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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 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604454N / LX (R)
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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	93.699	5.463	12.500	10.203	-	10.203	5.268	3.077	3.129	3.181	Continuing	Continuing
2474: <i>LPD Flight II Design & Total Integration</i>	93.699	5.463	12.500	10.203	-	10.203	5.268	3.077	3.129	3.181	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 542

A. Mission Description and Budget Item Justification

LPD 17 Flight II will replace LSD-41 Class ships and LSD-49 Class ships for embark, transport, control, insert, sustainment, and extract of Marine Air-Ground Task Force elements and supporting forces by helicopters, landing craft, and amphibious vehicles. Efforts are required to continue pursuing affordability initiatives. Efforts also include Gate and Milestone (MS) reviews/documentation, Capability Development Document (CDD), Indicative/Preliminary/Contract Design (ID/PD/CD) and development of logistics and Test & Evaluation documentation. In addition, this program element includes the Live Fire Test & Evaluation (LFT&E) and Operational Evaluation (OPEVAL) tests required for the lead ship. LPD 28 and LPD 29 will be used to conduct these test events as they incorporate some LPD Flight II changes prior to the lead Flight II Ship. LPD 28, LPD 29 and LPD 30 each incorporate LX(R) changes across three ships. Program is on track to support FY 2027 retirement of LSDs.

The FY 2018 Defense Appropriations Act authorized the procurement of LPD 30. Per signed Acquisition Decision Memorandum, LPD 17 Flight II will meet the Capabilities Development Document for LX(R) and shall subsume all previous LX(R) efforts. LPD 30 will be the first ship of LPD 17 Flight II.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	5.549	12.500	12.289	-	12.289
Current President's Budget	5.463	12.500	10.203	-	10.203
Total Adjustments	-0.086	0.000	-2.086	-	-2.086
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.086	0.000			
• Program Adjustments	0.000	0.000	-2.236	-	-2.236
• Rate/Misc Adjustments	0.000	0.000	0.150	-	0.150

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Appropriation/Budget Activity
1319: *Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)*

R-1 Program Element (Number/Name)
PE 0604454N / LX (R)

Change Summary Explanation

The FY 2021 funding request was reduced by \$2.086 million to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604454N / LX (R)				Project (Number/Name) 2474 / LPD Flight II Design & Total Integration			
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
2474: LPD Flight II Design & Total Integration	93.699	5.463	12.500	10.203	-	10.203	5.268	3.077	3.129	3.181	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 542												

A. Mission Description and Budget Item Justification

LPD 17 Flight II will replace LSD-41 Class ships and LSD-49 Class ships for embark, transport, control, insert, sustainment, and extract of Marine Air-Ground Task Force elements and supporting forces by helicopters, landing craft, and amphibious vehicles. Efforts are required to continue pursuing affordability initiatives. Efforts also include Gate and Milestone (MS) reviews/documentation, Capability Development Document (CDD), Indicative/Preliminary/Contract Design (ID/PD/CD) and development of logistics and Test & Evaluation documentation. In addition, this program element includes the Live Fire Test & Evaluation (LFT&E) and Operational Evaluation (OPEVAL) tests required for the lead ship. LPD 28 and LPD 29 will be used to conduct these test events as they incorporate some LPD Flight II changes prior to the lead Flight II Ship. LPD 28, LPD 29 and LPD 30 each incorporate LX(R) changes across three ships. Program is on track to support FY 2027 retirement of LSDs.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: LPD Flight II DESIGN/TOTAL SHIP INTEGRATION	5.463	12.500	10.203	0.000	10.203
Articles:	-	-	-	-	-
FY 2020 Plans: Begin Live Fire Test & Evaluation Efforts and update TEMP. Procure High Temperature Superconducting (HTS) degaussing cable to support prototyping development for installation on LPD 28 for a full ship demonstration to support LPD 17 Flight II design changes. Continue affordability initiatives and development of Cost Reduction Initiatives (CRIs) for follow on ships. Continue to attend and contribute to T&E Working-level Integrated Product Team (WIPT) meetings with stakeholders. Continue to work with Naval Warfare Centers on Integrated Topside Integration activities to mitigate (E3) risks and EASR integration analysis.					
FY 2021 Base Plans: Continue to attend and contribute to T&E Working-level Integrated Product Team (WIPT) meetings with stakeholders. Produce a Detail Design Survivability Assessment Report (DDSAR) for the Flight II ship. The DDSAR will update the LPD 17 Class assessment of the vulnerability, susceptibility, and recoverability focused on the Flight II design. Work with stakeholders to plan for the Dynamic Interface Test (DIT) expected to occur in FY22 on LPD 28. Continue to work with Naval Warfare Centers on Integrated Topside integration activities to mitigate (E3) risks and EASR integration analysis. Continue HTS Degaussing efforts with the development					

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604454N / LX (R)	Project (Number/Name) 2474 / LPD Flight II Design & Total Integration

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
and integration of Integrated Product Teams (IPTs) and development of Government use Integrated Logistics Support (ILS) products based on OEM vendor support documentation. HTS Full Ship Demonstration and Initial installation activities begin on the ship as the fully integrated system is initially installed and evaluated. Cybersecurity requirements to perform Risk Management Framework (RMF) Steps 1-5 will be developed, performed, and updated for new fielding of systems such as, Engineering Control System (ECS), Ship Control Systems (SCS), HTS, and other Contractor Furnished Equipment(CFE)/Government Furnished Equipment (GFE) systems. Define the appropriate controls, documenting the system configuration certifications, and system tests required to operate these IT systems in accordance with current cybersecurity guidance, regulation and policy. Flight II Network updates will be developed and tested in the lab. These efforts will be conducted to ensure that the new construction fielding of Interior Communications Data Network (ICDN) and Navigation Critical Distribution System (NCDS) will be operable with other connected systems being fielded in new construction					
FY 2021 OCO Plans: N/A					
FY 2020 to FY 2021 Increase/Decrease Statement: Decrease of \$2.297M from FY20 to FY21 due to procurement of (HTS) degaussing cable in FY20.					
Accomplishments/Planned Programs Subtotals	5.463	12.500	10.203	0.000	10.203

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>
• SCN/3010: LPD Flight II	247.100	524.100	1,155.801	-	1,155.801	0.000	1,847.629	0.000	1,870.303	0.000	7,458.933
• SCN CTC/5300: LPD FLIGHT II	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	5.600	0.000	5.600

Remarks

D. Acquisition Strategy

Sole Source to Huntington Ingalls Industries.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy												Date: February 2020			
Appropriation/Budget Activity 1319 / 4				R-1 Program Element (Number/Name) PE 0604454N / LX (R)				Project (Number/Name) 2474 / LPD Flight II Design & Total Integration							
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
Design/Systems Integration	C/CPHF	CSC, Alion, ICI : Washington, DC	27.567	1.761	Nov 2018	3.800	Jan 2020	0.000		-		0.000	0.000	33.128	-
Design/Systems Integration	WR	NSWC Carderock/ SSES Philadelphia : NSWC Beth, MD/ SSES Philadelphia, PA	20.600	1.809	Oct 2018	6.560	Dec 2019	4.460	Oct 2020	-		4.460	Continuing	Continuing	Continuing
Design/Systems Integration	WR	NSWC Dahlgren : Dahlgren, VA	2.437	0.415	Oct 2018	0.985	Jan 2020	0.090	Oct 2020	-		0.090	Continuing	Continuing	Continuing
Design/Systems Integration	WR	PEO C4I, PEO IWS : Washington, DC	5.864	0.982	Oct 2018	0.555	Jan 2020	0.150	Dec 2020	-		0.150	Continuing	Continuing	Continuing
Design/Systems Integration	WR	NAWC Lakehurst : Lakehurst, NJ	1.601	0.193	Oct 2018	0.350	Jan 2020	0.000		-		0.000	0.000	2.144	-
Design/Systems Integration	WR	NSWC, Panama City : Panama City, FL	1.125	0.000		0.000		0.340	Oct 2020	-		0.340	Continuing	Continuing	Continuing
Design/Systems Integration	WR	NSWC, Port Hueneme : Port Hueneme, CA	1.148	0.122	Oct 2018	0.000		0.000		-		0.000	0.000	1.270	-
Design/Systems Integration	C/CPFF	HII, General Dynamics : Various	32.891	0.000		0.000		0.000		-		0.000	0.000	32.891	-
Design/Systems Integration	WR	NAVSEALOGCEN : Mechanicsburg, PA	0.466	0.181	Oct 2018	0.000		0.000		-		0.000	0.000	0.647	-
Systems Engineering and Integration	C/CPFF	Huntington : Pascagoula, MS	0.000	0.000		0.000		1.175	Oct 2020	-		1.175	0.000	1.175	-
Subtotal			93.699	5.463		12.250		6.215		-		6.215	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
Test and Evaluation	C/BA	COTF : Norfolk, VA	0.000	0.000		0.250	Jan 2020	0.235	Oct 2020	-		0.235	0.000	0.485	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604454N / LX (R)	Project (Number/Name) 2474 / LPD Flight II Design & Total Integration

Fiscal Year	2019				2020				2021				2022				2023				2024				2025			
	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
Acquisition Milestones	LPD 30 DD&C Award ▲				LPD 30 Start of Const. ▲▲ LPD 31 DD&C Award								LPD 31 Start of Const. ▲				LPD 32 DD&C Award ▲				LPD 32 Start of Const. ▲				LPD 33 DD&C Award ▲			
T&E Milestones*					▲								OT&E Begins ▲												▲			
Technical Reviews					PRR ▲																							

*Note: LPD 28 and LPD 29 will be used to conduct test events as they incorporate some LPD Flight II changes prior to the lead Flight II Ship. LPD 28, LPD 29 and LPD 30 each incorporate LX(R) changes across three ships.

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604454N / LX (R)	Project (Number/Name) 2474 / LPD Flight II Design & Total Integration

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2474				
LPD 30 Detail Design & Construction Award	2	2019	2	2019
Production Readiness Review	2	2020	2	2020
LPD 30 Start of Construction	3	2020	3	2020
Live Fire Test and Evaluation Phase	2	2020	2	2025
LPD 31 Detail Design & Construction Award	2	2020	2	2020
LPD 31 Start of Construction	3	2022	3	2022
Operational Test & Evaluation Begins	1	2022	1	2022
LPD 32 Ship Detail Design & Construction Award	4	2023	4	2023
LPD 32 Start of Construction	3	2024	3	2024
LPD 30 Delivery	2	2025	2	2025
LPD 33 Detail Design & Construction Award	4	2025	4	2025