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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604657M / (U)MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYST
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	20.085	33.784	-	33.784	4.986	0.000	0.000	0.000	0.000	58.855
7400: <i>Combat Capability Development Transition</i>	0.000	0.000	20.085	33.784	-	33.784	4.986	0.000	0.000	0.000	0.000	58.855

A. Mission Description and Budget Item Justification

Organic Precision Fires (OPF) is a tiered scalable weapon system that will provide Marines the ability to accurately attack and destroy targets throughout the battle space. OPF will provide a man portable and multiple vehicular mounted systems supporting multiple echelons within the Marine Air Ground Task Force (MAGTF). OPF will provide an organic fires capability that will increase lethality of the MAGTF, reduce collateral damage, and provide an affordable precision strike fire support system. The OPF will be an incremental acquisition program to develop and deliver ground and sea launched loitering munitions capable of destroying multiple target sets.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	0.000	22.000	20.000	-	20.000
Current President's Budget	0.000	20.085	33.784	-	33.784
Total Adjustments	0.000	-1.915	13.784	-	13.784
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.915			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.000	0.000	13.784	-	13.784

Change Summary Explanation

Increase of \$13.699M from FY20 to FY21 is due to the initiation of Increment II requirements for swarming and anti-ship capability enhancements.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604657M / (U)MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYST					Project (Number/Name) 7400 / Combat Capability Development Transition		
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
7400: <i>Combat Capability Development Transition</i>	0.000	0.000	20.085	33.784	-	33.784	4.986	0.000	0.000	0.000	0.000	58.855
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

In FY20 OPF transitions from the BA04/PE 0604320M/Project 9999 to BA05/PE 0604657M/Project 7400 (Combat Capability Development Transition) in order to align the efforts to the appropriate budget activity.

A. Mission Description and Budget Item Justification

Organic Precision Fires (OPF) is a tiered scalable weapon system that will provide Marines the ability to accurately attack and destroy targets throughout the battle space. OPF will provide a man portable and multiple platform mounted system supporting all echelons within the Marine Air Ground Task Force (MAGTF) and Marine Corps. OPF will provide an organic fires capability that will increase lethality of the MAGTF, reduce collateral damage, and provide an affordable precision strike fire support system. The acquisition approach focuses on developing a Government control system and interfaces to enable competitive procurement of munitions to meet varied operational requirements. New capabilities and munitions will be incremental releases. Increment I provides an extended user evaluation that will be delivered in three phases: Phase 1 is the competitive prototype development for Light Armored Vehicle (LAV) and Long-Range Unmanned Surface Vessels (LRUSV), Phase 2 will be a down selection to a single vendor and LAV integration, upon down select of INC I Phase 2, LRUSV OPF integration will transition to PE 0603635M, Phase 3 will be the LAV Extended User Evaluation (EUE). Increment II adds swarming, lethality and anti-ship enhancements to support improved LAV performance and deployment on the LRUSV.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Organic Precision Fires (OPF)	0.000	20.085	33.784	0.000	33.784
Articles:	-	-	-	-	-
FY 2020 Plans:					
- Competitively awarded four OPF Increment I Phase I development contracts.					
- Initiated development of government weapons platform and integration of vendor munition.					
- Initiated integration of OPF Command and Control system.					
- Initiated developmental testing and began safety and cybersecurity certifications.					
FY 2021 Base Plans:					
- Conduct Increment I Phase I demonstration for down select and award of Increment I Phase II.					
- Complete development of government weapons platform and integration of vendor munition.					

PE 0604657M: (U)MARINE CORPS GROUND COMBAT/
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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604657M / (U)MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYST	Project (Number/Name) 7400 / Combat Capability Development Transition

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
- Complete integration of OPF Command and Control system. - Complete developmental testing and a quick reaction assessment to obtain required certifications and authorizations to deploy the OPF LAV EUE. - Begin Increment II development of swarming and anti-ship capabilities to include increased autonomy, enhancements to the battery and power management system for increased range and loiter endurance, and targeting and target recognition capabilities. - Conduct Increment II C2 and software development and integration. FY 2021 OCO Plans: N/A FY 2020 to FY 2021 Increase/Decrease Statement: Increase of \$13.699M from FY20 to FY21 initiates Increment II requirements and conducts C2 and software development and integration for swarming and anti-ship capability enhancements including increased autonomy, range and loiter endurance, and targeting capabilities.					
Accomplishments/Planned Programs Subtotals	0.000	20.085	33.784	0.000	33.784

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/473300: <i>Organic Precision Fires</i>	0.000	0.000	0.000	-	0.000	20.000	27.000	27.000	27.540	0.000	101.540

Remarks

D. Acquisition Strategy
 The OPF will be an incremental acquisition program to develop and deliver ground and sea launched loitering munitions capable of destroying multiple target sets. This incremental strategy will allow the program office to competitively procure various munitions from multiple vendors over the life of the program in order to reduce procurement and life cycle costs. This approach will also enable the incremental fielding of new munitions and capabilities to support future operational requirements. The OPF will be a competitive Other Transaction Authority (OTA) for integration of a munition with a Government owned Command and Control System and mounted on a government provided weapons deck supporting numerous platforms.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604657M / (U)MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYST	Project (Number/Name) 7400 / Combat Capability Development Transition
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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
OPF Phase I INC I Development	C/FFP	Raytheon : Tucson, AZ	0.000	0.000		2.100	Jan 2020	0.000		-		0.000	0.000	2.100	-
OPF Phase I INC I Development	C/FFP	Aeroenvironment : Simi Valley CA	0.000	0.000		5.200	Jan 2020	0.000		-		0.000	0.000	5.200	-
OPF Phase I INC I Development	C/FFP	EFW : Fort Worth, TX	0.000	0.000		4.100	Jan 2020	0.000		-		0.000	0.000	4.100	-
OPF Phase I INC I Development	C/FFP	Mistral : Bethesda, MD	0.000	0.000		4.813	Jan 2020	0.000		-		0.000	0.000	4.813	-
OPF Phase II INC I Prototype Development	C/FFP	TBD : TBD	0.000	0.000		0.000		15.984	Dec 2020	-		15.984	0.000	15.984	-
OPF INC II SW Development	C/FFP	TBD : TBD	0.000	0.000		0.000		9.512	Nov 2020	-		9.512	0.000	9.512	-
Subtotal			0.000	0.000		16.213		25.496		-		25.496	0.000	41.709	N/A

Remarks

Develop the OPF capability to support the MAGTF

Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
OPF Engineering Support	MIPR	AvMC : Huntsville, AL	0.000	0.000		1.957	Jan 2020	1.984	Jan 2021	-		1.984	0.000	3.941	-
OPF INC II Software Integration	WR	NSWC : Indian Head, MD	0.000	0.000		0.000		1.840	Dec 2020	-		1.840	0.000	1.840	-
OPF INC II Software Engineering	WR	NSWC : Dahlgren, VA	0.000	0.000		0.000		1.240	Dec 2020	-		1.240	0.000	1.240	-
Subtotal			0.000	0.000		1.957		5.064		-		5.064	0.000	7.021	N/A

Remarks

Engineering, Information Assurance, and Safety Support

PE 0604657M: (U)MARINE CORPS GROUND COMBAT/SUPPORTING...

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Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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 C2 Testing	MIPR	AvMC : Huntsville, AL	0.000	0.000		1.915	Feb 2020	1.984	Jan 2021	-		1.984	0.000	3.899	-
Government SW Testing	MIPR	NSWC : Dahlgren, VA	0.000	0.000		0.000		1.240	Jan 2021	-		1.240	0.000	1.240	-
Subtotal			0.000	0.000		1.915		3.224		-		3.224	0.000	5.139	N/A

Remarks
Conduct developmental testing of OPF

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	20.085	33.784	-	33.784	0.000	53.869	N/A

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 7400				
OPF Inc I, Phase I	2	2020	1	2021
OPF Inc I, Phase I Demonstration	1	2021	1	2021
OPF Inc I, Phase II	2	2021	1	2022
OPF Inc II	1	2021	2	2022
OPF Inc I, Phase III	2	2022	1	2023