

# UNCLASSIFIED

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2020 Navy **Date:** March 2019

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604289M I (U) <i>Expeditionary Logistics</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	0.000	6.073	4.420	-	4.420	9.972	9.228	8.389	8.557	Continuing	Continuing
2741: <i>Additive Manufacturing</i>	0.000	0.000	6.073	1.971	-	1.971	5.018	4.270	3.430	3.499	Continuing	Continuing
2743: <i>Next Generation Logistics (NexLog)</i>	0.000	0.000	0.000	2.449	-	2.449	4.954	4.958	4.959	5.058	Continuing	Continuing

## **Note**

In FY 2019 efforts in this PE transferred from PE 0604286M.

## **A. Mission Description and Budget Item Justification**

This program element supports cost associated with the research and development of Marine Corps Systems Command policy, acquisition process modifications, and prototyping to support the USMC Additive Manufacturing (AM) Initiative under the direction of Deputy Commandant, Installations and Logistics (DC I&L).

The USMC Additive Manufacturing Initiative is an initiative intended to give Marine units access to additive manufacturing techniques to allow them the opportunity to exercise innovation in the resolution of issues affecting unit combat readiness. This PE will support of the development of procedures to enable the approval and manufacturing of items requested from Marines. This involves the development of Marine Corps Policy, an approval process, engineering analysis and testing, establishment of facilities to produce prototype additive manufactured parts and development of training to support the Marine Corps use of additive manufacturing. This initiative incorporates development of strategic partnerships with other DoN Systems Commands and field activities to develop DoN standards, processes and other associated acquisition activities to support future use of additive manufacturing in DoN acquisition and readiness areas.

The Next Generation Logistics (NexLog) project supports cost associated with the research and development, experimentation and limited, rapid fielding of emerging logistics capabilities necessary to enable the Fleet Marine Forces to execute the Marine Corps Operating Concept and inform logistics policies. These emerging logistics capabilities include development of autonomous ground, surface and sub-surface materiel distribution systems; development of operational and tactical, in-field digital fabrication capabilities; and, the development of sensor-driven logistics information technology. This element also supports development of strategic partnerships with DoN Systems Commands and field activities in order to leverage their capabilities and align DoN standards and processes, while furthering the use of additive manufacturing, and other emerging logistics technologies, to increase warfighter readiness, capability, survivability and effectiveness.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy				Date: March 2019	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy I BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 Program Element (Number/Name) PE 0604289M I (U)Expeditionary Logistics			
B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	0.000	11.081	9.194	-	9.194
Current President's Budget	0.000	6.073	4.420	-	4.420
Total Adjustments	0.000	-5.008	-4.774	-	-4.774
• Congressional General Reductions	-	-0.062			
• Congressional Directed Reductions	-	-4.946			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	-2.274	-	-2.274
• Rate/Misc Adjustments	0.000	0.000	-2.500	-	-2.500
Change Summary Explanation					
The FY2020 funding request was reduced by \$2.27M to account for the availability of prior year execution balances.					
Decrease from FY 2019 to FY 2020 due to completion of the large scale Additive Manufacturing efforts.					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604289M / (U)Expeditionary Logistics				Project (Number/Name) 2741 / Additive Manufacturing			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
2741: Additive Manufacturing	0.000	0.000	6.073	1.971	-	1.971	5.018	4.270	3.430	3.499	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This project supports cost associated with the research and development of Marine Corps Systems Command policy, acquisition process modifications, prototyping, and future logistics innovations to support the USMC Additive Manufacturing (AM) Initiative under the direction of Deputy Commandant Installations & Logistics.

The USMC Additive Manufacturing Initiative is an initiative intended to give Marine units access to additive manufacturing techniques to allow them the opportunity to exercise innovation in the resolution of issues affecting unit combat readiness. This effort supports the development of procedures to enable the approval and manufacturing of items requested from Marines. This involves the development of Marine Corps Policy, an approval process, engineering analysis and testing, establishment of facilities to produce prototype additive manufactured parts and development of training to support the Marine Corps use of additive manufacturing. It also includes research and development of autonomous ground cargo delivery systems, tactical employment of in field digital manufacturing, and sensor driven logistics information technology. This initiative incorporates development of strategic partnerships with other DoN Systems Commands and field activities to develop DoN standards, processes and other associated acquisition activities to support future use of additive manufacturing in DoN acquisition and readiness areas.

The FY 2020 funding request was reduced by \$2.274 million to account for the availability of prior year execution balances.

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

	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Title:</b> Additive Manufacturing	0.000	6.073	1.971	0.000	1.971
<b>Articles:</b>	-	-	-	-	-
<b>FY 2019 Plans:</b> - Complete AM Characterization Process to develop, optimize, verify, and document a testing system and methodology for performing mechanical property characterization (stress-strain response) of parts created by Additive Manufacturing (AM) methodologies. - Complete large scale AM efforts with ERDC to prototype the additive manufacture and robotic assembly of structures using large format additive manufacturing printers and articulating robotic manipulators. - Complete crowd sourcing efforts with Local Motors to develop concepts for a Modular Logistics Vehicle and a Small Unmanned Cargo Delivery System. - Continue efforts to identify and develop Additive Manufacturing (AM) requirements, verification methods, and technical data needed to acquire AM manufactured components. -Continue fabrication of prototype hardware, fixtures, and jigs that facilitate design processes and procedures for test and performance verification.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604289M / (U)Expeditionary Logistics	<b>Project (Number/Name)</b> 2741 / Additive Manufacturing	

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<ul style="list-style-type: none"> <li>- Continue system engineering efforts to identify and develop AM fabrication requirements, field repair procedures, and technical data needed to effectively repair AM manufactured components.</li> <li>- Initiate prototype testing to verify component design and reliability attributes.</li> <li>- Initiate certification studies to assess potential performance/integration issues with expeditionary repaired AM parts.</li> </ul> <p><b>FY 2020 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue efforts to identify and develop Additive Manufacturing (AM) requirements, verification methods, and technical data needed to acquire AM manufactured components.</li> <li>- Continue fabrication of prototype hardware, fixtures, and jigs that facilitate design processes and procedures for test and performance verification.</li> <li>- Continue system engineering efforts to identify and develop AM fabrication requirements, field repair procedures, and technical data needed to effectively repair AM manufactured components.</li> <li>- Continue prototype testing to verify component design and reliability attributes.</li> <li>- Continue certification studies to assess potential performance/integration issues with expeditionary repaired AM parts.</li> </ul> <p><b>FY 2020 OCO Plans:</b></p> <p>No OCO funds.</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b></p> <p>Decrease of \$4.102M from FY19 to FY20 reflects Marine Corps adjustment to better align resources with execution and completion of the large scale AM efforts. Completed efforts were to prototype the additive manufacturing and robotic assembly of structures using large format additive manufacturing printers, articulating robotic manipulators and crowd sourcing efforts with Local Motors to develop concepts for a Modular Logistics Vehicle and a Small Unmanned Cargo Delivery System.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	6.073	1.971	0.000	1.971

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• RDTEN/0604286M: (U)Marine Corps Additive Manufacturing Tech Dev	5.964	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.964

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy							<b>Date:</b> March 2019		
<b>Appropriation/Budget Activity</b> 1319 / 4				<b>R-1 Program Element (Number/Name)</b> PE 0604289M / (U) <i>Expeditionary Logistics</i>			<b>Project (Number/Name)</b> 2741 / <i>Additive Manufacturing</i>		

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

<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u> <u>Base</u>	<u>FY 2020</u> <u>OCO</u>	<u>FY 2020</u> <u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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**Remarks**

**D. Acquisition Strategy**

The AM program utilizes a non-traditional acquisition strategy, due to AM being a set of enabling technologies vice a conventional platform for milestone-driven acquisition. It will incorporate strategic partnerships with other DoN activities, as well as the Joint Staff and services. For that reason, these AM investments are designed to explore future capabilities where AM may resolve gaps in logistical readiness, provide a warfighting solutions, and to mitigate AM-related risk within existing programs of record.

In FY 19 this effort has been realigned from PE 0604286M/(U)Marine Corps Additive Manufacturing Tech Dev.

**E. Performance Metrics**

N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy** **Date:** March 2019

<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604289M / (U)Expeditionary Logistics	<b>Project (Number/Name)</b> 2741 / Additive Manufacturing
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Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
AM Guidebook development	MIPR	NSWC : Dahlgren, VA	0.000	0.000		0.200	Feb 2019	0.100	Feb 2020	-		0.100	Continuing	Continuing	Continuing
AM Guidebook development	MIPR	NAVSEA/PSU-ARL : State College, PA	0.000	0.000		0.350	Feb 2019	0.000		-		0.000	Continuing	Continuing	Continuing
AM Guidebook development	MIPR	NSWC : Carderock, MD	0.000	0.000		0.250	Mar 2019	0.000		-		0.000	0.000	0.250	-
AM Training Material	MIPR	JHU-APL : Carderock, MD	0.000	0.000		0.250	Mar 2019	0.200	Feb 2020	-		0.200	0.000	0.450	-
AM Technical Data Package Development	MIPR	NAVAIR : Pax River, MD	0.000	0.000		0.100	Feb 2019	0.100	Mar 2020	-		0.100	0.000	0.200	-
AM Process Qualification and Certification	MIPR	MITRE : TBD	0.000	0.000		0.400	Feb 2019	0.000		-		0.000	0.000	0.400	-
AM Prototype Parts and Redesign	MIPR	Army : TBD	0.000	0.000		0.400	Mar 2019	0.200	Feb 2020	-		0.200	0.000	0.600	-
AM Develop USMC Fleet Wide Repository	MIPR	NAVFAC : TBD	0.000	0.000		0.250	Feb 2019	0.100	Mar 2020	-		0.100	0.000	0.350	-
AM Expeditionary Laboratory and Training Facility	Various	TBD : TBD	0.000	0.000		0.638	Feb 2019	0.200	Mar 2020	-		0.200	0.000	0.838	-
AM Structure Design	MIPR	rmy/ERDC : Vicksburg, MS	0.000	0.000		0.500	Feb 2019	0.190	Mar 2020	-		0.190	0.000	0.690	-
<b>Subtotal</b>			0.000	0.000		3.338		1.090		-		1.090	Continuing	Continuing	N/A

**Remarks**

The AM program utilizes a non-traditional acquisition strategy, due to AM being a set of enabling technologies vice a conventional platform for milestone-driven acquisition. The funding distribution above reflects research and development efforts for additive manufacturing enabling technologies.

Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
AM Identification of Legacy Part	C/FFP	GE : Columbus, OH	0.000	0.000		0.250	Mar 2019	0.000		-		0.000	0.000	0.250	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 4						R-1 Program Element (Number/Name) PE 0604289M / (U)Expeditionary Logistics				Project (Number/Name) 2741 / Additive Manufacturing					
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
AM Identification of New Part	MIPR	JHU-APL : Columbia, MD	0.000	0.000		0.400	Feb 2019	0.200	Mar 2020	-		0.200	Continuing	Continuing	Continuing
AM Identify Cases for Prototypes	MIPR	NSWC : Dahlgren, VA	0.000	0.000		0.300	Mar 2019	0.200	Apr 2020	-		0.200	0.000	0.500	-
AM Program Acquisition Strategy and Sustainment	MIPR	TBD : TBD	0.000	0.000		0.885	Feb 2019	0.200	Feb 2020	-		0.200	0.000	1.085	-
AM Research Advances 3D Printer Technology	MIPR	NSWC-CD : Carderock, MD	0.000	0.000		0.250	Feb 2019	0.150	Jan 2020	-		0.150	0.000	0.400	-
AM Identification Advanced Prototyping Lab/ Workspace	MIPR	DTIC / GTRI : TBD	0.000	0.000		0.600	Feb 2019	0.100	Jan 2020	-		0.100	0.000	0.700	-
Travel	Various	TBD : TBD	0.000	0.000		0.050	Jan 2019	0.031	Jan 2020	-		0.031	0.000	0.081	-
Subtotal			0.000	0.000		2.735		0.881		-		0.881	Continuing	Continuing	N/A
Remarks															
The AM program utilizes a non-traditional acquisition strategy, due to AM being a set of enabling technologies vice a conventional platform for milestone-driven acquisition. The funding distribution above reflects research and development efforts for additive manufacturing enabling technologies.															
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.000		6.073		1.971		-		1.971	Continuing	Continuing	N/A
Remarks															
Decrease of \$4.102M from FY19 to FY20 reflects Marine Corps adjustment to better align resources with execution and completion of the large scale AM efforts.															

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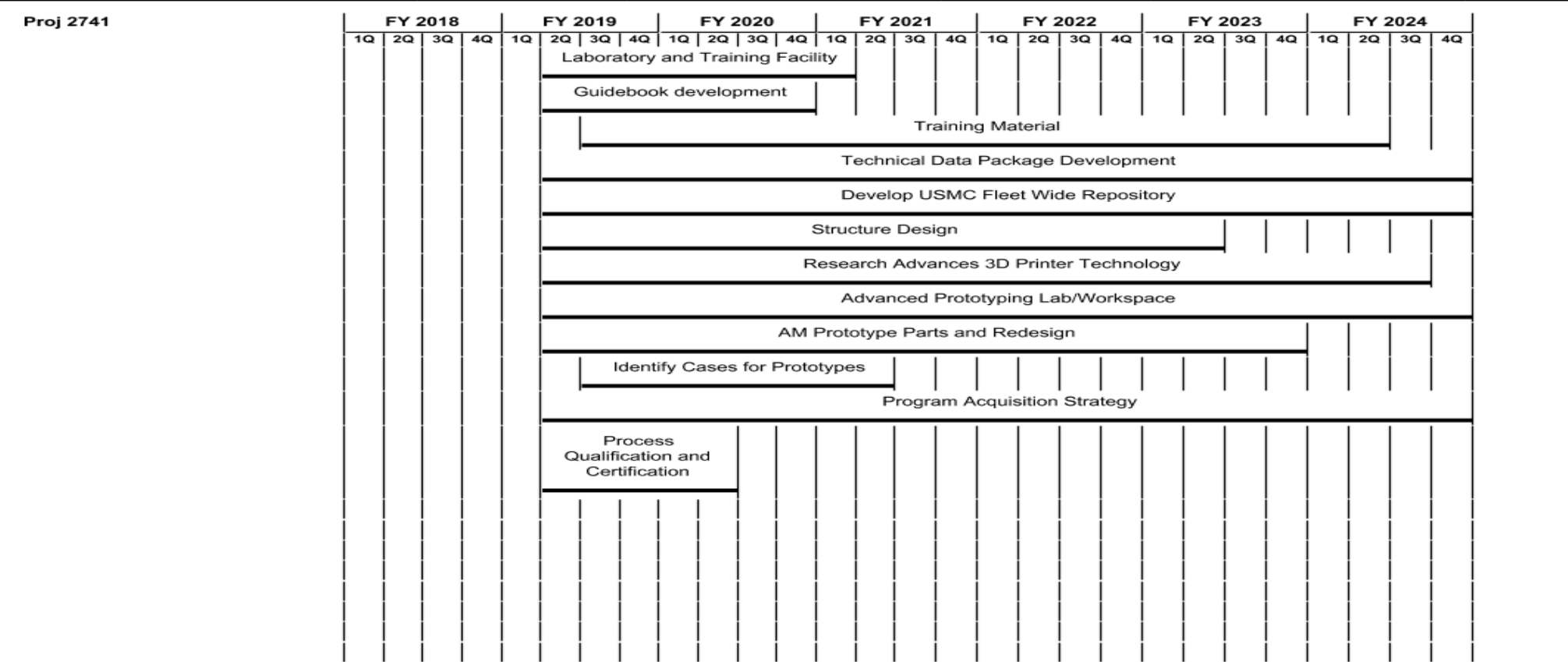
Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy

Date: March 2019

Appropriation/Budget Activity  
1319 / 4

R-1 Program Element (Number/Name)  
PE 0604289M / (U)Expeditionary Logistics

Project (Number/Name)  
2741 / Additive Manufacturing



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604289M / (U)Expeditionary Logistics	<b>Project (Number/Name)</b> 2741 / Additive Manufacturing

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2741</b>				
Laboratory and Training Facility	2	2019	1	2021
Guidebook development	2	2019	4	2020
Training Material	3	2019	2	2024
Technical Data Package Development	2	2019	4	2024
Develop USMC Fleet Wide Repository	2	2019	4	2024
Structure Design	2	2019	2	2023
-Research Advances 3D Printer Technology	2	2019	3	2024
Advanced Prototyping Lab/Workspace	2	2019	4	2024
AM Prototype Parts and Redesign	2	2019	4	2023
Identify Cases for Prototypes	3	2019	2	2021
Program Acquisition Strategy	2	2019	4	2024
Process Qualification and Certification	2	2019	2	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy									Date: March 2019			
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604289M / (U)Expeditionary Logistics				Project (Number/Name) 2743 / Next Generation Logistics (NexLog)			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
2743: Next Generation Logistics (NexLog)	0.000	0.000	0.000	2.449	-	2.449	4.954	4.958	4.959	5.058	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Note This is a new Project in FY 2020.												
A. Mission Description and Budget Item Justification The Next Generation Logistics (NexLog) project supports costs associated with the research and development, experimentation and limited, rapid fielding of emerging logistics capabilities necessary to enable the Fleet Marine Forces to execute the Marine Corps Operating Concept and inform logistics policies. These emerging logistics capabilities include, but are not limited, the development of intelligent distribution systems such autonomous Unmanned Logistics System (ULS) operating in the ground, air, surface and sub-surface domains. The development of enabling technologies that will increase the speed needed to detect an impending support requirement as well as the speed of response to satisfy that requirement. This involves the deployment of sensor technologies, collection of clean, properly tagged data, and the ability to electronically mine and monitor that sensor data for anomalies and micro-patterns that will provide logistics intelligence augmentation, thereby increasing Marine Air Ground Task Force (MAGTF) lethality.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Unmanned Logistics Systems  Articles:								0.000	0.000	1.199	0.000	1.199
								-	-	-	-	-
Description: This Unmanned Logistics System (ULS) thrust area directly supports DoD and USMC directed innovation efforts that enable critical and emerging operational efforts to include Expeditionary Advance Basing Operations (EABO) and Littoral Operations in a Constrained Environment (LOCE). The current and emerging projects in this thrust area also better enable speed and Operating Force lethality while reducing MAGTF risk and acting as a force multiplier. ULS capabilities also lightens the MAGTF loads, and allows commanders to control the timing of delivery of mission critical, time sensitive supplies and equipment. Specifically, this project thrust area explores a number of promising Joint and OSD coordinated projects to include, but not limited to Unmanned Logistics Systems in the Surface, Ground, Air and Sub-Surface domains.  FY 2019 Plans: N/A  FY 2020 Base Plans:												

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Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0604289M / (U)Expeditionary Logistics		Project (Number/Name) 2743 / Next Generation Logistics (NexLog)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<p>-Initiate ULS-Ground development projects that include development of unmanned electric vehicles that have an ever increasing range, high payload capacity and are ruggedized for use in support of combat scenarios. Also, in the ULS-Ground domain are projects that explore emerging capabilities that can be applied to current inventory assets through autonomous applique kits.</p> <p>-Initiate ULS- Surface include Pipefish, which fills the bulk fuel supply, mobility, and distribution gaps between large tankers and requirements at the points of need both at sea and ashore at a low operating cost and risk level.</p> <p>-Initiate ULS-Surface projects including the Autonomous Littoral Connector, which provides a low cost autonomous resupply platform utilizing legacy LCM-8 landing craft integrated with autonomous technology being utilized on the Sea Hunter program, delivering critical supplies to the Operating Forces at a significantly reduced risk while increasing the force's reach.</p> <p>-Initiate exploration of numerous ULS-Air domain projects to included ULS-Air Small, Medium and Large Platforms that help explore autonomous technologies emerging from industry and the DoD Lab environment to provide an organic, highly autonomous, aerial distribution capability within sustainment and maneuver units. ULS-Air provides rapid, responsive, and flexible sustainment options in support of dispersed and semi-independent operations critical to the most likely future operating environment.</p> <p>-Initiate exploration into other autonomous enabling capabilities to include artificial intelligence, sensing capability, autonomic response and integrated fast turn, emerging commercial technologies.</p> <p><b>FY 2020 OCO Plans:</b> N/A</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> Increase of \$1.199M from FY 2019 to FY 2020 is due to initiation of Unmanned Logistics Systems RDTEN efforts.</p>						
<p><b>Title:</b> Data Driven Logistics Autonomous Learning and Innovation</p> <p><b>Articles:</b></p> <p><b>Description:</b> This Data Driven Logistics (D2L) thrust area directly supports DoD and USMC directed innovation efforts that enable critical and emerging operational efforts to include Expeditionary Advance Basing Operations and Littoral Operations (EABO) Littoral Operations in a Constrained Environment (LOCE). The current and</p>		0.000 -	0.000 -	1.250 -	0.000 -	1.250 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy			<b>Date:</b> March 2019			
<b>Appropriation/Budget Activity</b> 1319 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0604289M / (U)Expeditionary Logistics		<b>Project (Number/Name)</b> 2743 / Next Generation Logistics (NexLog)		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<p>emerging projects in this thrust area also better enable speed and Operating Force lethality while reducing MAGTF risk and ensuring increased artificial intelligence, augmented reality integration, improved command and control, focused analytics, greater data accuracy and more responsive processes.</p> <p><b>FY 2019 Plans:</b> N/A</p> <p><b>FY 2020 Base Plans:</b> - Initiate the Support Data Driven Logistic Sensor Driven Logistic Projects such as Joint Operational Energy Command and Control (JOEC2), shot round counter and the Personal Combat Assistant and Reporting Device (PCARD) system, whose development may ultimately provide sensed technologies at the tactical edge. Additionally, JOEC2 and shot round counter enables supply monitoring of battlefield consumption rates for ammunition and bulk fuel accountability, visibility, and energy command and control from the tactical edge to the enterprise, providing logistical information in real-time from the individual Marine through the highest echelon, enabling logistics units to be proactive vice reactive in the provision of needed sustainment. These emerging capabilities help to create a central hub for data that permits the application of analytical and data-driven algorithms that can have operational and strategic affects with future efforts that may be leveraged by fires, medical, and drones.</p> <p>-Initiate other D2L efforts include sensor driven logistics, augmented reality, logistics artificial intelligence pilots and condition based maintenance efforts meant to increase predictive maintenance, focus resources and provide assets at the critical points to avoid backlogs and Operating Force burdens.</p> <p><b>FY 2020 OCO Plans:</b> N/A</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> Increase of \$1.250M from FY 2019 to FY 2020 is due to initiation of Data Driven Logistics Autonomous Learning and Innovation RDTEN efforts.</p>						
<b>Accomplishments/Planned Programs Subtotals</b>		0.000	0.000	2.449	0.000	2.449
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / (U)Expeditionary Logistics	Project (Number/Name) 2743 / Next Generation Logistics (NexLog)
<b>D. Acquisition Strategy</b> NexLog will incorporate strategic partnerships with other DoN activities, as well as the Joint Staff and services. For that reason, these investments are designed to explore future capabilities that may resolve gaps in logistical readiness, provide warfighting solutions, and mitigate Log-related risk within existing programs of record. Ensure the USMC can meet the logistics challenges of future operating environments. -Accelerate measurable transition outcomes -Grow logistics innovation network and partnerships -Promote warfighter-driven logistics innovation -Mature the innovation skillset		
<b>E. Performance Metrics</b> N/A		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2020 Navy</b>												<b>Date: March 2019</b>			
<b>Appropriation/Budget Activity</b> 1319 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0604289M / (U)Expeditionary Logistics						<b>Project (Number/Name)</b> 2743 / Next Generation Logistics (NexLog)			
<b>Support (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
ULS-Ground	MIPR	TBD : TBD	0.000	0.000		0.000		0.349	Jan 2020	-		0.349	Continuing	Continuing	Continuing
Data Driven Logistic Sensor Driven Logistic Projects	MIPR	TBD : TBD	0.000	0.000		0.000		0.600	Jan 2020	-		0.600	Continuing	Continuing	Continuing
Data Driven Logistics Asset Management/ Inventory Security Projects	MIPR	TBD : TBD	0.000	0.000		0.000		0.300	Jan 2020	-		0.300	Continuing	Continuing	Continuing
Data Driven Logistics Artificial Intelligence, and Capabilities Based Mainenance	MIPR	TBD : TBD	0.000	0.000		0.000		0.350	Jan 2020	-		0.350	Continuing	Continuing	Continuing
Travel	Various	TBD : TBD	0.000	0.000		0.000		0.050	Jan 2020	-		0.050	Continuing	Continuing	Continuing
ULS - Air	MIPR	TBD : TBD	0.000	0.000		0.000		0.800	Jan 2020	-		0.800	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	0.000		0.000		2.449		-		2.449	Continuing	Continuing	N/A
			<b>Prior Years</b>	<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			0.000	0.000		0.000		2.449		-		2.449	Continuing	Continuing	N/A
<b>Remarks</b>															

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PE 0604289M: (U)Expeditionary Logistics  
Navy

R-1 Line #84

**Project (Number/Name)**  
2743 / Next Generation Logistics (NexLog)

PE 0604289M: (U)Expeditionary Logistics  
Navy

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / (U)Expeditionary Logistics	Project (Number/Name) 2743 / Next Generation Logistics (NexLog)	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2743</b>				
NEXTLOG: Data Driven Logistics	1	2020	3	2024
NEXTLOG: Unmannded Logistics Systems Ground	1	2020	3	2024
NEXTLOG: Unmannded Logistics Systems Air	1	2020	3	2024