

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy	Date: February 2018
---	----------------------------

Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	PE 0204413N / <i>Amphibious Tactical Supt Units</i>											
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	46.414	11.143	3.940	6.073	-	6.073	7.100	3.074	2.306	1.308	Continuing	Continuing
2231: <i>LCAC / LCU 1700</i>	45.832	9.036	1.650	1.153	-	1.153	1.229	1.270	1.297	1.308	Continuing	Continuing
2909: <i>Amphibious Lighterage Development</i>	0.582	2.107	2.290	4.920	-	4.920	5.871	1.804	1.009	0.000	0.000	18.583

A. Mission Description and Budget Item Justification

The FY 2019 funding request was reduced by \$0.020 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

Landing Craft, Air Cushion (LCAC): Research and development efforts to transfer technologies into functional uses on the current LCACs. Current technology initiatives include sustainability/reliability/readiness/performance analyses, LCAC communication improvements, compliance with Cybersecurity policy regulations, and LCAC Total Ownership Costs (TOC) reduction initiatives.

Landing Craft, Utility (LCU 1700): Replacement program for the current LCU 1610 class craft - a class of craft that has exceeded its 25-year planned service life by nearly double, average age of craft is approaching 50-years-old. LCU 1700 will provide similar payload, range, speed, and interoperability. Contract award is planned for early 2018.

The Amphibious Support Craft Vehicle (ASCV) which will be the Lighter Amphibious Resupply Cargo, 5 ton (LARC-V) Replacement, provides amphibious equipment and personnel transport as well as near shore salvage and diving capability.

B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	13.929	3.940	1.898	-	1.898
Current President's Budget	11.143	3.940	6.073	-	6.073
Total Adjustments	-2.786	0.000	4.175	-	4.175
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.786	0.000			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	0.000	0.000	4.276	-	4.276
• Rate/Misc Adjustments	0.000	0.000	-0.101	-	-0.101

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>	
<p><u>Change Summary Explanation</u> Added additional funding in FY 2019 to support the Amphibious Support Craft Vehicle.</p>		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204413N / Amphibious Tactical Supt Units				Project (Number/Name) 2231 / LCAC / LCU 1700			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
2231: LCAC / LCU 1700	45.832	9.036	1.650	1.153	-	1.153	1.229	1.270	1.297	1.308	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Landing Craft, Air Cushion (LCAC): Research and development efforts to transfer technologies into functional uses on the current LCACs. Current technology initiatives include sustainability/reliability/readiness/performance analyses, LCAC communication improvements, compliance with Cybersecurity policy regulations, and LCAC Total Ownership Costs (TOC) reduction initiatives.												
Landing Craft, Utility (LCU 1700): Replacement program for the current LCU 1610 class craft - a class of craft that has exceeded its 25-year planned service life by nearly double, average age of craft is approaching 50-years-old. LCU 1700 will provide similar payload, range, speed, and interoperability. Contract award is planned for early 2018.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: LCAC RDT&E,N and LCU 1700 Articles:								9.036	1.650	1.153	0.000	1.153
								-	-	-	-	-
FY 2018 Plans: LCAC: - Improve reliability and maintainability of the LCAC HM&E systems. - Complete the technical data package for Windows 10 updates to SBC4 (command and control system) and LCAC Mission Support Systems (LMSS) stations in accordance with DoD directives and Cybersecurity requirements. - Seek Platform IT RMF accreditation. - Complete the technical data package for electronic navigation on LCAC; in accordance with OPNAVINST 9420.2A. LCU: - Conduct risk reduction efforts and special studies/analyses, which support Life Cycle/Total Ownership Cost (TOC) reductions for the class. - Perform Developmental Testing (DT-1 and DT-2) in coordination with COMOPTEVFOR and MCOTEA. - Commence Platform IT RMF accreditation activity.												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy				Date: February 2018							
Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>		Project (Number/Name) 2231 / LCAC / LCU 1700							
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)											
	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total						
<p>- Update Life Cycle Sustainment Plan.</p> <p><i>FY 2019 Base Plans:</i> LCAC: - Improve reliability and maintainability of the LCAC HM&E systems. - Maintain compliance with cybersecurity directives and mandates.</p> <p>LCU: - Conduct risk reduction efforts and special studies/analyses, which support Life Cycle/Total Ownership Cost (TOC) reductions for the class. - Perform Developmental Testing (DT-3 and DT-4) in coordination with COMOPTEVFOR and MCOTEA. - Complete Platform IT RMF accreditation. - Update Life Cycle Sustainment Plan.</p> <p><i>FY 2019 OCO Plans:</i> N/A</p> <p><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> LCU 1700 program is entering the Design and Production phase with contract award planned early 2018.</p>											
Accomplishments/Planned Programs Subtotals		9.036	1.650	1.153	0.000						
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• OPN 0970: LCAC	3.090	5.507	3.709	-	3.709	5.512	5.456	20.795	21.205	0.000	180.703
• SCN 5139: LCAC SLEP	82.074	0.000	23.321	-	23.321	0.000	0.000	0.000	0.000	0.000	1,443.818
• SCN 5100: LCU 1700	0.000	31.850	41.520	-	41.520	85.733	89.559	88.737	89.579	287.782	748.760
Remarks											
D. Acquisition Strategy											
Technology Transition - RDT&E efforts commenced in FY06. Multiple contracts and Field Activities are involved to complete the various projects.											
E. Performance Metrics											
LCAC: Continue to improve the reliability, maintainability, and security of the LCAC.											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204413N / Amphibious Tactical Supt Units	Project (Number/Name) 2231 / LCAC / LCU 1700
LCU 1700: Continue risk reduction efforts, complete MS B/C program documentation and commence updates as design completes and continue IT/OT activities.		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0204413N / Amphibious Tactical Supt Units				Project (Number/Name) 2231 / LCAC / LCU 1700					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Component Development	WR	NSWC CD : Philadelphia, PA	8.325	0.000		0.000		0.000		-		0.000	0.000	8.325	-
Systems Engineering	WR	NSWC : Various	6.558	0.676	Feb 2017	0.205	Jan 2018	0.199	Jan 2019	-		0.199	3.296	10.934	-
LCU 1700 - Special Studies	Various	Various : Various	14.536	3.321	May 2017	0.000		0.000		-		0.000	7.087	24.944	-
LCU 1700 - Ship Design	WR	NSWC : Various	0.000	3.482	May 2017	0.863	Jan 2018	0.310	Jan 2019	-		0.310	0.000	4.655	-
Subtotal			29.419	7.479		1.068		0.509		-		0.509	10.383	48.858	N/A
Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Technical Engineering Services	WR	NSWC PCD : Panama City, FL	10.633	1.507	Mar 2017	0.199	Jan 2018	0.000		-		0.000	3.195	15.534	-
LCU 1700 - Research Studies	Various	Various : Various	0.565	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			11.198	1.507		0.199		0.000		-		0.000	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Developmental Test & Evaluation	WR	Various : Various	0.287	0.000		0.076	Jan 2018	0.358	Jan 2019	-		0.358	0.000	0.721	-
Operational Test & Evaluation	WR	OPTEVFOR/ MCOTEA : Norfolk, VA/Quantico, VA	2.047	0.009	Mar 2017	0.257	Jan 2018	0.240	Jan 2019	-		0.240	0.565	3.118	-
Test Assets	WR	NSWC PCD : Panama City, FL	0.850	0.000		0.000		0.000		-		0.000	0.000	0.850	-
Subtotal			3.184	0.009		0.333		0.598		-		0.598	0.565	4.689	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>						Project (Number/Name) 2231 / LCAC / LCU 1700			

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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	
Engineering Support	WR	Various : Various	0.726	0.000		0.000		0.000		-		0.000	0.000	0.726	-	
Program Management	WR	NSWC CD : West Bethesda, MD	1.230	0.041	Apr 2017	0.050	Jan 2018	0.046	Jan 2019	-		0.046	0.165	1.532	-	
Travel	WR	NAVSEA : Not Specified	0.064	0.000		0.000		0.000		-		0.000	0.000	0.064	-	
Defense Acquisition Workforce	MIPR	OSD : Not Specified	0.011	0.000		0.000		0.000		-		0.000	0.000	0.011	-	
Subtotal			2.031	0.041		0.050		0.046		-		0.046	0.165	2.333	N/A	

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	45.832	9.036	1.650	1.153	-	1.153	Continuing	Continuing	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy			Date: February 2018		
Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>			Project (Number/Name) 2231 / LCAC / LCU 1700

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Proj 2231																												
LCAC - Technology Initiatives																												
LCU 1700 - Preliminary Design / Contract Design																												
LCU 1700 - Early Operational Assessment (EOA)																												
LCU 1700 - Life Cycle Sustainment Plan (LCSP) Development																												
LCU 1700 - Test and Evaluation Master Plan (TEMP) Development																												
LCU 1700 - Integrated Developmental / Operational Testing																												
LCU 1700 - Life Cycle Sustainment Plan (LCSP) Update																												
LCU 1700 - Test and Evaluation Master Plan (TEMP) Update																												
LCU 1700 - Sustainment Technology Initiatives																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy			Date: February 2018
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>	Project (Number/Name) 2231 / LCAC / LCU 1700	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2231</i>				
LCAC - Technology Initiatives	1	2017	4	2023
LCU 1700 - Preliminary Design / Contract Design	1	2017	2	2017
LCU 1700 - Early Operational Assessment (EOA)	1	2017	2	2017
LCU 1700 - Life Cycle Sustainment Plan (LCSP) Development	1	2017	1	2018
LCU 1700 - Test and Evaluation Master Plan (TEMP) Development	1	2017	1	2018
LCU 1700 - Integrated Developmental / Operational Testing	3	2017	3	2021
LCU 1700 - Life Cycle Sustainment Plan (LCSP) Update	3	2018	3	2019
LCU 1700 - Test and Evaluation Master Plan (TEMP) Update	3	2018	1	2019
LCU 1700 - Sustainment Technology Initiatives	1	2021	4	2023

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy										Date: February 2018		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204413N / Amphibious Tactical Supt Units				Project (Number/Name) 2909 / Amphibious Lighterage Development			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
2909: Amphibious Lighterage Development	0.582	2.107	2.290	4.920	-	4.920	5.871	1.804	1.009	0.000	0.000	18.583
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Amphibious Support Craft Vehicle (ASCV) which will be the Lighter Amphibious Resupply Cargo, 5 ton (LARC-V) Replacement, provides amphibious equipment and personnel transport as well as near shore salvage and diving capability. It is a vital piece of equipment required for the execution of the Naval Beach Group (NBG) and Underwater Construction Team (UCT) missions.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: LARC-V Replacement								2.107	2.290	4.920	0.000	4.920
								Articles:				
FY 2018 Plans:												
The ASCV program schedule and associated funding was re-baselined with the Resource Sponsor in Q3FY17. Subsequent to the approved re-baseline and realignment of funds, and in consideration of the program funding gap in FY 2016, a new series of program goals was established for ASCV. In FY2018, ASCV will continue development and execution of a tailored acquisition plan to conform with all required tasks and documents for an ACAT IV (T) program, in support of a Milestone A and Gate 2/3 review with the Milestone Decision Authority. Inclusive as part of the Milestone and Gate Review process, system Key Performance Parameters (KPPs), the Acquisition Strategy, Systems Engineering Plan, Test and Evaluation Master Plan, Capability Development Document, and System Design Request for Proposal will all be developed and approved by the MDA and Resource Sponsor (as required). The System Design RFP will be released in Q3FY18, with a subsequent award of these contracts in Q2 FY 2019.												
FY 2019 Base Plans:												
FY 2019 RDTE will fund the ASCV acquisition team tasks to include post-Milestone A activities, and refinement of all program documentation required by statute and regulation such as the Acquisition Plan/Acquisition Strategy, Systems Engineering Plan, Test and Evaluation Master Plan, and development of the mission-based test design. These required documents and tasks are the framework by which the eventual prototype vehicle will be evaluated for meeting Key Performance Parameters (KPPs). The development of the prototype vehicle RFP												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy			Date: February 2018			
Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>		Project (Number/Name) 2909 / <i>Amphibious Lighterage Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
will be initiated during FY 2019. Additionally, it is anticipated that three separate system design contracts will be awarded as part of a down-select process.						
FY 2019 OCO Plans: N/A						
FY 2018 to FY 2019 Increase/Decrease Statement: Increase due to technical adjustments for the ASCV program executing much of Milestone A and Gate 2/3 work in addition to developing a system design RFP.						
Accomplishments/Planned Programs Subtotals		2.107	2.290	4.920	0.000	4.920
C. Other Program Funding Summary (\$ in Millions) N/A						
Remarks						
D. Acquisition Strategy RDT&E funding is required to develop a replacement amphibious vehicle to support OPLAN and Required Operational Capability/Potential Operating Environment (ROC/POE) requirements of the Naval Beach Groups and Underwater Construction Teams. Technology investigation began in FY15. Requirements documentation and analysis of alternatives and other such efforts are largely being accomplished with in house resources. Design and initial production efforts will be accomplished via a competitive award contract.						
E. Performance Metrics Quarterly Program Reviews are conducted with the performer to include funds status discussion, schedule review.						

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy												Date: February 2018			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>						Project (Number/Name) 2909 / <i>Amphibious Lighterage Development</i>			
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
LARC-V Replacement	WR	Naval Surface Warfare Center Carderock Division (N : West Bethesda, MD	0.582	2.107	Jan 2017	2.290	Mar 2018	1.920	Mar 2019	-		1.920	0.000	6.899	0.200
LARC-V Replacement	Various	EXWC : Port Hueneme, CA	0.000	0.000		0.000		3.000	Mar 2019	-		3.000	0.000	3.000	-
Subtotal			0.582	2.107		2.290		4.920		-		4.920	0.000	9.899	N/A
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.582	2.107		2.290		4.920		-		4.920	0.000	9.899	N/A
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Navy			Date: February 2018		
Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0204413N / Amphibious Tactical Supt Units			Project (Number/Name) 2909 / Amphibious Lighterage Development

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Proj 2909																												
LARC-V Replacement: prototype development - stability testing																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Navy		Date: February 2018
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204413N / <i>Amphibious Tactical Supt Units</i>	Project (Number/Name) 2909 / <i>Amphibious Lighterage Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2909</i>				
LARC-V Replacement: prototype development - stability testing	1	2017	4	2022