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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605180N / <i>TACAMO MODERNIZATION</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	48.644	502.493	213.743	-	213.743	797.539	752.677	350.379	459.828	Continuing	Continuing
3259: <i>TACAMO Recap</i>	0.000	48.644	502.493	213.743	-	213.743	797.539	752.677	350.379	459.828	Continuing	Continuing

A. Mission Description and Budget Item Justification

The E-6 Take Charge and Move Out (TACAMO) Recapitalization Program (E-XX) provides for air vehicle replacement and mission systems modernization to augment and eventually replace the aging E-6B aircraft for the TACAMO mission. The TACAMO mission provides an airborne capability for survivable, enduring and reliable airborne command, control and communications between the United States (U.S.) National Command Authority (NCA) and the U.S. strategic forces. This mission is critical in the deterrence and management of a nuclear conflict. A dedicated communications platform, TACAMO aircraft feature the ability to communicate on virtually every radio frequency band from very low frequency (VLF) up through advanced extremely high frequency (AEHF) using a variety of modulations, encryptions and networks, minimizing the likelihood an emergency message being jammed by an enemy. Continued effort is needed to perform modeling and simulation, requirements refinement, contract development, technical evaluations and non-recurring engineering. Funding is for requirements development, modernization of mission systems, reducing integration risk on aircraft, increasing reliability and maintainability, cyber resilience, procurement of test assets, secure program facilities and Engineering & Manufacturing Development (EMD) contract development for Milestone B (MSB) program initiation decision.

B. Program Change Summary (\$ in Millions)

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	50.592	554.193	753.077	-	753.077
Current President's Budget	48.644	502.493	213.743	-	213.743
Total Adjustments	-1.948	-51.700	-539.334	-	-539.334
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-51.700			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.948	0.000			
• Program Adjustments	0.000	0.000	-542.496	-	-542.496
• Rate/Misc Adjustments	0.000	0.000	3.162	-	3.162

Change Summary Explanation

FY 2024 has been reduced by \$539.3M since the previous President's budget submission for the following adjustments:

Reduction of \$400.8M due to EMD contract award moving to FY25 after technical discovery necessitated longer proposal period, reduction of \$141.7M to support P-691 MILCON effort and increase of \$3.2M for other miscellaneous/rate adjustments.

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Schedule: The R4 schedule has been updated to reflect the current program schedule.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605180N / TACAMO MODERNIZATION				Project (Number/Name) 3259 / TACAMO Recap			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3259: TACAMO Recap	0.000	48.644	502.493	213.743	-	213.743	797.539	752.677	350.379	459.828	Continuing	Continuing
Quantity of RDT&E Articles		-	3	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The E-6 Take Charge and Move Out (TACAMO) Recapitalization Program (E-XX) provides for air vehicle replacement and mission systems modernization to augment and eventually replace the aging E-6B aircraft for the TACAMO mission. The TACAMO mission provides an airborne capability for survivable, enduring and reliable airborne command, control and communications between the United States (U.S.) National Command Authority (NCA) and the U.S. strategic forces. This mission is critical in the deterrence and management of a nuclear conflict. A dedicated communications platform, TACAMO aircraft feature the ability to communicate on virtually every radio frequency band from very low frequency (VLF) up through advanced extremely high frequency (AEHF) using a variety of modulations, encryptions and networks, minimizing the likelihood an emergency message being jammed by an enemy. Continued effort is needed to perform modeling and simulation, requirements refinement, contract development, technical evaluations and non-recurring engineering. Funding is for requirements development, modernization of mission systems, reducing integration risk on aircraft, increasing reliability and maintainability, cyber resilience, procurement of test assets, secure program facilities and Engineering & Manufacturing Development (EMD) contract development for Milestone B (MSB) program initiation decision.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Product Development	21.083	450.077	160.174	0.000	160.174
Articles:	-	3	-	-	-
FY 2023 Plans: Fully fund three airframe test assets (quantity moved from FY 2022 to FY 2023 in FY 2023 request). One aircraft is for Air Vehicle testing and two aircraft are for mission systems testing, allowing simultaneous mission system, flight and ground test, and correction of deficiencies. Test airframe procurement will include all E-XX peculiar parts. FY 2023 will continue funding for VLF development, airframe modification, and engineering contracts and will begin funding government furnished equipment (GFE) for mission system integration.					
FY 2024 Base Plans: FY 2024 will continue funding for VLF development, airframe modification, engineering contracts, and EMD contract development.					
Airframe HW Development is for additional initial spares for test assets procured in FY2023.					
Air Vehicle Integration comprises non-recurring engineering (NRE) to continue the development and testing necessary for design changes and modifications to the C-130J-30 baseline configuration and the test aircraft.					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>This includes power generation systems, cooling, flight deck avionics, Electric Magnetic Pulse (EMP) hardening, cyber hardening, and structural modifications to support integration of E-XX mission system equipment.</p> <p>Very Low Frequency (VLF) Hardware Development includes modernization of legacy E-6B High Power Transmit System power amplifier and trailing wire antenna assemblie hardware for increased performance, reliability and maintainability, reduced weight and volume, and lower life cycle costs.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY2023 to FY 2024 Airframe Hardware Development decrease due to all three C-130J-30 test assets being fully funded in FY 2023.</p>					
<p>Title: Program Management and Support</p> <p align="right">Articles:</p> <p>FY 2023 Plans: Funding provided to support the increased need for technical expertise and support for development efforts of VLF system modernization, airframe modification design, mission systems integration, program management, engineering and logistics tasks for E-XX technical and programmatic reviews to prepare for Milestone B in fourth quarter of FY 2023 and parallel competitive EMD contract development and subsequent award in first quarter of FY 2024.</p> <p>FY 2024 Base Plans: Funding provided to support the need for technical expertise and support for development efforts of mission systems, VLF system modernization, airframe modification design, mission systems integration, program management, engineering, test, training, and logistics tasks for E-XX technical and programmatic reviews in preparation for Preliminary Design Review (PDR) and Critical Design Review (CDR).</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 increase due to inflation factors.</p>	27.561	52.416	53.569	0.000	53.569
	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	48.644	502.493	213.743	0.000	213.743

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

N/A

Remarks

D. Acquisition Strategy

Research, Development, Test & Evaluation, Navy (RDT&E N) Project Unit 3259 funds E-XX Program requirements for analyses, requirements development, test asset procurement (C-130J-30 aircraft), Airframe/VLF NRE contracts, and EMD contract. The mission concept of operations, system capability requirements, and material solution will continue design maturation per the acquisition strategy and the continued program life cycle cost estimates in support of program milestone decision reviews. Execution of NRE contracts for Airframe and VLF continue. EMD Mission Systems Integration awards in first quarter FY 2025 with Preliminary Design Review (PDR) and Critical Design Review (CDR) soon after award.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Primary HW Development - Airframe	C/FPIF	Lockheed Martin : Marietta, GA	0.000	0.000		343.287	Mar 2023	12.215	Jan 2024	-		12.215	Continuing	Continuing	Continuing
Primary HW Development - Air Vehicle Integration	C/CPFF	Lockheed Martin : Marietta, GA	0.000	11.796	Mar 2022	59.206	Mar 2023	76.732	Nov 2023	-		76.732	Continuing	Continuing	Continuing
Primary HW Development - VLF	C/CPFF	Collins Aerospace : Richardson, TX	0.000	9.287	Feb 2022	47.584	Nov 2022	71.227	Nov 2023	-		71.227	Continuing	Continuing	Continuing
Subtotal			0.000	21.083		450.077		160.174		-		160.174	Continuing	Continuing	N/A

Remarks
 FY 2024 Airframe Hardware Development includes additional spares needed to support the test aircraft.

FY 2024 Air Vehicle Hardware Development comprises non-recurring engineering (NRE) to continue development and testing necessary for design changes and modifications to the C-130J-30 baseline configuration and the test aircraft. This includes power generation systems, cooling, flight deck avionics, EMP hardening, cyber hardening, and structural modifications to support integration of E-XX mission system equipment.

FY 2024 Very Low Frequency (VLF) Hardware Development increases modernization of legacy E-6B High Power Transmit System power amplifier and trailing wire antenna assemblies hardware for increased performance, reliability and maintainability, reduced weight and volume, and lower life cycle costs.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Development Support	WR	NAWCAD : Patuxent River	0.000	2.489	Nov 2021	11.145	Nov 2022	11.390	Nov 2023	-		11.390	Continuing	Continuing	Continuing
Development Support	Various	Various : Various	0.000	4.814	Nov 2021	8.648	Nov 2022	8.838	Nov 2023	-		8.838	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	NAWCAD : Patuxent River	0.000	2.096	Nov 2021	4.411	Nov 2022	4.508	Nov 2023	-		4.508	Continuing	Continuing	Continuing
Integrated Logistics Support CSS	Various	Various : Various	0.000	0.520	Nov 2021	2.372	Nov 2022	2.424	Nov 2023	-		2.424	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWCAD : Patuxent River, MD	0.000	9.657	Nov 2021	12.942	Nov 2022	13.227	Nov 2023	-		13.227	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWCTSD : Orlando, Florida	0.000	0.815	Nov 2021	0.801	Nov 2022	0.819	Nov 2023	-		0.819	Continuing	Continuing	Continuing

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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Contractor Engineering Support	Various	Various : Various	0.000	0.389	Nov 2021	1.139	Nov 2022	1.164	Nov 2023	-		1.164	Continuing	Continuing	Continuing
Subtotal			0.000	20.780		41.458		42.370		-		42.370	Continuing	Continuing	N/A

Remarks
Support is necessary for MSB efforts that must be completed in FY2024 to support major EMD contract award scheduled for first quarter FY2025.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Pax River, MD.	0.000	1.445	Nov 2021	2.086	Nov 2022	2.132	Nov 2023	-		2.132	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	COMOPTEVFOR : Norfolk, VA	0.000	0.117	Nov 2021	0.314	Nov 2022	0.321	Nov 2023	-		0.321	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	0.000	0.260	Nov 2021	0.265	Nov 2023	0.271	Nov 2023	-		0.271	0.000	0.796	-
Subtotal			0.000	1.822		2.665		2.724		-		2.724	Continuing	Continuing	N/A

Remarks
Test and Evaluation (T&E) support growth is necessary for MSB efforts that must be completed in FY2024 to support major EMD contract award scheduled for first quarter FY2025.

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Government Engineering Support	WR	NAWCAD : Patuxent River, MD	0.000	0.835	Nov 2021	2.500	Nov 2022	2.555	Nov 2023	-		2.555	Continuing	Continuing	Continuing
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.000	2.088	Nov 2021	3.538	Nov 2022	3.616	Nov 2023	-		3.616	Continuing	Continuing	Continuing

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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Program Management Support	C/CPFF	Davis Defense Group : Patuxent River, MD	0.000	1.994	Nov 2021	2.062	Nov 2022	2.107	Nov 2023	-		2.107	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.000	0.042	Oct 2021	0.193	Oct 2022	0.197	Oct 2023	-		0.197	Continuing	Continuing	Continuing
Subtotal			0.000	4.959		8.293		8.475		-		8.475	Continuing	Continuing	N/A

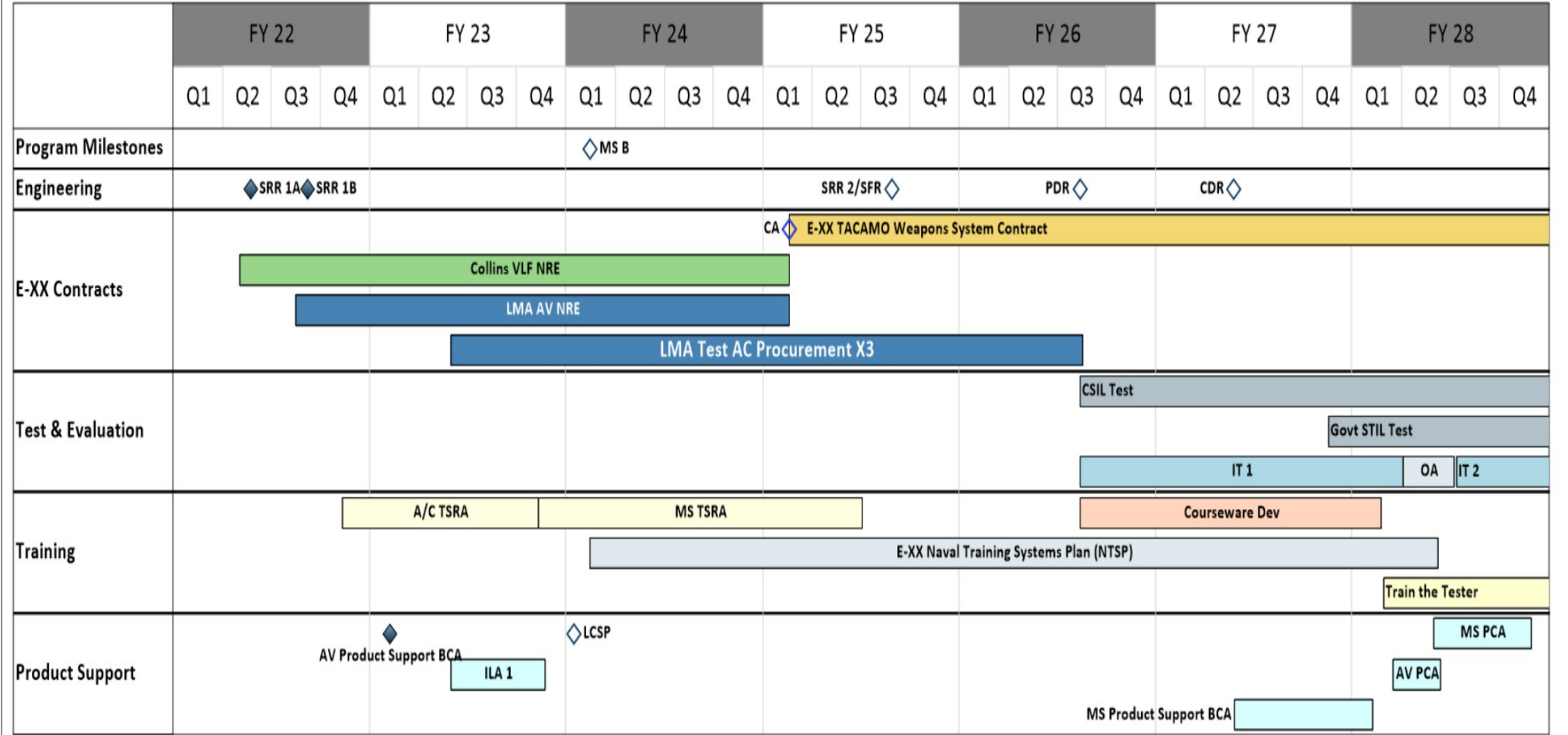
Remarks
Program Management support is necessary for MSB efforts that must be completed in FY2024 to support major EMD contract award scheduled for first quarter FY 2025.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	48.644	502.493	213.743	-	213.743	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605180N / TACAMO MODERNIZATI ON	Project (Number/Name) 3259 / TACAMO Recap



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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605180N / TACAMO MODERNIZATI ON	Project (Number/Name) 3259 / TACAMO Recap

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3259				
Acquisition Milestones & Program Management: Milestone B	1	2024	1	2024
Engineering: System Requirements Review-1A	2	2022	2	2022
Engineering: System Requirements Review-1B	3	2022	3	2022
Engineering: System Requirements Review 2/System Function Review	3	2025	3	2025
Engineering: Preliminary Design Review (PDR) (date: Controlled Unclassified Information)	3	2026	3	2026
Engineering: Critical Design Review (CDR) (date: Controlled Unclassified Information)	2	2027	2	2027
Contracts: Very Low Frequency Non-Recurring Engineering	2	2022	1	2025
Contracts: Air Vehicle Non-Recurring Engineering	3	2022	1	2025
Contracts: Airframe test assets, including C-130J (x3)	2	2023	3	2026
Contracts: TACAMO Weapons System Contract	1	2025	4	2028
Test & Evaluation: CSIL Test	3	2026	4	2028
Test & Evaluation: Government STIL Test	4	2027	4	2028
Test & Evaluation: IT 1	3	2026	1	2028
Test & Evaluation: OA	2	2028	2	2028
Test & Evaluation: IT 2	3	2028	4	2028
Training: A/C TSRA	4	2022	4	2023
Training: MS TSRA	4	2023	2	2025
Training: Naval Training Systems Plan (NTSP)	4	2024	4	2028
Training: Courseware Development	3	2026	1	2028
Training: Train the Tester	1	2028	4	2028

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605180N / TACAMO MODERNIZATI ON	Project (Number/Name) 3259 / TACAMO Recap
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Product Support: Air Vehicle Product Support Baseline Configuration Audit (BCA)	1	2023	1	2023
Product Support: Integrated Logistics Assessment-1	2	2023	4	2023
Product Support: LCSP	1	2024	1	2024
Product Support: Mission System Product Support BCA	2	2027	1	2028
Product Support: Air Vehicle Physical Configuration Audit (PCA)	1	2028	2	2028
Product Support: Mission System PCA	2	2028	4	2028