0.000	-	-	-	-	-	-

Note

Budget includes funding for COBRA Block II Program.

A. Mission Description and Budget Item Justification

The Assault Breaching System (ABS) program provides a combination of U.S. Navy systems to counter the threat to amphibious forces from obstacles and anti-landing/ sea mines in the Beach Zone and Surf Zone (0-10 ft water). The Assault Breaching Systems (ABS) consist of a system of systems approach that includes the following programs: Joint Direct Attack Munition (JDAM) Assault Breaching System (JABS); Coastal Battlefield Reconnaissance and Analysis (COBRA); Precision Navigation and Marking System (PNMS); Command, Control, Computers, Communications, and Intelligence (C4I). The Assault Breaching Systems enable the Navy-Marine Corps team to conduct Joint Forcible Entry Operations (JFEO), Ship-To-Objective Maneuver (STOM), and other combat operations to project power ashore.

JABS is a fielded system that neutralizes surface mines and obstacles in the Beach Zone (BZ) and Surf Zone (SZ). The ABS Tactical Decision Aid optimizes the Desired Points of Impact (DPI) for JDAM munitions to effectively neutralize mines and obstacles while minimizing the required number of munitions and friendly aircraft sorties. Continued testing is required to optimize the ABS Tactical Decision Aid database for the most common enemy mines and obstacles.

COBRA conducts Intelligence Surveillance Reconnaissance and Targeting (ISR/T). This system, which consists of two COBRA Airborne Payloads (CAPS) and one Post Mission Analysis (PMA) station, provides Coastal Mine Reconnaissance (CMR) capability. Block I is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the Beach Zone (BZ) and has on-board real-time processing. Block II capability adds an active illuminator sensor that enables nighttime detection of mines and obstacles in the BZ and the Surf Zone (SZ) (0-10 ft of water), and will detect, classify, localize floating and near-surface, moored sea mines. COBRA consists of a modular payload architecture that is integrated onto the MQ-8 Fire Scout, other vessels of opportunity, and in it's expeditionary configuration, from the shore. COBRA will serve in the CMR mission module for the SZ and BZ in the Littoral Combat Ship (LCS) Mine Countermeasures (MCM) Mission Package.

PNMS provides navigational upgrades for the Landing Craft, Air Cushion (LCAC); Landing Craft, Utility (LCU); and Amphibious Assault Vehicle (AAV). A system of virtual lane marking improved the navigation ability of these two assault craft which enables them to navigate safely through the neutralized assault lanes provided by JABS. LCU Navigation Upgrade provides modernized navigation system to enable safe transit through the breach lane. LCAC autopilot upgrade provides an integrated improvement to the LCAC Service Life Extension Program (SLEP) navigation system for craft control to allow precise navigation and hovering within the breach lane. These software upgrades and backfits occur during scheduled LCAC SLEPs. AAV Navigation Upgrade will provide modernized navigation system to enable precise transit through the breach lane.

C4I system will tie all of the above systems together under an integrated ABS architecture that is compatible with the existing Mine Warfare architecture.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604126N *I Airborne Mine Countermeasures*

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	20.248	17.366	19.643	-	19.643
Current President's Budget	19.672	17.889	18.669	-	18.669
Total Adjustments	-0.576	0.523	-0.974	-	-0.974
• Congressional General Reductions	-	-0.077			
• Congressional Directed Reductions	-	-2.400			
• Congressional Rescissions	-	-			
• Congressional Adds	-	3.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.576	0.000			
• Program Adjustments	0.000	0.000	-0.650	-	-0.650
• Rate/Misc Adjustments	0.000	0.000	-0.324	-	-0.324

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 9999: *Congressional Adds*		
Congressional Add: *Coastal battlefield reconnaissance and analysis system*	2.894	0.000
Congressional Add: *Coastal Battlefield Reconnaissance and Analysis*	0.000	3.000
Congressional Add Subtotals for Project: 9999	2.894	3.000
Congressional Add Totals for all Projects	2.894	3.000

Change Summary Explanation

FY 2020: SBIR reduction -$0.576M

FY 2021: +$3M Congressional add - coastal battlefield reconnaissance and analysis, -$2.4M congressional reduction - historical underexecution, -$0.077M congressional general reduction

FY 2022: -$0.650M underexecution adjustment, -$0.324M misc rate adjustment

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy									Date: May 2021			
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604126N / *Airborne Mine Countermeasures*				Project (Number/Name) 2131 / *Assault Breaching System*			
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**
2131: *Assault Breaching System*	25.366	16.778	14.889	18.669	-	18.669	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

The FY 2022 funding request was reduced by $0.650M to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

The Assault Breaching System (ABS) program provides a combination of U.S. Navy systems to counter the threat to amphibious forces from obstacles and anti-landing/ sea mines in the Beach Zone and Surf Zone (0-10 ft water). The Assault Breaching Systems (ABS) consist of a system of systems approach that includes the following programs: Joint Direct Attack Munition (JDAM) Assault Breaching System (JABS); Coastal Battlefield Reconnaissance and Analysis (COBRA); Precision Navigation and Marking System (PNMS); Command, Control, Computers, Communications, and Intelligence (C4I). The Assault Breaching Systems enable the Navy-Marine Corps team to conduct Joint Forcible Entry Operations (JFEO), Ship-To-Objective Maneuver (STOM), and other combat operations to project power ashore.

JABS is a fielded system that neutralizes surface mines and obstacles in the Beach Zone (BZ) and Surf Zone (SZ). The ABS Tactical Decision Aid optimizes the Desired Points of Impact (DPI) for JDAM munitions to effectively neutralize mines and obstacles while minimizing the required number of munitions and friendly aircraft sorties. Continued testing is required to optimize the ABS Tactical Decision Aid database for the most common enemy mines and obstacles.

COBRA conducts Intelligence Surveillance Reconnaissance and Targeting (ISR/T). This system, which consists of two COBRA Airborne Payloads (CAPS) and one Post Mission Analysis (PMA) station, provides Coastal Mine Reconnaissance (CMR) capability. Block I is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the Beach Zone (BZ) and has on-board real-time processing. Block II capability adds an active illuminator sensor that enables nighttime detection of mines and obstacles in the BZ and the Surf Zone (SZ) (0-10 ft of water), and will detect, classify, localize floating and near-surface, moored sea mines. COBRA consists of a modular payload architecture that is integrated onto the MQ-8 Fire Scout, other vessels of opportunity, and in it's expeditionary configuration, from the shore. COBRA will serve in the CMR mission module for the SZ and BZ in the Littoral Combat Ship (LCS) Mine Countermeasures (MCM) Mission Package.

PNMS provides navigational upgrades for the Landing Craft, Air Cushion (LCAC); Landing Craft, Utility (LCU); and Amphibious Assault Vehicle (AAV). A system of virtual lane marking improved the navigation ability of these two assault craft which enables them to navigate safely through the neutralized assault lanes provided by JABS. LCU Navigation Upgrade provides modernized navigation system to enable safe transit through the breach lane. LCAC autopilot upgrade provides an integrated improvement to the LCAC Service Life Extension Program (SLEP) navigation system for craft control to allow precise navigation and hovering within the breach lane. These software upgrades and backfits occur during scheduled LCAC SLEPs. AAV Navigation Upgrade will provide modernized navigation system to enable precise transit through the breach lane.

C4I system will tie all of the above systems together under an integrated ABS architecture that is compatible with the existing Mine Warfare architecture.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 2131 / *Assault Breaching System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Product Development	7.292	3.766	12.452	0.000	12.452
Articles:	-	-	-	-	-
FY 2021 Plans: COBRA Block I - Continue final design, development of COBRA hardware and demonstration planning of additional SZ capabilities to reduce program risk.					
FY 2022 Base Plans: The COBRA Block II program will award a competitive contract in Q4FY22 to support the design, development and fabrication of three next generation MCM optical system EDM prototypes. The program plans to conduct an Integrated Baseline Review (IBR) to confirm sufficient resource loading and establish a baseline to track earned value. Commence initial development of documentation and drawings, Sub-system Interface Control documents, System Hazard Analysis, Master System Test and Evaluation Plan; develop required documentation for detailed design and critical design review. Initiate detailed design of the system starting with conducting a System Requirements Review (SRR) to verify requirements traceability and complete a System Functional Review (SFR) in FY23. Order initial Long Lead Time Material (LLTM) for system/subsystems. Begin component modeling, simulation, fabrication and testing to verify design at Preliminary Design Review (PDR) in Q2FY23. Conduct and manage safety reviews as design matures. For government-led effort, initiate program documentation updates (system/subsystem specification and interface control documents) based on prototype preliminary design. Commence initial supportability analysis. JABS - Continue design and engineering of weapon effectiveness for BZ and SZ modeling, simulation and testing.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: Increased funding in FY 2022 supports efforts to award a Block II design and development contract in Q4FY22 and also supports shifting engineering efforts from Block I to Block II.					
Title: Technical Support	1.307	1.588	3.000	0.000	3.000
Articles:	-	-	-	-	-
FY 2021 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 2131 / *Assault Breaching System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
COBRA Block I - Continue to provide shipping, contract and test/studies management and C4I Data Fusion. Provide technical /acquisition support and documentation. ***FY 2022 Base Plans:*** COBRA Block I - Continue to provide management and shipping, contract and test/studies, C4I Data Fusion. Provide technical support and documentation (data collection / demonstration events and drawings). COBRA Block II - Commence detailed system design; conduct and manage technical and safety reviews as design matures. Evaluate and manage contractor deliverables, overseeing system engineering design and establish system configuration management. The program will complete risk reduction for Block II technologies. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increased funding in FY 2022 supports efforts leading to Block II design and development contract award in Q4FY22, requiring additional technical / engineering oversight.					
Title: Test and Evaluation	6.998	8.425	0.347	0.000	0.347
Articles:	-	-	-	-	-
FY 2021 Plans: COBRA - Continue advance SZ component/capability design and ground demonstrations. JABS - SZ and BZ characterization testing. NAVAIR to develop, integrate and demonstrate Single-system, Multi-mission Airborne Mine Detection (SMAMD) onto the MQ-8C to support risk mitigation for COBRA Blk II technology through an ONR FNC. ***FY 2022 Base Plans:*** COBRA - Perform and complete flight demonstration / data collection of COBRA of algorithm optimization efforts and SMSI Camera integration system enhancements. JABS - Conduct SZ and BZ characterization testing. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Decrease in FY22 is due to completion of the ONR FNC and Block I testing.					
Title: Management	1.181	1.110	2.870	0.000	2.870

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 2131 / *Assault Breaching System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Articles:	-	-	-	-	-
FY 2021 Plans: COBRA: Continue contract and financial management support. JABS: Continue to manage Mine magazine inventory management and shipping, contract management and tests/studies, C4I/Data fusion. ***FY 2022 Base Plans:*** COBRA: Continue contract and financial management support. JABS: Continue to manage Mine magazine inventory management and shipping, contract management and tests/studies, C4I/Data fusion. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increased funding in FY 2022 supports additional management efforts required to award a Block II design and development contract in Q4FY22.					
Accomplishments/Planned Programs Subtotals	16.778	14.889	18.669	0.000	18.669

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/2624: *SHALLOW WATER Mine CM SHIP*	8.730	5.493	5.708	-	5.708	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Countermine/Counter Obstacle (CM/CO) JDAM Assault Breaching System (JABS) and ABS Tactical Decision Aid testing is ongoing. Intelligence/Surveillance/ Reconnaissance/ Targeting (ISR/T) - COBRA Block I achieved IOC in July 2017. The COBRA program will continue to use Evolutionary Acquisition and introduce additional COBRA capabilities through the use of Incremental ("Block") Development. Three increments (or Blocks) of development have been planned in order to meet the mine line and minefield detection requirements. The contract for Block I was awarded to Arete in Tucson, AZ in FY18 and will complete in FY23. The development contract for Block II is planned as a full and open competition and is planned for award in Q4FY22.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 2131 / *Assault Breaching System*

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 Dev, COBRA	C/CPAF	Arete : Tucson, AZ	11.851	6.931	Sep 2020	0.772	Nov 2020	0.000		-		0.000	-	-	-
Design and Development, COBRA Block II	TBD	Prime Contractor : TBD	0.000	0.000		0.000		7.626	Jul 2022	-		7.626	-	-	-
Systems Engineering, COBRA	WR	NSWC, PC : PANAMA CITY, FL	1.871	0.186	Nov 2019	1.160	Nov 2020	2.700	Nov 2021	-		2.700	-	-	-
JABS	WR	NSWC PC : NSWC IH	1.153	0.000		0.000		0.000		-		0.000	-	-	-
Training Dev, COBRA	WR	NSWC, PC : PANAMA CITY, FL	1.218	0.000		0.000		0.000		-		0.000	-	-	-
ABS IPT/Test Assets/Proj Eng	WR	NSWC, PC : PANAMA CITY, FL	0.361	0.175	Dec 2019	0.098	Nov 2020	0.126	Nov 2021	-		0.126	-	-	-
Design and Development, COBRA Block II	WR	NAVAIR : Patuxent River, MD	0.000	0.000		0.000		2.000	Dec 2021	-		2.000	-	-	-
		Subtotal	16.454	7.292		2.030		12.452		-		12.452	-	-	N/A

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	WR	NSWC, PC : PANAMA CITY, FL	1.555	0.908	Dec 2019	0.933	Nov 2020	1.858	Nov 2021	-		1.858	-	-	-
Integrated Logistics Support	WR	NSWC PC : PANAMA CITY, FL	0.183	0.060	Nov 2019	0.216	Nov 2020	0.411	Nov 2021	-		0.411	-	-	-
Configuration Management	WR	NSWC, PC : PANAMA CITY, FL	0.183	0.061	Nov 2019	0.217	Nov 2020	0.360	Nov 2021	-		0.360	-	-	-
Studies & Analysis	WR	NSWC IH : INDIAN HEAD, MD	0.468	0.278	Nov 2019	0.222	Nov 2020	0.371	Nov 2021	-		0.371	-	-	-
		Subtotal	2.389	1.307		1.588		3.000		-		3.000	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 2131 / *Assault Breaching System*	

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
Development Test & Evaluation	WR	NSWC, IH : INDIAN HEAD, MD	2.355	0.701	Nov 2019	1.471	Nov 2020	0.151	Nov 2021	-		0.151	-	-	-
Test & Evaluation	WR	NSWC PC : Panama City, FL	0.766	0.528	Nov 2019	0.690	Nov 2020	0.196	Nov 2021	-		0.196	-	-	-
Development Test	WR	NSWC PC : Panama City, FL	1.470	0.769	Sep 2020	0.000	Nov 2020	0.000		-		0.000	-	-	-
ONR FNC, SMAMD	WR	NAVAIR : Patuxent River, MD	0.000	5.000	Aug 2020	8.000	Nov 2020	0.000		-		0.000	-	-	-
		Subtotal	4.591	6.998		10.161		0.347		-		0.347	-	-	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
Contractor Engineering Support	C/CPFF	BAH, Northrop Grumman : DC, FL	0.221	0.140	Dec 2019	0.137	Dec 2020	0.353	Dec 2021	-		0.353	-	-	-
Government Engineering Support	WR	NSWC, IH : INDIAN HEAD, MD	0.860	0.505	Nov 2019	0.495	Nov 2020	1.075	Nov 2021	-		1.075	-	-	-
Program Management Support	WR	NSWC/ IH, PC : INDIAN HEAD, PANAMA CITY	0.756	0.479	Nov 2019	0.422	Oct 2020	1.312	Oct 2021	-		1.312	-	-	-
Travel	WR	NAVSEA : WNY, DC	0.095	0.057	Nov 2019	0.056	Nov 2020	0.130	Nov 2021	-		0.130	-	-	-
		Subtotal	1.932	1.181		1.110		2.870		-		2.870	-	-	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	25.366	16.778		14.889		18.669		-		18.669	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 2131 / *Assault Breaching System*

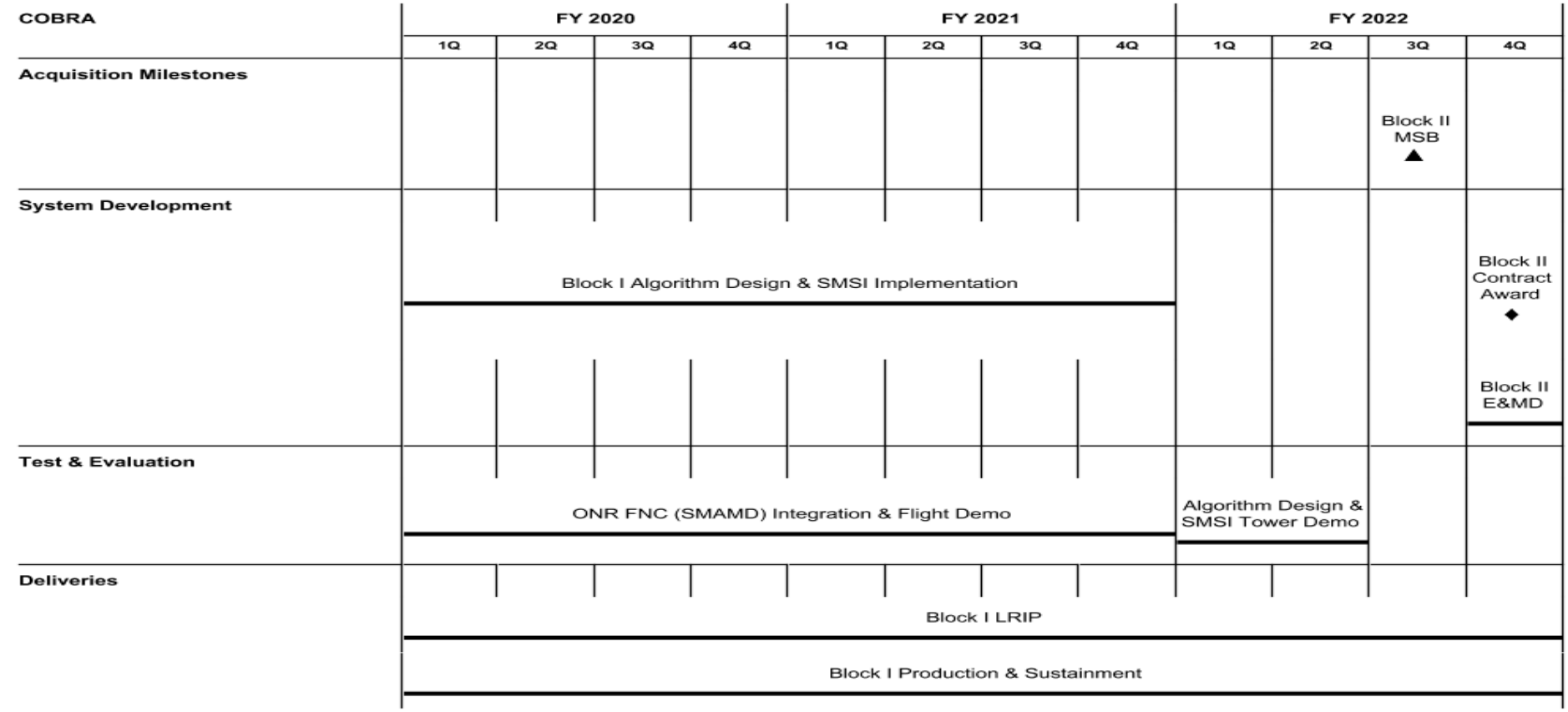

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 2131 / *Assault Breaching System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
COBRA				
Acquisition Milestones: Block II Milestone B	3	2022	3	2022
System Development: Block I Algorithm Design & SMSI Implementation	1	2020	4	2021
System Development: Block II Contract Award	4	2022	4	2022
System Development: Block II Engineering & Manufacturing Development	4	2022	4	2022
Test & Evaluation: Block I Algorithm Design & SMSI Tower Demonstration	1	2022	2	2022
Test & Evaluation: ONR FNC (SMAMD) Integration & Flight Demonstration	1	2020	4	2021
Deliveries: Block I Production	1	2020	4	2022
Deliveries: Block I Production and Sustainment	1	2020	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604126N / *Airborne Mine Countermeasures*	Project (Number/Name) 9999 / *Congressional Adds*	

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
9999: *Congressional Adds*	0.000	2.894	3.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

COBRA conducts Intelligence Surveillance Reconnaissance and Targeting (ISR/T). This system, which consists of two COBRA Airborne Payloads (CAPS) and one Post Mission Analysis (PMA) station, provides Coastal Mine Reconnaissance (CMR) capability. Block I is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the Beach Zone (BZ) and has on-board real-time processing. Block II capability adds an active illuminator sensor that enables nighttime detection of mines and obstacles in the
BZ and the Surf Zone (SZ) (0-10 ft of water). COBRA consists of a modular payload architecture that is integrated onto the MQ-8 Fire Scout, other vessels of opportunity, and in it's expeditionary configuration, from the shore. COBRA will serve in the CMR mission module for the SZ and BZ in the Littoral Combat Ship (LCS) Mine Countermeasures (MCM) Mission Package.
FY20 Congressional increase of $2.894M to support acceleration of the COBRA program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021
Congressional Add: Coastal battlefield reconnaissance and analysis system ***FY 2020 Accomplishments:*** N/A ***FY 2021 Plans:*** N/A	2.894	0.000
Congressional Add: Coastal Battlefield Reconnaissance and Analysis ***FY 2020 Accomplishments:*** N/A ***FY 2021 Plans:*** Tasking continues to focus on sensor technology maturation, accelerate hardware development, and prepare for flight demonstrations.	0.000	3.000
Congressional Adds Subtotals	2.894	3.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 9999 / *Congressional Adds*

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
Hardware Integration	C/CPAF	ARETE : Tucson, AZ	0.000	2.744	Sep 2020	1.300	May 2021	0.000		-		0.000	-	-	-
Hardware Integration	WR	NSWC PCD : Panama City, FL	0.000	0.150	Sep 2020	0.000		0.000		-		0.000	-	-	-
		Subtotal	0.000	2.894		1.300		0.000		-		0.000	-	-	N/A

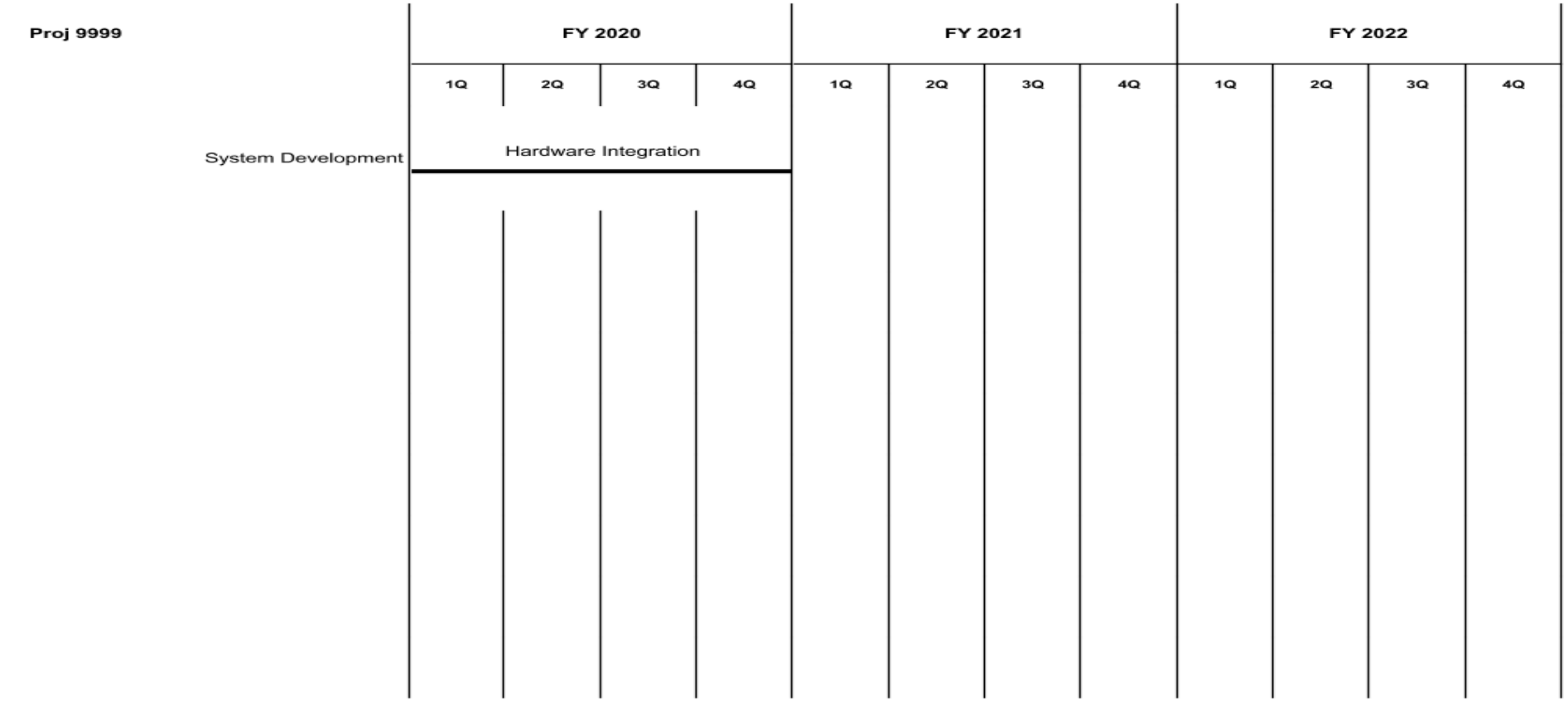
Test and Evaluation ($ in Millions)

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
Test and Evaluation	WR	NSWC PCD : Panama City, FL	0.000	0.000		1.700	Oct 2021	0.000		-		0.000	-	-	-
		Subtotal	0.000	0.000		1.700		0.000		-		0.000	-	-	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	2.894		3.000		0.000		-		0.000	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 9999 / *Congressional Adds*



2022PB - 0604126N - 9999

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604126N / *Airborne Mine Countermeasures*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
System Development: Block I Hardware Development	1	2020	4	2020