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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 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0605516M / <i>LONG RANGE FIRES</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	54.373	85.073	36.693	36.763	-	36.763	3.921	2.234	0.000	0.000	0.000	219.057
6638: <i>Long Range Fires</i>	54.373	85.073	36.693	36.763	-	36.763	3.921	2.234	0.000	0.000	0.000	219.057

A. Mission Description and Budget Item Justification

Consistent with the National Defense Strategy direction to increase capacity of long-range, precision weapons, the Long Range Fire (LRF) capability will provide Combatant Commanders with the ability to employ an agile, mobile, land-based system, capable of launching Tomahawk cruise missiles to complement surface and sub-surface launched missiles. The Marine Corps plans to incorporate three Long-Range Missile batteries into the Fleet Marine Force starting in FY 2025. The LRF weapon system will consist of a ROGUE-Fires carrier (same design as the Marine Corps NMESIS carrier), integrated with a single cell MK-41 vertical launch system launcher (a similar configuration to those employed by the US Navy) for the employment of a encanistered Tomahawk missile, and Tactical Tomahawk Weapons Control System.

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	88.479	36.693	22.071	-	22.071
Current President's Budget	85.073	36.693	36.763	-	36.763
Total Adjustments	-3.406	0.000	14.692	-	14.692
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.406	0.000			
• Program Adjustments	0.000	0.000	14.692	-	14.692
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

Change Summary Explanation

The net increase of \$0.070M from FY 2023 to FY 2024 reflects a decrease in launcher and Tactical Tomahawk Weapons Control System (TTWCs) development and increase in operational testing for the Joint Guided Flight Test (JFT).

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0605516M / LONG RANGE FIRES				Project (Number/Name) 6638 / Long Range Fires			
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
6638: Long Range Fires	54.373	85.073	36.693	36.763	-	36.763	3.921	2.234	0.000	0.000	0.000	219.057
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY 2023, LRF continued Tactical Tomahawk Weapons Control System (TTWCS) software development efforts, initiated an Extended User Evaluation (EUE), initiated mobility testing, and began an Operation Assessment.

In FY 2024, LRF continues EUE and mobility testing as well as conducting Shipboard Suitability Testing (SST), Electromagnetic Environmental Effects (E3), signature testing, and a Joint Flight Test with the Navy.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: 6638 Long Range Fires	85.073	36.693	36.763	0.000	36.763
Articles:	-	-	-	-	-
FY 2023 Plans:					
- Continued launcher and carrier development to incorporate test fixes as well as complete analysis for training, cyber, and safety					
- Continued development of the reload/resupply system					
- Continued development and testing of the TTWCS modifications to enable ground launch capabilities					
- Initiated EUE					
- Conducted Operational Assessment (OA)					
- Initiated mobility testing for launcher, reload/resupply, and C2 systems					
- Began preparations for Ship Suitability Testing (SST)					
FY 2024 Base Plans:					
- Continue launcher and carrier development to incorporate test fixes					
- Continue development and testing of the reload/resupply system					
- Continue EUE					
- Conduct E3 and signature testing					
- Conduct SST					
- Conduct Joint Guided Flight Test (JFT) in coordination with the US Navy					
- Conduct mobility and transportability testing for launcher, reload/resupply, and C2 systems					
FY 2024 OCO Plans:					

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0605516M / LONG RANGE FIRES	Project (Number/Name) 6638 / Long Range Fires

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A					
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> The net increase of \$0.070M from FY 2023 to FY 2024 reflects a decrease in launcher and TTWCs development and increase in operational testing for the JFT.					
Accomplishments/Planned Programs Subtotals	85.073	36.693	36.763	0.000	36.763

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/2212: <i>Artillery Weapons System</i>	221.347	143.808	165.268	-	165.268	302.261	361.454	296.097	163.386	Continuing	Continuing
• PMC/2101: <i>Tomahawk</i>	0.000	42.958	105.192	-	105.192	115.045	142.260	6.219	2.449	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Long Range Fires (LRF) program will support land and future maritime strike requirements and addresses capability gaps defined in the Joint Requirements Oversight Council approved Ground Based Anti-Ship Missile initial capability document. The system combines a ROGUE-Fires carrier integrated with a single cell MK41 Vertical Launching System (VLS) launcher and the necessary fire control systems. LRF was designated a Program of Record in September 2021, with a Milestone B in 3rd quarter FY 2022 and Milestone C in FY 2025. The Marine Corps is following a system of systems approach with major elements of LRF leveraged from existing Navy and Marine Corps programs. These include the Tomahawk missile, TTWCS, and VLS Launcher electronics. The Marine Corps program is focused on maturing the single cell launcher configuration, carrier, command and control system and resupply system to provide the Marine Corps an effective, sustainable expeditionary capability.

There are 6 major subsystems:

- 1) Launcher - The Marine Corps conducted a competitive source selection for development of the prototypes in FY 2021 to be used in FY 2022 developmental testing and a production contract awarded in FY 2022 for the PRMs needed for IOT&E in FY 2025.
- 2) Carrier - The ROGUE-Fires carrier was developed under a competitively awarded contract under the NMESIS program. A single production contract covers procurement of all carriers for both NMESIS and LRF starting in FY 2022.
- 3) TTWCS - The Navy is incorporating Army and Marine Corps ground requirements into the next TTWCS software baseline to create a common baseline for all services. As a result, all TTWCS contracting is being conducted and managed by the Navy as part of the TTWCS Program. TTWCS hardware is also purchased via the Navy.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy	Date: March 2023
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Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 4	PE 0605516M / <i>LONG RANGE FIRES</i>	6638 / <i>Long Range Fires</i>

4) Tomahawk Missile - All missile procurements are managed through the Navy under their contracts.

5) Reload/Resupply System - System design and test will be conducted in conjunction with the launcher development and production contract planned for incremental delivery in FY 2022 through FY 2024.

6) C2 System - System design and test will be conducted in conjunction with the launcher development and production contract planned for incremental delivery in FY 2022 through FY 2024.

Initial sustainment will rely on Contractor Logistics Support (CLS) for maintenance. Training on TTWCS will use the Navy courses and facilities.

The Marine Corps is leveraging other Service systems by using the existing Tomahawk missile along with MK41 launcher sub-systems, and the TTWCS. This solution is focused on reducing developmental risk through the reuse of qualified systems and early retirement of risks. The TTWCS modifications are being developed as a collaborative effort with the Army and Navy to generate a single TTWCS baseline for all services.

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0605516M / LONG RANGE FIRES	Project (Number/Name) 6638 / Long Range Fires
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Product Development (\$ 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			
Launcher Development	C/CPFF	DMEA : Lockheed Martin	12.454	9.741	Dec 2021	7.253	Jan 2023	6.043	Jan 2024	-		6.043	0.000	35.491	-
Prototype Launcher	C/CPFF	DMEA : Lockheed Martin	3.800	0.000		0.000		0.000		-		0.000	0.000	3.800	-
PRM Launcher	SS/CPFF	DMEA : Lockheed Martin	0.000	11.605	Jun 2022	0.000		0.000		-		0.000	0.000	11.605	-
Carrier Development	C/CPFF	Oshkosh : Oshkosh, WI	12.967	6.471	Dec 2021	0.467	Jan 2023	0.476	Jan 2024	-		0.476	0.000	20.381	-
Prototype Carrier	C/CPFF	Oshkosh : Oshkosh, WI	2.634	0.000	Oct 2022	0.000		0.000		-		0.000	0.000	2.634	-
PRM Carrier	SS/CPFF	Oshkosh : Oshkosh, WI	0.000	6.449	Oct 2022	0.000		0.000		-		0.000	0.000	6.449	-
Leader Kit	SS/CPFF	Oshkosh, WI : Oshkosh, WI	1.377	0.850	Oct 2022	0.000		0.000		-		0.000	0.000	2.227	-
Re-Supply System Development	C/CPFF	DMEA : Lockheed Martin	0.000	2.982	Feb 2022	1.548	Jan 2023	2.123	Jan 2024	-		2.123	0.000	6.653	-
TTWCS Development	C/CPFF	NAVAIR : Various	15.556	23.159	Dec 2021	10.765	Dec 2022	8.677	Dec 2023	-		8.677	0.000	58.157	-
TTWCS Hardware	C/CPFF	NAVAIR : Various	1.500	0.000		0.000		0.000		-		0.000	0.000	1.500	-
Subtotal			50.288	61.257		20.033		17.319		-		17.319	0.000	148.897	N/A

Remarks
The decrease from FY 2023 to FY 2024 reflects a reduction in developmental efforts as the program shifts to testing.

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			
Safety and Cyber Security/ IA	C/BA	various : various	0.661	1.327	Dec 2021	1.352	Dec 2022	1.861	Dec 2023	-		1.861	0.000	5.201	-
Subtotal			0.661	1.327		1.352		1.861		-		1.861	0.000	5.201	N/A

Remarks
The increase from FY 2023 to FY 2024 reflects safety and cyber efforts needed for testing.

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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)	Various	Various : Various	3.281	10.736	Dec 2021	11.580	Dec 2022	11.841	Dec 2023	-		11.841	0.000	37.438	-
Operational Test & Evaluation (OT&E)	Various	Various : Various	0.095	11.673	Dec 2021	3.628	Dec 2022	5.642	Dec 2023	-		5.642	0.000	21.038	-
Subtotal			3.376	22.409		15.208		17.483		-		17.483	0.000	58.476	N/A

Remarks
The increase from FY 2023 to FY 2024 is due to an increase of additional operational testing including the JFT. FY 2024 developmental testing includes: EUE and mobility testing, SST, E3, and signature testing.

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			
Travel	WR	MCSC : MCSC	0.048	0.080	Oct 2021	0.100	Nov 2022	0.100	Nov 2023	-		0.100	0.000	0.328	-
Subtotal			0.048	0.080		0.100		0.100		-		0.100	0.000	0.328	N/A

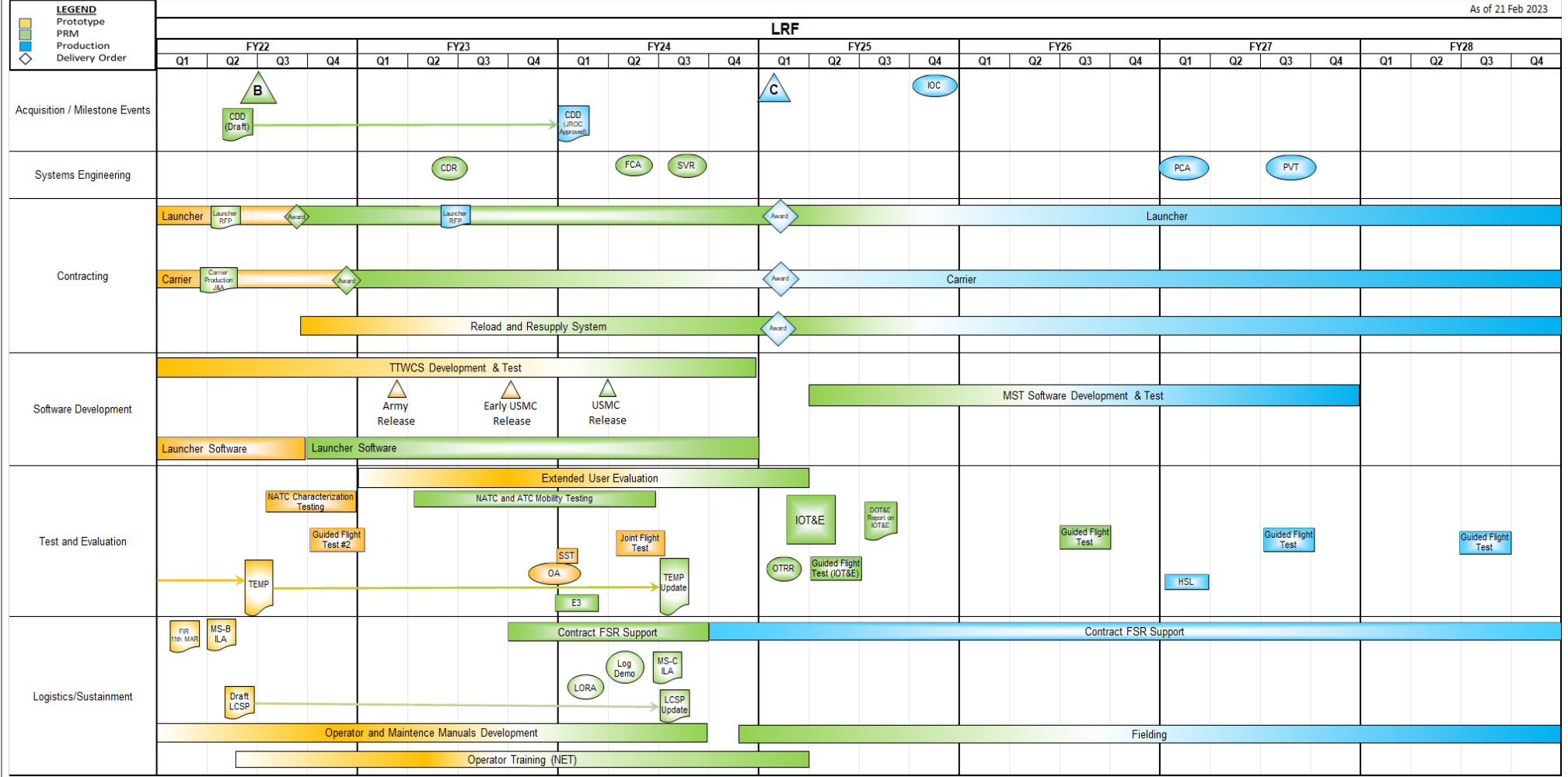
Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			54.373	85.073	36.693	36.763	-	36.763	0.000	212.902	N/A	

Remarks

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0605516M / LONG RANGE FIRES	Project (Number/Name) 6638 / Long Range Fires
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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0605516M / <i>LONG RANGE FIRES</i>	Project (Number/Name) 6638 / <i>Long Range Fires</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 6638</i>				
Milestone B	3	2022	3	2022
Launcher PRM Contract Award	3	2022	3	2022
Carrier PRM Contract Award	1	2023	1	2023
Operational Assesment (OA)	4	2023	1	2024
Extended User Evaluation (EUE)	1	2023	1	2025
Milestone C	1	2025	1	2025
IOT&E	1	2025	2	2025