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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	864.499	61.758	54.829	60.791	-	60.791	58.149	58.576	40.996	40.503	Continuing	Continuing
1803: <i>Ship Contract Design</i>	143.784	3.131	3.102	2.837	-	2.837	4.284	3.734	3.361	3.390	Continuing	Continuing
2465: <i>LHA(R) FLT Design and Total Ship Integration</i>	276.873	3.970	7.400	12.237	-	12.237	6.821	20.701	4.350	3.477	Continuing	Continuing
3108: <i>CVN 80 Total Ship Integration</i>	116.039	22.266	25.177	26.311	-	26.311	26.742	25.084	25.463	25.778	Continuing	Continuing
3179: <i>CVN-79 Total Ship Integration</i>	246.609	14.296	14.908	15.418	-	15.418	15.602	6.132	6.151	6.139	Continuing	Continuing
4007: <i>CVN 21 LFT&E</i>	81.194	4.106	4.242	3.988	-	3.988	4.700	2.925	1.671	1.719	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	13.989	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.989

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 333, 223

A. Mission Description and Budget Item Justification

This Program Element (PE) directly supports the Navy's Shipbuilding Plan by providing for the development of engineering, programmatic and acquisition documentation including ship specifications (including performance specifications) and contractual documentation associated with acquisition of Navy ships. This PE also supports the Congressionally mandated Live Fire Test and Evaluation (LFT&E) program for new ship designs.

Contract Design has traditionally been the engineering development of the technical and contractual definition of the ship design (including ship specifications and drawings) to a level of detail sufficient for shipbuilders to make a sound estimate of the construction cost and schedule. Additionally, the contract design package developed under this PE has provided the technical baseline from which the Navy selects the shipbuilder who then develops the detail design package required to support the construction and eventual delivery of the ship. This PE also supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions, and supports engineering planning and ship affordability studies.

Under Acquisition Reform for new design ships, traditional distinct phasing of the design process has been replaced with a continuous concurrent engineering Integrated Product and Process Development (IPPD) process extending through and after contract award. This serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, system programs, and suppliers. Government/Industry Integrated Product Team(s) (IPTs) will utilize the IPPD process to develop the design in an Integrated Product and Data Environment (IPDE). The design approach is part of an acquisition strategy that is based on commercial practices and incorporates a phased technical definition.

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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>
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B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	63.531	54.829	0.000	-	0.000
Current President's Budget	61.758	54.829	60.791	-	60.791
Total Adjustments	-1.773	0.000	60.791	-	60.791
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.773	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Adjustments to Budget Year	-	-	60.791	-	60.791

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *DDG-51 Advanced Degaussing Mine Protection System*

Congressional Add: *ESB Pilot Program*

	FY 2021	FY 2022
	6.753	0.000
	7.236	0.000
Congressional Add Subtotals for Project: 9999	13.989	0.000
Congressional Add Totals for all Projects	13.989	0.000

Change Summary Explanation

The FY 2023 funding request was reduced by \$1.748 million to account for the availability of prior year execution balances.

The increase from FY 2022 to FY 2023 supports research and systems engineering efforts to replace the obsolete systems and funds efforts to illuminate Landing Spot 9 for Joint Strike Fighter (JSF) F-35B unaided night landings.

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>				Project (Number/Name) 1803 / <i>Ship Contract Design</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
1803: <i>Ship Contract Design</i>	143.784	3.131	3.102	2.837	-	2.837	4.284	3.734	3.361	3.390	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DDG Modernization:

The major effort is the engineering development of the technical and contractual definition of the ship's design (e.g. ship specifications and drawings), with sufficient details for the planning yard to make a sound estimate of cost and schedule. It also serves as the technical definition from which the planning yard develops the detailed design and testing package required to build and test the ship. It provides the Navy with a digital, ship design knowledge base, including lessons learned, required to ensure that a proper development, analysis and evaluation can be conducted of any current or future planned.

Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria

and standards. This project also funds the translation of the traditional Ship Specifications into performance-based criteria, which supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to ship alterations. This project also supports ship survivability studies, superstructure integrity analysis, developmental and operational testing, gun weapon system software integration and next generation Machinery Control System (MCS) software integration.

Expeditionary Sea Base (ESB) (formerly MLP AFSB)

Prior year funding included the performance specification development and Dynamic Interface Testing for various airframes as part of the ESB Special Operations Forces (SOF) Backfit.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Ship Contract Design	3.131	3.102	2.837	0.000	2.837
Articles:	-	-	-	-	-
FY 2022 Plans:					
Continue ship design and alteration development for service life extension and Hull, Mechanical and Electrical (HM&E) network upgrades in CG 47 and for DDG 51 Flt IIA ship design to include development of structural reliability and other alterations to include machinery control systems improvements in FY 2022.					
FY 2023 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 1803 / Ship Contract Design

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue ship design and alteration development for service life extension and HM&E network upgrades in CG 47 and for DDG 51 Flt IIA ship design to include development of structural reliability and other alterations to include machinery control systems improvements in FY 2023. FY 2023 OCO Plans: N/A FY 2022 to FY 2023 Increase/Decrease Statement: Decreased engineering support costs for CG Class and DDG Class Hulls.					
Accomplishments/Planned Programs Subtotals	3.131	3.102	2.837	0.000	2.837

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPN 0900: DDG Mod	509.768	535.667	770.341	-	770.341	738.221	920.549	829.843	950.427	9,227.494	18,131.554
• OPN 0960: CG Mod	87.978	138.926	59.054	-	59.054	0.000	0.000	0.000	0.000	0.000	3,936.983

Remarks

D. Acquisition Strategy

Continuing systems and software development for both development models and production machinery control units at Land Based Engineering Sites.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0604567N / Ship Contract Design/ Live Fire T&E				1803 / Ship Contract Design							
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
CG Mod Electronics Systems Eng	C/CPAF	Lockheed : Martin, Moorestown, NJ	17.413	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DON Energy Initiative - OEM	C/FPIF	L-3 Maritime Systems : Leesburg, VA	34.857	0.000		0.000		0.000		-		0.000	0.000	34.857	-
DON Energy Initiative	WR	NSWC/SSES : Philadelphia, PA	3.629	0.000		0.000		0.000		-		0.000	0.000	3.629	-
Engineering Development and Design	Various	COTF/NAVAIR/NSWCCD/NSWCDD/NSWCPC/NSWCPC/NSWCSSSES : DC/MD/PA/CA	1.085	0.000		0.000		0.000		-		0.000	0.000	1.085	-
Preliminary and Contract Design	C/FPIF	NASSCO : San Diego, CA	6.500	0.000		0.000		0.000		-		0.000	0.000	6.500	-
Hybrid Electric Drive	C/CPIF	L-3 Maritime Systems : Leesburg, VA	6.911	0.000		0.000		0.000		-		0.000	0.000	6.911	-
Hybrid Electric Drive	C/CPAF	Rolls Royce : Walpole, MA	0.100	0.000		0.000		0.000		-		0.000	0.000	0.100	-
Hybrid Electric Drive	C/CR	General Atomics : San Diego, CA	0.040	0.000		0.000		0.000		-		0.000	0.000	0.040	-
Hybrid Electric Drive	C/CPAF	Herren Engineering : Alexandria, VA	0.600	0.000		0.000		0.000		-		0.000	0.000	0.600	-
Hybrid Electric Drive	C/CPAF	Syntek : Arlington, VA	0.099	0.000		0.000		0.000		-		0.000	0.000	0.099	-
Hybrid Electric Drive	WR	NSWC/SSES : Philadelphia, PA	0.750	0.000		0.000		0.000		-		0.000	0.000	0.750	-
Hybrid Electric Drive	Various	Not Specified : Not Specified	8.500	0.000		0.000		0.000		-		0.000	0.000	8.500	-
Subtotal			80.484	0.000		0.000		0.000		-		0.000	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy												Date: April 2022			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E					Project (Number/Name) 1803 / Ship Contract Design						
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
DDG/CGM Program / Engineering Spt	WR	NSWC/DD : Dahlgren, VA	4.376	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDGM Program/ Engineering Spt	Various	SUPSHIP/BATH : Bath, ME	3.331	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDG/CGM Program / Engineering Spt	C/CPAF	CSC/BAE : Hampton, VA	4.713	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDG/CGM Program / Engineering Spt	WR	SPAWARSYSCEN : Charleston, SC	2.004	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
CGM Program / Engineering Spt	WR	NRL : Washington, DC	0.617	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
CGM Program / Engineering Spt	C/CPAF	JJMA/ALION : Washington, DC	2.947	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDG/CGM Program / Engineering Spt	C/CPAF	Lockheed Martin : Moorestown, NJ	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
DDG/CGM Program / Engineering Spt	WR	NSWC/PHD : Port Hueneme, CA	2.889	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Logistics Support	C/CPFF	CSC : Washington DC	0.085	0.000		0.000		0.000		-		0.000	0.000	0.085	-
CGM/DDG Program / Engineering Spt	WR	COMPTEVFOR : Norfolk, VA	0.420	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDGM/HED Program / Engineering Spt	WR	NSWC/SSES : Philadelphia, PA	4.900	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDGM Program / Engineering Spt	WR	NSWC/SSES : Philadelphia, PA	6.409	0.907	Jan 2021	0.605	Jan 2022	0.437	Jan 2023	-		0.437	0.000	8.358	-
HED Program / Engineering Spt	WR	NSWC/SSES : Philadelphia, PA	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	-
HED	C/CPAF	L-3 Maritime Systems : Leesburg, VA	1.048	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
CG Program / Engineering Spt	WR	NSWC/BETHESDA : Bethesda, MD	10.718	0.475	Jan 2021	0.316	Jan 2022	0.291	Jan 2023	-		0.291	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
1319 / 5				PE 0604567N / Ship Contract Design/ Live Fire T&E						1803 / Ship Contract Design					
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
CG Program / Engineering Spt	Various	SUPSHIP/ PASCAGOULA : Pascagoula, MS	5.326	0.309	Jun 2021	0.308	Jun 2022	0.434	Jun 2023	-		0.434	Continuing	Continuing	Continuing
DDG/CGM Program / Engineering Spt	C/CPFF	John Hopkins University : Laurel, MD	2.355	0.000		0.351	Apr 2022	0.428	Apr 2023	-		0.428	0.000	3.134	-
ESB	Various	Various : Various	5.276	0.000		0.000		0.000		-		0.000	0.000	5.276	-
NAVSEA Boundary Defense Capability	Various	Various : Various	1.995	0.000		0.000		0.000		-		0.000	0.000	1.995	-
CG Program / Engineering Spt	WR	NSWC/SSES : Philadelphia, PA	3.391	1.440	Jan 2021	1.522	Jan 2022	1.247	Jan 2023	-		1.247	0.000	7.600	-
Subtotal			63.300	3.131		3.102		2.837		-		2.837	Continuing	Continuing	N/A
Project Cost Totals			143.784	3.131		3.102		2.837		-		2.837	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 1803 / <i>Ship Contract Design</i>

FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
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 1803	
Ship Contract Design: CGM Baseline 4 Mod Design	
Ship Contract Design: CG Class Design	
Ship Contract Design: DDG Technical Insertion 16 Mod Design	
Ship Contract Design: DDG FLT IIA Mod Design	
Ship Contract Design: CG Deliveries (CG 59,61,62,63-73)	
Ship Contract Design: DDGM Deliveries (DDG 61,80,81,84,87)	
Ship Contract Design: DDG Class Design	

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 1803 / <i>Ship Contract Design</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1803				
Ship Contract Design: CGM Baseline 4 Mod Design	1	2021	4	2023
Ship Contract Design: CG Class Design	1	2021	4	2026
Ship Contract Design: DDG Technical Insertion 16 Mod Design	1	2021	4	2022
Ship Contract Design: DDG FLT IIA Mod Design	1	2021	2	2023
Ship Contract Design: CG Deliveries (CG 59,61,62,63-73)	1	2021	4	2022
Ship Contract Design: DDGM Deliveries (DDG 61,80,81,84,87)	1	2021	3	2022
Ship Contract Design: DDG Class Design	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E				Project (Number/Name) 2465 / LHA(R) FLT Design and Total Ship Integration			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
2465: LHA(R) FLT Design and Total Ship Integration	276.873	3.970	7.400	12.237	-	12.237	6.821	20.701	4.350	3.477	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 333												

A. Mission Description and Budget Item Justification

This project provides the contract design, development and testing efforts for the Amphibious Assault Ship Replacement Program LHA(R). The LHA(R) is a ship construction program designed to: (1) provide a functional replacement for the Amphibious Assault Ships which reached the end of their extended service lives (2) be a key platform in the Amphibious Readiness Group (ARG) of the future and (3) provide for an affordable and sustainable amphibious ship development program. LHA(R) ships will provide forward presence and power projection as an integral part of Joint, inter-agency, and multi-national maritime expeditionary forces. Additionally, LHA(R) will be designed to operate for sustained periods in transit to and operations in an Amphibious Objective Area to include the embarkation, deployment, and landing of a Marine Landing Force in an assault with landing craft, helicopters and tilt rotors (MV-22) supported by Joint Strike Fighters (F-35B).

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: LHA (R) FLT 0 Design and Total Ship Integration - LHA 6	0.035	1.487	0.060	0.000	0.060
Articles:	-	-	-	-	-
FY 2022 Plans: Continue planning for LHA 6 Follow-On Test and Evaluation (FOT&E) event to demonstrate the JSF/F-35B capacity Key Performance Parameter (KPP).					
FY 2023 Base Plans: Complete the report for the LHA 6 JSF/F-35B capacity KPP FOT&E event.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: There are no LHA 6 test events scheduled after FY 2022 and only the completion of the LHA 6 JSF/F-35B capacity KPP FOT&E report remains in FY 2023.					
Title: LHA (R) FLT 1 Design and Total Ship Integration - LHA 8	3.935	5.913	12.177	0.000	12.177
Articles:	-	-	-	-	-
FY 2022 Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
LHA 8 Initiate Landing Spot 9 Night Illumination evaluation. LHA 8 Initiate research and systems engineering for replacing Fuel at Sea (FAS) equipment no longer obtainable. LHA 8 Initiate Dynamic Interface-Virtual Environment (DIVE) Modeling and Simulation. LHA 8 Continue Reliability, Maintainability, and Availability (RM&A) analyses. LHA 8 Continue development of the Vulnerability Assessment Report (VAR). LHA 8 Continue Operational Test & Evaluation (OT&E) preparation for Operational Assessment. LHA 8 Continue Cyber Security Developmental Test & Evaluation (DT&E) efforts. LHA 8 Continue Live Fire Test & Evaluation (LFT&E) efforts.					
<i>FY 2023 Base Plans:</i> LHA 8 Continue Landing Spot 9 Night Illumination evaluation. LHA 8 Continue research and systems engineering for replacing FAS equipment no longer obtainable. LHA 8 Continue DIVE Modeling and Simulation. LHA 8 Continue RM&A analyses. LHA 8 Continue development of the VAR. LHA 8 Continue OT&E preparation for Operational Assessment. LHA 8 Continue Cyber Security DT&E efforts. LHA 8 Continue LFT&E efforts.					
<i>FY 2023 OCO Plans:</i> N/A					
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> The increase from FY 2022 to FY 2023 reflects research and systems engineering efforts to replace the obsolete FAS system and funds efforts to illuminate Landing Spot 9 for Joint Strike Fighter (JSF) F-35B unaided night landings.					
Accomplishments/Planned Programs Subtotals	3.970	7.400	12.237	0.000	12.237

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• SCN/3041: <i>LHA (R) Ships</i>	500.000	68.637	1,104.770	-	1,104.770	1,535.111	71.700	0.000	0.000	0.000	13,896.551

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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 2465 / <i>LHA(R) FLT Design and Total Ship Integration</i>

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

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

LHA 6 Advanced Procurement and Long Lead Time Material was awarded on a sole source basis to Huntington Ingalls Inc., formerly Northrop Grumman Shipbuilding, on 15 July 2005; LHA 6 Detail Design and Construction (DD&C) was awarded on 1 June 2007. The Advance Procurement and Long Lead Time Material efforts were subsumed by the Fixed Price Incentive, Firm Target DD&C contract.

LHA 7 Advanced Procurement and Long Lead Time Material was awarded on a sole source basis to Huntington Ingalls Inc., formerly Northrop Grumman Shipbuilding, on 30 June 2010; LHA 7 DD&C was awarded on 31 May 2012. The Advanced Procurement and Long Lead Time Material efforts were subsumed by the Fixed Price Incentive, Firm Target DD&C contract.

LHA 8 Planning, Advanced Engineering and Procurement of Long Lead Time Material (LLTM) for an LHA Replacement (LHA(R)) Flight 1 Amphibious Assault Ship was awarded on a competitive basis to Huntington Ingalls Inc. on 30 June 2016. The option for LHA 8 Detail Design and Construction was awarded on 16 June 2017. The Planning, Advanced Engineering and Procurement of Long Lead Time Material (LLTM) efforts were subsumed into this Fixed Price Incentive, Firm Target DD&C contract option.

LHA 9 Advance Procurement for Long Lead Time Material and associated Advance Engineering and Planning was awarded on 30 April 2020; DD&C award planned for early FY 2023.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 2465 / LHA(R) FLT Design and Total Ship Integration
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Ship Design	WR	NSWC : Various	97.905	0.000		0.000		0.000		-		0.000	0.000	97.905	-
Ship Design	C/CPFF	HII : Pascagoula, MS	5.009	0.000		0.000		0.000		-		0.000	0.000	5.009	-
Ship Design	C/CPFF	Various : Various	44.087	0.000		0.000		0.000		-		0.000	0.000	44.087	-
Special Studies	WR	NSWC : Panama City, FL	4.800	0.000		0.000		0.000		-		0.000	0.000	4.800	-
Subtotal			151.801	0.000		0.000		0.000		-		0.000	0.000	151.801	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Technical Engineering Services	Various	NSWC : Various	11.063	0.895	Dec 2020	2.356	Dec 2021	8.387	Dec 2022	-		8.387	Continuing	Continuing	Continuing
Subtotal			11.063	0.895		2.356		8.387		-		8.387	Continuing	Continuing	N/A

Remarks
The increase from FY 2022 to FY 2023 supports engineering efforts to replace the obsolete FAS system and funds efforts to illuminate Landing Spot 9 for Joint Strike Fighter (JSF) F-35B unaided night landings.

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	Various	NSWC, USS Secure : Various	4.559	1.118	Dec 2020	1.858	Dec 2021	2.034	Dec 2022	-		2.034	Continuing	Continuing	Continuing
Operational Test & Evaluation	WR	OPTEVFOR/ MCOTEA/NAVSUP : Norfolk, VA/ Quantico, VA	23.846	0.356	Dec 2020	0.344	Dec 2021	0.377	Dec 2022	-		0.377	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	WR	NSWC : Various	68.413	1.481	Dec 2020	1.175	Dec 2021	1.286	Dec 2022	-		1.286	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
1319 / 5				PE 0604567N / Ship Contract Design/ Live Fire T&E						2465 / LHA(R) FLT Design and Total Ship Integration					
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Follow-on Operational Test and Evaluation	WR	OPTEVFOR / MCOTEA : Norfolk, VA / Quantico, VA	0.000	0.035	Dec 2020	1.582	Dec 2021	0.060	Dec 2022	-		0.060	Continuing	Continuing	Continuing
Subtotal			96.818	2.990		4.959		3.757		-		3.757	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Program Management	C/CPFF	Various : Various	16.417	0.085	Dec 2020	0.085	Dec 2021	0.093	Dec 2022	-		0.093	Continuing	Continuing	Continuing
Travel	Various	NAVSEA Travel : Washington, DC	0.763	0.000		0.000		0.000		-		0.000	0.000	0.763	-
Defense Acquisition Workforce	Various	Various : Various	0.011	0.000		0.000		0.000		-		0.000	0.000	0.011	-
Subtotal			17.191	0.085		0.085		0.093		-		0.093	Continuing	Continuing	N/A
Project Cost Totals			276.873	3.970		7.400		12.237		-		12.237	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy

Date: April 2022

Appropriation/Budget Activity
1319 / 5

R-1 Program Element (Number/Name)
PE 0604567N / Ship Contract Design/ Live Fire T&E

Project (Number/Name)
2465 / LHA(R) FLT Design and Total Ship Integration

LHA Replacement Design and Total Ship Integration

FY	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027							
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Program Milestones	LHA7	▲ CFO	▲	PSA / WOO	▲	▲ OWLD																										
	LHA8					▲ RIYD Below Deck	▲ EASR		▲ RIYD Above Deck	▲ EASR		▲ Launch				▲ BT		▲ Ship Delivery			▲ PDT&T	▲ PSA	▲	▲	▲	▲ OWLD						
	LHA9								▲ LHA 9 Construction Award																							
Test & Evaluation	LHA 6 FOT&E																															
	LHA 8 Operational Test and Assessment Efforts																															
	LHA 8 Live Fire Test and Evaluation (Including VAR)																															
	LHA 8 RMA																															
	LHA 8 Developmental Testing and Evaluation Efforts																															
	Dynamic Interface Virtual Environment M&S Development																				Dynamic Interface Testing											
	LHA 8 Cyber Security (Table Tops, USS Secure, CVA5T)																															
	Fuel at Sea (FAS) Obsolescence																															
Landing Spot 9 Night Illumination																																
Contracts (SCN)									▲ LHA 9 Construction Award																							

DD&C - Detail Design and Construction	EASR - Enterprise Air Search Radar	FOT&E - Follow-on Operational Test and Evaluation	OWLD - Obligation Work Limiting Date
PSA - Post Shakedown Availability	PDT&T - Post Delivery Test and Trials	WOO - Window of Opportunity	LFT&E - Live Fire Test and Evaluation
RIYD - Required In-Yard Date	RMA - Reliability, Maintainability, Availability	RFP - Request for Proposals	VAR - Vulnerability Assessment Report

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 2465 / <i>LHA(R) FLT Design and Total Ship Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2465				
LHA (R) FLT Design and Total Ship Integration	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E				Project (Number/Name) 3108 / CVN 80 Total Ship Integration			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3108: CVN 80 Total Ship Integration	116.039	22.266	25.177	26.311	-	26.311	26.742	25.084	25.463	25.778	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 223												

A. Mission Description and Budget Item Justification

Development and related testing of CVN 78 Class aircraft carrier specific technologies, the infusion of the ship technology base into existing and future aircraft carriers, and the potential realization of subsystem design capabilities not currently feasible. This project also funds the Contract Design efforts for the CVN 80. This project transitions the minimum sustaining technologies required to address obsolescence, critical survivability shortfalls as identified in CVN 78 Class testing, future requirements, and technologies which did not mature in time to support the CVN 78 or CVN 79. All systems developed in this project have the potential to support emerging requirements and other promising system technologies for insertion into new aircraft carrier designs. The emphasis is directed toward developing ship hull, mechanical, propulsion, electrical, aviation, warfare systems, and combat support systems, sub-systems and components to maintain aircraft carrier affordability, manpower requirements, survivability, and operational capabilities and to meet the requirements of existing and pending regulations and statutes critical to the operation of future aircraft carriers. This project also encompasses those tasks required to support CVN 80 procurement, including, but not limited to engineering support, programmatic and program support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Enterprise Radar Suite (ERS)/ Warfare Systems Development and Integration	5.000	4.000	3.635	0.000	3.635
Articles:	-	-	-	-	-
FY 2022 Plans: Continue to conduct ship integration studies for Government Furnished Information (GFI) vetting, tracking and delivery. Continue conducting onboard and offboard Electromagnetic Interference/Control (EMI / EMC) studies due to new the radar sensor suite. Continue analyzing / performing integrated topside design due to the new radar sensor suite and systems associated with Joint Strike Fighter (JSF) capabilities. Continue Enterprise Radar Suite (ERS) integration testing with the combat system. Continue conducting system integration studies related to the Test and Evaluation Master Plan (TEMP); platform impacts & updates to TEMP; cybersecurity analysis. Continue conducting Reliability Maintainability Availability (RMA) and Integrated Logistics Support (ILS) studies, to include trade studies and identification of investment opportunities / requirements. Continue					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy			Date: April 2022		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 3108 / <i>CVN 80 Total Ship Integration</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
preparing / updating acquisition support documents and cost estimates. Continue operation of the Integrated Product Team to include vendor, shipbuilder and Government.					
FY 2023 Base Plans: Continue to conduct ship integration studies for GFI vetting, tracking and delivery. Continue conducting onboard and offboard EMI / EMC studies due to new the radar sensor suite. Continue analyzing / performing integrated topside design due to the new radar sensor suite and systems associated with Joint Strike Fighter (JSF) capabilities. Continue ERS integration testing with the combat system. Continue conducting system integration studies related to the TEMP; platform impacts & updates to TEMP; cybersecurity analysis. Continue conducting RMA and ILS studies, to include trade studies and identification of investment opportunities / requirements. Continue preparing / updating acquisition support documents and cost estimates. Continue operation of the Integrated Product Team to include vendor, shipbuilder and Government.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: Decrease due to planned remaining work decreasing.					
Title: CVN 78 Class Design for Affordability (DFA) and Systems Integration					
Articles:					
	17.266	21.177	22.676	0.000	22.676
	-	-	-	-	-
FY 2022 Plans: Continue conducting and supporting feasibility and tradeoff studies on new and modified shipboard systems and equipment. Identify and resolve Government Furnished Equipment and Contractor Furnished Equipment obsolescence issues to support construction. Continue to technically resolve CVN 78 class system integration issues in support of CVN 80 and CVN 81 construction. Continue development of cost saving initiatives, business case analyses, and DFA initiatives to continue to drive affordability into the carrier program. Continue performing CVN 80-specific engineering calculations and technical analysis in the areas of technical performance measures; system component calculations; environmental safety and health, and human factors engineering; survivability and vulnerability; automation systems software; shock and vibration; and engineered components support. Support Integrated Enterprise Plan (IEP) initiatives including Affordability Process Improvement (API) initiatives and Supplier Illumination studies to support CVN 80 and CVN 81 construction.					
FY 2023 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 3108 / <i>CVN 80 Total Ship Integration</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Continue conducting and supporting feasibility and tradeoff studies on new and modified shipboard systems and equipment. Identify and resolve Government Furnished Equipment and Contractor Furnished Equipment obsolescence issues to support construction. Continue to technically resolve CVN 78 class system integration issues in support of CVN 80 and CVN 81 construction. Continue development of cost saving initiatives, business case analyses, and DFA initiatives to continue to drive affordability into the carrier program. Continue performing CVN 80-specific engineering calculations and technical analysis in the areas of technical performance measures; system component calculations; environmental safety and health, and human factors engineering; survivability and vulnerability; automation systems software; shock and vibration; and engineered components support. Support Integrated Enterprise Plan (IEP) initiatives including Affordability Process Improvement (API) initiatives, industrial base deep-dives, and cost reduction initiatives to support CVN 80 and CVN 81 construction.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: Increase attributed to escalation.					
Accomplishments/Planned Programs Subtotals	22.266	25.177	26.311	0.000	26.311

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• SCN / 2001: <i>Carrier Replacement Program</i>	958.933	1,062.205	1,481.530	-	1,481.530	1,119.726	2,416.628	1,159.211	1,810.540	Continuing	Continuing
• RDTEN / 0604112N: <i>Project Units 2208, 4004, 9999</i>	111.554	121.509	116.498	-	116.498	45.574	29.532	29.675	29.958	Continuing	Continuing
• OMN / 1B2B: <i>CVN 78 Ford Class Training and Sustainment</i>	5.256	5.314	5.767	-	5.767	6.020	6.042	6.096	6.113	Continuing	Continuing
• OPN / 5664: <i>Surface Training Equipment</i>	4.457	2.475	2.468	-	2.468	2.485	2.628	2.641	2.693	Continuing	Continuing
• SCN 5300: <i>Completion of PR Shpblgdg Progr</i>	71.000	291.000	461.700	-	461.700	624.600	0.000	0.000	0.000	0.000	1,448.300
• SCN / 2004: <i>CVN 81</i>	1,606.432	1,287.719	1,052.024	-	1,052.024	774.268	634.080	1,959.244	2,035.477	1,711.206	12,917.950

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy	Date: April 2022
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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 3108 / <i>CVN 80 Total Ship Integration</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OMN / 1B5B: <i>Ford Class PCU Housing</i>	0.000	0.000	13.000	-	13.000	4.600	0.100	0.800	10.600	Continuing	Continuing

Remarks

D. Acquisition Strategy

The CVN 80 is the third ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class Carriers. The CVN 80 is a modified repeat of the CVN 78, which features a new nuclear propulsion and electrical generation / distribution system, electromagnetic aircraft launching system, advanced arresting gear system, electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war-fighting benefits will be realized: increased sortie generation rate, improved ship self-defense capability, increased launch and recovery capability / flexibility, increased operational availability, and increased flexibility to support future upgrades.

CVN 80 will use late integration of Government Furnished Equipment (GFE) to provide the latest combat system and C4I suite applications within the planned system baseline. CVN 80 will improve upon processes used on CVN 78 and CVN 79 to gain efficiencies during the CVN 80 Construction Preparation and Construction periods.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 3108 / CVN 80 Total Ship Integration
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Advanced Design & Development	C/CPAF	HII : VA	56.714	14.106	Nov 2020	11.425	Nov 2021	8.000	Nov 2022	-		8.000	Continuing	Continuing	Continuing
Advanced Design & Development	C/CPFF	GRYPHON (SEI&T) : IN	5.537	0.000		0.000		2.500	Nov 2022	-		2.500	Continuing	Continuing	Continuing
Advanced Design & Development	WR	NSWC DAHLGREN : VA	10.758	1.316	Feb 2021	3.552	Nov 2021	2.500	Nov 2022	-		2.500	Continuing	Continuing	Continuing
Advanced Design & Development	WR	NSWC CARDEROCK : MD	6.652	0.000		1.500	Nov 2021	1.500	Nov 2022	-		1.500	Continuing	Continuing	Continuing
Advanced Design & Development	WR	NSWC PHILADELPHIA : PA	3.701	0.000		1.300	Nov 2021	2.000	Nov 2022	-		2.000	Continuing	Continuing	Continuing
Advanced Design & Development	C/CPFF	NAVSEA SEAPORT : VARIOUS	19.930	0.000		3.000	Nov 2021	3.000	Nov 2022	-		3.000	Continuing	Continuing	Continuing
Advanced Design & Development	C/BA	NAWCAD PAX RIVER : MD	4.637	0.926	Feb 2021	1.000	Nov 2021	1.000	Nov 2022	-		1.000	Continuing	Continuing	Continuing
Advanced Design & Development	WR	NAWCAD LAKEHURST : NJ	0.312	0.000		0.000		0.000		-		0.000	0.000	0.312	-
Advanced Design & Development	WR	SPAWAR : VARIOUS	2.333	0.714	Feb 2021	0.900	Nov 2021	0.900	Nov 2022	-		0.900	Continuing	Continuing	Continuing
Advanced Design & Development	Various	NSRP : VARIOUS	0.835	1.670	Feb 2021	1.500	Nov 2021	1.500	Nov 2022	-		1.500	Continuing	Continuing	Continuing
Advanced Design & Development	Various	MISCELLANEOUS : VARIOUS	4.630	3.534	Feb 2021	1.000	Nov 2021	3.411	Nov 2022	-		3.411	Continuing	Continuing	Continuing
Subtotal			116.039	22.266		25.177		26.311		-		26.311	Continuing	Continuing	N/A

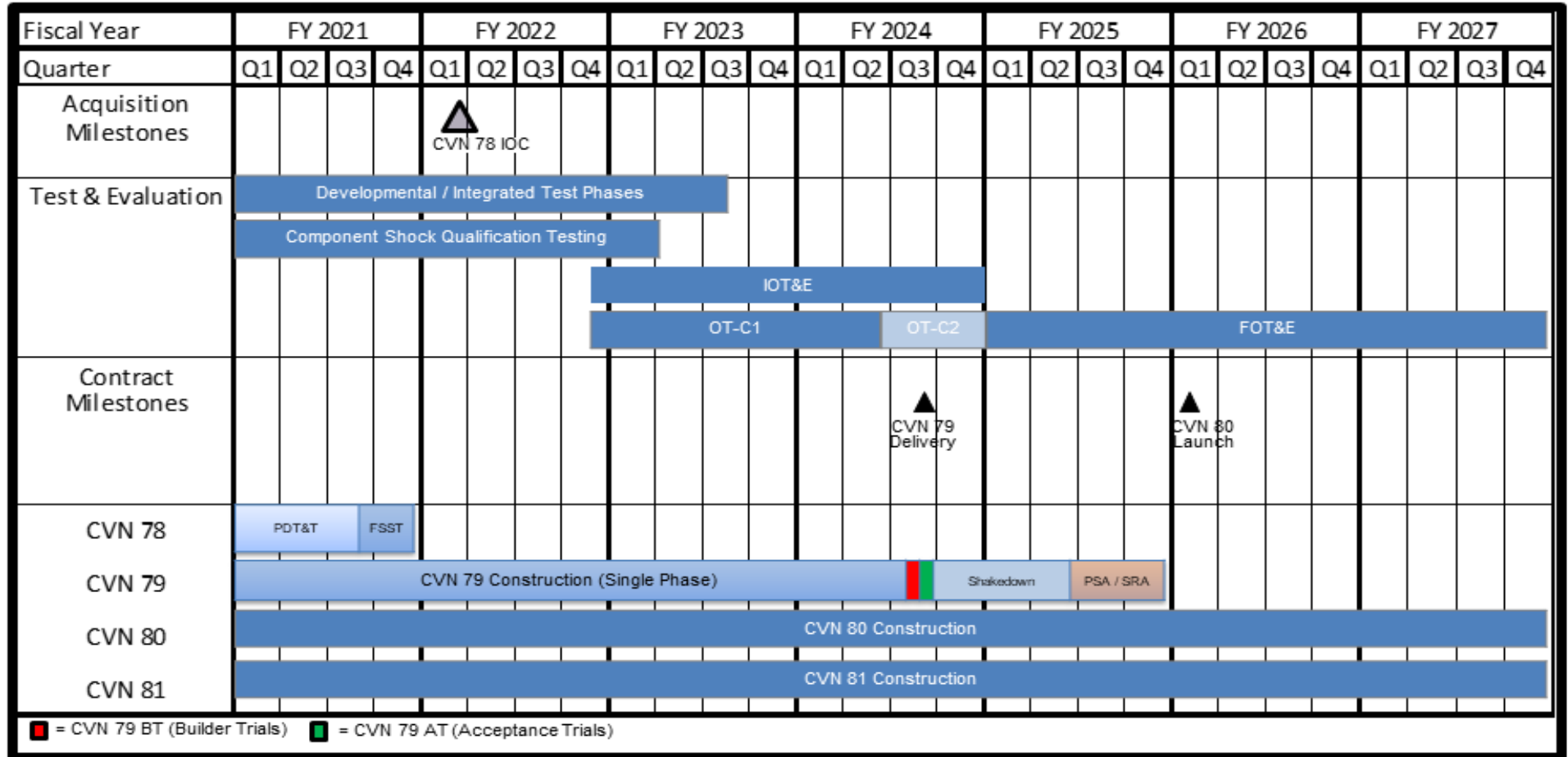
Remarks
Increase in FY 2023 attributed to escalation.

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	116.039	22.266	25.177	26.311	-	26.311	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 3108 / CVN 80 Total Ship Integration

Gerald R. Ford Class Carriers



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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 3108 / <i>CVN 80 Total Ship Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3108				
CVN 80 Total Ship Integration	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E				Project (Number/Name) 3179 / CVN-79 Total Ship Integration			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
3179: CVN-79 Total Ship Integration	246.609	14.296	14.908	15.418	-	15.418	15.602	6.132	6.151	6.139	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 223

A. Mission Description and Budget Item Justification

Development and related testing of CVN 78 Class aircraft carrier specific technologies, the infusion of the ship technology base into existing and future aircraft carriers, and the potential realization of subsystem design capabilities not currently feasible. This project also funds the Contract Design efforts for the CVN 79. This project transitions the minimum sustaining technologies required to address obsolescence, critical survivability shortfalls as identified in CVN 78 Class testing, future requirements, and technologies which did not mature in time to support the CVN 78. All systems developed in this project have the potential to support emerging requirements and other promising systems technologies for insertion into new aircraft carrier designs. The emphasis is directed toward developing ship hull, mechanical, propulsion, electrical, aviation, warfare systems, and combat support systems, sub-systems and components to maintain aircraft carrier affordability, manpower requirements, survivability, and operational capabilities and to meet the requirements of existing and pending regulations and statutes critical to the operation of future aircraft carriers. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 79 procurement, including, but not limited to, engineering support, programmatic and program support, logistics support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment. In addition, this project focuses on significant procurement and life cycle cost reduction compared to the first ship of the class. Cost reductions are sought, developed and implemented in the areas of design, labor and material.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: CVN-79 Total Ship Integration	14.296	14.908	15.418	0.000	15.418
Articles:	-	-	-	-	-
FY 2022 Plans: Continue to address design and construction issues based on the results of CVN 78 testing and initial operations. Continue to manage fact-of-life obsolescence changes on government-furnished equipment systems, challenges encountered on contractor-furnished equipment and material analysis. Continue to evaluate Steel Fabrication and Assembly (SFA), Component Fabrication and Assembly (CFA) improvement initiatives for additional areas of applicability in Final Assembly Platen (FAP) and onboard at the outfitting pier for CVN 79 as well as to inform same for CVN 80 in the drydock and CVN 81 in the shops. Complete CVN 79 Single Phase proposal impacts and refine the strategy to efficiently consolidate Phase I and Phase II construction and final delivery of CVN 79 with Joint Strike Fighter (JSF) compatibility. Refine system integration and testing strategies for implementation in CVN 79 testing of CVN 79 by evaluating improvements needed to capitalize on CVN 78					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 3179 / <i>CVN-79 Total Ship Integration</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
<p>lessons learned. Continue to develop and implement a tailored Integrated Test Plan for CVN 79 and CVN 80 leveraging the Submarine Integration and Test Support System (SIATSS) used by Virginia Class Submarine program to manage Alteration Installation Team (AIT) - conducted testing.</p> <p>FY 2023 Base Plans: Perform technical analysis and calculations in support of validating Technical Performance Measures (TPMs), System/Component, Environmental Safety and Health Qualification, and Human Factors Engineering, Ship/ System/Component Survivability and Vulnerability Qualification, System/Component Shock and Vibration Qualification, and other miscellaneous system related calculations. Manage fact-of-life obsolescence changes on government-furnished equipment systems, challenges encountered on contractor-furnished equipment and material analysis. Refine system integration and testing strategies for implementation on CVN 79 testing including lessons learned on CVN 78. Continue to develop and implement a tailored Integrated Test Plan for CVN 79 and CVN 80 leveraging the Submarine Integration and Test Support System (SIATSS) used by Virginia Class Submarine program to manage Alteration Installation Team (AIT) - conducted testing.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Slight increase in FY 2023 in support of technical analysis of validating multiple performance measures.</p>					
Accomplishments/Planned Programs Subtotals	14.296	14.908	15.418	0.000	15.418

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• SCN / 2001: <i>Carrier Replacement Program</i>	958.933	1,062.205	1,481.530	-	1,481.530	1,119.726	2,416.628	1,159.211	1,810.540	Continuing	Continuing
• RD TEN / 0604112N: <i>Project Units 2208, 4004, 9999</i>	111.554	121.509	116.498	-	116.498	45.574	29.532	29.675	29.958	Continuing	Continuing
• OMN / 1B2B: <i>CVN 78 Ford Class Training and Sustainment</i>	5.256	5.314	5.767	-	5.767	6.020	6.042	6.096	6.113	Continuing	Continuing
• OPN / 5664: <i>Surface Training Equipment</i>	4.457	2.475	2.468	-	2.468	2.485	2.628	2.641	2.693	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 3179 / CVN-79 Total Ship Integration

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

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2023</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• SCN 5300: <i>Completion of PY Shpbldg Progr</i>	71.000	291.000	461.700	-	461.700	624.600	0.000	0.000	0.000	0.000	1,448.300
• SCN / 2004: <i>CVN 81</i>	1,606.432	1,287.719	1,052.024	-	1,052.024	774.268	634.080	1,959.244	2,035.477	1,711.206	12,917.950
• OMN / 1B5B: <i>Ford Class PCU Housing</i>	0.000	0.000	13.000	-	13.000	4.600	0.100	0.800	10.600	Continuing	Continuing

Remarks

D. Acquisition Strategy

The CVN 78 is the first ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class. The CVN 78 class will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system (EMALS), advanced arresting gear (AAG) system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war fighting benefits will be realized: increased sortie generation rate, improved ship self-defense capability, increased launch and recovery capability / flexibility, increased operational availability, and increased flexibility to support future upgrades.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 3179 / CVN-79 Total Ship Integration
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Total Ship Integration	C/CPAF	HII : VA	108.776	13.829	Nov 2020	13.908	Nov 2021	15.418	Nov 2022	-		15.418	Continuing	Continuing	Continuing
Total Ship Integration	WR	NSWC CARDEROCK : MD	18.854	0.000		0.000		0.000		-		0.000	0.000	18.854	-
Total Ship Integration	WR	NSWC DAHLGREN : VA	17.988	0.000		0.000		0.000		-		0.000	0.000	17.988	-
Total Ship Integration	WR	NSWC PHILADELPHIA : PA	4.621	0.000		0.000		0.000		-		0.000	0.000	4.621	-
Total Ship Integration	WR	NAWCAD PAX RIVER : MD	9.423	0.000		0.000		0.000		-		0.000	0.000	9.423	-
Total Ship Integration	WR	SPAWAR : CA	6.486	0.000		0.000		0.000		-		0.000	0.000	6.486	-
Total Ship Integration	C/CPFF	NAVSEA SEAPORT : Various	35.461	0.000		0.000		0.000		-		0.000	0.000	35.461	-
Total Ship Integration	C/CPAF	RAYTHEON : MA	9.784	0.000		0.000		0.000		-		0.000	0.000	9.784	-
Total Ship Integration	WR	NIWC LANT : SC	1.411	0.000		0.000		0.000		-		0.000	0.000	1.411	-
Total Ship Integration	C/CPFF	SAIC : VA	1.445	0.000		0.000		0.000		-		0.000	0.000	1.445	-
Total Ship Integration	Various	NSRP : Various	19.771	0.000		0.000		0.000		-		0.000	0.000	19.771	-
Total Ship Integration	C/CPFF	GRYPHON (SEI&T) : IN	3.740	0.000		0.000		0.000		-		0.000	0.000	3.740	-
Total Ship Integration	MIPR	NIST : Various	0.000	0.000		1.000	Nov 2021	0.000		-		0.000	0.000	1.000	-
Total Ship Integration	WR	NUWC NEWPORT : RI	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Total Ship Integration	Various	MISCELLANEOUS : Various	0.000	0.295	Jul 2021	0.000		0.000		-		0.000	0.000	0.295	-
Subtotal			237.760	14.124		14.908		15.418		-		15.418	Continuing	Continuing	N/A

Remarks
Increase supports technical analysis of validating multiple performance measures.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 3179 / CVN-79 Total Ship Integration
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Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	WR	NSWC CARDEROCK : MD	4.721	0.000		0.000		0.000		-		0.000	0.000	4.721	-
Developmental Test & Evaluation	WR	NUWC NEWPORT : RI	0.123	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NSWC DAHLGREN : VA	2.710	0.172	Jun 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation	TBD	MISCELLANEOUS : TBD	0.168	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPFF	FLC : VA	0.946	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			8.668	0.172		0.000		0.000		-		0.000	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Defense Acquisition Workforce	Various	Various : Misc	0.181	0.000		0.000		0.000		-		0.000	0.000	0.181	-
Subtotal			0.181	0.000		0.000		0.000		-		0.000	0.000	0.181	N/A

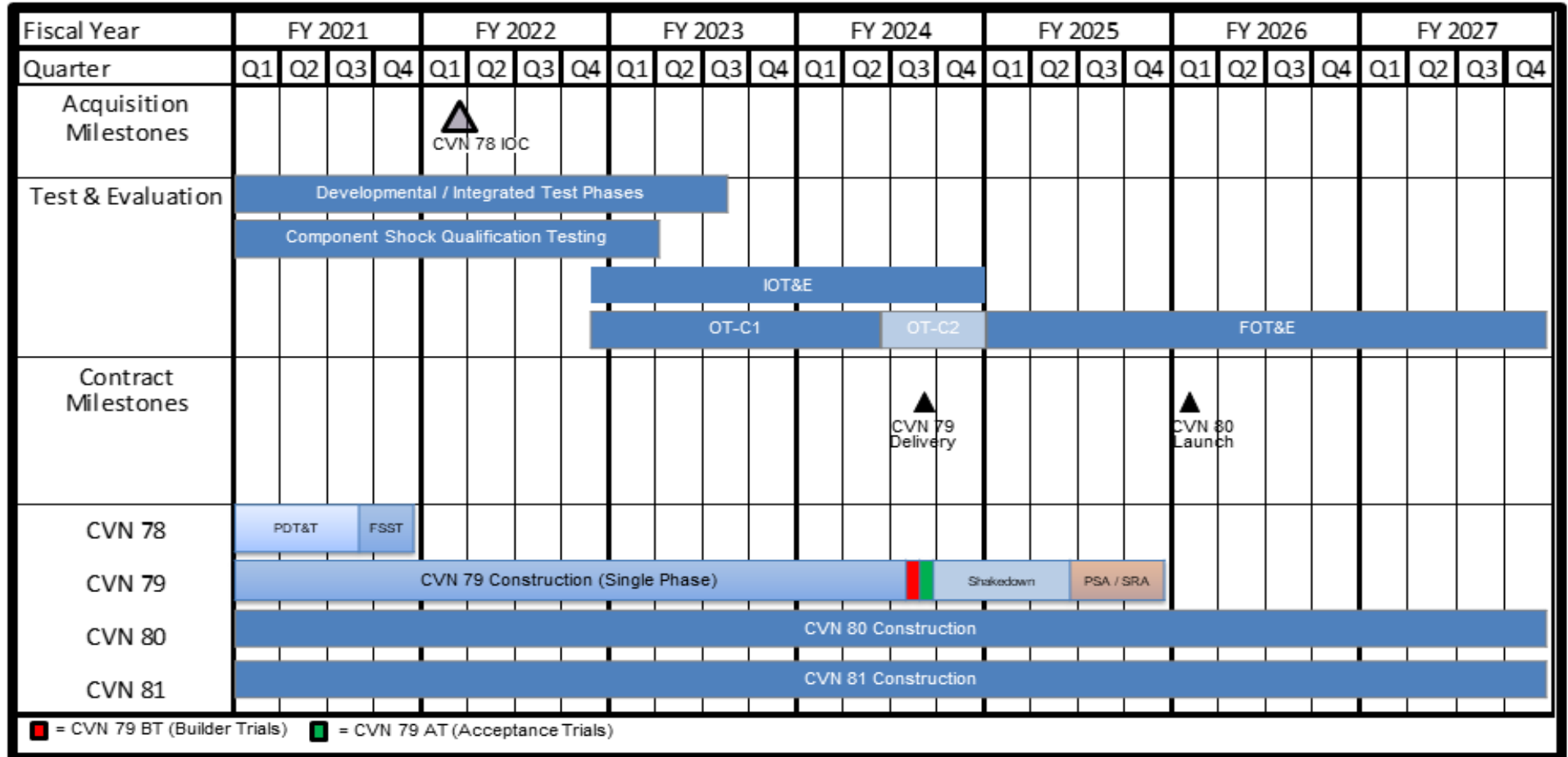
	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		246.609	14.296	14.908	15.418	15.418	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 3179 / CVN-79 Total Ship Integration

Gerald R. Ford Class Carriers



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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 3179 / <i>CVN-79 Total Ship Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3179				
CVN 79 Total Ship Integration	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy										Date: April 2022		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>				Project (Number/Name) 4007 / CVN 21 LFT&E			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
4007: CVN 21 LFT&E	81.194	4.106	4.242	3.988	-	3.988	4.700	2.925	1.671	1.719	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 223												

A. Mission Description and Budget Item Justification

This project encompasses Live Fire Test and Evaluation (LFT&E) efforts for the CVN 78 Class. Title 10, US Code, Section 2366, CVN 21 Operational Requirements Document (ORD) and the CVN 78 Class Test and Evaluation Master Plan (TEMP) 1610 prescribe requirements for LFT&E. The purpose of LFT&E is to evaluate covered systems in a realistic combat environment before proceeding beyond low-rate initial production. Since the application of the survivability testing required by 10 USC 2366 to a CVN 78 Class ship would be unreasonably expensive and impractical, the Secretary of Defense waived the live fire testing requirement in 2004 and submitted a certification of that determination to Congress. The CVN 78 Class LFT&E Management Plan details the testing, modeling and simulation, and engineering analyses that are being used to determine whether CVN 78 Class ships will be able to survive and carry out their missions against the threat weapons identified in the Surface Ship Capstone System Threat Assessment Report (CSTAR) that are likely to be encountered in combat. The results of these tests and analyses are documented in periodic Vulnerability Assessment Reports (VARs).

The CVN 78 Class VAR 3 was completed in the summer of 2007 and the CVN 78 Class VAR 4 is scheduled to be completed in FY 2018.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: CVN 21 LFT&E	4.106	4.242	3.988	0.000	3.988
Articles:	-	-	-	-	-
FY 2022 Plans: Continue planning for the CVN 78 Total Ship Survivability Trial (TSST) with maturation of the TSST drill guides and implementation sheets. Continue with cold checks of CVN 78 systems in support of TSST planning. Continue maturation of table-top exercises of individual TSST scenarios with support from subject matter experts. Continue survivability modeling improvements, analyses and documentation for the final Selected Acquisition Report (SAR).					
FY 2023 Base Plans: Execute the CVN 78 TSST with continued maturation of the TSST drill guides and implementation sheets. Complete procurement of materials for execution of the TSST to include smoke machines, smoke, Uninterruptible Power Supply (UPS) batteries, etc. Complete cold checks of CVN 78 systems in support of TSST					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 4007 / <i>CVN 21 LFT&E</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
planning. Execute Hot Checks a few months prior to execution. Continue survivability modeling improvements, analyses and documentation for the final SAR.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement: Decrease to account for the availability of prior year execution balances.					
Accomplishments/Planned Programs Subtotals	4.106	4.242	3.988	0.000	3.988

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• SCN / 2001: <i>Carrier Replacement Program</i>	958.933	1,062.205	1,481.530	-	1,481.530	1,119.726	2,416.628	1,159.211	1,810.540	Continuing	Continuing
• RDTEN / 0604112N: <i>Project Units 2208, 4004, 9999</i>	111.554	121.509	116.498	-	116.498	45.574	29.532	29.675	29.958	Continuing	Continuing
• OMN / 1B2B: <i>CVN 78 Ford Class Training and Sustainment</i>	5.256	5.314	5.767	-	5.767	6.020	6.042	6.096	6.113	Continuing	Continuing
• OPN / 5664: <i>Surface Training Equipment</i>	4.457	2.475	2.468	-	2.468	2.485	2.628	2.641	2.693	Continuing	Continuing
• SCN 5300: <i>Completion of PY Shpblgdg Progr</i>	71.000	291.000	461.700	-	461.700	624.600	0.000	0.000	0.000	0.000	1,448.300
• SCN / 2004: <i>CVN 81</i>	1,606.432	1,287.719	1,052.024	-	1,052.024	774.268	634.080	1,959.244	2,035.477	1,711.206	12,917.950
• OMN / 1B5B: <i>Ford Class PCU Housing</i>	0.000	0.000	13.000	-	13.000	4.600	0.100	0.800	10.600	Continuing	Continuing

Remarks

D. Acquisition Strategy

The CVN 78 is the first ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class. The CVN 78 will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system (EMALS), advanced arresting gear (AAG) system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war fighting benefits will be realized: increased

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 4007 / <i>CVN 21 LFT&E</i>

sortie generation rate, improved ship self-defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 4007 / CVN 21 LFT&E
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Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Live Fire Test & Evaluation	WR	NSWC Carderock : MD	67.804	3.119	Nov 2020	3.355	Nov 2021	2.276	Nov 2022	-		2.276	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	C/CPAF	HII : VA	12.593	0.646	May 2021	0.887	Nov 2021	0.750	Nov 2022	-		0.750	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	WR	NSWC Dahlgren : VA	0.586	0.248	Feb 2021	0.000		0.426	Nov 2022	-		0.426	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	C/CPFF	NAVSEA SEAPORT : DC	0.201	0.000		0.000		0.000		-		0.000	0.000	0.201	-
Live Fire Test & Evaluation	WR	NAWCAD PAX RIVER : MD	0.000	0.093	Feb 2021	0.000		0.233	Oct 2022	-		0.233	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	WR	NSWC Philadelphia : PA	0.000	0.000		0.000		0.303	Oct 2022	-		0.303	Continuing	Continuing	Continuing
Subtotal			81.184	4.106		4.242		3.988		-		3.988	Continuing	Continuing	N/A

Remarks
Decrease in FY 2023 to account for the availability of prior year execution balances.

Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Defense Acquisition Workforce	TBD	Various : Various	0.010	0.000		0.000		0.000		-		0.000	0.000	0.010	-
Subtotal			0.010	0.000		0.000		0.000		-		0.000	0.000	0.010	N/A

Project Cost Totals	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
	81.194	4.106	4.242	3.988	-	3.988	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy

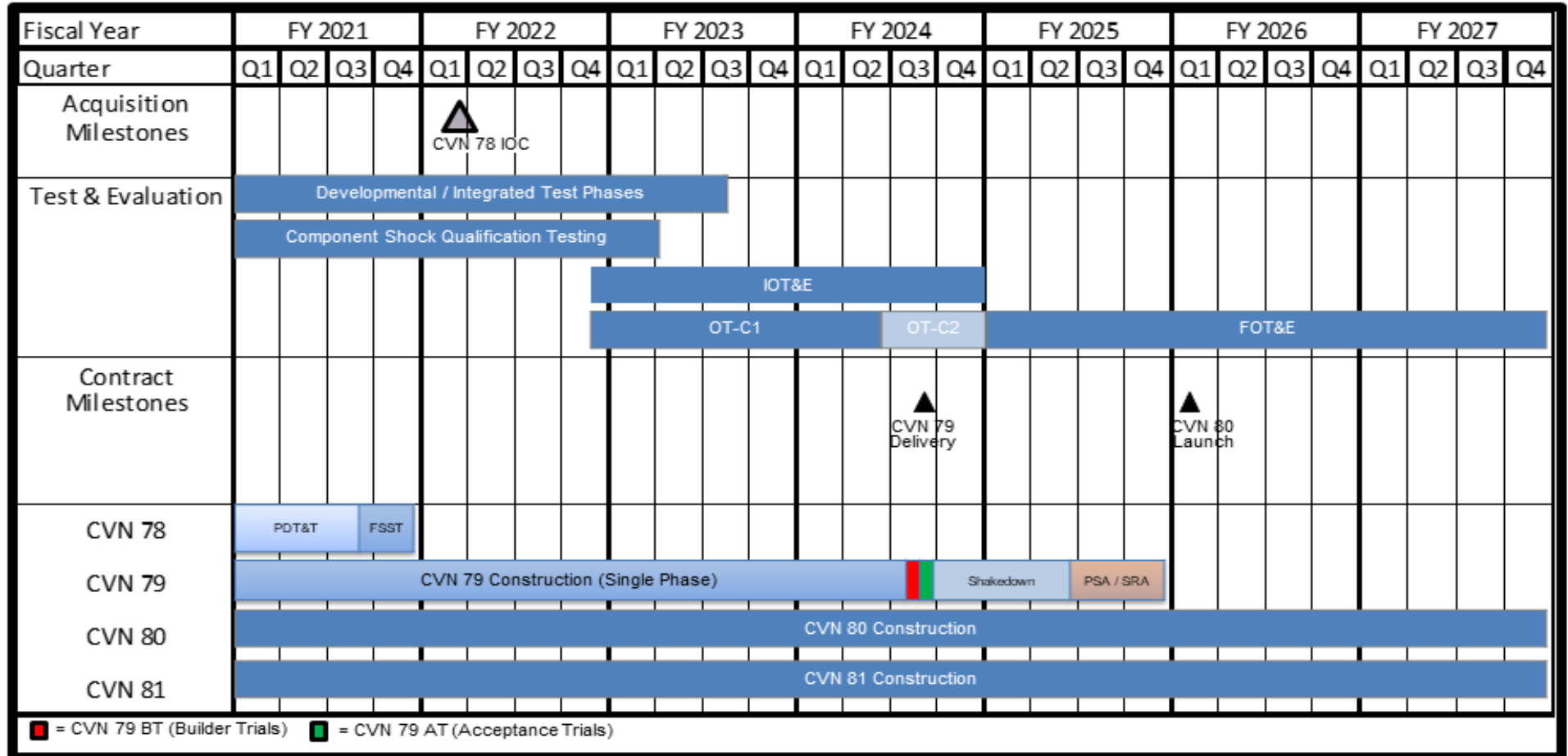
Date: April 2022

Appropriation/Budget Activity
1319 / 5

R-1 Program Element (Number/Name)
PE 0604567N / Ship Contract Design/ Live
Fire T&E

Project (Number/Name)
4007 / CVN 21 LFT&E

Gerald R. Ford Class Carriers



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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 4007 / CVN 21 LFT&E

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4007				
CVN 21 LFT&E	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 9999 / Congressional Adds
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	13.989	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.989
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Congressional Add: DDG-51 Advanced Degaussing Mine Protection System.
 Congressional Add: ESB Pilot Program

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022
Congressional Add: DDG-51 Advanced Degaussing Mine Protection System	6.753	0.000
FY 2021 Accomplishments: Conduct feasibility study of the potential for incorporating Advanced Degaussing into the DDG-51 Class design		
FY 2022 Plans: N/A		
Congressional Add: ESB Pilot Program	7.236	0.000
FY 2021 Accomplishments: Modify the existing DoD Ordinance Technology Consortium (DOTC) contract with MSI Defense to procure hardware and spares for the MK38 MOD4 GWS. Perform the design and complete ship drawings and technical/ILS documentation. Install and test MK38 MOD4 on ESB.		
FY 2022 Plans: Complete installation/testing and integration of Expeditionary Sea Base (ESB) Pilot 30mm gun system.		
Congressional Adds Subtotals	13.989	0.000

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy **Date:** April 2022

Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	Project (Number/Name) 9999 / Congressional Adds
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
ESB Pilot Design	TBD	Various : Not Specified	0.000	0.400	Nov 2021	0.000		0.000		-		0.000	0.000	0.400	-
ESB Pilot Hardware Procurement	C/BA	MSI-DS : Not Specified	0.000	2.200	Sep 2021	0.000		0.000		-		0.000	0.000	2.200	-
ESB Pilot Hardware Procurement	Various	Various : Not Specified	0.000	1.415	Dec 2021	0.000		0.000		-		0.000	0.000	1.415	-
Subtotal			0.000	4.015		0.000		0.000		-		0.000	0.000	4.015	N/A

Remarks
1. Award dates reflect initial award of incremental execution.

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
DDGM/HED PROGRAM/ ENGINEERING SPT	Various	NSWC, PD : PHILADELPHIA, PA	0.000	6.753	Aug 2021	0.000		0.000		-		0.000	0.000	6.753	-
ESB Pilot Ship Installation/ Test	Various	Various : Not Specified	0.000	3.221	Nov 2021	0.000		0.000		-		0.000	0.000	3.221	-
Subtotal			0.000	9.974		0.000		0.000		-		0.000	0.000	9.974	N/A

Remarks
1. ESB Pilot Ship Installation/Test Award dates reflect initial award of incremental execution

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	13.989	0.000	0.000	-	0.000	0.000	13.989	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>

FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
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 9999	
Ship Contract Design: Congressional Add	[REDACTED]
Congressional Add ESB Pilot Program	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy		Date: April 2022
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / <i>Ship Contract Design/ Live Fire T&E</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9999				
Ship Contract Design: Congressional Add	3	2021	4	2023
Congressional Add ESB Pilot Program	1	2021	4	2022