

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604126N / <i>Airborne Mine Countermeasures</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	73.532	29.118	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	102.650
2131: <i>Assault Breaching System</i>	73.532	29.118	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	102.650

A. Mission Description and Budget Item Justification

The Assault Breaching Systems (ABS) is a system of systems approach for the Marines to safely navigate breached boat lanes consisting of: 1) Coastal Battlefield Reconnaissance and Analysis (COBRA) mounted on the unmanned helicopter (MQ-8 Fire Scout) to detect mines and obstacles, where the detections are passed to supporting Mine Warfare Command, Control, Communications, Computers, and Intelligence (C4I) systems for mission planning and 2) the Joint Direct Attack Munitions (JDAM) Assault Breaching System (JABS) to breach the beach. ABS 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 (BZ) and Surf Zone (SZ) (0-10 ft water) and enables 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. COBRA, mounted on the MQ-8, is part of the Navy's Littoral Combat Ship (LCS) Mine Countermeasures Mission Package (MCM MP) serving as the Coastal Mine Reconnaissance (CMR) capability for the BZ.

JABS is a fielded munitions system that neutralizes surface mines and obstacles in the BZ and SZ. COBRA conducts Intelligence Surveillance Reconnaissance and Targeting (ISR/T). COBRA consists of two major subsystems: a COBRA Airborne Payload Subsystem (CAPS) mounted on the MQ-8, one Post Mission Analysis (PMA) station (land based) and an additional CAPS for redundancy; 1 COBRA system = 2 CAPS and 1 PMA station. COBRA Block I is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the BZ and has on-board real-time processing. COBRA consists of a modular payload architecture integrated onto the MQ-8 Fire Scout that can be employed from other vessels of opportunity, and in its expeditionary (shore) configuration.

As of 2017, COBRA was fully integrated with the MQ-8B Fire Scout variant. In Q4 FY 2022, the MQ-8B was retired. Integration of COBRA Block I sensor with the unmanned helicopter (MQ-8C) began in Q1 FY 2023.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	30.240	0.000	0.000	-	0.000
Current President's Budget	29.118	0.000	0.000	-	0.000
Total Adjustments	-1.122	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.122	0.000			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604126N / <i>Airborne Mine Countermeasures</i>	
<u>Change Summary Explanation</u> FY 2023 reflects a net decrease of \$1,122K for SBIR assessments. FY 2024 no adjustments. FY 2025 no adjustments.		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy **Date:** March 2024

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 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
2131: Assault Breaching System	73.532	29.118	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	102.650
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Assault Breaching Systems (ABS) is a system of systems approach for the Marines to safely navigate breached boat lanes consisting of: 1) Coastal Battlefield Reconnaissance and Analysis (COBRA) mounted on the unmanned helicopter (MQ-8 Fire Scout) to detect mines and obstacles, where the detections are passed to supporting Mine Warfare Command, Control, Communications, Computers, and Intelligence (C4I) systems for mission planning and 2) the Joint Direct Attack Munitions (JDAM) Assault Breaching System (JABS) to breach the beach. ABS 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 (BZ) and Surf Zone (SZ) (0-10 ft water) and enables 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. COBRA, mounted on the MQ-8, is part of the Navy's Littoral Combat Ship (LCS) Mine Countermeasures Mission Package (MCM MP) serving as the Coastal Mine Reconnaissance (CMR) capability for the BZ.

JABS is a fielded munitions system that neutralizes surface mines and obstacles in the BZ and SZ. COBRA conducts Intelligence Surveillance Reconnaissance and Targeting (ISR/T). COBRA consists of two major subsystems: a COBRA Airborne Payload Subsystem (CAPS) mounted on the MQ-8, one Post Mission Analysis (PMA) station (land based) and an additional CAPS for redundancy; 1 COBRA system = 2 CAPS and 1 PMA station. COBRA Block I is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the BZ and has on-board real-time processing. COBRA consists of a modular payload architecture integrated onto the MQ-8 Fire Scout that can be employed from other vessels of opportunity, and in its expeditionary (shore) configuration.

As of 2017, COBRA was fully integrated with the MQ-8B Fire Scout variant. In Q4 FY 2022, the MQ-8B retired, and integration of COBRA Block I sensor with the unmanned helicopter (MQ-8C) began in Q1 FY 2023.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Product Development	11.822	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2024 Plans: N/A					
FY 2025 Base Plans: N/A					
FY 2025 OCO Plans:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy				Date: March 2024		
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 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A						
Title: Technical Support		4.955	0.000	0.000	0.000	0.000
		Articles:	-	-	-	-
FY 2024 Plans: N/A						
FY 2025 Base Plans: N/A						
FY 2025 OCO Plans: N/A						
Title: Test and Evaluation		8.708	0.000	0.000	0.000	0.000
		Articles:	-	-	-	-
FY 2024 Plans: N/A						
FY 2025 Base Plans: N/A						
FY 2025 OCO Plans: N/A						
Title: Management		3.633	0.000	0.000	0.000	0.000
		Articles:	-	-	-	-
FY 2024 Plans: N/A						
FY 2025 Base Plans: N/A						
FY 2025 OCO Plans: N/A						
Accomplishments/Planned Programs Subtotals		29.118	0.000	0.000	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604126N / Airborne Mine Countermeasures	Project (Number/Name) 2131 / Assault Breaching System

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

COBRA Block I achieved Initial Operating Capability (IOC) in 2017. The COBRA program's original strategy was to use Evolutionary Acquisition to introduce additional COBRA capabilities through Incremental ("Block") Development. Three increments (or Blocks) of development were planned to meet the mine line and minefield detection requirements in the Very Shallow Water (VSW) and the near surface region of the Shallow Water (SW) and Deep Water (DW). Additionally, COBRA Block I Upgrades facilitated hardware development to reduce program technical risk by maturing sensor technology in alignment with the Incremental ("Block") development approach. The retirement of the MQ-8B prompted COBRA Block I integration onto the MQ-8C. The integration contract was awarded to Arete Associates in FY 2021 and will complete in FY 2028.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

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)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Primary Hardware Dev, COBRA Block I	C/CPFF	Arete : Tucson, AZ	19.554	0.000		0.000		0.000		-		0.000	0.000	19.554	-
Design and Development, COBRA Block I Upgrades	C/CPFF	Arete : Tucson, AZ	7.626	0.000		0.000		0.000		-		0.000	0.000	7.626	-
Design and Development, COBRA Algorithm Development	Various	JHU/APL : Columbia, MD	2.160	1.300	Apr 2023	0.000		0.000		-		0.000	0.000	3.460	-
Systems Engineering, COBRA Block I	WR	NSWC, PC : Panama City, FL	5.758	1.038	Nov 2022	0.000		0.000		-		0.000	0.000	6.796	-
Modeling and Simulation, JABS	WR	NSWC, IH : Indian Head, MD	1.153	0.406	Nov 2022	0.000		0.000		-		0.000	0.000	1.559	-
JABS IPT/Test Assets	WR	NSWC, PC : Panama City, FL	0.760	0.000		0.000		0.000		-		0.000	0.000	0.760	-
Design and Development, COBRA Block I Payload Integration	WR	NAVAIR : Patuxent River, MD	0.000	0.455	Jun 2023	0.000		0.000		-		0.000	0.000	0.455	-
Design and Development, COBRA Block I Payload Integration	C/CPFF	Arete, Northrop Grumman : AZ, CA	0.000	8.623	Jul 2023	0.000		0.000		-		0.000	0.000	8.623	-
Subtotal			37.011	11.822		0.000		0.000		-		0.000	0.000	48.833	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support, COBRA Block I	WR	NSWC, PC : Panama City, FL	4.652	3.487	Nov 2022	0.000		0.000		-		0.000	0.000	8.139	-
Integrated Logistics Support, COBRA Block I	WR	NSWC PC : Panama City, FL	0.870	0.783	Nov 2022	0.000		0.000		-		0.000	0.000	1.653	-
Configuration Management, COBRA Block I	WR	NSWC, PC : Panama City, FL	0.821	0.685	Nov 2022	0.000		0.000		-		0.000	0.000	1.506	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 4				PE 0604126N / Airborne Mine Countermeasures				2131 / Assault Breaching System							
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analysis, JABS	WR	NSWC, IH : Indian Head, MD	1.339	0.000		0.000		0.000		-		0.000	0.000	1.339	-
Subtotal			7.682	4.955		0.000		0.000		-		0.000	0.000	12.637	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	(JABS) NSWC, IH : Indian Head, MD	4.678	1.006	Oct 2022	0.000		0.000		-		0.000	0.000	5.684	-
Developmental Test & Evaluation (DT&E)	WR	(COBRA) NSWC, PC : Panama City, FL	2.180	2.650	Dec 2022	0.000		0.000		-		0.000	0.000	4.830	-
Developmental Test & Evaluation (DT&E)	WR	(JABS) : Various	2.239	1.082	Oct 2022	0.000		0.000		-		0.000	0.000	3.321	-
Developmental Test & Evaluation (DT&E)	WR	(COBRA) NAVAIR : Patuxent River, MD	12.649	3.970	Aug 2023	0.000		0.000		-		0.000	0.000	16.619	-
Subtotal			21.746	8.708		0.000		0.000		-		0.000	0.000	30.454	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	BAH : DC	0.851	3.633	Dec 2022	0.000		0.000		-		0.000	0.000	4.484	-
Government Engineering Support, JABS	WR	NSWC, IH : Indian Head, MD	2.935	0.000		0.000		0.000		-		0.000	0.000	2.935	-
Program Management Support, JABS	WR	NSWC, IH : Indian Head, MD	2.969	0.000		0.000		0.000		-		0.000	0.000	2.969	-
Travel	WR	NAVSEA : WNY, DC	0.338	0.000		0.000		0.000		-		0.000	0.000	0.338	-
Subtotal			7.093	3.633		0.000		0.000		-		0.000	0.000	10.726	N/A

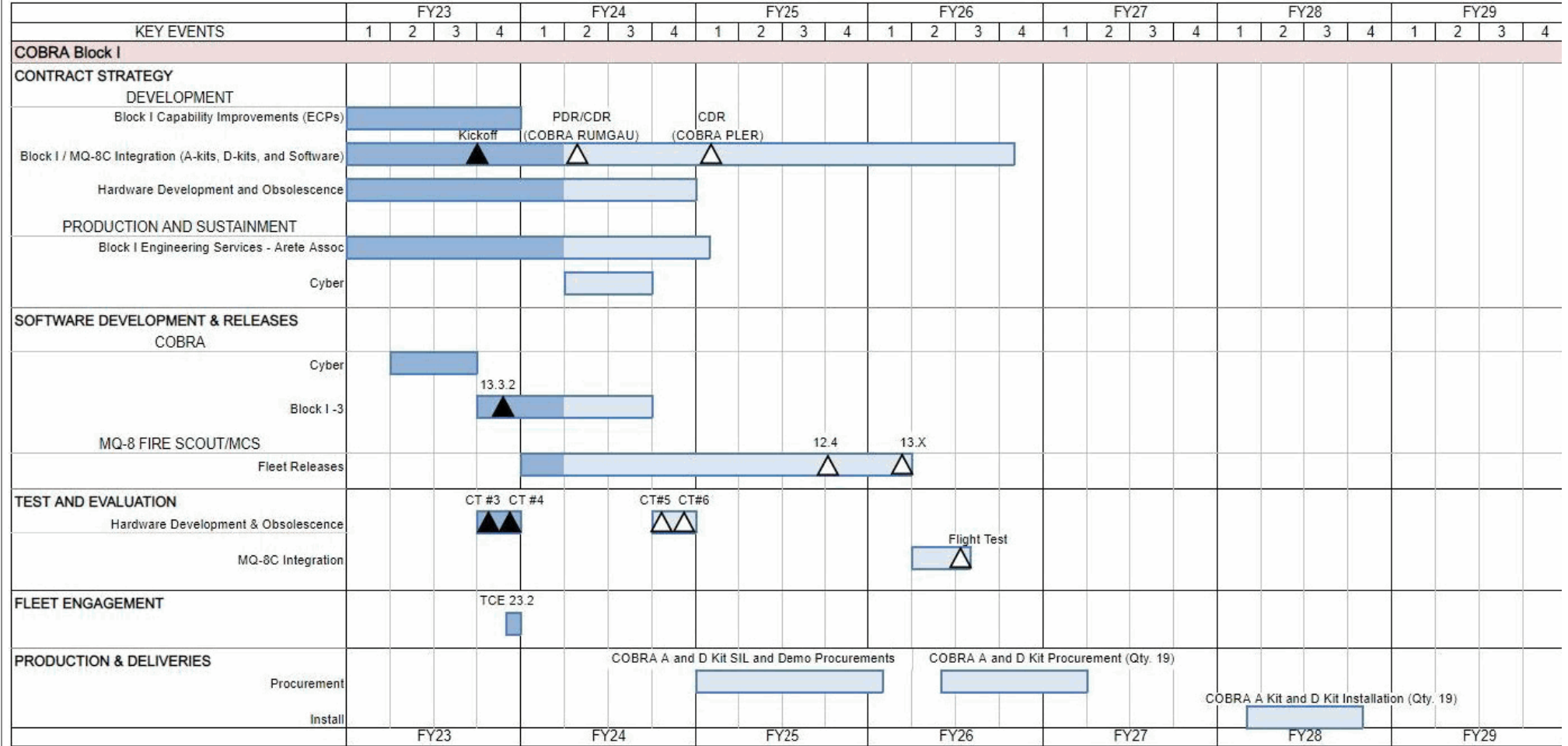
UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy							Date: March 2024					
Appropriation/Budget Activity 1319 / 4				R-1 Program Element (Number/Name) PE 0604126N / Airborne Mine Countermeasures				Project (Number/Name) 2131 / Assault Breaching System				
	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract			
Project Cost Totals	73.532	29.118	0.000	0.000	-	0.000	0.000	102.650	N/A			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604126N / Airborne Mine Countermeasures	Project (Number/Name) 2131 / Assault Breaching System



UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604126N / <i>Airborne Mine Countermeasures</i>	Project (Number/Name) 2131 / <i>Assault Breaching System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
COBRA BLOCK I				
Development: Capability Improvements (ECPs)	1	2023	4	2023
Development: COBRA Block I / MQ-8C Integration	1	2023	4	2026
Development: COBRA Block I / MQ-8C Integration PDR/CDR	4	2023	4	2023
Development: COBRA Block I / MQ-8C Integration CDR (COBRA RUMGAU)	1	2024	1	2024
Development: COBRA Block I / MQ-8C Integration CDR (COBRA PLER)	1	2025	1	2025
Production & Sustainment: Hardware Development & Obsolescence	1	2023	4	2024
Production & Sustainment: Block I Engineering, Production, and Sustainment	1	2023	1	2025
Production & Sustainment: COBRA Block I: Cyber 3	2	2024	3	2024
Software Development & Releases: COBRA Block I: Cyber 2	2	2023	3	2023
Software Development & Releases: COBRA Block I: 13.3.X	4	2023	3	2025
Software Development & Releases: COBRA Block I: 13.3.2 Fleet Release	4	2023	4	2023
Software Development & Releases: MQ-8 Fire Scout/MCS	1	2024	1	2026
Software Development & Releases: MQ-8 Fire Scout/MCS: 12.4 Fleet Release	4	2025	4	2025
Software Development & Releases: MQ-8 Fire Scout/MCS: 13.X Fleet Release	1	2026	1	2026
Test & Evaluation: Hardware Development & Obsolescence Contractor Flight Test #3	4	2023	4	2023
Test & Evaluation: Hardware Development & Obsolescence Contractor Flight Test #4	4	2023	4	2023
Test & Evaluation: Hardware Development & Obsolescence Contractor Flight Test #5	4	2024	4	2024
Test & Evaluation: Hardware Development & Obsolescence Contractor Flight Test #6	4	2024	4	2024
Test & Evaluation: MQ-8C Integration Flight Test	2	2026	3	2026
Fleet Engagement: Technical Concept Experiment (TCE) 23.2	4	2023	4	2023
Production & Deliveries: COBRA A and D Kit SIL and Demo Procurements	1	2025	1	2026

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604126N / <i>Airborne Mine Countermeasures</i>	Project (Number/Name) 2131 / <i>Assault Breaching System</i>
--	--	--

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production & Deliveries: COBRA A and D Kit Hardware Procurement PLER Configuration (Qty. 19)	2	2026	1	2027
Production & Deliveries: COBRA A and D Kit Installation (Qty. 19)	1	2028	4	2028