

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	554.993	121.008	196.737	155.254	-	155.254	123.970	63.337	54.620	50.031	Continuing	Continuing
1803: Ship Contract Design	57.929	28.282	17.876	18.912	-	18.912	19.761	18.178	19.059	19.324	Continuing	Continuing
2465: LHA(R) FLT Design and Total Ship Integration	163.122	21.439	33.729	30.813	-	30.813	23.260	13.196	4.882	6.760	Continuing	Continuing
3133: Ship to Shore Connectors Contract Design	92.512	2.398	0.876	0.069	-	0.069	3.800	3.606	3.681	1.540	Continuing	Continuing
3137: SSC Construction	75.691	48.564	130.394	89.888	-	89.888	56.784	7.042	4.113	2.267	Continuing	Continuing
3179: CVN-79 Total Ship Integration	114.919	18.718	11.187	11.927	-	11.927	16.573	16.223	18.555	15.749	Continuing	Continuing
4007: CVN 21 LFT&E	50.820	1.607	2.675	3.645	-	3.645	3.792	5.092	4.330	4.391	Continuing	Continuing
MDAP/MAIS Code(s): 223,333,P303												
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
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,												

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>
--	---

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.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	121.089	196.737	184.183	-	184.183
Current President's Budget	121.008	196.737	155.254	-	155.254
Total Adjustments	-0.081	0.000	-28.929	-	-28.929
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.592	0.000			
• SBIR/STTR Transfer	-1.673	0.000			
• Program Adjustments	0.000	0.000	-28.003	-	-28.003
• Rate/Misc Adjustments	0.000	0.000	-0.926	-	-0.926

Change Summary Explanation

Added FY 12 funding for cruiser cracking study and Afloat Forward Staging Base (AFSB) contract design efforts. Reduced FY 12 LHA design efforts and SSC construction efforts to fund AFSB contract design efforts. Reduced FY 14 CVN 79 Total Ship Integration funding and SSC Construction funding to properly phase program requirements in accordance with expenditures.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 1803: Ship Contract Design			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1803: Ship Contract Design	57.929	28.282	17.876	18.912	-	18.912	19.761	18.178	19.059	19.324	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
CG and 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. DON Energy Initiative - Hybrid Electric Drive This project includes an increment for the DON Energy Initiative related to the DDG 51 Hybrid Electric Drive to reduce DDG 51 Class ship energy consumption and increase mission effectiveness through longer time on station. This project supports propulsion at low ship speeds without the need for LM 2500 main engines. Fuel savings from the Hybrid Electric Drive system will be achieved by utilizing fewer gas turbines for propulsion and ship service power generation while also loading gas turbines generators at a more efficient operating load. Provides critical foundation for SECNAV and CNO objectives to achieve greater Navy-wide energy security. Mobile Landing Platform (MLP) Afloat Forward Staging Base (AFSB) - contract design and related technical support leading to detail design and construction. The AFSB variant of the MLP will include additional accommodations, aviation and hangar space, additional logistics and UNREP capability (receive only) and additional C4I capability to support future missions.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Ship Contract Design									5.985	4.826	3.579	
									Articles: 0	0	0	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E		PROJECT 1803: Ship Contract Design
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: For DDGs, specific efforts include, but are not limited to Technical Data Package development, Detailed Design Products, Engineering Analysis, feasibility studies, and topside analysis, related to the next generation Advanced Capability Build, and next generation MCS software integration. For CG's, specific efforts include, but are not limited to, developmental and operational test event planning, feasibility studies, and detailed design products to facilitate the CG class reaching expected service life.				
FY 2013 Plans: For DDGs, specific efforts include, but are not limited to Engineering Analysis, developmental and operational test events and planning, feasibility studies, structural analysis for hull integrity, and topside analysis related to the next generation Advanced Capability Build and next generation MCS software integration. For CG's, specific efforts include aluminum cracking studies, superstructure repair planning, sustainment studies and new alteration development to ensure CGs are able to reach expected service life.				
FY 2014 Plans: For DDGs, specific efforts include, but are not limited to Engineering Analysis, developmental and operational test events and planning, feasibility studies, structural analysis for hull integrity, and topside analysis related to the next generation Advanced Capability Build and next generation MCS software integration. For CG's, specific efforts include aluminum cracking studies, superstructure repair planning, sustainment studies and new alteration development to ensure CGs are able to reach expected service life.				
Title: Ship Contract Design- Afloat Forward Staging Base Articles:		8.000 0	0.000	0.000
FY 2012 Accomplishments: Contract award for MLP AFSB contract design and technical support.				
Title: DON Energy Initiative Articles:		14.297 0	13.050 2	15.333 0
Description: Beginning in FY 2011, this project includes an increment for the DON Energy Initiative related to the DDG 51 Hybrid Electric Drive (HED) to reduce DDG 51 Class ship energy consumption and increase mission effectiveness through longer time on station.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy								DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 1803: <i>Ship Contract Design</i>			

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<i>FY 2012 Accomplishments:</i> Contract award for detailed design including Machinery Control System (MCS) integration and long-lead-time-material for the Engineering Development Model's (EDM). <i>FY 2013 Plans:</i> Two EDMs further MCS integration development, initiate environmental qualification testing, initiate training, Integrated Logistic Support (ILS), and ship integration design development. <i>FY 2014 Plans:</i> Complete MCS integration development and environmental qualification testing. Continued training, Integrated Logistic Support (ILS), and ship integration design development.			
Accomplishments/Planned Programs Subtotals	28.282	17.876	18.912

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 0900: <i>DDG Modernization</i>	126.373	452.371	285.999		285.999	517.702	469.890	530.225	801.286	Continuing	Continuing
• OPN 0960: <i>CG Modernization</i>	557.503	101.000	10.539		10.539	79.058	10.992	0.000	0.000	0.000	1,424.737
• WPN 4223: <i>CG Modernization</i>	46.533	1.591	1.990		1.990	0.025	0.017	0.029	0.013	0.000	151.614
• OPN 0140: <i>Hybrid Electric Drive</i>	0.000	0.000	16.956		16.956	46.009	47.003	47.862	48.711	Continuing	Continuing
• NDSF 0401: <i>MPF MLP Acquisition</i>	400.000	38.000	134.920		134.920	0.000	0.000	0.000	0.000	0.000	572.920
• SCN 3039: <i>MLP 4 AFSB</i>	0.000	0.000	524.000		524.000	0.000	0.000	0.000	0.000	0.000	524.000
Remarks											
D. Acquisition Strategy											
A full and open competition with a Fixed Price Incentive Fee Contract awarded for the development, qualification, and delivery of the Engineering Development Models (EDM) Hybrid Electric Drive (HED) and the initial HED production shipsets for the DDG 51 Fleet Modernization Program.											
MLP AFSB: The first MLP AFSB will be modified after start of construction with the AFSB changes using NDSF funds. The second ship will be awarded as a MLP AFSB using SCN.											
E. Performance Metrics											
CG:											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 1803: <i>Ship Contract Design</i>
Aluminum sensitization study to determine the lifetime until sensitization for aluminum alloys and stress and buckling analysis of the CG 52 Class ship structure, and develop proposed fatigue fixes in the high stress areas to produce a technical report with modifications or improvements to the ship that may be necessary to preclude cracking in the areas of concern. Evaluation of composite patch and development of composite patch installation procedures as a method for repairing cracks. Development of ultrasonic impact treatment guidance as a method for repairing cracks. Evaluation of different coating that can prevent cracking and different aluminum alloys that are sensitization resistant. DDG Modernization: DT/OT for ACB12/TI12 DDGM. Additional efforts for DDG Mod include design and development for next generation MCS software integration, and the design/ development of a technical correction/solution for stanchion cracking at frame 299 Flight IIA. Hybrid Electric Drive (HED) DON Energy Initiative: Successful completion of Engineering Development Model (EDM) and complete fielding of First Article (FA) including contract award, design, manufacturing, and delivery. Successful completion of Factory Acceptance Test (FAT) and performance testing in Land Based Engineering Site (LBES). Commencement, completion, delivery and installation of Low Rate Initial Production (LRIP) units. Achieve fuel efficiency and increase on-station time.		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 1803: Ship Contract Design					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	TBD:TBD	9.746	13.568	Sep 2012	12.550	Jul 2013	13.000	Dec 2013	-		13.000	Continuing	Continuing	Continuing
DON Energy Initiative	WR	NSWC/ SSES:Philadelphia, PA	2.400	0.729	Apr 2012	0.500	May 2013	2.333	Dec 2013	-		2.333	0.000	5.962	
Engineering Developement and Design	TBD	TBD:TBD	0.000	1.085	Jan 2013	0.000		0.000		-		0.000	0.000	1.085	
Preliminary and Contract Design	TBD	NASSCO:San Diego, CA	0.000	6.500	Jan 2013	0.000		0.000		-		0.000	0.000	6.500	
Subtotal			29.559	21.882		13.050		15.333		0.000		15.333			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	4.016	0.360	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDGM Program/ Engineering Spt / HED	Various	SUPSHIP/ BATH:Bath, ME	2.011	0.000		0.816	Dec 2012	1.320	Dec 2013	-		1.320	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	1.397	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	2.428	0.519	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E						PROJECT 1803: Ship Contract Design			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	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	1.560	1.329	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Logistics Support	TBD	CSC:Washington DC	0.000	0.085	Jan 2013	0.000		0.000		-		0.000	0.000	0.085	
CGM/DDG Program / Engineering Spt	WR	COMOPTEVFOR:Norfolk, VA	0.030	0.390	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
DDG/HED Program / Engineering Spt	WR	NSWC/ SSES:Philadelphia, PA	4.400	0.500	Feb 2012	0.730	May 2013	0.885	Dec 2013	-		0.885	Continuing	Continuing	Continuing
HED	C/CPAF	L3:New York, NY	1.048	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
CG Program / Engineering Spt	WR	NSWC/ BETHESDA:Bethesda, MD	2.690	2.439	Feb 2012	3.180	Dec 2012	1.000	Dec 2013	-		1.000	Continuing	Continuing	Continuing
CG Program / Engineering Spt	Various	SUPSHIP/ PASCAGOULA:Pascagoula, MS	2.437	0.448	Feb 2012	0.100	Dec 2012	0.374	Dec 2013	-		0.374	Continuing	Continuing	Continuing
Subtotal			28.347	6.070		4.826		3.579		0.000		3.579			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational T&E	TBD	CSC:Washington DC	0.000	0.035	Jan 2013	0.000		0.000		-		0.000	0.000	0.035	
Live Fire T&E	TBD	CSC:Washington DC	0.000	0.100	Jan 2013	0.000		0.000		-		0.000	0.000	0.100	
Developmental T&E	TBD	COTF/MCOTEA/ CSC:DC & Virginia	0.000	0.105	Jan 2013	0.000		0.000		-		0.000	0.000	0.105	
Subtotal			0.000	0.240		0.000		0.000		0.000		0.000	0.000	0.240	

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>						PROJECT 1803: <i>Ship Contract Design</i>			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Aquisition Workforce	Various	Not Specified:Not Specified	0.023	0.000		0.000		0.000		-		0.000	0.000	0.023	
Program Mgmt Support	TBD	CSC:Washington DC	0.000	0.090	Jan 2013	0.000		0.000		-		0.000	0.000	0.090	
Subtotal			0.023	0.090		0.000		0.000		0.000		0.000	0.000	0.113	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			57.929	28.282		17.876		18.912		0.000		18.912			
Remarks															

UNCLASSIFIED

APPROPRIATION/BUDGET ACTIVITY
1319: Research, Development, Test & Evaluation, Navy
BA 5: System Development & Demonstration (SDD)

PROJECT	1803: <i>Ship Contract Design</i>
----------------	-----------------------------------

R-1 ITEM NOMENCLATURE
PE 0604567N: *Ship Contract Design/ Live*
Fire T&E

Fiscal Year	2012				2013				2014				2015				2016				2017				2018											
Acquisition Milestones	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								
CG Baseline 2 Mod Design																																				
CG Baseline 3 Mod Design																																				
CG Class Designs																																				
DDG Technical Insertion 12 Mod Design																																				
DDG Technical Insertion 16 Mod Design																																				
DDG Class Designs																																				
Hybrid Electric Drive Contract Design & Production																																				
Milestones MLP AFSB								Δ																												
Milestones HED Development							Δ	Design award									Δ																			
							Design award										EDM award																			
Production Milestones																																				
CG Deliveries							CG57		CG55	CG62			CG 60				CG59																			
Production Milestones																																				
DDG Deliveries									DDG53									DDG52	DDG65						DDG51		DDG69	DDG57			DDG79	DDG 83				DDG80

- CG Baseline 2 Mod Design (CG53-58)
- CG Baseline 3 Mod Design (CG59-64)
- CG Baseline 4 Mod Design (CG65-73)
- DDG Technical Insertion 12 Mod Design
- DDG Technical Insertion 16 Mod Design
- Hybrid Electric Drive (HED) Engineering
- HED EDM Award
- HED EDM Delivery
- HED LRIP

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 1803: <i>Ship Contract Design</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1803				
CGM Baseline 2 Mod Design	1	2012	1	2013
CGM Baseline 3 Mod Design	1	2012	4	2013
CG Class Design	1	2012	4	2018
DDG Technical Insertion 12 Mod Design	1	2012	4	2013
DDG Technical Insertion 16 Mod Design	1	2012	3	2018
Hybrid Electric Drive Contract Design and Production	4	2012	4	2018
Hybrid Electric Drive Engineering Development Model Contract Option Award	4	2013	4	2013
Hybrid Electric Drive Engineering Development Model Delivery	4	2014	4	2014
CG Deliveries (CG 57,55,62,60,59)	1	2012	3	2014
DDGM Deliveries (DDG 53,65,52,51,69,57,79,80,83)	1	2013	3	2018
Hybrid Electric Drive Contract Design Award	4	2012	4	2012
DDG Class Design	1	2012	4	2018
MLP AFSB Contract Design Award	2	2013	2	2013

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 2465: LHA(R) FLT Design and Total Ship Integration			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2465: LHA(R) FLT Design and Total Ship Integration	163.122	21.439	33.729	30.813	-	30.813	23.260	13.196	4.882	6.760	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 begin reaching the end of their extended service lives after FY11 (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 by helicopters and tilt rotors (MV-22) supported by Joint Strike Fighters (F-35B).

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

	FY 2012	FY 2013	FY 2014
Title: LHA (R) FLT 0 Design and Total Ship Integration - LHA 6	2.508	4.319	10.846
Articles:	0	0	0
FY 2012 Accomplishments:			
LHA 6 Completed update to the Test and Evaluation Master Plan (TEMP).			
LHA 6 Continued Development Testing (DT) and Operational Test and Evaluation (OT&E) preparations.			
LHA 6 Continued evaluating the interoperability data supporting Key Performance Parameters (KPP).			
LHA 6 Initiated Final Vulnerability Assessment Report (VAR).			
LHA 6 Initiated Total Ship Survivability Trial (TSST) preparations.			
FY 2013 Plans:			
LHA 6 Continue Development Testing (DT) and Operational Test and Evaluation (OT&E) preparations.			
LHA 6 Continue evaluating the interoperability data supporting Key Performance Parameters (KPP).			
LHA 6 Continue Final Vulnerability Assessment Report (VAR).			
LHA 6 Continue Total Ship Survivability Trial (TSST) preparations.			
FY 2014 Plans:			
LHA 6 Complete Development Testing (DT).			
LHA 6 Continue Operational Test and Evaluation (OT&E).			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E	PROJECT 2465: LHA(R) FLT Design and Total Ship Integration		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
LHA 6 Continue evaluating the interoperability data supporting Key Performance Parameters (KPP). LHA 6 Continue Final Vulnerability Assessment Report (VAR). LHA 6 Continue Total Ship Survivability Trial (TSST) preparations.				
Title: LHA (R) FLT 1 Design and Total Ship Integration - LHA 8		18.931	29.410	19.967
Articles:		0	0	0
FY 2012 Accomplishments: LHA 8 Continued Capability Development Document (CDD) and Concepts of Operations (CONOPS) preparations. LHA 8 Initiated Preliminary Design efforts. LHA 8 Initiated development of Milestone Documents. LHA 8 Initiated Operational Test and Evaluation (OT&E) preparations. LHA 8 Initiated Test and Evaluation Master Plan (TEMP) Refresh for Flight 1. LHA 8 Initiated Early Industry Involvement. LHA 8 Prepared Gate Reviews. LHA (R)/NMSIC Continued Concept studies including Modeling and Simulation efforts for Marine Corps Systems Integration.				
FY 2013 Plans: LHA 8 Complete Preliminary Design. LHA 8 Complete Early Industry Involvement. LHA 8 Finalize Capability Development Document (CDD) and Concepts of Operations (CONOPS) preparations. LHA 8 Continue development of Milestone Documents. LHA 8 Continue Operational Test and Evaluation (OT&E) preparations. LHA 8 Continue Test and Evaluation Master Plan (TEMP) Refresh for Flight 1. LHA 8 Continue Gate Reviews. LHA 8 Initiate Contract Design. LHA 8 Initiate Operational Assessment efforts for Flight 1. LHA (R)/NMSIC Continue Concept studies including Modeling and Simulation efforts for Marine Corps Systems Integration.				
FY 2014 Plans: LHA 8 Complete Contract Design. LHA 8 Complete Test and Evaluation Master Plan (TEMP) Refresh for Flight 1. LHA 8 Complete Operational Assessment efforts for Flight 1. LHA 8 Continue development of Milestone Documents. LHA 8 Continue Operational Test and Evaluation (OT&E) preparations. LHA 8 Continue Gate Reviews.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 2465: LHA(R) FLT Design and Total Ship Integration				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
LHA 8 Issue Advance Procurement RFP.												
LHA (R)/NMSIC Continue Concept studies including Modeling and Simulation efforts for Marine Corps Systems Integration.												
Accomplishments/Planned Programs Subtotals										21.439	33.729	30.813
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• SCN/3041: LHA(R) Ships	1,999.191	0.000	0.000		0.000	77.912	239.679	1,598.942	2,399.474	0.000	10,610.963	
• SCN/5300: Completion of Prior Year Shipbuilding Programs	0.000	156.685	37.700		37.700	0.000	0.000	0.000	0.000	0.000	208.695	
Remarks												
D. Acquisition Strategy												
Acquisition strategy signed February 7, 2005 approved strategy for sole source to Northrop Grumman Shipbuilding (NGSB) (Now Huntington Ingalls Industries, Inc.) to incorporate previous LHD engineering, design and producibility lessons-learned into LHA(R). Advanced Procurement (AP) contract for Long Lead-Time Material (LLTM) procurement and engineering support awarded July 05 with continuation of these efforts in FY06 prior to award of Detail Design and Construction (DD&C) contract on 1 June 2007.The AP contract was subsumed by the FPI DD&C contract.												
LHA 7 DD&C contract awarded on May 31, 2012.												
LHA 8 reincorporates the well deck. AP starts in 2015 to support FY17 DD&C award.												
E. Performance Metrics												
Successfully achieve Initial Operational Capability, successfully complete Operational Test and Milestone Reviews.												

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>						PROJECT 2465: <i>LHA(R) FLT Design and Total Ship Integration</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Design	WR	NSWC:Various	93.309	4.616	Feb 2012	0.000		0.000		-		0.000	0.000	97.925	
Ship Design	C/CPFF	HII:Pascagoula, MS	4.819	0.200	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Ship Design	TBD	TBD:Various	0.000	4.639	Dec 2011	21.061	Dec 2012	11.838	Dec 2013	-		11.838	4.000	41.538	
Special Studies	WR	NSWC:Panama City, FL	2.700	2.100	May 2012	2.500	Dec 2012	2.582	Dec 2013	-		2.582	8.000	17.882	
Subtotal			100.828	11.555		23.561		14.420		0.000		14.420			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	JITC:Fort Huachuca, AZ	3.303	0.290	Feb 2012	0.331	Dec 2012	0.307	Dec 2013	-		0.307	0.300	4.531	
Operational Test & Evaluation	WR	OPTEVFOR/MCOTEA:Norfolk, VA/Quantico, VA	6.955	1.890	Dec 2011	1.193	Dec 2012	5.659	Dec 2013	-		5.659	13.090	28.787	
Live Fire Test & Evaluation	WR	NSWC:Carderock, MD	43.863	4.650	Dec 2011	6.295	Dec 2012	6.080	Dec 2013	-		6.080	5.600	66.488	
Subtotal			54.121	6.830		7.819		12.046		0.000		12.046	18.990	99.806	
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	Alion:Washington, DC	7.830	2.954	Jun 2012	2.249	Dec 2012	4.247	Dec 2013	-		4.247	3.750	21.030	
Travel	Various	Navsea Travel:Washington, DC	0.332	0.100	Feb 2012	0.100	Dec 2012	0.100	Dec 2013	-		0.100	0.200	0.832	
Defense Acquisition Workforce	Various	Various:Various	0.011	0.000		0.000		0.000		-		0.000	0.000	0.011	

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 2465: <i>LHA(R) FLT Design and Total Ship Integration</i>				

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total					
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			8.173	3.054		2.349		4.347		0.000		4.347		3.950	21.873		

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	163.122	21.439		33.729		30.813		0.000		30.813			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>		PROJECT 2465: <i>LHA(R) FLT Design and Total Ship Integration</i>	

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 2465																												
LHA 6 Developmental Testing																												
LHA 6 Operational Testing																												
LHA 6 Vulnerability Assessment Report (VAR)																												
LHA 8 Requirements Trade Studies																												
LHA 8 Capability Development Document (CDD) Update																												
LHA 8 Preliminary Design/Contract Design																												
LHA 8 Modeling and Simulation Efforts																												
LHA 8 Early Industry Involvement																												
LHA 8 Gate Reviews																												
LHA 8 Operational Assessment Event																												
LHA 8 Issue Advance Procurement RFP																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 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 6 Developmental Testing	1	2012	4	2014
LHA 6 Operational Testing	1	2012	2	2016
LHA 6 Vulnerabilty Assessment Report (VAR)	1	2012	4	2016
LHA 8 Requirements Trade Studies	1	2012	4	2013
LHA 8 Capability Development Document (CDD) Update	1	2012	4	2013
LHA 8 Preliminary Design/Contract Design	1	2012	4	2014
LHA 8 Modeling and Simulation Efforts	1	2012	4	2018
LHA 8 Early Industry Involvement	4	2012	4	2014
LHA 8 Gate Reviews	4	2012	2	2014
LHA 8 Operational Assessment Event	1	2013	1	2013
LHA 8 Issue Advance Procurement RFP	3	2014	3	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3133: Ship to Shore Connectors Contract Design			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3133: Ship to Shore Connectors Contract Design	92.512	2.398	0.876	0.069	-	0.069	3.800	3.606	3.681	1.540	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
Ship to Shore Connector (SSC) - This project provides the Preliminary and Contract design and Class test efforts for the SSC Program. The SSC program provides the capability to rapidly move assault forces within the littoral operational environment to accomplish Unified Command Plan (UCP) missions and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps, and marshes. This project provides for the Systems Development and Demonstration package required for the solicitation for Detail Design and Construction and test of the initial article. Class Test and evaluation of components and systems will also be completed under this project. SSC provides the functional replacement for the LCAC Class of ships, which begin reaching extended service life in 2015. This project also encompasses those tasks required to develop the contract and technical data package necessary to support the procurement of the SSC Test and Training craft, including, but not limited to engineering support, programmatic and program support, logistics support, manpower and program related studies. The Test and Training craft and first production craft (Craft 101), which will be operationally fielded, are funded in RDT&E under this PE, Project 3137.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Ship to Shore Connector (Contract Des) Articles:									2.398	0.876	0.069	
									0	0	0	
FY 2012 Accomplishments: Continue Class Test and Evaluation program including Test Planning and Coordination, Interoperability Testing, Vulnerability Assessment Report (VAR), Live Fire Test and Evaluation (LFT&E) Paper Studies, Surrogate tests, and LFT&E Document Coordination.												
FY 2013 Plans: Continue Class Test and Evaluation program including Test Planning and Coordination, Interoperability Testing, Vulnerability Assessment Report (VAR), Live Fire Test and Evaluation (LFT&E) Paper Studies, Surrogate tests, conduct Technical Readiness Review (TRR) and Operational Assessment (OA), TEMP and LFT&E Management plan updates and LFT&E Document Coordination.												
FY 2014 Plans:												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 3133: <i>Ship to Shore Connectors Contract Design</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
Continue Class Test and Evaluation program including Test Planning and Coordination, Interoperability Testing, Vulnerability Assessment Report (VAR), Live Fire Test and Evaluation (LFT&E) Paper Studies, Surrogate tests, TEMP and LFT&E Management plan updates and LFT&E Document Coordination.												
Accomplishments/Planned Programs Subtotals										2.398	0.876	0.069
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• RDT&E,N 3137: SSC <i>Construction</i>	48.564	130.394	89.888		89.888	56.784	7.042	4.113	2.267	0.000	414.743	
• SCN 5112: <i>Ship to Shore Connector</i>	0.000	0.000	0.000		0.000	90.948	231.459	287.446	392.200	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
The Test and Training craft and first production craft will be procured and constructed with RDT&E funds. The Test and Training craft Detail Design contract includes options for construction of the T&T craft and additional production craft (Craft 101).												
E. Performance Metrics												
Begin Test and Evaluation Master Plan (TEMP) updates. Begin Developmental Testing Phase B and Operational Testing Phase B.												

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>						PROJECT 3133: <i>Ship to Shore Connectors Contract Design</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Design	C/CPFF	CSC:Washington, DC	14.330	0.000		0.000		0.000		-		0.000	0.000	14.330	
Preliminary/Contract Design	Various	Various:Various	31.140	0.000		0.000		0.000		-		0.000	0.000	31.140	
System Engineering	Various	Various:Various	6.241	0.000		0.000		0.000		-		0.000	0.000	6.241	
Subtotal			51.711	0.000		0.000		0.000		0.000		0.000	0.000	51.711	
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 Support	WR	NSWC PCD:Panama City, FL	4.636	0.000		0.000		0.000		-		0.000	0.000	4.636	
Software Development	Various	Various:Various	2.219	0.000		0.000		0.000		-		0.000	0.000	2.219	
Integrated Logistics Support	WR	NSWC:Various	3.365	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Studies & Analyses	TBD	Various:Various	5.705	0.006	Dec 2011	0.055	Oct 2012	0.004	Oct 2013	-		0.004	0.000	5.770	
Subtotal			15.925	0.006		0.055		0.004		0.000		0.004			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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	Various	Various:Various	0.033	0.394	Dec 2011	0.000		0.000		-		0.000	0.000	0.427	
Operational Test & Evaluation	Various	Various:Various	1.601	0.351	Dec 2011	0.316	Nov 2012	0.065	Oct 2013	-		0.065	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	Various	Various:Various	3.834	1.497	Dec 2011	0.505	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			5.468	2.242		0.821		0.065		0.000		0.065			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>						PROJECT 3133: <i>Ship to Shore Connectors Contract Design</i>			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	CSC/Alion:Washington, DC	9.323	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC:Various	3.689	0.000		0.000		0.000		-		0.000	0.000	3.689	
Program Management Support	Various	Various:Various	6.120	0.000		0.000		0.000		-		0.000	0.000	6.120	
Travel	Various	NAVSEA Travel:Washington, DC	0.150	0.150	Mar 2012	0.000		0.000		-		0.000	0.000	0.300	
Defense Acquisition Workforce	Various	Various:Various	0.126	0.000		0.000		0.000		-		0.000	0.000	0.126	
Subtotal			19.408	0.150		0.000		0.000		0.000		0.000			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			92.512	2.398		0.876		0.069		0.000		0.069			
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>		PROJECT 3133: <i>Ship to Shore Connectors Contract Design</i>	

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 3133																												
Development Test/Operational Test B (DT/OT-B)																												
Detail Design & Construction (DD&C) Award																												
Defense Acquisition Board (DAB Review/ Acquisition Milestone B																												
Capabilities Production Document (CPD)																												
Critical Design Review (CDR)																												
Operational Assessment (OA)																												
Low Rate Initial Production (LRIP) Approval																												
Acquisition Milestone C																												
Program Review (PR) (FY16)																												
Development Test/Operational Test C (DT/OT-C)																												
Development Test/Operational Test D (DT/OT-D)																												
Program Review (PR) (FY17)																												
Integrated Developmental Test/Operational Test																												
Operational Test Readiness Review (OTRR)																												
Integrated Operational Test and Evaluation (IOT&E)																												
Full Rate Production (FRP) Program Review (PR) (FY18)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 3133: <i>Ship to Shore Connectors Contract Design</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3133				
Development Test/Operational Test B (DT/OT-B)	4	2012	1	2015
Detail Design & Construction (DD&C) Award	4	2012	4	2012
Defense Acquisition Board (DAB Review/Acquisition Milestone B	3	2012	3	2012
Capabilities Production Document (CPD)	4	2013	4	2014
Critical Design Review (CDR)	2	2014	2	2014
Operational Assessment (OA)	3	2014	3	2014
Low Rate Initial Production (LRIP) Approval	1	2015	1	2015
Acquisition Milestone C	1	2015	1	2015
Program Review (PR) (FY16)	1	2016	1	2016
Development Test/Operational Test C (DT/OT-C)	1	2015	4	2018
Development Test/Operational Test D (DT/OT-D)	1	2015	4	2018
Program Review (PR) (FY17)	2	2017	2	2017
Integrated Developmental Test/Operational Test	2	2017	4	2018
Operational Test Readiness Review (OTRR)	2	2018	2	2018
Integrated Operational Test and Evaluation (IOT&E)	3	2018	3	2018
Full Rate Production (FRP) Program Review (PR) (FY18)	4	2018	4	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3137: SSC Construction			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3137: SSC Construction	75.691	48.564	130.394	89.888	-	89.888	56.784	7.042	4.113	2.267	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
This project funds the Ship to Shore Connector (SSC) Engineering & Manufacturing Development phase which includes Detail Design and Construction, Integrated Logistics Support (ILS), Government Furnished Equipment (GFE), Program support, and Outfitting and Post Delivery for the first two crafts. The lead craft will be maintained as a test and training platform throughout its life cycle. The second craft (Craft 101) will be available to support IOT&E as needed, but will be a fleet asset after delivery. The SSC program provides the capability to rapidly move assault forces within the littoral operational environment to accomplish Unified Command Plan (UCP) missions, and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. The SSC program provides the functional replacement for the LCAC Class of ships, which begin reaching extended service life in 2015.												
TEST AND TRAINING CRAFT:												
Plans/Basic Construction: TOTAL 227.9 (FY14 37.1)												
Change Orders: TOTAL 18.7 (FY14 8.5)												
Electronics TOTAL 8.3 (FY14 .4)												
HM&E: TOTAL 32.3 (FY14 7.8)												
Other Support: TOTAL 46.0 (FY14 6.4)												
Ordnance Total 0.0 (FY14 0.0)												
Post Delivery/Outfitting: TOTAL 4.2 (FY14 0.0)												
Ship Total: TOTAL 337.4 (FY14 60.2)												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E	PROJECT 3137: SSC Construction		
CRAFT 101: Basic Construction TOTAL 51.0 (FY14 15.3) Change Orders: TOTAL 2.2 (FY14 1.1) Electronics: TOTAL: 2.2 (FY14 .1) HM&E TOTAL: 3.8 (FY14 0.0) Other Support TOTAL: 15.9(FY14 13.2) Ordnance TOTAL 0.0 (FY14 0.0) Post Delivery/Outfitting TOTAL 2.2 (FY14 0.0) Ship Total: TOTAL 77.3 (FY14 29.7)				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Title: SSC Construction		48.564	130.394	89.888
Articles:		0	1	0
FY 2012 Accomplishments: Milestone B approval; Award Detail Design and Construction Contract; Begin Detail Design and Construction planning efforts including software development and procurement of Contractor Furnished Equipment (CFE) Long Lead Time Material (LLTM) for the test and training craft.				
FY 2013 Plans: Continue Detail Design and Construction planning efforts; award contract option for Craft 101 and begin LLTM procurement and production planning.				
FY 2014 Plans: Continue Detail Design and Construction planning efforts; complete Craft 101 LLTM procurement and production planning; begin fabrication of Craft 101				
Accomplishments/Planned Programs Subtotals		48.564	130.394	89.888

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>			PROJECT 3137: <i>SSC Construction</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
• RDT&E,N 3133: <i>Ship to Shore Connectors Contract Design</i>	2.398	0.876	0.069		0.069	3.800	3.606	3.681	1.540	Continuing	Continuing
• SCN 5112: <i>Ship to Shore Connector</i>	0.000	0.000	0.000		0.000	90.948	231.459	287.446	392.200	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
The first two craft will be designed and constructed with RDT&E funds. The Test and Training Craft (Craft 100) Detail Design and Construction contract includes options for follow craft to be procured with RDT&E and SCN funds.											
E. Performance Metrics											
Award options for follow on craft (Craft 101) and SCN funded craft											
Deliver Test and Training Craft (Craft 100)											
Deliver Craft 101											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3137: SSC Construction					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 & Trng Craft Ship Design	C/CPFF	Alion:Washington, DC	2.670	6.190	Sep 2012	3.250	Oct 2012	4.748	Oct 2013	-		4.748	0.000	16.858	
Test & Trng Craft Detail Design/Construction	C/FPIF	Textron:New Orleans, LA	69.230	15.860	Jul 2012	66.080	Oct 2012	37.061	Oct 2013	-		37.061	0.000	188.231	
Test & Trng Craft Government Furnished Equipment (GFE)	Various	Various:Various	0.210	5.410	Sep 2012	1.490	Oct 2012	1.800	Oct 2013	-		1.800	0.000	8.910	
Test & Trng Craft Change Orders	C/FPIF	Textron:New Orleans, LA	0.000	0.600	Jul 2012	5.330	Oct 2012	8.460	Oct 2013	-		8.460	0.000	14.390	
Craft 101 Ship Design	C/CPFF	Alion:Washington, DC	0.000	0.000		2.900	Oct 2012	0.000		-		0.000	0.000	2.900	
Craft 101 LLTM & Construction Planning	C/FPIF	Textron:New Orleans, LA	0.000	0.000		21.160	Mar 2013	15.180	Oct 2013	-		15.180	0.000	36.340	
Craft 101 Government Furnished Equipment	Various	Various:Various	0.000	0.000		3.060	Mar 2013	0.070	Oct 2013	-		0.070	0.000	3.130	
Craft 101 Change Orders	C/FPIF	Textron:New Orleans, LA	0.000	0.000		1.120	Mar 2013	1.080	Oct 2013	-		1.080	0.000	2.200	
Subtotal			72.110	28.060		104.390		68.399		0.000		68.399	0.000	272.959	
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Craft 101 Studies and Analysis	Various	Various:Various	0.000	0.000		1.760	Oct 2012	1.856	Oct 2013	-		1.856	0.000	3.616	
Test & Trng Craft Integrated Logistics Support	WR	NSWC:Various	0.520	4.590	Aug 2012	5.410	Oct 2012	0.000		-		0.000	0.000	10.520	
Craft 101 Integrated Logistics Support	WR	NSWC:Various	0.000	0.000		0.000		6.020	Oct 2013	-		6.020	0.000	6.020	
Craft 100 Studies and Analysis	Various	Various:Various	0.000	1.620	Aug 2012	6.280	Oct 2012	3.770	Oct 2013	-		3.770	0.000	11.670	

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)						R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E						PROJECT 3137: SSC Construction			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.520	6.210		13.450		11.646		0.000		11.646	0.000	31.826	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 & Trng Craft Construction Test Program	Various	Various:Various	0.050	2.190	Dec 2012	1.850	Oct 2012	1.742	Oct 2013	-		1.742	Continuing	Continuing	Continuing
Subtotal			0.050	2.190		1.850		1.742		0.000		1.742			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 & Trng Craft Contractor Engineering Support	C/CPFF	CSC/Alion:Washington, DC	2.710	7.160	Jul 2012	7.394	Jun 2013	1.810	Jun 2014	-		1.810	0.000	19.074	
Travel	Various	Various:Various	0.000	0.060	Jul 2012	0.060	Oct 2012	0.060	Oct 2013	-		0.060	0.000	0.180	
Test & Trng Craft Government EngineeringSupport	WR	NSWC:Various	0.301	4.884	Aug 2012	3.250	Oct 2012	0.910	Oct 2013	-		0.910	0.000	9.345	
Craft 101 Contractor Engineering Services	C/CPFF	Alion:Washington, DC	0.000	0.000		0.000		2.871	Oct 2013	-		2.871	0.000	2.871	
Craft 101 Government Engineering Services	WR	NSWC:Various	0.000	0.000		0.000		2.450	Oct 2013	-		2.450	0.000	2.450	
Subtotal			3.011	12.104		10.704		8.101		0.000		8.101	0.000	33.920	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			75.691	48.564		130.394		89.888		0.000		89.888			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE			PROJECT				
1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)				PE 0604567N: Ship Contract Design/ Live Fire T&E			3137: SSC Construction				
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract		
Remarks											

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>		
			PROJECT 3137: <i>SSC Construction</i>		

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 3137																												
Defense Acquisition Board (DAB) Review/ Acquisition Milestone B																												
Test and Training Craft DD&C Contract Award																												
Test and Training Craft Detail Design																												
Craft 101 Option Award																												
Craft 101 LLTM & Plng																												
Capabilities Production Document (CPD)																												
Critical Design Review (CDR)																												
Production Readiness Review (PRR)																												
Test and Training Craft Construction (Start Fab)																												
Craft 101 Construction																												
Low Rate Initial Production (LRIP) Approval																												
Acquisition Milestone C																												
Program Review (PR) (FY16)																												
Test and Training Craft Delivery																												
Test and Training Craft Post Delivery Test and Trials (PDT&T)																												
Program Review (PR) (FY17)																												
Craft 101 Delivery																												
Craft 101 Post Delivery Test and Trials (PDT&T)																												

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy																								DATE: April 2013															
APPROPRIATION/BUDGET ACTIVITY												R-1 ITEM NOMENCLATURE												PROJECT															
1319: Research, Development, Test & Evaluation, Navy												PE 0604567N: Ship Contract Design/ Live												3137: SSC Construction															
BA 5: System Development & Demonstration (SDD)												Fire T&E																											
												FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
												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
Full Rate Production (FRP) Program Review (PR) (FY18)																																							

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 3137: <i>SSC Construction</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3137				
Defense Acquisition Board (DAB) Review/Acquisition Milestone B	3	2012	3	2012
Test and Training Craft DD&C Contract Award	4	2012	4	2012
Test and Training Craft Detail Design	4	2012	3	2014
Craft 101 Option Award	1	2013	1	2013
Craft 101 LLTM & Plng	1	2013	1	2013
Capabilities Production Document (CPD)	4	2013	4	2014
Critical Design Review (CDR)	2	2014	2	2014
Production Readiness Review (PRR)	3	2014	3	2014
Test and Training Craft Construction (Start Fab)	3	2014	1	2017
Craft 101 Construction	3	2014	4	2017
Low Rate Initial Production (LRIP) Approval	1	2015	1	2015
Acquisition Milestone C	1	2015	1	2015
Program Review (PR) (FY16)	1	2016	1	2016
Test and Training Craft Delivery	1	2017	1	2017
Test and Training Craft Post Delivery Test and Trials (PDT&T)	1	2017	2	2018
Program Review (PR) (FY17)	2	2017	2	2017
Craft 101 Delivery	4	2017	4	2017
Craft 101 Post Delivery Test and Trials (PDT&T)	4	2017	2	2018
Full Rate Production (FRP) Program Review (PR) (FY18)	4	2018	4	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3179: CVN-79 Total Ship Integration			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3179: CVN-79 Total Ship Integration	114.919	18.718	11.187	11.927	-	11.927	16.573	16.223	18.555	15.749	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
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 2012	FY 2013	FY 2014	
Title: CVN-79 Total Ship Integration									18.718	11.187	11.927	
									0	0	0	
FY 2012 Accomplishments:												
FY 12 accomplishments included development and implementation of Business Case Analyses (BCA's) that resulted in reduced procurement and life cycle costs for CVN 79. BCA's implemented in FY 12 included the following: changing from hydraulic to electric aircraft elevators, removal of the Captain's gig and Admiral's barge, elimination of vinyl tile in non-essential spaces, elimination of decorative bulkheads and ships dress lighting, and replacing two paint coatings with one coat in foam-filled voids.												
Other efforts included developing advanced material buy strategies that allowed the shipbuilder to purchase full ship sets of expensive items, (i.e. A/C plants), instead of buying only when needed during the construction cycle. This approach allowed for significantly reduced procurement costs for those items. Conducted an analysis of CVN 79 construction units (super lifts), and												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3179: CVN-79 Total Ship Integration		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014
evaluated opportunities to increase pre-outfitting of those units to reduce labor costs. Reviewed and optimized the outfitting of 59 super lifts, resulting in significant man-hour savings.											
Continued CVN 78 Class shock, vibration, and electromagnetic interference (EMI) analysis efforts. Efforts supported the overall CVN 78 Class by validating the shock robustness and EMI compliance of components per the ship specification.											
FY 2013 Plans: Continue processing cost reduction ideas into BCA's and implementing BCA's into the cost model, thereby reducing the overall procurement cost of the ship. Multiple cost reduction ideas that challenge the ship specification will be further analyzed and developed into BCA's in FY13 and include the following: deletion of shipboard liquid oxygen plant, deletion of the pull test on lifting pads, deleting the requirement to demonstrate manual operation of stores elevators, deleting the requirement for aircraft tow bar stowage, and removal of the requirement for a helium storage system. Other more complex changes will also be worked on in FY13, including the deletion of SPN 46, deleting the fire insulation from the hangar bay and deleting the arc fault detection system on the ship.											
FY 2014 Plans: Conduct an analysis of GFE obsolescence prior to installation on the ship. Other projects include continuation of affordability efforts through analysis of build practices and identification of optimized build strategies based on lessons learned from CVN 78. Continuation of super lift reviews will identify further opportunities to move work out of the dry-dock and back onto the platen or component fabrication shops, reducing construction time and cost.											
Conduct an analysis of warfare system GFE. Projects in this area include the following: GFI review and comment (Schedule A-C input), Aviation LI-ION battery locker requirements analysis and aviation fuels operational sequencing system review. Continue efforts to fully integrate all aviation and land combat systems on ship with increased efficiency to support the warfighter.											
Accomplishments/Planned Programs Subtotals									18.718	11.187	11.927
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RD TEN/0605312N: Project Units 2208, 4004	58.163	97.534	74.641		74.641	39.740	43.340	40.650	39.234	Continuing	Continuing
• RD TEN/0603570N: Propulsion Plant Development (PU 2692)	65.808	62.020	57.499		57.499	56.693	0.000	0.000	0.000	0.000	1,526.874

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3179: CVN-79 Total Ship Integration		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• SCN/2001: Carrier Replacement Program	554.798	608.195	944.866		944.866	1,834.072	1,918.441	2,539.826	2,954.419	Continuing	Continuing
• SCN/5300: Completion of Prior Year Shipbuilding Programs	0.000	0.000	588.100		588.100	729.000	0.000	0.000	0.000	0.000	1,317.100
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.											
E. Performance Metrics Successfully complete system development efforts for designated new and modified shipboard system, including developmental test and evaluation documents. Successfully complete design related activities associated with integration of new and modified shipboard systems into the ship, including developmental test and evaluation documentation. Successfully perform system design and analysis studies. Successfully support design integration and analysis. Successfully complete or support feasibility and tradeoff studies on new and modified shipboard systems, technologies, and proposed modifications. Studies shall include requirements and engineering analysis; identification of subsystem, integration, and logistics impacts; cost estimates; analysis of construction schedule impacts; and conduct/ support of shipchecks. Successfully provide Manpower Workload Analysis associated with design and policy activities, and with integration of new and modified system/equipment. Successfully complete the development of multiple Business Case Analyses (BCAs) that demonstrate technology, process, requirements and/or infrastructure improvements that will reduce the man hours (or equivalent material costs) for CVN 79 Construction.											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>						R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>						PROJECT 3179: <i>CVN-79 Total Ship Integration</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Total Ship Integration	C/CPAF	HII:VA	66.112	12.921	Dec 2011	7.797	Dec 2012	3.121	Nov 2013	-		3.121	Continuing	Continuing	Continuing
Total Ship Integration	WR	NSWC Carderock:MD	11.962	0.150	Nov 2011	0.000		0.711	Nov 2013	-		0.711	Continuing	Continuing	Continuing
Total Ship Integration	WR	NSWC Dahlgren:VA	7.400	0.411	Nov 2011	0.000		1.052	Nov 2013	-		1.052	Continuing	Continuing	Continuing
Total Ship Integration	WR	NAWCAD Pax River:MD	3.210	0.373	Nov 2011	0.000		1.185	Nov 2013	-		1.185	Continuing	Continuing	Continuing
Total Ship Integration	WR	SPAWAR:SD	2.812	0.337	Nov 2011	0.000		0.288	Nov 2013	-		0.288	Continuing	Continuing	Continuing
Total Ship Integration	C/CPFF	NAVSEA SEAPORT:DC	13.154	3.309	Nov 2011	3.390	Jan 2013	4.021	Nov 2013	-		4.021	Continuing	Continuing	Continuing
Total Ship Integration	C/CPAF	Raytheon:MA	4.633	0.825	Dec 2011	0.000		1.549	Dec 2013	-		1.549	Continuing	Continuing	Continuing
Total Ship Integration	WR	SSC Charleston:SC	0.232	0.038	Dec 2011	0.000		0.000		-		0.000	0.000	0.270	
Total Ship Integration	C/CPFF	SAIC:VA	0.551	0.000		0.000		0.000		-		0.000	0.000	0.551	
Subtotal			110.066	18.364		11.187		11.927		0.000		11.927			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	C/CPFF	FISC:VA	0.000	0.181	Oct 2011	0.000		0.000		-		0.000	0.000	0.181	
Developmental Test & Evaluation	WR	CARDEROCK:MD	4.549	0.173	Oct 2011	0.000		0.000		-		0.000	0.000	4.722	
Developmental Test & Evaluation	WR	NUWC NEWPORT:RI	0.123	0.000		0.000		0.000		-		0.000	0.000	0.123	
Subtotal			4.672	0.354		0.000		0.000		0.000		0.000	0.000	5.026	

UNCLASSIFIED

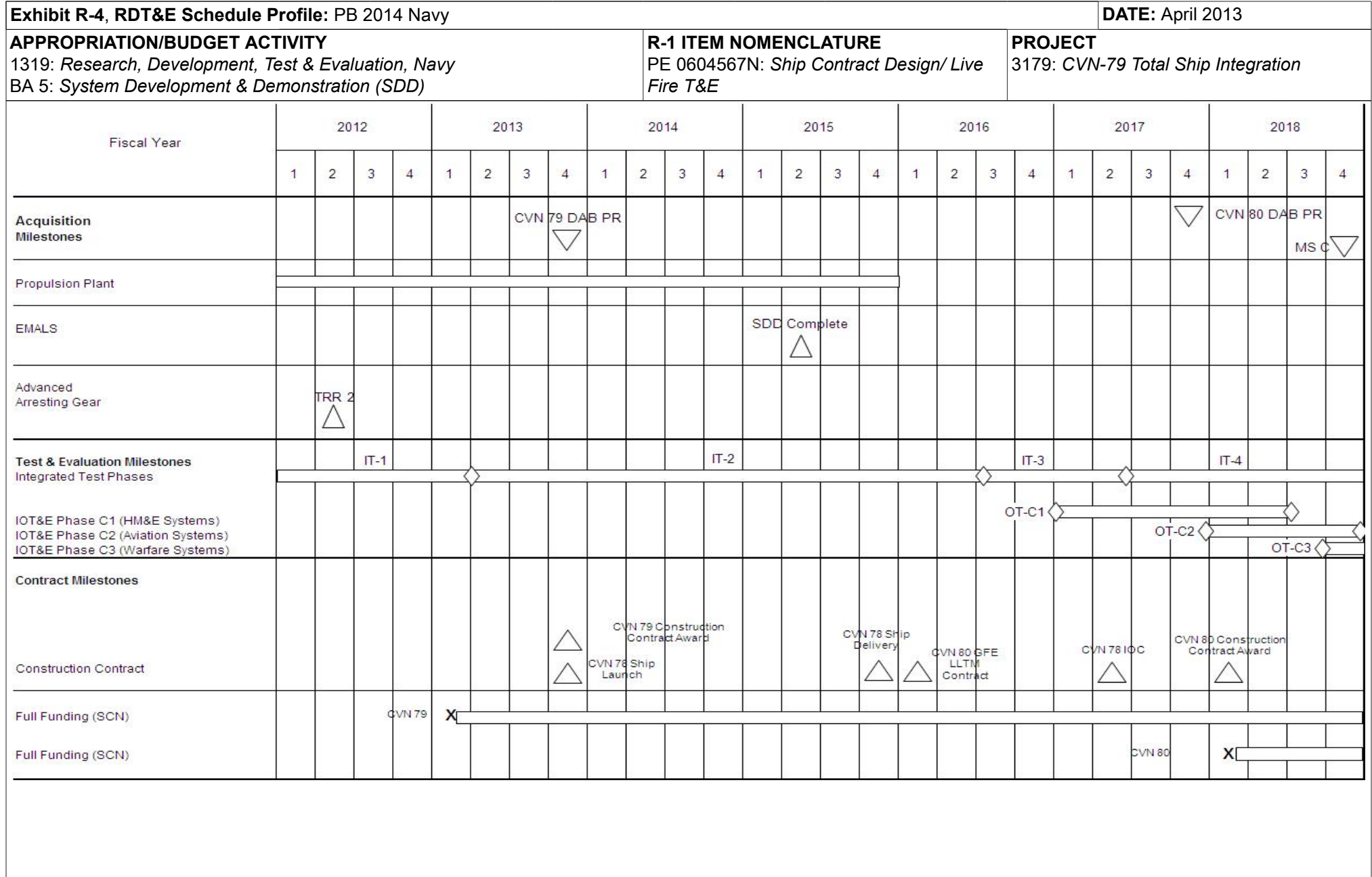
Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>							R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>					PROJECT 3179: <i>CVN-79 Total Ship Integration</i>			

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce	Various	Various: Mis	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	0.000	0.181	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	114.919	18.718	11.187	11.927	0.000	11.927			

Remarks

UNCLASSIFIED



UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 3179: <i>CVN-79 Total Ship Integration</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3179				
CVN 79 DAB PR	4	2013	4	2013
CVN 80 DAB PR	4	2017	4	2017
Milestone C	4	2018	4	2018
Propulsion Plant	1	2012	4	2015
EMALS SDD Complete	2	2015	2	2015
AAG TRR 2 (IT)	2	2012	2	2012
Integrated Tests 1 (IT-1)	1	2012	1	2013
Integrated Tests 2 (IT-2)	1	2013	3	2016
Integrated Tests 3 (IT-3)	3	2016	2	2017
Integrated Tests 4 (IT-4)	2	2017	4	2018
Initial Operational Test & Evaluation - Phase 1 (OT-C1)	1	2017	3	2018
Initial Operational Test & Evaluation - Phase 2 (OT-C2)	4	2017	4	2018
Initial Operational Test & Evaluation - Phase 3 (OT-C3)	3	2018	4	2018
CVN 78 Ship Launch	4	2013	4	2013
CVN 78 Ship Delivery	4	2015	4	2015
CVN 78 Initial Operational Capability (IOC)	2	2017	2	2017
CVN 79 Construction Contract Award	4	2013	4	2013
CVN 80 GFE LLTM Contract Award	1	2016	1	2016
CVN 80 Construction Contract Award	1	2018	1	2018
CVN 79 SCN Full Funding	1	2013	4	2018
CVN 80 SCN Full Funding	1	2018	4	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 4007: CVN 21 LFT&E			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4007: CVN 21 LFT&E	50.820	1.607	2.675	3.645	-	3.645	3.792	5.092	4.330	4.391	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
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 14.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: CVN 21 LFT&E									1.607	2.675	3.645	
									0	0	0	
FY 2012 Accomplishments: Continued the Ship Vulnerability Model (SVM) analyses and the Damage Scenario-Based Engineering Analyses (DSBEAs) for VAR 4. Began documenting these analyses for VAR 4. Completed the CVN 78 Magazine Fire Protection System (Detection and Suppression) Test Reports. Completed the CVN 78 LFT&E Management Plan, Revision B.												
FY 2013 Plans: Complete the DSBEAs and continue the SVM analyses and documentation for VAR 4. Work with Huntington Ingalls Industries, Newport News Shipbuilding (HII-NNS) to increase the fidelity of the CVN 78 structural Finite Element Model (FEM) in order to improve the accuracy of the Modeling and Simulation (M&S) results of the CVN 78's response to Underwater Explosive (UNDEX) events. Using these M&S results, begin the CVN 78 Analytical Bridge analyses.												
FY 2014 Plans:												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 4007: CVN 21 LFT&E				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
Complete VAR 4 and route for signature. Continue the Analytical Bridge analyses of the CVN 78's response to UNDEX events, including Verification and Validation of the M&S results. Begin planning for the CVN 78 Total Ship Survivability Trial (TSST).												
Accomplishments/Planned Programs Subtotals										1.607	2.675	3.645
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• RDTEN/0603512N: Project Units 2208, 4004	58.163	97.534	74.641		74.641	39.740	43.340	40.650	39.234	Continuing	Continuing	
• RDTEN/0603570N: Propulsion Plant Development (PU 2692)	65.808	62.020	57.499		57.499	56.693	0.000	0.000	0.000	0.000	1,526.874	
• SCN/2001: Carrier Replacement Program	554.798	608.195	944.866		944.866	1,834.072	1,918.441	2,539.826	2,954.419	Continuing	Continuing	
• SCN/5300: Completion of Prior Year Shipbuilding Programs	0.000	0.000	588.100		588.100	729.000	0.000	0.000	0.000	0.000	1,317.100	
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 sortie generation rate, improved ship self-defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.												
E. Performance Metrics Complete the update of the CVN 78 Class LFT&E Management Plan, Revision B and route for signature. Complete the refinement of the CVN 78 structural Finite Element Model (FEM), in support of the Analytical Bridge analyses. Successfully complete Vulnerability Assessment Report (VAR) 4.												

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: System Development & Demonstration (SDD)							R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 4007: CVN 21 LFT&E				
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Live Fire Test & Evaluation	WR	NSWC Carderock:MD	42.849	1.063	Oct 2011	2.263	Nov 2012	3.221	Nov 2013	-		3.221	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	C/CPAF	HII:VA	7.961	0.544	Nov 2011	0.412	Dec 2012	0.424	Nov 2013	-		0.424	Continuing	Continuing	Continuing
Subtotal			50.810	1.607		2.675		3.645		0.000		3.645			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
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	0.000	0.010	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			50.820	1.607		2.675		3.645		0.000		3.645			
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

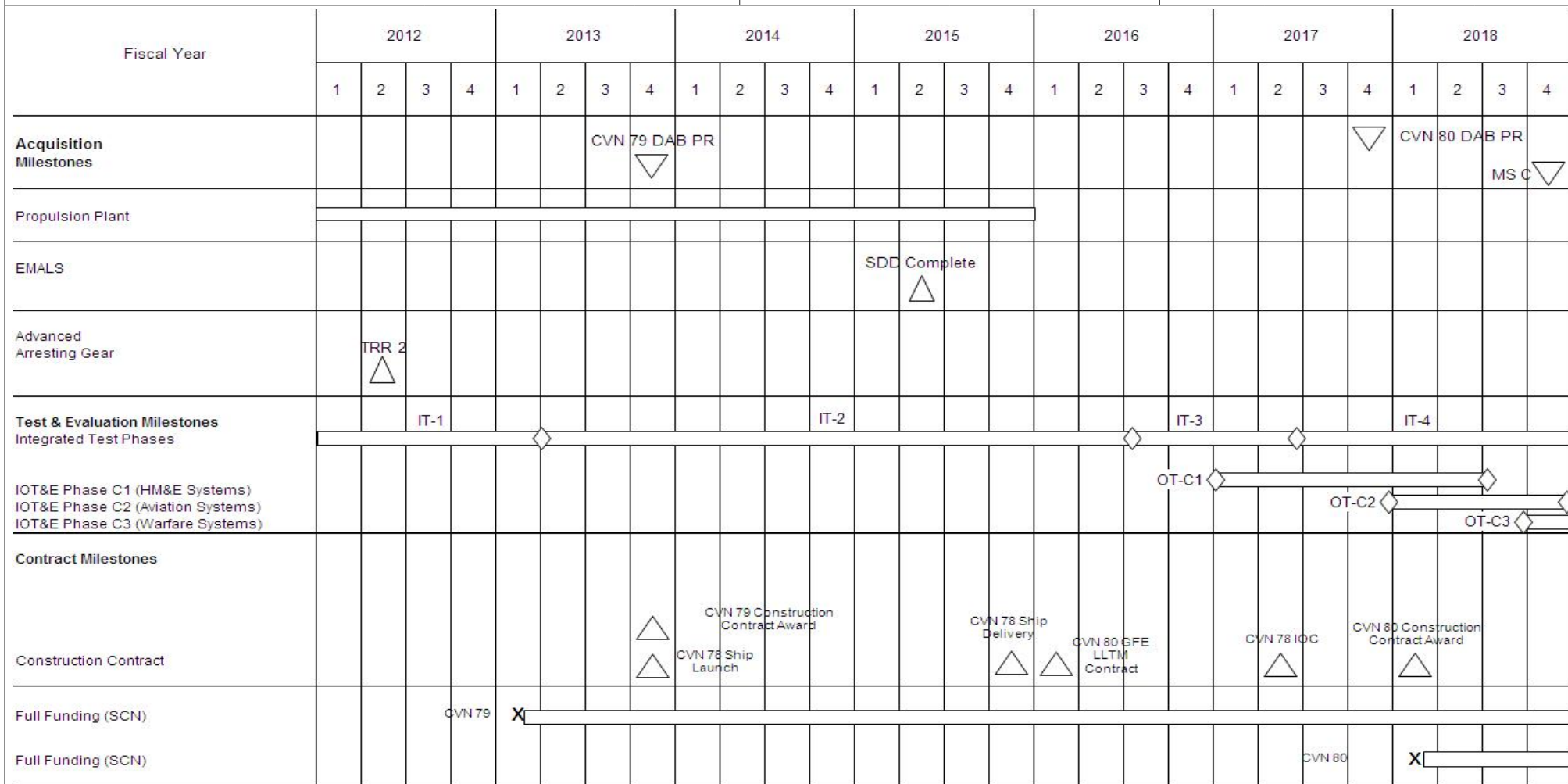
1319: Research, Development, Test & Evaluation, Navy
BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604567N: Ship Contract Design/ Live
Fire T&E

PROJECT

4007: CVN 21 LFT&E



UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *System Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604567N: *Ship Contract Design/ Live Fire T&E*

PROJECT

4007: *CVN 21 LFT&E*

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4007				
CVN 79 DAB PR	4	2013	4	2013
CVN 80 DAB PR	4	2017	4	2017
Milestone C	4	2018	4	2018
Propulsion Plant	1	2012	4	2015
EMALS SDD Complete	2	2015	2	2015
AAG TRR 2 (IT)	2	2012	2	2012
Integrated Tests 1 (IT-1)	1	2012	1	2013
Integrated Tests 2 (IT-2)	1	2013	3	2016
Integrated Tests 3 (IT-3)	3	2016	2	2017
Integrated Tests 4 (IT-4)	2	2017	4	2018
Initial Operational Test & Evaluation - Phase 1 (OT-C1)	1	2017	3	2018
Initial Operational Test & Evaluation - Phase 2 (OT-C2)	4	2017	4	2018
Initial Operational Test & Evaluation - Phase 3 (OT-C3)	3	2018	4	2018
CVN 78 Ship Launch	4	2013	4	2013
CVN 78 Ship Delivery	4	2015	4	2015
CVN 78 Initial Operational Capability (IOC)	2	2017	2	2017
CVN 79 Construction Contract Award	4	2013	4	2013
CVN 80 GFE LLTM Contract	1	2016	1	2016
CVN 80 Construction Contract Award	1	2018	1	2018
CVN 79 SCN Full Funding	1	2013	4	2018
CVN 80 SCN Full Funding	1	2018	4	2018