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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604378N / <i>Nav Integrated Fire Control - Counter Air Sys E</i>
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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	300.670	41.929	50.233	45.892	-	45.892	51.770	50.614	50.193	50.925	Continuing	Continuing
3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i>	292.016	36.030	35.051	36.181	-	36.181	42.331	41.215	40.820	41.417	Continuing	Continuing
3242: <i>NIFC-CA Supported by Airborne Platforms</i>	8.654	5.899	8.682	9.711	-	9.711	9.439	9.399	9.373	9.508	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	0.000	6.500	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.500

Note

The FY 2023 funding request was reduced by \$3.091 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

3159 Naval Integrated Fire Control (NIFC) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Integrated Air and Missile Defense battlespace out to the maximum kinematic range of our weapons for the air, surface, and strike warfare missions. This includes targets beyond the detection range of the shooter. The NIFC project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates them together, and performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize future defense capabilities. As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) family of kill chains which includes an elevated sensor, platform, fire control system, and missile, along with introducing other networks and sensors coordinating with other DOD activities as appropriate. Along with executing NIFC Inc 2 developmental test & fielding the SEIT supports the design of the current kill chain and system configuration and architectures. Future NIFC efforts (e.g. NIFC Inc 3) includes SEIT activities across a broad range of systems and architectures.

3242 Naval Integrated Fire Control (NIFC) From the Air (FTA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to integrate NIFC FTA capabilities within "Pillar Programs" (F/A-18 & EA-18G, E-2D, F-35, Link-16 and Tactical Targeting Network Technology Data Links, and all USN air launched Air-to-Air and Air-to-Surface weapons). Based on the advancing threat, there remains an imperative to improve lethality, survivability and interoperability by extending the battlespace out to the maximum kinematic range of our weapons for the air, surface, and strike warfare missions. The NIFC FTA project leverages capabilities inherent in existing systems, optimizes current and emerging technologies in platform system upgrades, and integrates them together to form interoperable System of Systems (SoS) to maximize offensive and defensive FTA integrated capabilities. As directed from OPNAV, the project is focused on development of Air Warfare, Surface Warfare, and Strike Warfare FTA effects chains. This PU will support efforts that include decomposing SoS requirements into Mission Technical Baselines (MTBs) and Integrated Capability Technical Baselines (ICTBs) for requirement allocation to Pillar Programs. Additionally, this PU will support NIFC pillar program coordination to provide performance predictions, performance assessments, and SoS risk reduction activities through Live, Virtual, and Constructive (LVC) events, SoS exercises, and development of Requirements Test and Verification Matrices (RTVMs) to support Developmental and Operational Test for the individual platforms. In lieu of a traditional

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Test and Evaluation Master Plan (TEMP), NIFC FTA test strategies will be developed to identify resources required to evaluate NIFC FTA capabilities, and describe how NIFC FTA capabilities will be evaluated prior to fleet delivery.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	41.992	46.121	0.000	-	0.000
Current President's Budget	41.929	50.233	45.892	-	45.892
Total Adjustments	-0.063	4.112	45.892	-	45.892
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.388			
• Congressional Rescissions	-	-			
• Congressional Adds	-	6.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.063	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	-	-	45.892	-	45.892

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Stratospheric balloons*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2021	FY 2022
	0.000	6.500
	0.000	6.500
	0.000	6.500

Change Summary Explanation

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

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E				Project (Number/Name) 3159 / Naval Integrated Fire Control- Counter Air SE&I			
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
3159: Naval Integrated Fire Control-Counter Air SE&I	292.016	36.030	35.051	36.181	-	36.181	42.331	41.215	40.820	41.417	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

3159 Naval Integrated Fire Control (NIFC) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Integrated Air and Missile Defense battlespace out to the maximum kinematic range of our weapons for the air, surface, and strike warfare missions. This includes targets beyond the detection range of the shooter. The NIFC project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates and performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize capabilities. As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) family of kill chains which includes an elevated sensor, platform, fire control system and missile, along with introducing other networks and sensors coordinating with other DoD activities as appropriate. Along with executing NIFC Inc 2 developmental test & fielding, the SEIT supports the design of the current kill chain and system configuration and architectures. Future NIFC efforts (e.g. NIFC Inc 3) includes SEIT activities across a broad range of systems and architectures.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Integration and Test (I&T) Integrated Product Team (IPT)	16.610	15.374	16.125	0.000	16.125
Articles:	-	-	-	-	-
Description: The Integration and Test (I&T) Integrated Product Team (IPT) develops and executes the test plan to assess the FTS operational capability, performs risk reduction testing leveraging various component system tests. Test data will be used over time to verify, validate, and accredit the FTS simulation federation.					
FY 2022 Plans: - Execute Test Events in FY22: battlespace assessment, (Non-Fire) At Sea event, Land Based and At Sea Live Fire event. Systems engineering and integration efforts for NIFC Inc 3 capability demonstration, LFT Land Based Test event for FY23. - Systems engineering and integration efforts for NIFC Inc 3 events: At Sea Non Fire and Live Fire events for FY23.					
FY 2023 Base Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
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- Execute Test Events in FY23: Land based capability demonstrations (Non-Fire), and two At Sea events, Live Fire events.
 - Systems engineering and integration efforts for NIFC Inc 3 capability demonstrations: LFT Land Based and /or At Sea Test event for FY24.

FY 2023 OCO Plans:
N/A

FY 2022 to FY 2023 Increase/Decrease Statement:
Increase of \$0.751M from FY22 to FY23 resulted from an Under Execution adjustment in FY22 for Issue 22116 Total Force Manpower Savings.

Title: Engineering Management And System Definition	19.420	19.677	20.056	0.000	20.056
Articles:	-	-	-	-	-
<p>Description: Engineering management and system definition including the development of the Systems Performance Document (SPD), System of Systems (SoS) functional allocations, requirements, traceability, SoS trades studies, SoS information exchange requirements, interface specifications, and sensor network capability analysis. Provides for complete FTS kill chain performance analysis and interface verification through development of a federation of simulations provided directly from the Programs of Record (PORs). Programs of Record include an elevated sensor, fire control system, platform and missile, as well as an expanding set of sensors and networks. NIFC-FTS Increment 3 adds multiple new sensors, networks, and weapons to the kill chain including Tactical Air Support (TACAIR) integration, (Electronic Warfare), and Battle management development and improvement.</p> <p>Federated SoS simulations support architecture development, scenario development, predictive analysis for testing, and define capabilities and limitations of FTS kill chain performance analysis and interface verification through development of a federation of simulations provided directly from the FTS PORs and future enhancements. Federated SoS simulations support architecture development, scenario development, predictive analysis for testing, and define capabilities and limitations of FTS kill chain for deployment.</p> <p>FY 2022 Plans: - System of systems (SOS) activities for Inc 3 advanced kill chains developing system documents as described above</p>					

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
for increased sensor and network participation to meet fleet needs in support of warfighting in complex Naval environments - Continue Modeling and Simulations (M&S) for Evaluation of advanced concepts utilizing other networks and sensors. - System of systems (SOS) activities for Inc 3 advanced kill chains developing system documents as described above for increased sensor and network participation to meet fleet needs in support of warfighting in complex Naval environments. FY 2023 Base Plans: - System of systems (SOS) activities for Inc 3 advanced kill chains developing system documents as described above for increased sensor and network participation to meet fleet needs in support of warfighting in complex Naval environments - Continue Modeling and Simulations (M&S) for evaluation of advanced concepts utilizing other networks and sensors. - System of systems (SOS) activities for Inc 3 advanced kill chains developing system documents as described above for increased sensor and network participation to meet fleet needs in support of warfighting in complex Naval environments FY 2023 OCO Plans: N/A FY 2022 to FY 2023 Increase/Decrease Statement: Increase of \$0.379M from FY22 to FY23 resulted from an Under Execution adjustment in FY22 for Issue 22116 Total Force Manpower Savings.					
Accomplishments/Planned Programs Subtotals	36.030	35.051	36.181	0.000	36.181

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
• 0604366N: Standard Missile SM-6	3.260	3.031	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	Continuing

Remarks

D. Acquisition Strategy
Not Applicable

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3159 / Naval Integrated Fire Control- Counter Air SE&I
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Systems Engineering	Various	Various : Various	55.798	4.506	Dec 2020	3.947	Dec 2021	4.000	Dec 2022	-		4.000	0.000	68.251	-
Systems Engineering	C/CPFF	JHU/APL : Laurel, MD	6.400	2.594	Dec 2020	2.704	Oct 2021	2.200	Dec 2022	-		2.200	0.000	13.898	-
Systems Engineering	C/CPFF	NGIS : Melbourne, FL	8.653	0.000		0.000		0.600	Dec 2022	-		0.600	0.000	9.253	-
Systems Engineering	C/CPFF	LM MS2 : Moorestown, NJ	63.959	4.352	Dec 2020	4.852	Oct 2021	5.170	Nov 2022	-		5.170	0.000	78.333	-
Systems Engineering	C/CPFF	Raytheon Co. : St. Petersburg, FL	16.141	0.370	Dec 2020	0.370	Oct 2021	0.560	Nov 2022	-		0.560	0.000	17.441	-
Systems Engineering	WR	NSWC CRANE : Crane, IN	0.745	2.003	Dec 2020	2.003	Dec 2021	2.450	Dec 2022	-		2.450	0.000	7.201	-
Systems Engineering	WR	NAWC CHINA LAKE : China Lake, CA	3.323	0.000		0.000		0.000		-		0.000	0.000	3.323	-
Systems Engineering	WR	COTF : Norfolk, VA	0.785	0.000		0.000		0.000		-		0.000	0.000	0.785	-
Systems Engineering	WR	NAWC Pax River : Pax River, MD	3.295	0.000	Dec 2020	0.100	Oct 2021	0.000		-		0.000	0.000	3.395	-
Systems Engineering	WR	NSWC DAHLGREN : Dahlgren, VA	1.054	3.156	Oct 2020	3.262	Oct 2021	2.638	Oct 2022	-		2.638	0.000	10.110	-
Systems Engineering	C/CPFF	Raytheon Co. : Tucson, AZ	0.508	0.546	Dec 2020	0.546	Oct 2021	0.545	Dec 2022	-		0.545	0.000	2.145	-
Subtotal			160.661	17.527		17.784		18.163		-		18.163	0.000	214.135	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Integration and Test	C/CPFF	Raytheon : St. Petersburg, FL	8.145	0.250	Dec 2020	0.250	Oct 2021	0.850	Oct 2022	-		0.850	0.000	9.495	-
Integration and Test	WR	COTF : Norfolk, VA	0.013	0.000		0.000		0.000		-		0.000	0.000	0.013	-

UNCLASSIFIED

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Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E				3159 / Naval Integrated Fire Control-Counter Air SE&I							
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Integration and Test	C/BA	Wallops Island : Wallops Island, VA	0.247	0.013	Dec 2020	0.013	Oct 2021	0.013	Oct 2022	-		0.013	0.000	0.286	-
Integration and Test	WR	NAWC AD : Pax River, MD	0.733	0.000		0.000		0.000		-		0.000	0.000	0.733	-
Integration and Test	WR	NAWC CHINA LAKE : China Lake, CA	1.460	0.000		0.000		0.500	Oct 2022	-		0.500	0.000	1.960	-
Integration and Test	WR	NAWC Pax River : Pax River, MD	1.165	0.080	Dec 2020	0.080	Dec 2021	0.000		-		0.000	0.000	1.325	-
Integration and Test	C/BA	NSWC/DAHLGREN : DAHLGREN, VA	0.662	0.460	Dec 2020	0.460	Oct 2021	0.000		-		0.000	0.000	1.582	-
Integration and Test	C/CPFF	Lockheed Martin - Moorestown, NJ : Moorestown, NJ	29.007	3.379	Dec 2020	3.385	Oct 2021	3.289	Oct 2022	-		3.289	Continuing	Continuing	Continuing
Integration and Test	WR	PT MUGU : PT Mugu, CA	10.109	1.357	Oct 2020	0.000	Oct 2021	2.093	Oct 2022	-		2.093	0.000	13.559	-
Integration and Test	Various	Various : Various	50.504	4.031	Oct 2020	1.946	Oct 2021	2.250	Oct 2022	-		2.250	Continuing	Continuing	Continuing
Integration and Test	MIPR	Dept of Interior : Boise, ID	3.198	0.850	Oct 2020	0.000	Dec 2021	0.450	Dec 2022	-		0.450	0.000	4.498	-
Integration and Test	WR	NSWC/PHD : Port Hueneme, CA	3.585	5.034	Oct 2020	5.034	Oct 2021	4.170	Oct 2022	-		4.170	Continuing	Continuing	Continuing
Integration and Test	WR	NIWC : San Diego, CA	0.066	0.000		0.000		0.000		-		0.000	0.000	0.066	-
Integration and Test	C/CPFF	JHU/APL : Laurel, MD	0.000	0.556	Oct 2020	0.556	Oct 2021	0.550	Oct 2022	-		0.550	0.000	1.662	-
Integration and Test	WR	NSWC CRANE : Crane, IN	0.000	0.600	Oct 2020	0.600	Oct 2021	0.980	Oct 2022	-		0.980	0.000	2.180	-
Integration and Test	WR	NIWC San Diego : San Diego, CA	0.000	0.000		0.292	Dec 2021	0.300	Dec 2022	-		0.300	0.000	0.592	-
Integration and Test	C/CPFF	Northrop Grumman : Melbourne, FL	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3159 / Naval Integrated Fire Control- Counter Air SE&I

NIFC FTS Planning Schedule



RELATED PROGRAMS

Capability	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27
	INC 2 IOC	★			INC 3 IOC	★	
NIFC Project Activity							
WSMR Desert Ship Upgrade and Maintenance	ACB 16 INCO / HW REFRESH	C2P Refresh	Install of Virtualized Aegis MAINTAIN CONFIGS & IA				
NIFC Capability Demonstrations 2 LFTs & 1 Capability Demo (CD), Per Year; CD = Non-LFT (INC 2/2+/3)	Non-LFT 4 At Sea	LFT 8 At Sea @PMRF	LFT 10 At Sea	LFT 4 At Sea	LFT 1 At Sea	LFT 5 At Sea	LFT 8 At Sea
Sensor Updates Delta System/Software Configuration (DSSC)	DSSC-3	DSSC-4		DSSC-5			
CEC AN/USG-3B E-2D CEC AN/USG-2B AWS CEC Updates				BLK 2 IOC		BLK 2 FOC	
AEGIS Weapon System ACB-16	Aegis CSL 10 Combat System Cert			TACAIR NOT FUNDED			
SM-6 Blk IA			FOC	TACAIR Phase 2.1	TACAIR Phase 2.2	TACAIR Phase 2.37 Cert	
USMC G/ATOR				IOC ★			

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3159 / Naval Integrated Fire Control- Counter Air SE&I

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3159				
NIFC PROJECT ACTIVITY: CAPABILITY: INC 2 IOC	2	2022	2	2022
NIFC PROJECT ACTIVITY: CAPABILITY: INC 3 IOC	1	2026	1	2026
White Sands Missile Range (WSMR): White Sands Missile Range (WSMR) Desert Ship Upgrade and Maintenance Development: C2P Refresh 22	2	2022	4	2022
White Sands Missile Range (WSMR): White Sands Missile Range (WSMR) Desert Ship Upgrade and Maintenance Development: Install of Virtualized AEGIS	4	2024	4	2024
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Capability Demo, LFT 4/21	3	2021	3	2021
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Test 8/21	4	2021	4	2021
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Test 10/22	1	2022	1	2022
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA At-sea Test 4/22	3	2022	3	2022
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA LFT Capability Demo 9/22	4	2022	4	2022
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA LFT Capability Demo 1/23	2	2023	2	2023
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 5/23	3	2023	3	2023
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 8/23	4	2023	4	2023
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Test: LFT 1/24	2	2024	2	2024
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA At Sea Capability Demo 5/24	3	2024	3	2024

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy **Date:** April 2022

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 8/24	4	2024	4	2024
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA LFT Capability Demo: 1/25	2	2025	2	2025
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 5/25	3	2025	3	2025
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 8/25	4	2025	4	2025
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Test: LFT 1/26	2	2026	2	2026
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 5/26	3	2026	3	2026
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA At- Sea Capability Demo: 8/26	4	2026	4	2026
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA LFT Capability Demo: 1/27	2	2027	2	2027
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 5/27	3	2027	3	2027
ACB 16 With SM-6Blk 1A Live Fire Tests: ACB-16 with SM-6 Blk IA Live Fire Tests: At Sea 8/27	4	2027	4	2027
Elevated Sensor Updates Delta System/Software Configuration (DSSC): E-2D Updates Delta System/Software Configuration (DSSC) 3	1	2021	1	2021
Elevated Sensor Updates Delta System/Software Configuration (DSSC): E-2D Updates Delta System/Software Configuration (DSSC): DSSC-4	3	2022	3	2022
Elevated Sensor Updates Delta System/Software Configuration (DSSC): E-2D Updates DSSC -5 On-Going	1	2023	4	2024
SM-6 Blk 1 & SM-6 Blk 1A: CEC Updates On-Going Block 2 IOC	4	2024	4	2024
SM-6 Blk 1 & SM-6 Blk 1A: CEC Updates: Block 2 FOC	4	2026	4	2026

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy **Date:** April 2022

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SM-6 Blk 1 & SM-6 Blk 1A: AEGIS Weapon System ACB-16: TACAIR Phase I Cert	4	2026	4	2026
SM-6 Blk 1 & SM-6 Blk 1A: AEGIS Weapon System ACB-16: CSL Combat System Load Cert	4	2023	4	2023
SM-6 Blk 1 & SM-6 Blk 1A: SM-6 Blk IA: FOC	4	2022	4	2022
SM-6 Blk 1 & SM-6 Blk 1A: CAPABILITY: USMC G/ATOR Integration	4	2024	4	2024

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E				Project (Number/Name) 3242 / NIFC-CA Supported by Airborne Platforms			
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
3242: NIFC-CA Supported by Airborne Platforms	8.654	5.899	8.682	9.711	-	9.711	9.439	9.399	9.373	9.508	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Naval Integrated Fire Control (NIFC) From the Air (FTA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to integrate NIFC FTA capabilities within "Pillar Programs" (F/A-18 & EA-18G, E-2D, F-35, Link-16 and Tactical Targeting Network Technology Data Links, and all USN air launched Air-to-Air and Air-to-Surface weapons). Based on the advancing threat, there remains an imperative to improve lethality, survivability and interoperability by extending the battlespace out to the maximum kinematic range of our weapons for the air, surface, and strike warfare missions. The NIFC FTA project leverages capabilities inherent in existing systems, optimizes current and emerging technologies in platform system upgrades, and integrates them together to form interoperable System of Systems (SoS) to maximize offensive and defensive FTA integrated capabilities. As directed from OPNAV, the project is focused on development of Air Warfare, Surface Warfare, and Strike Warfare FTA effects chains. This PU will support efforts that include decomposing SoS requirements into Mission Technical Baselines (MTBs) and Integrated Capability Technical Baselines (ICTBs) for requirement allocation to Pillar Programs. Additionally, this PU will support NIFC pillar program coordination to provide performance predictions, performance assessments, and SoS risk reduction activities through Live, Virtual, and Constructive (LVC) events, SoS exercises, and development of Requirements Test and Verification Matrices (RTVMs) to support Developmental and Operational Test for the individual platforms. In lieu of a traditional Test and Evaluation Master Plan (TEMP), NIFC FTA test strategies will be developed to identify resources required to evaluate NIFC FTA capabilities, and describe how NIFC FTA capabilities will be evaluated prior to fleet delivery.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: NIFC From the Air (FTA) Capabilities Effectiveness and Integration	5.899	8.682	9.711	0.000	9.711
Articles:	-	-	-	-	-
Description: Develops and executes multi-platform cross-domain offensive and defensive kinematic and non-kinematic effects chains.					
FY 2022 Plans: Continue NIFC FTA System of Systems (SoS) verification and validation testing of F/A-18 H16, F-35, and E-2D DSSC 4 / 5 with increased capabilities of USN air launched Air-to-Air and Air-to-Surface weapons, integration of Tactical Targeting Network Technology (TTNT), and enhancements to Link-16. Evaluate and assess integrated fires interoperability and performance across air platforms and weapons by the utilization of federated labs. These labs will utilize a combination of Live Virtual Constructive (LVC) capabilities to identify issues, and provide recommendations for corrections. Development of mission Requirements Test and Verification					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022				
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3242 / NIFC-CA Supported by Airborne Platforms				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>Matrices (RTVMs) to provide definition to Developmental Test and Operational Test within the individual platforms. Development of Integrated Technical Capability Baselines (ICTBs) and Design Reference Missions (DRMs) to inform architecture development and system definition of the F/A-18 H18/H20, E-2D DSSC 6/7, and continued F-35 improvements. Execute performance assessments, interoperability risk reduction for advanced Integrated Fire Control (IFC), and employment recommendations across the NIFC pillar programs to maximize effectiveness when introduced to the Fleet.</p> <p>FY 2023 Base Plans: Continue NIFC FTA System of Systems (SoS) verification and validation testing of F/A-18 H16, F-35, and E-2D DSSC 4 / 5 with increased capabilities of USN air launched Air-to-Air and Air-to-Surface weapons, integration of Tactical Targeting Network Technology (TTNT), and enhancements to Link-16. Evaluate and assess integrated fires interoperability and performance across air platforms and weapons by the utilization of federated labs. These labs will utilize a combination of Live Virtual Constructive (LVC) capabilities to identify issues, and provide recommendations for corrections. Development of mission Requirements Test and Verification Matrices (RTVMs) to provide definition to Developmental Test and Operational Test within the individual platforms. Development of Integrated Technical Capability Baselines (ICTBs) and Design Reference Missions (DRMs) to inform architecture development and system definition of the F/A-18 H18/H20, E-2D DSSC 6/7, and continued F-35 improvements. Execute performance assessments, interoperability risk reduction for advanced Integrated Fire Control (IFC), and employment recommendations across the NIFC pillar programs to maximize effectiveness when introduced to the Fleet.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p>						

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy	Date: April 2022
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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3242 / NIFC-CA Supported by Airborne Platforms
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
The FY23 increase of \$1.029 (11.9%) from FY22 is due to increased prime contractor support for scheduled events supporting Integration and Test for E-2D DSSC 4/5.					
Accomplishments/Planned Programs Subtotals	5.899	8.682	9.711	0.000	9.711

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

N/A

Remarks

D. Acquisition Strategy

Not Applicable.

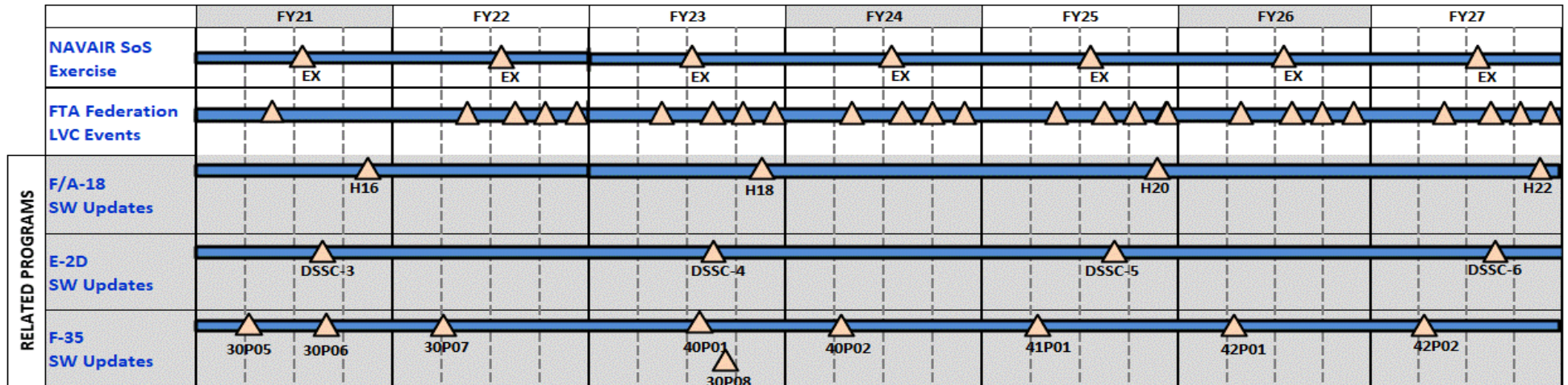
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E				3242 / NIFC-CA Supported by Airborne Platforms							
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
SYSTEM ENGINEERING	WR	NAWC AD : PAX RIVER, MD	2.289	1.776	Oct 2020	1.885	Oct 2021	1.912	Oct 2022	-		1.912	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	NAWC CHINA LAKE : CHINA LAKE, CA	1.512	1.422	Oct 2020	1.539	Oct 2021	1.700	Oct 2022	-		1.700	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	C/CPFF	NSMA : WASHINGTO, DC	1.993	0.775	Nov 2020	0.900	Nov 2021	0.800	Nov 2022	-		0.800	0.000	4.468	-
Subtotal			5.794	3.973		4.324		4.412		-		4.412	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
INTEGRATION AND TEST	WR	NAWC AD : PAX RIVER, MD	0.916	0.389	Oct 2020	1.105	Oct 2021	1.007	Oct 2022	-		1.007	Continuing	Continuing	Continuing
INTEGRATION AND TEST	WR	NAWC CHINA LAKE : CHINA LAKE, CA	0.768	0.603	Oct 2020	0.697	Oct 2021	0.701	Oct 2022	-		0.701	Continuing	Continuing	Continuing
INTEGRATION AND TEST	C/CPFF	NSMA : WASHINGTON, DC	0.723	0.562	Nov 2020	1.882	Dec 2021	2.911	Dec 2022	-		2.911	0.000	6.078	-
Subtotal			2.407	1.554		3.684		4.619		-		4.619	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
PROJECT PLANNING AND MANAGEMENT	WR	NAWC AD : PAX RIVER, MD	0.317	0.233	Oct 2020	0.414	Oct 2021	0.420	Oct 2022	-		0.420	Continuing	Continuing	Continuing
PROJECT PLANNING AND MANAGEMENT	WR	NAWC CHINA LAKE : CHINA LAKE, CA	0.120	0.129	Oct 2020	0.235	Oct 2021	0.250	Oct 2022	-		0.250	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3242 / NIFC-CA Supported by Airborne Platforms

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NIFC FTA Planning Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3242 / NIFC-CA Supported by Airborne Platforms

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3242				
NAVAIR SoS Exercise 3/21	3	2021	3	2021
NAVAIR SoS Exercise 3/22	3	2022	3	2022
NAVAIR SoS Exercise 3/23	3	2023	3	2023
NAVAIR SoS Exercise 3/24	3	2024	3	2024
NAVAIR SoS Exercise 3/25	3	2025	3	2025
NAVAIR SoS Exercise 3/26	3	2026	3	2026
NAVAIR SoS Exercise 3/27	3	2027	3	2027
FTA Federation LVC Event 9	2	2021	2	2021
FTA Federation LVC Event 10	3	2021	3	2021
FTA Federation LVC Event 11	4	2021	4	2021
FTA Federation LVC Event 12	4	2021	4	2021
FTA Federation LVC Event 13	2	2022	2	2022
FTA Federation LVC Event 14	3	2022	3	2022
FTA Federation LVC Event 15	4	2022	4	2022
FTA Federation LVC Event 16	4	2022	4	2022
FTA Federation LVC Event 17	2	2023	2	2023
FTA Federation LVC Event 18	3	2023	3	2023
FTA Federation LVC Event 19	4	2023	4	2023
FTA Federation LVC Event 20	4	2023	4	2023
FTA Federation LVC Event 21	2	2024	2	2024
FTA Federation LVC Event 22	3	2024	3	2024

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3242 / NIFC-CA Supported by Airborne Platforms
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
FTA Federation LVC Event 23	4	2024	4	2024
FTA Federation LVC Event 24	4	2024	4	2024
FTA Federation LVC Event 25	2	2025	2	2025
FTA Federation LVC Event 26	3	2025	3	2025
FTA Federation LVC Event 27	4	2025	4	2025
FTA Federation LVC Event 28	4	2025	4	2025
FTA Federation LVC Event 29	2	2026	2	2026
FTA Federation LVC Event 30	3	2026	3	2026
FTA Federation LVC Event 31	4	2026	4	2026
FTA Federation LVC Event 32	4	2026	4	2026
FTA Federation LVC Event 33	2	2027	2	2027
FTA Federation LVC Event 34	3	2027	3	2027
FTA Federation LVC Event 35	4	2027	4	2027
FTA Federation LVC Event 36	4	2027	4	2027
F/A-18 SW Updates H16	4	2021	4	2021
F/A-18 SW Updates H18	4	2023	4	2023
F/A-18 SW Updates H20	4	2025	4	2025
F/A-18 SW Updates H22	4	2027	4	2027
E-2D SW Updates DSSC-3	3	2021	3	2021
E-2D SW Updates DSSC-4	3	2023	3	2023
E-2D SW Updates DSSC-5	3	2025	3	2025
E-2D SW Updates DSSC-6	3	2027	3	2027
F-35 SW Updates 30P05	2	2021	2	2021
F-35 SW Updates 30P06	3	2021	3	2021
F-35 SW Updates 30P07	2	2022	2	2022

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 3242 / NIFC-CA Supported by Airborne Platforms
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
F-35 SW Updates 40P01	3	2023	3	2023
F-35 SW Updates 30P08	4	2023	4	2023
F-35 SW Updates 40P02	2	2024	2	2024
F-35 SW Updates 41P01	2	2025	2	2025
F-35 SW Updates 42P01	2	2026	2	2026
F-35 SW Updates 42P02	2	2027	2	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 9999 / Congressional Adds
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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
9999: <i>Congressional Adds</i>	0.000	0.000	6.500	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.500
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Congressional Interest Items not included in other Projects.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022
<i>Congressional Add:</i> Stratospheric balloons	0.000	6.500
<i>FY 2021 Accomplishments:</i> N/A		
<i>FY 2022 Plans:</i> FY22 funding will be utilized by the Naval Air Systems Command (NAVAIR), in operational partnership with the U.S. Pacific Fleet, for technology maturation and risk reduction of expanded stratospheric concepts involving the Thunderhead Balloon System platform, additional payloads, and associated interfaces. These efforts are designed with the goal of maturing concepts to expand stratospheric capability as the Navy enters into a Program of Record (PoR) in Fiscal Year 2023.		
Congressional Adds Subtotals	0.000	6.500

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 9999 / Congressional Adds
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
TBD	C/BA	TBD : Not Specified	0.000	0.000		6.500	Jun 2022	0.000		-		0.000	0.000	6.500	-
Subtotal			0.000	0.000		6.500		0.000		-		0.000	0.000	6.500	N/A

Remarks
TBD

	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	0.000	0.000	6.500	0.000	-	0.000	0.000	6.500	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 9999 / Congressional Adds
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Proj 9999	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Stratospheric Balloons																																

2023PB - 0604378N - 9999

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / Nav Integrated Fire Control - Counter Air Sys E	Project (Number/Name) 9999 / Congressional Adds

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9999				
Stratospheric Balloons: Stratospheric Balloons	3	2022	4	2023