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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				PE 0604567N: Ship Contract Design/ Live Fire T&E							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	84.639	91.587	153.686	0.000	153.686	153.107	172.749	110.312	103.862	Continuing	Continuing
1803: Ship Contract Design	13.744	8.363	18.464	0.000	18.464	20.482	22.328	23.305	21.540	Continuing	Continuing
2465: DC/Survivability	7.604	6.277	10.383	0.000	10.383	10.146	12.166	10.238	8.069	Continuing	Continuing
3108: CVN 80 Total Ship Integration	0.000	0.000	0.000	0.000	0.000	0.000	43.109	49.078	48.977	Continuing	Continuing
3133: Sea Base to Shore Connectors (Contract Des)	25.017	35.328	20.349	0.000	20.349	5.590	1.805	1.897	4.360	Continuing	Continuing
3137: SSC Construction	0.000	0.000	80.463	0.000	80.463	95.672	77.233	9.575	4.358	Continuing	Continuing
3179: CVN-79 Total Ship Integration	32.460	37.261	21.324	0.000	21.324	19.548	14.922	15.035	15.349	Continuing	Continuing
4007: CVN 21 LFT&E	2.024	2.366	2.703	0.000	2.703	1.669	1.186	1.184	1.209	Continuing	Continuing
9999: Congressional Adds	3.790	1.992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.642
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.											

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
1319: Research, Development, Test & Evaluation, Navy		PE 0604567N: Ship Contract Design/ Live Fire T&E			
BA 5: Development & Demonstration (SDD)					
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.					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	80.869	89.988	0.000	0.000	0.000
Current President's Budget	84.639	91.587	153.686	0.000	153.686
Total Adjustments	3.770	1.599	153.686	0.000	153.686
• Congressional General Reductions		-0.381			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.020			
• Congressional Adds		2.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	5.854	0.000			
• SBIR/STTR Transfer	-2.083	0.000			
• Program Adjustments	0.000	0.000	153.686	0.000	153.686
• Rate/Misc Adjustments	-0.001	0.000	0.000	0.000	0.000
Congressional Add Details (\$ in Millions, and Includes General Reductions)					
Project: 9999: Congressional Adds				FY 2009	FY 2010
Congressional Add: AUTOMATED FIBER OPTIC MANUFACTURING INITIATIVE				2.793	1.992
Congressional Add: Landing Craft Composite Lift Fan				0.997	0.000
Congressional Add Subtotals for Project: 9999				3.790	1.992
Congressional Add Totals for all Projects				3.790	1.992

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E	
<div>Change Summary Explanation</div> <div>FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
1803: <i>Ship Contract Design</i>	13.744	8.363	18.464	0.000	18.464	20.482	22.328	23.305	21.540	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification <p>This project supports development of all technical, programmatic and contractual documentation required for the acquisition of various ships in the Navy's Shipbuilding Program. 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 prospective shipbuilder to make a sound estimate of construction cost and schedule. It also serves as the technical definition from which the shipbuilder develops the shipbuilding detailed design and testing package required to build and test the ship. This funding also provides for Navy retention of unique ship design knowledge. 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 Navy ship. This data base will serve as the basis to evaluate and qualify any future ship design. 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 will serve for the future acquisition of Navy Ship and 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. This project also funds the research, development, test, and evaluation of shipyard workload and resource management tools. The funding in this project unit supports Cruiser and DDG Modernization Program.</p> <p>Beginning in FY 2011, this project includes an increment for the DON Energy Initiative related to the DDG 51 Hybrid Electric Drive.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total						
Ship Contract Design	13.721	8.363	4.864	0.000	4.864						

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2009 Accomplishments:</i> Continued CG Modernization design and engineering efforts, the completion of Engineering Change Proposal development for AN/SQQ-89 (V) Mod 4A/6 to MK 116 Mod 7 upgrade, and the continuation of, but not limited to: Primary Damage Modeling Studies, Planning Yard Corrosion Reduction Studies, Brass Model Studies, and Power Node Control Center (PNCC) Risk Mitigation studies.					
<i>FY 2010 Plans:</i> For Cruisers, 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 Baseline (ACB-12). For DDGs, specific efforts are related to Gun Computing System (GCS) development for the MK 45 interface to a digital MK 116 Gun Computing System.					
<i>FY 2011 Base Plans:</i> N/A					
Defense Acquisition Workforce <i>FY 2009 Accomplishments:</i> Defense Acquisition Workforce Development Fund (DAWDF)	0.023	0.000	0.000	0.000	0.000
DON Energy Initiative Beginning in FY 2011, this project reflects an increment of the DON Energy Initiative. <i>FY 2011 Base Plans:</i> DON Energy Initiative - Beginning in FY 2011, this project reflects an increment of the DON Energy Initiative.	0.000	0.000	13.600	0.000	13.600

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B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Accomplishments/Planned Programs Subtotals						13.744	8.363	18.464	0.000	18.464	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• OPN 0900: DDG Modernization	167.048	144.300	296.691	0.000	296.691	293.847	463.051	476.493	410.169	Continuing	Continuing
• OPN 0960: CG Modernization	165.165	313.149	356.958	0.000	356.958	448.737	575.985	632.640	253.809	Continuing	Continuing
• WPN 4223: CG Modernization	29.910	51.069	52.426	0.000	52.426	53.266	54.148	55.088	31.046	Continuing	Continuing
D. Acquisition Strategy											
N/A											
E. Performance Metrics											
Electrochemical Methodology Development and verification at The Office of Naval Research for 5456-H116 including developing a statistically valid data set at pH11, working to establish the role of anions in the electrolyte, and decreasing the pH of the electrolyte to a more neutral pH solution, as well as development of a handheld, electrochemical test kit probe.											
Aluminum sensitization study to determine the lifetime until sensitization for a 5xxx series aluminum alloy 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. BASELINE 2 CRUISER SURVIVABILITY ANALYSIS will develop a CG 52 ship description database (current and modernized designs). Conduct database and IRM Simulation verification and validation. Conduct IRM runs and analysis for selected threats and hit distributions. Development, integration, and testing of a digital video capability for the MK 34 Gun Weapon System with the Common Display System (CDS) and Common Processing System (CPS) as part of the TI-12 ACB-12 AEGIS Combat System upgrade for Cruiser and Destroyer Modernization programs. Integration of an Inertial Measuring Unit into the Electro-Optical Sensor System to compensate for the dynamic motion, providing accurate bearing and elevation data to the MK 160 GCS, thus eliminating the errors introduced by mast flexure and stabilize the sensors (TIS and DIS) video image.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: 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 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	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	16.002	0.000		1.411	Nov 2010	0.000		1.411	0.842	18.255	Continuing	
Subtotal			16.002	0.000		1.411		0.000		1.411	0.842	18.255		
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	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 Not Specified	3.298	0.847	Oct 2009	0.560	Oct 2010	0.000		0.560	3.655	8.360	Continuing	
DDGM Program/ Engineering Spt	Various/ Various	SUPSHIP/BATH Not Specified	0.000	1.279	Dec 2009	1.000	Dec 2010	0.000		1.000	5.442	7.721	Continuing	
DDG/CGM Program / Engineering Spt	C/Various	CSC/BAE Not Specified	4.402	0.817	Dec 2009	0.300	Dec 2010	0.000		0.300	1.924	7.443	Continuing	
DDG/CGM Program / Engineering Spt	WR	SPAWARSSYSCEN Not Specified	0.376	0.957	Dec 2009	0.300	Dec 2010	0.000		0.300	1.715	3.348	Continuing	
CGM Program / Engineering Spt	WR	NRL Not Specified	0.288	0.375	Dec 2009	0.030	Dec 2010	0.000		0.030	0.125	0.818	Continuing	
CGM Program / Engineering Spt	C/Various	JJMA/ALION Not Specified	2.100	0.400	Dec 2009	0.000		0.000		0.000	0.000	2.500	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: 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 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
CGM Program / Engineering Spt	WR	NSWC/PHD Not Specified	1.825	0.000		0.000		0.000		0.000	0.000	1.825	Continuing	
DDG/CGM Program / Engineering Spt	WR	NSWC/BETHESDA Not Specified	1.993	0.806	Dec 2009	0.350	Dec 2010	0.000		0.350	3.336	6.485	Continuing	
CGM Program / Engineering Spt	Various/ Various	SUPSHIP/PASCAGOULA Not Specified	2.361	0.925	Dec 2009	0.310	Dec 2010	0.000		0.310	1.564	5.160	Continuing	
CGM Program / Engineering Spt	WR	COMOPTEVFOR Not Specified	0.030	0.000		0.000		0.000		0.000	0.000	0.030	Continuing	
DDG/CGM Program / Engineering Spt	WR	NSWC/SSES Not Specified	2.249	1.649	Dec 2009	0.603	Dec 2010	0.000		0.603	3.987	8.488	Continuing	
CGM Program / Engineering Spt	C/Various	L3 Not Specified	0.740	0.308	Dec 2009	0.000		0.000		0.000	0.000	1.048	Continuing	
Subtotal			19.662	8.363		3.453		0.000		3.453	21.748	53.226		
Remarks														

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 1803: Ship Contract Design					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DON Energy Initiative	Various/ Various	VAR Not Specified	0.000	0.000		13.600	Dec 2010	0.000		13.600	70.202	83.802	Continuing
Defense Acquisition Workforce	Various/ Various	Not Specified Not Specified	0.023	0.000		0.000		0.000		0.000	0.000	0.023	Continuing
Subtotal			0.023	0.000		13.600		0.000		13.600	70.202	83.825	
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			35.687	8.363		18.464		0.000		18.464	92.792	155.306	
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

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

PROJECT

1803: Ship Contract Design

Fiscal Year	2009				2010				2011				2012				2013				2014				2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
CG Baseline 2 Contract Design																												
CG Baseline 3 Contract Design																												
CG Baseline 4 Contract Design																												
DDG Mod Contract Design																												
Test & Evaluation Milestones																												
Production Milestones																												
CG Modernization: System Procurement Awards	△																											
Deliveries	2				2				1				3				3				3				3			
Production Milestones																												
DDG Modernization: System Procurement Awards																												
Deliveries													1				2				2				3			

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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

Event	Start		End	
	Quarter	Year	Quarter	Year
CONTINUE CGM BASELINE 2 ENGINEERING	1	2009	2	2009
CONTINUE CGM BASELINE 3 ENGINEERING	1	2009	2	2012
CONTINUE CGM BASELINE 4 ENGINEERING	1	2011	4	2014
DDGM ENGINEERING	1	2010	4	2015
CGM PROCUREMENT AWARD (CG-57)	1	2009	1	2014
CGM PROCUREMENT AWARD (CG-55,62,60)	3	2010	3	2010
CGM PROCUREMENT AWARD (CG-59,64,63)	3	2011	3	2011
CGM PROCUREMENT AWARD (CG-65,71,66)	3	2012	3	2012
CGM PROCUREMENT AWARD (CG-67,70,69)	3	2013	3	2013
CGM PROCUREMENT AWARD (CG-73,72,68)	3	2014	3	2014
DDGM PROCUREMENT AWARD 1	4	2010	4	2010
DDGM PROCUREMENT AWARD 2	4	2011	4	2011
DDGM PROCUREMENT AWARD 3	3	2012	3	2012
DDGM PROCUREMENT AWARD 4	3	2013	3	2013
DDGM PROCUREMENT AWARD 5	3	2014	3	2014
DDGM PROCUREMENT AWARD 6	3	2015	3	2015

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2465: <i>DC/Survivability</i>	7.604	6.277	10.383	0.000	10.383	10.146	12.166	10.238	8.069	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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), a ship construction program designed to: provide a functional replacement for the LHA 1 Class ships which will reach the end of their extended service lives after FY10; be a key platform in the Amphibious Readiness Group (ARG) of the future and 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 Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Defense Acquisition Workforce <i>FY 2009 Accomplishments:</i> Defense Acquisition Workforce Development Fund (DAWDF)							0.011	0.000	0.000	0.000	0.000
2465 DC/Survivability <i>FY 2009 Accomplishments:</i> Continued Development Testing and Operational Testing Preparations: Continued preparing update to the Test and Evaluation Master Plan (TEMP) Continued preparing update to the Live Fire Test & Evaluation (LFT&E) Management Plan to OSD. Continued revising the Vulnerability Assessment Report (VAR). Completed LFT&E surrogate testing. Continued evaluating the interoperability data supporting Key Performance Parameters (KPP).							7.593	6.277	10.383	0.000	10.383

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Continued developing LHA 7 contract technical package; anticipate 3rd quarter FY10 RFP Release. Continued LHA 8 (Flight 1) Concept Studies in support of Amphibious Ships Recapitalization Capability Base Assessment (CBA). Finalized the Survivability Assessment Report (SAR) to OSD. FY 2010 Plans: Continue Development Testing and Operational Testing Preparations: Complete updating the Test and Evaluation Master Plan (TEMP). Continue updating the LFT&E Management Plan. Continue revising the Vulnerability Assessment Report (VAR). Continue evaluating the interoperability data support Key Performance Parameters (KPP). Release LHA 7 RFP for Advance Procurement (AP) and Detail Design and Construction (DD&C) contract. Continue LHA 8 Concept studies. Award LHA 7 AP Contract FY 2011 Base Plans: Continue Development Testing Preparations: Continue Operational Testing Preparations. Complete updating the LFT&E Management Plan and submit to OSD. Continue revising the Vulnerability Assessment Report (VAR). Continue evaluating the interoperability data supporting Key Performance Parameters (KPP). Award LHA 7 DD&C Contract. Begin LHA 8 Trade Studies and Preliminary Design efforts.					
Accomplishments/Planned Programs Subtotals	7.604	6.277	10.383	0.000	10.383

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• SCN/3041: LHA(R) Ships	192.077	169.476	949.897	0.000	949.897	2,100.752	0.000	0.000	0.000	0.000	3,412.202
• SCN: LHA 6 - Cost to Complete	14.310	0.000	0.000	0.000	0.000	66.085	0.000	0.000	0.000	0.000	80.395
D. Acquisition Strategy											
Acquisition strategy signed February 7, 2005 approved strategy for sole source to Northrop Grumman Ship Systems (NGSS) 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 Advance Procurement contract was subsumed by the FPI DD&C contract. .											
E. Performance Metrics											
Successfully achieve Initial Operational Capability, successfully complete Operational Test and Milestone Reviews.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 2465: <i>DC/Survivability</i>					
Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Design	Various/ Various	Various Not Specified	91.610	1.317	Dec 2009	5.474	Dec 2010	0.000		5.474	3.679	102.080	Continuing
Subtotal			91.610	1.317		5.474		0.000		5.474	3.679	102.080	
Remarks													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various Various	2.503	0.400	Dec 2009	0.400	Dec 2010	0.000		0.400	1.900	5.203	Continuing
Operational Test & Evaluation	WR	COMPOTEVOR Not Specified	3.801	1.454	Dec 2009	1.700	Dec 2010	0.000		1.700	7.193	14.148	Continuing
Live Fire Test & Evaluation	WR	Various Various	38.463	2.900	Dec 2009	2.500	Dec 2010	0.000		2.500	6.200	50.063	Continuing
Subtotal			44.767	4.754		4.600		0.000		4.600	15.293	69.414	
Remarks													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 2465: <i>DC/Survivability</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various/ Various	Not Specified Not Specified	7.464	0.186	Dec 2009	0.259	Dec 2010	0.000		0.259	0.535	8.444	Continuing
Travel	Various/ Various	Not Specified Not Specified	0.262	0.020	Dec 2009	0.050	Dec 2010	0.000		0.050	0.050	0.382	Continuing
Defense Acquisition Workforce	Various/ Various	Not Specified Not Specified	0.011	0.000		0.000		0.000		0.000	0.000	0.011	Continuing
Subtotal			7.737	0.206		0.309		0.000		0.309	0.585	8.837	
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			144.114	6.277		10.383		0.000		10.383	19.557	180.331	
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 2465: <i>DC/Survivability</i>

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE:				July 2009				
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-5					0604567N Ship Contract Design / LFT&E										2465 LHA(R)													
Fiscal Year	2009				2010				2011				2012				2013				2014				2015			
	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
Milestones																												
Developmental Testing																												
Operational Testing																												
Vulnerability Assessment Report (VAR)																												
Contract Design																												
Survivability Assessment Record (SAR)																												
Surrogate Testing																												
TEMP Update																												
LFT&E Management Plan																												
LHA 7 AP Award																												
LHA 7 DD&C Award																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E		PROJECT 2465: DC/Survivability
Schedule Details				
	Start		End	
Event	Quarter	Year	Quarter	Year
Developmental Testing	1	2009	2	2014
Contract Design	1	2009	4	2014
Operational Testing	1	2009	2	2014
Vulnerability Assessment Report (VAR)	1	2009	1	2014
Survivability Assessment Report (SAR)	1	2009	4	2009
Surrogate Testing	1	2009	3	2009
TEMP Update	1	2009	3	2010
LFT&E Update to Management Plan	1	2009	1	2011
LHA 7 Advanced Procurement Award	1	2009	3	2010
LHA 7 DD&C Award	1	2009	1	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 3108: <i>CVN 80 Total Ship Integration</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
3108: <i>CVN 80 Total Ship Integration</i>	0.000	0.000	0.000	0.000	0.000	0.000	43.109	49.078	48.977	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Development and related testing of CVN78 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.

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

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 200100: <i>Carrier Replacement Program</i>	3,915.642	1,219.927	2,639.569	0.000	2,639.569	494.823	2,418.293	3,386.556	2,284.498	0.000	22,913.773
• 0603512N: <i>2208, 4004, 9B58A 9D24A, 10C098</i>	174.914	154.394	83.619	0.000	83.619	61.382	45.447	45.038	45.435	0.000	1,693.374
• 0603570N: <i>CVN 21 (PU 2692)</i>	102.855	82.232	66.643	0.000	66.643	65.142	61.778	57.037	55.990	0.000	1,525.140

D. Acquisition Strategy

The CVN 78 will be 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, advanced arresting gear system, all

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 3108: <i>CVN 80 Total Ship Integration</i>
electrical auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership cost 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.		
<u>E. Performance Metrics</u> N/A		

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

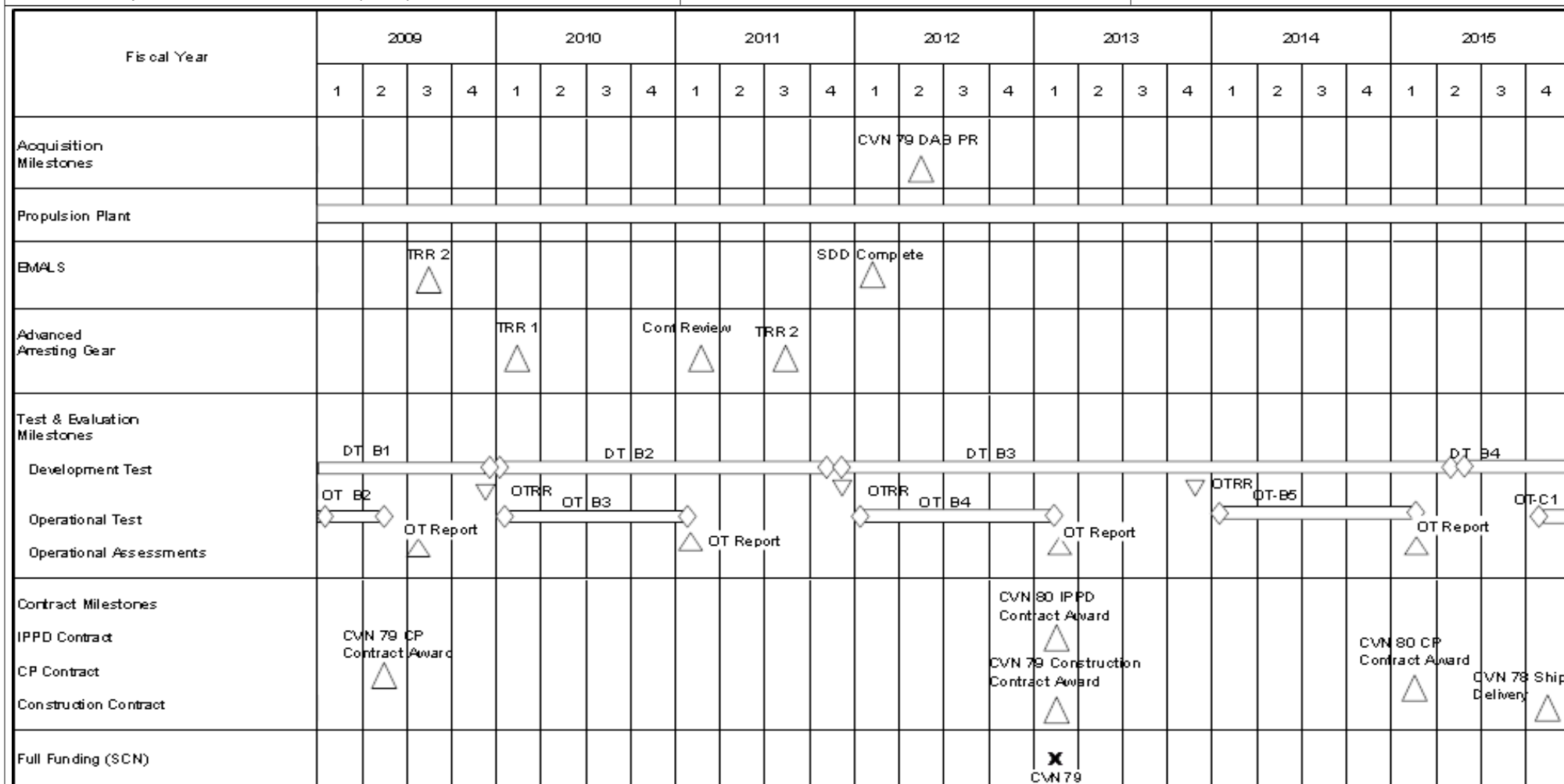
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

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

PROJECT

3108: CVN 80 Total Ship Integration



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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3133: Sea Base to Shore Connectors (Contract Des)			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
3133: Sea Base to Shore Connectors (Contract Des)	25.017	35.328	20.349	0.000	20.349	5.590	1.805	1.897	4.360	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
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. This program provides the surface assault portion of the Joint Expeditionary Maneuver Warfare tactical solution set requirement to project, sustain, retrograde and re-employ joint combat power from the sea and Sea Base, independent of tides, water depth, underwater obstacles or beach gradient. This project provides for the Systems Development and Demonstration package required for the solicitation for detail design/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 2014. This project also encompasses those tasks required to develop the contract data package necessary to support the procurement of the lead SSC craft, including, but not limited to engineering support, programmatic and program support, logistics support, manpower and program related studies. The lead craft is funded in RDT&E under this PE, Project 3137.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Sea Base to Shore Connectors (Contract Des)						24.891	35.328	20.349	0.000	20.349	
FY 2009 Accomplishments: Completed Preliminary Design efforts with Milestone A DAB Review conducted on 7 May 2009. Initiation of Contract Design. Continuation of Class Test and Evaluation program. Conducted set-based design and follow-on integrated design studies. Develop prototyping plans with attention to weight in the design.											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>			PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i>					
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
FY 2010 Plans: Complete development and implementation of initiatives in preparation for the award of the Detail Design and Construction Contract in FY11. Continuation of Class Test and Evaluation program. Develop contracts data package for the test and training craft award in FY11.											
FY 2011 Base Plans: Award Detail Design and Construction Contract for lead craft. Continuation of Class Test and Evaluation program.											
Defense Acquisition Workforce Defense Acquisition Workforce FY 2009 Accomplishments: N/A						0.126	0.000	0.000	0.000	0.000	
Accomplishments/Planned Programs Subtotals						25.017	35.328	20.349	0.000	20.349	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• RDT&E 0604567N: <i>SSC Detail Design/Construction</i>	0.000	0.000	80.463	0.000	80.463	95.672	77.233	9.575	4.358	0.000	267.301
• SCN 5112: <i>SSC Construction</i>	0.000	0.000	0.000	0.000	0.000	0.000	71.783	127.676	230.021	0.000	429.480
D. Acquisition Strategy											
The lead craft will be procured and constructed with RDT&E funds. The lead craft Detail Design contract will include an option for construction.											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i>
E. Performance Metrics Successfully completed Test and Evaluation Master Plan (TEMP) and Live Fire Test and Evaluation (LFT&E) Management Plan. Successfully award detail and design construction contract for Test and Training Craft with options for follow SCN crafts.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E					PROJECT 3133: Sea Base to Shore Connectors (Contract Des)				
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Ship Design	C/FP	Various Not Specified	5.089	3.886	Oct 2009	3.935	Oct 2009	0.000		3.935	1.800	14.710	Continuing	
Preliminary/Contract Design	C/FP	Various Not Specified	15.034	17.781	Oct 2009	3.804	Oct 2010	0.000		3.804	0.000	36.619	Continuing	
System Engineering	Various/ Various	Various Not Specified	3.016	3.225	Nov 2009	2.500	Oct 2009	0.000		2.500	1.800	10.541	Continuing	
Subtotal			23.139	24.892		10.239		0.000		10.239	3.600	61.870		
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Developmental Support	WR	Various Not Specified	2.750	1.494	Oct 2009	1.538	Oct 2010	0.000		1.538	0.000	5.782	Continuing	
Software Development	C/FP	Various Not Specified	1.219	1.000	Nov 2009	1.061	Nov 2010	0.000		1.061	0.000	3.280	Continuing	
Integrated Logistics Support	C/FP	Various Not Specified	0.853	0.839	Nov 2009	0.000		0.000		0.000	0.000	1.692	Continuing	
Studies & Analyses	C/FFP	Various Not Specified	3.119	0.500	Nov 2009	0.849	Nov 2010	0.000		0.849	0.605	5.073	Continuing	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3133: Sea Base to Shore Connectors (Contract Des)					
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			7.941	3.833		3.448		0.000		3.448	0.605	15.827	
Remarks													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/CPFF	Various Not Specified	0.000	0.033	Oct 2009	0.392	Oct 2010	0.000		0.392	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPFF	Various Not Specified	0.618	0.500	Oct 2009	0.402	Oct 2010	0.000		0.402	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	C/CPFF	Various Not Specified	0.632	1.521	Oct 2009	5.757	Oct 2010	0.000		5.757	Continuing	Continuing	Continuing
Subtotal			1.250	2.054		6.551		0.000		6.551			
Remarks													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i>			

Management Services (\$ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support	C/CPFF	Various Not Specified	2.521	0.000	Nov 2009	0.000		0.000		0.000	0.000	2.521	Continuing
Government Engineering Support	WR	NSWC Various	2.252	0.000	Oct 2009	0.000		0.000		0.000	0.000	2.252	Continuing
Program Management Support	Various/ Various	Various Not Specified	2.031	4.449	Oct 2009	0.000		0.000		0.000	0.000	6.480	Continuing
Travel	Various/ Various	NAVSEA Travel Various	0.030	0.100	Oct 2009	0.111	Oct 2010	0.000		0.111	0.000	0.241	Continuing
Defense Acquisition Workforce	Various/ Various	Various Not Specified	0.126	0.000		0.000		0.000		0.000	0.000	0.126	Continuing
Subtotal			6.960	4.549		0.111		0.000		0.111	0.000	11.620	

Remarks

			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			39.290	35.328		20.349		0.000		20.349			

Remarks

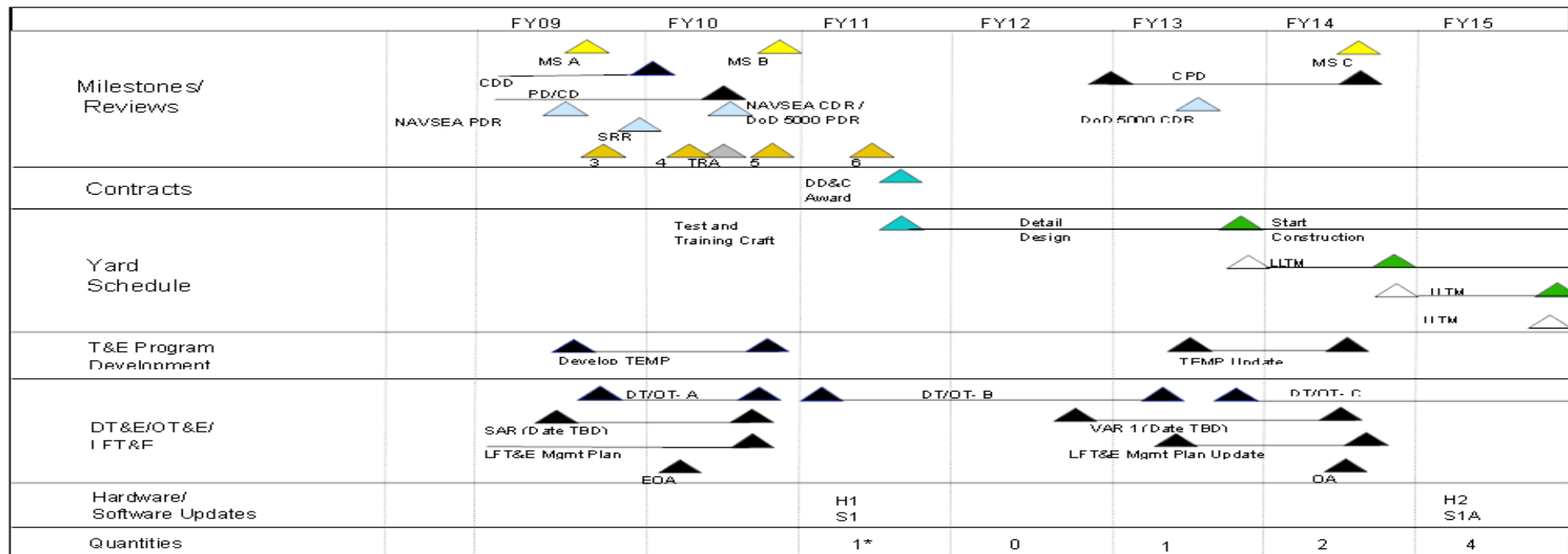
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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE		PROJECT	
1319: Research, Development, Test & Evaluation, Navy		PE 0604567N: Ship Contract Design/ Live Fire T&E		3133: Sea Base to Shore Connectors (Contract Des)	
BA 5: Development & Demonstration (SDD)					



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
T&E Program Development	1	2009	2	2014
Live Fire Test & Evaluation (LFT&E) Mgmt Plan	1	2009	3	2014
Capability Development Document (CDD)	1	2009	1	2010
Preliminary Design/Contract Design (PD/CD)	1	2009	3	2010
Preliminary/Contract Design Reviews (PDR/CDR)	2	2009	3	2013
Survivability/Vulnerability Assessment Report (SAR/VAR)	2	2009	3	2014
Development Test/Operational Test (DT/OT) (A,B, & C)	3	2009	4	2015
Acquisition Milestones (DAB, Milestone A &B&C)	3	2009	3	2014
System Readiness Review (SRR)	4	2009	4	2009
Detail Design & Construction (DD&C) Award	3	2011	3	2011
Capabilities Production Document (CPD)	1	2013	3	2014
Early Operational Assessment/Operational Assessment (EOA/OA)	2	2010	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
3137: <i>SSC Construction</i>	0.000	0.000	80.463	0.000	80.463	95.672	77.233	9.575	4.358	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project funds the Ship to Shore Connector (SSC) construction phase which includes the construction of the test and training craft, and includes Detail Design, procurement of one Full Motion Trainer, Integrated Logistics Support (ILS), Government Furnished Equipment (GFE), Program support, and Outfitting and Post Delivery. The SSC program provides the surface assault portion of the Joint Expeditionary Maneuver Warfare tactical solution set requirement to project, sustain, retrograde and re-employ joint combat power from the sea and Sea Base, independent of tides, water depth, underwater obstacles or beach gradient. The lead craft will be maintained as a test platform throughout its life cycle to allow analysis and test of fixes to problems as they arise during fleet introduction of SSC. The SSC program provides the functional replacement for the LCAC Class of ships, which begin reaching extended service life in 2014.

Budget breakout for Test and Training Craft being procured under this PE/Project:

Plans:
TOTAL 48.7 (FY11 26.6)
Basic Construction
TOTAL 161.6 (FY11 41.8)
Change Orders
TOTAL 8.3 (FY11 1.6)
Electronics
TOTAL 0.3 (FY11 0.3)
HME/Other Support
TOTAL 52.4 (FY11 14.1)
Ship Total
TOTAL 267.3 (FY11 80.4)

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

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3137: SSC Construction			
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
SSC Construction						0.000	0.000	80.463	0.000	80.463	
FY 2011 Base Plans: Detail and Design and Construction of test and training craft, including but not limited to procurement of Full Motion Trainer (FMT), Change Orders, Logistics support and Program support.											
Accomplishments/Planned Programs Subtotals						0.000	0.000	80.463	0.000	80.463	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• RDT&E 0604567N: RDT&E	25.017	35.328	20.349	0.000	20.349	20.349	5.590	1.805	4.360	0.000	112.798
• SCN 5112: SSC Construction	0.000	0.000	0.000	0.000	0.000	0.000	71.783	127.676	230.021	0.000	429.480
D. Acquisition Strategy											
The test and training craft will be procured and constructed with RDT&E funds. The test and training craft Detail and Design contract will include an option for construction of follow crafts to be procured in SCN.											
E. Performance Metrics											
Successfully award detail and design construction contract for Test and Training Craft with options for follow SCN crafts.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010																																																																																													
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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>																																																																																																
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Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																																																											
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Test & Trng Craft Detail Design	C/TBD	TBD TBD	0.000	0.000		26.600	Apr 2011	0.000		26.600	Continuing	Continuing	Continuing																																																																																											
Test & Trng Craft Construction	C/TBD	TBD TBD	0.000	0.000		37.317	Apr 2011	0.000		37.317	Continuing	Continuing	Continuing																																																																																											
Full Motion Trainer/GFM	C/TBD	TBD TBD	0.000	0.000		0.463	Apr 2011	0.000		0.463	Continuing	Continuing	Continuing																																																																																											
Change Orders	C/TBD	TBD TBD	0.000	0.000		1.600	Jul 2011	0.000		1.600	Continuing	Continuing	Continuing																																																																																											
Subtotal			0.000	0.000		65.980		0.000		65.980																																																																																														
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Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																																																											
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Integrated Logistics Support	WR	Various WR	0.000	0.000		1.800	Oct 2010	0.000		1.800	Continuing	Continuing	Continuing																																																																																											
Subtotal			0.000	0.000		1.800		0.000		1.800																																																																																														

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E				PROJECT 3137: SSC Construction						
Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Craft Construction Test Program	WR	Various Various	0.000	0.000		0.342	Oct 2010	0.000		0.342	Continuing	Continuing	Continuing	
Subtotal			0.000	0.000		0.342		0.000		0.342				
Remarks														
Management Services (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Engineering Support	C/TBD	Not Specified Not Specified	0.000	0.000		7.200	Nov 2010	0.000		7.200	0.000	7.200	Continuing	
Contractor ILS Support	C/TBD	Not Specified Not Specified	0.000	0.000		2.800	Nov 2010	0.000		2.800	0.000	2.800	Continuing	
Program Managment Support	C/TBD	Not Specified Not Specified	0.000	0.000		2.341	Nov 2010	0.000		2.341	Continuing	Continuing	Continuing	
Subtotal			0.000	0.000		12.341		0.000		12.341				
Remarks														

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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>				
	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		80.463		0.000		80.463			
Remarks											

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

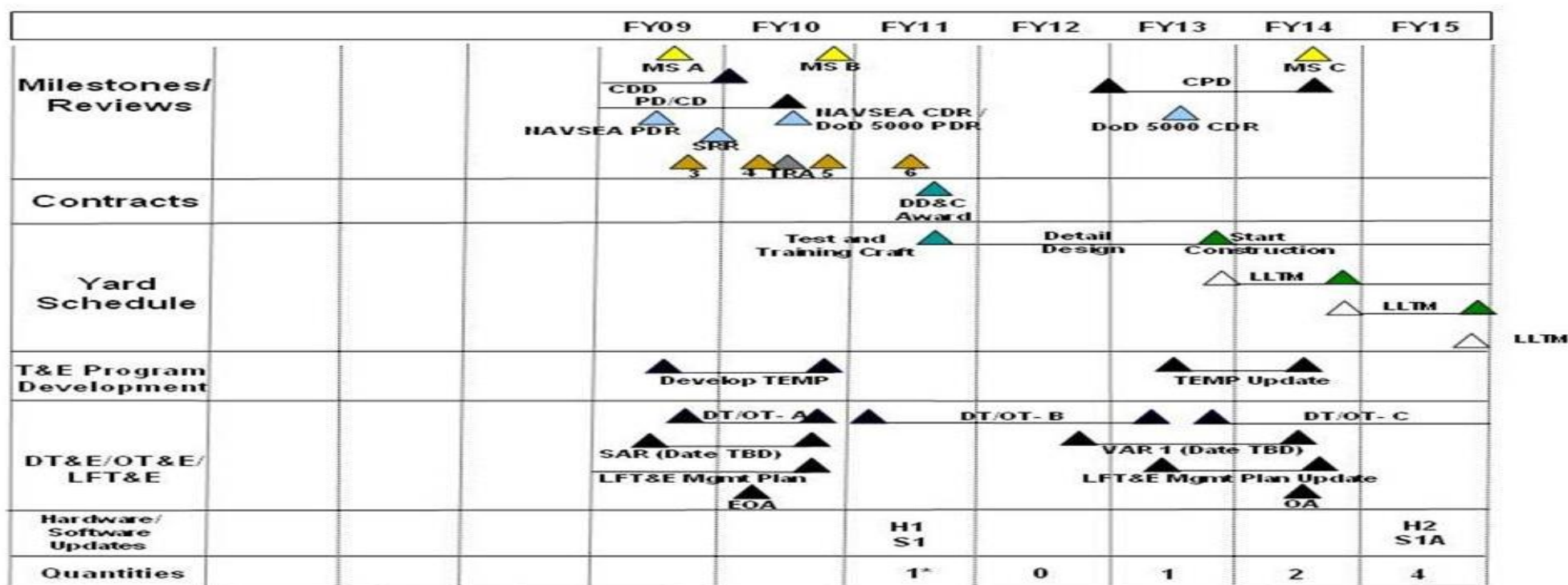
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

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

PROJECT

3137: SSC Construction



* FY11 Craft is Funded with R&D

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604567N: Ship Contract Design/ Live Fire T&E	PROJECT 3137: SSC Construction		
Schedule Details				
	Start		End	
Event	Quarter	Year	Quarter	Year
Test and Training Craft Detail Design	2	2011	4	2013
Test and Training Craft Construction	4	2013	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
3179: <i>CVN-79 Total Ship Integration</i>	32.460	37.261	21.324	0.000	21.324	19.548	14.922	15.035	15.349	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
CVN-79 Total Ship Integration <i>FY 2009 Accomplishments:</i> (U) CVN 78 Class Follow Ship Total Ship Integration: The CVN 79 will support efforts to address obsolescence, technology refresh, critical survival improvements, as well as continued improvements in manpower reduction, cost and weight savings. Efforts also encompass those tasks required to support CVN 79 procurement, including, but not	32.279	37.261	21.324	0.000	21.324

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: 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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
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 (IDE).						
CVN 79 Total Ship Integration (TSI) will be continued through the Construction Preparation (CP) Contract with Northrop Grumman Shipbuilding-Newport News (NGSB-NN) to incorporate technology advancements into the CVN 78 Class baseline design. TSI efforts are focused on continued activities that integrate and optimize systems arrangements and design to maintain the Key Performance Parameters (KPPs) for weight and kg / service life allowance to the ORD threshold values. CVN 79 design efforts will provide required program management and logistics support.						
The CVN 79 efforts include NGSB-NN development and submission of the Business Case Analysis (BCA) items for Shock Machine, Standard Electrical Enclosures, Spare Circuit Breaker Reduction, and a Propulsion Plant related design efficiency to reduce CVN 79 acquisition cost. Further development and implementation of these and new items (such as Aircraft Elevator Hoist redesign and Reactor Compartment Drilling Machine improvement) have occurred during the fiscal year. CVN 78 Class shock, vibration and electromagnetic interference (EMI) analysis, obsolescence analysis behind Digital Radiography, and TSI efforts have begun.						
FY 2010 Plans: Plans include further NGSB-NN developmentand submission of BCA items for Jet Engine Test Stand deletion, Tandem Gas Metal Arc Welding, SPN-46 deletion, Thin Plate Distortion requirements, Deletion of Liquid Oxygen Plant, and Aircraft Elevator Hoist redesign in order to reduce CVN 78 Class shock, vibration and EMI analysis, obsolescence analysis, and TSI efforts, are planned.						
FY 2011 Base Plans: Plans include further NGSB-NN development and submission of the BCA items to recuce CVN 79 acquisition cost. Further development and implementation of previous and new items to be determined						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: 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 Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
will occur during the fiscal year. Continuation of on-going efforts, including CVN 78 Class shock, vibration and EMI analysis and TSI efforts, are planned.											
Defense Acquisition Workforce FY 2009 Accomplishments: Defense Acquisition Workforce Development Fund						0.181	0.000	0.000	0.000	0.000	
Accomplishments/Planned Programs Subtotals						32.460	37.261	21.324	0.000	21.324	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0605312N: 2208, 4004, 9B57A, 9B58A, 9D24A, 10C098	174.914	154.394	83.619	0.000	83.619	61.382	45.447	45.038	45.435	Continuing	Continuing
• 0603570N: CVN 21 (PU 2692)	102.855	82.232	66.643	0.000	66.643	65.142	61.778	57.037	55.990	Continuing	Continuing
• 200100: Carrier Replacement Program	3,915.642	1,219.927	2,639.569	0.000	2,639.569	494.823	2,418.293	3,386.556	2,284.498	Continuing	Continuing
D. Acquisition Strategy											
The CVN 79 is the second ship of the CVN 78 Class of aircraft carriers which are the numerical replacements for the NIMITZ Class Carriers. CVN 79 is a modified repeat of the CVN 78, which features the new nuclear propulsion and electrical generation / distribution system, electromagnetic aircraft launch 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 79 will use late integration of Government-Furnished Equipment to provide the latest combat system and C4I suite applications within the planned system											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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>
baseline. CVN 79 will improve upon processes used on CVN 78 to gain efficiencies during the CVN 79 Construction Preparation and Construction periods.		
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 manhours (or equivalent material costs) for CVN 79 Construction.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy										DATE: February 2010				
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Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Total Ship Integration	C/CPAF	NGSB-NN VA	28.152	16.200	Jan 2010	11.196	Dec 2010	0.000		11.196	Continuing	Continuing	Continuing	
Total Ship Integration	WR	NSWC Carderock MD	7.254	2.301	Oct 2009	1.046	Oct 2010	0.000		1.046	Continuing	Continuing	Continuing	
Total Ship Integration	WR	NSWC Dahlgren VA	3.477	2.941	Oct 2009	0.606	Oct 2010	0.000		0.606	Continuing	Continuing	Continuing	
Total Ship Integration	WR	NAWCAD Pax River MD	1.552	0.362	Oct 2009	0.243	Oct 2010	0.000		0.243	Continuing	Continuing	Continuing	
Total Ship Integration	WR	SPAWAR SD	2.105	0.218	Oct 2009	0.509	Oct 2010	0.000		0.509	Continuing	Continuing	Continuing	
Total Ship Integration	C/CPFF	NAVSEA SEAPORT Not Specified	8.523	5.739	Dec 2009	1.608	Oct 2010	0.000		1.608	Continuing	Continuing	Continuing	
Total Ship Integration	C/CPAF	Raytheon Not Specified	0.000	2.257	Dec 2009	1.186	Dec 2010	0.000		1.186	Continuing	Continuing	Continuing	
Total Ship Integration	WR	SSC Charleston SC	0.233	0.000		0.000		0.000		0.000	0.000	0.233	Continuing	
Total Ship Integration	C/CPFF	SAIC VA	0.551	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing	
Total Ship Integration	Various/ Various	Miscellaneous Various	6.352	7.243	Dec 2009	4.294	Dec 2010	0.000		4.294	Continuing	Continuing	Continuing	
Developmental Test & Evaluation	WR	NSWC Carderock MD	0.351	0.000	Oct 2009	0.636	Oct 2010	0.000		0.636	Continuing	Continuing	Continuing	
Subtotal			58.550	37.261		21.324		0.000		21.324				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010																																																																								
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Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract																																																																						
Remarks																																																																																			
Management Services (\$ in Millions) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> <tr> <td>Defense Acquisition Workforce</td> <td>C/TBD</td> <td>Various Mis</td> <td align="right">0.181</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">0.181</td> <td>Continuing</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td> <td align="right">0.181</td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">0.000</td> <td align="right">0.000</td> <td align="right">0.181</td> <td></td> </tr> <tr> <td colspan="14">Remarks</td> </tr> </table>																		FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	Defense Acquisition Workforce	C/TBD	Various Mis	0.181	0.000		0.000		0.000		0.000	0.000	0.181	Continuing	Subtotal			0.181	0.000		0.000		0.000		0.000	0.000	0.181		Remarks													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total																																																																									
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract																																																																						
Defense Acquisition Workforce	C/TBD	Various Mis	0.181	0.000		0.000		0.000		0.000	0.000	0.181	Continuing																																																																						
Subtotal			0.181	0.000		0.000		0.000		0.000	0.000	0.181																																																																							
Remarks																																																																																			
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																																						
Project Cost Totals			58.731	37.261		21.324		0.000		21.324																																																																									
Remarks																																																																																			

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

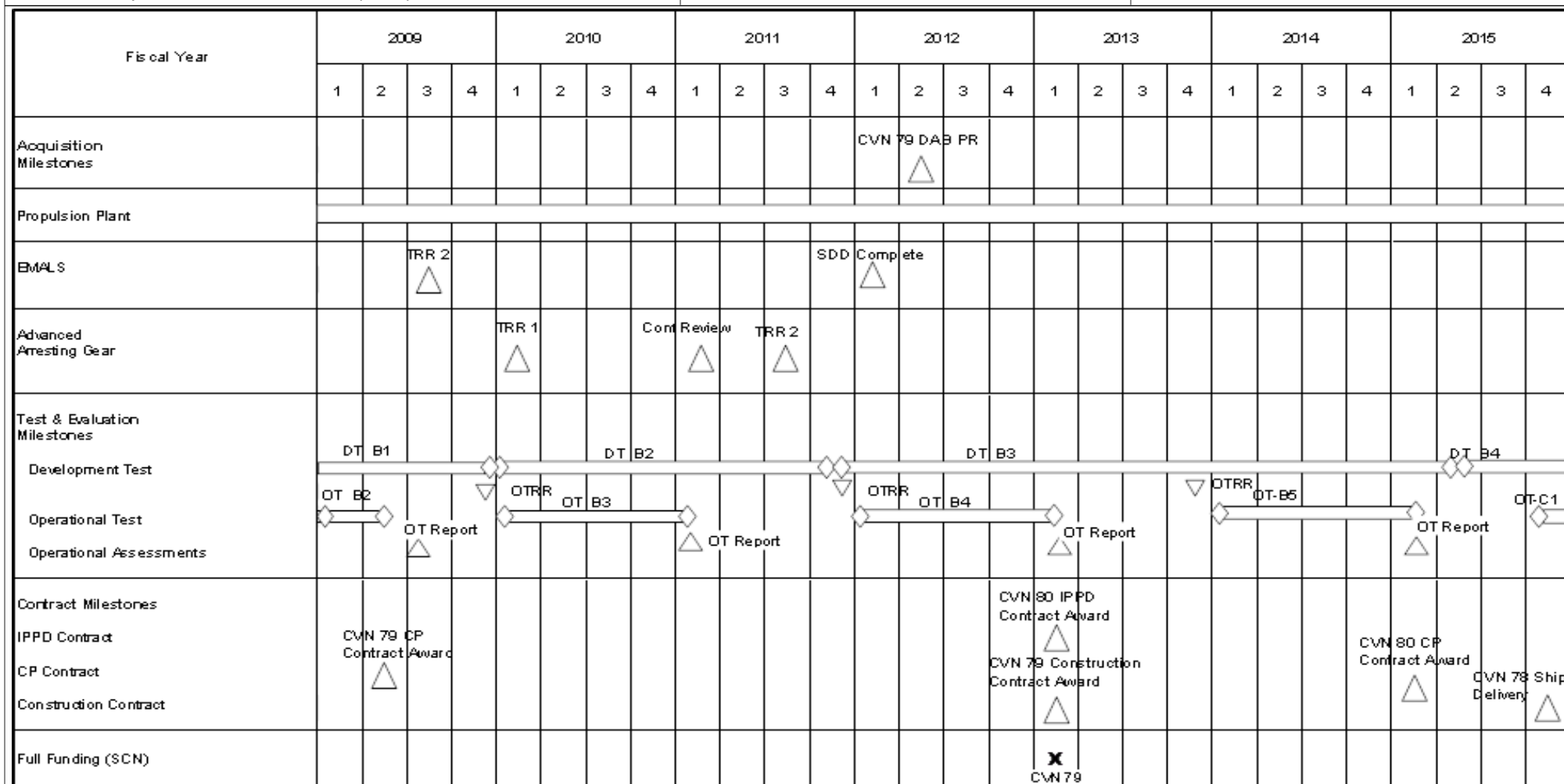
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

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

PROJECT

3179: CVN-79 Total Ship Integration



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire</i> T&E	PROJECT 3179: <i>CVN-79 Total Ship Integration</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
CVN 79 DAB PR	2	2012	2	2012
Propulsion Plant	1	2009	4	2015
EMALS TRR 2 (DT/OA)	3	2009	3	2009
EMALS SDD Complete	1	2012	1	2012
Advanced Arresting Gear (AAG) TRR 1 (IT)	1	2010	1	2010
AAG Config Review	1	2011	1	2011
AAG TRR 2 (IT)	3	2011	3	2011
Developmental Tests DT-B1	1	2009	4	2009
Developmental Tests DT-B2	1	2010	4	2011
Developmental Tests DT-B3	4	2011	2	2015
Developmental Test DT-B4	2	2015	4	2015
Operational Tests Readiness Review 1	4	2009	4	2009
Operational Tests Readiness Review 2	4	2011	4	2011
Operational Tests Readiness Review 3	4	2013	4	2013
Operational Tests OT-B2	1	2009	2	2009
Operational Tests OT-B3	1	2010	1	2011
Operational Tests OT-B4	1	2012	1	2013
Operational Tests OT-B5	1	2014	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>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>	

Event	Start		End	
	Quarter	Year	Quarter	Year
Operational Test OT-C1	4	2015	4	2015
Operational Tests Report 1	3	2009	3	2009
Operational Tests Report 2	1	2011	1	2011
Operational Tests Report 3	1	2013	1	2013
Operational Tests Report 4	1	2015	1	2015
CVN 79 CP Contract Award	2	2009	2	2009
CVN 80 IPPD Contract Award	1	2013	1	2013
CVN 79 Construction Contract Award	1	2013	1	2013
CVN 80 CP Contract Award	1	2015	1	2015
CVN 78 Ship Delivery	4	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 4007: <i>CVN 21 LFT&E</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
4007: <i>CVN 21 LFT&E</i>	2.024	2.366	2.703	0.000	2.703	1.669	1.186	1.184	1.209	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification <p>This project encompasses Live Fire Test and Evaluation (LFT&E) efforts for the CVN78 Class. Title 10, US Code, Section 2366, CVN 21 Operational Requirements Document (ORD) and the CVN 21 Test and Evaluation Master Plan (TEMP), prescribe requirements for LFT&E. The purpose of LFT&E is to evaluate weapons and weapons systems in a realistic combat environment and to identify any mission threatening vulnerabilities early in the development process when there is time to take corrective action. The CVN 21 LFT&E Management Plan details the efforts, through testing and engineering analyses, to address potential design vulnerabilities.</p> <p>The unit cost of the CVN 78 Class and its shipboard systems preclude consideration of destructive testing of a full-up CVN 78 Class hull with threats of the type that might be expected in combat. Consequently, the Navy must rely on other means to determine that CVN 78 Class ships will be able to survive and carry out its missions in the face of the threats identified in the CVN 21 System Threat Assessment Report. The Vulnerability Assessment Report (VAR) is the key document that addresses these issues for the CVN 78 LFT&E Program.</p> <p>The LFT&E strategy for the CVN78 Class accounts for the uncertainty in its design features. The strategy assumes that as the program progresses through the stages of ship design, prior to the award of the construction contract, descriptive detail of CVN78 will increase and so will the ability to evaluate its survivability. The VAR 3 was officially completed in the summer of 2007. The VAR 3 Update is scheduled to be completed in FY 12 and will incorporate the CVN 78 design drawings.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
CVN 21 LFT&E						2.014	2.366	2.703	0.000	2.703	
<i>FY 2009 Accomplishments:</i> Update the CVN 21 Management Plan to include Full Ship Shock Trial (FSST) Alternative development. Total Ship Survivability Trials (TSST) and emergent threats identified in updates to the Capstone Ship Threat Assessment (CSTA) by the Office of Naval Intelligence (ONI). Continue											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: 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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Vulnerability Assessment Report (VAR) 3 Update to include building the Ship Vulnerability Model (SVM) and Deactivation Diagrams and preparing susceptibility models. Finalize Dynamic System Mechanics Advanced Simulation (DYSMAS) Verification, Validation and Accreditation (VV&A). Begin development of susceptibility models of new and emerging threats identified in the CSTA. Plan and conduct tasks necessary to fulfill the FSST Alternative Memorandum of Agreement (MOA) requirements. Compose FSST Alternative Development Plan. Begin Large Model development. Continue enhanced shock qualification testing on selected CVN 78 equipment. Continue modeling of LPD 19 and CVN 71 Shock Trials to support the FSST Alternative Process.						
FY 2010 Plans: Complete CVN 21 Management Plan update and signature cycle. Continue VAR 3 Update efforts with Modeling and Simulation (M&S) of selected shotlines and the Fire and Smoke Simulator (FSSIM), SVM, and DYSMAS. Begin the Damage Based Engineering Analyses (DSBEA). Continue susceptibility modeling of any new and emerging threats. Plan / conduct VV&A of select susceptibility codes for VAR 3 Update. Conduct Live, Fire, Test, and Evaluation (LFT&E) surrogate tests to support developmental testing of CVN 78 survivability features. Conduct tasks necessary to fulfill the FSST Alternative development, including analysis of CVN 71, LPD 19 and CG 48 shock trials. Continue Large Model development. Continue enhanced shock qualification testing on selected CVN 78 equipment.						
FY 2011 Base Plans: Continue VAR 3 Update efforts on DSBEAs. Continue to conduct tasks necessary to fulfill the FSST Alternative development, including analysis of CVN 71, LPD 19 and CG 48 shock trials. Continue Large Model development. Continue enhanced shock qualification testing on selected CVN 78 equipment. Conduct LFT&E surrogate tests to support developmental testing of CVN 78 survivability features. Commence update of LFT&E Management Plan by specifically addressing any changes to strategy for CVN 79 / CVN 80.						
Defense Acquisition Workforce		0.010	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: 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 Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
FY 2009 Accomplishments: Defense Acquisition Workforce Development Fund											
Accomplishments/Planned Programs Subtotals						2.024	2.366	2.703	0.000	2.703	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 200100: Carrier Replacement Program	3,915.642	1,219.927	2,639.569	0.000	2,639.569	494.823	2,418.293	3,386.556	2,284.498	Continuing	Continuing
• 0603570N: CVN 21 (PU 2692)	102.855	82.232	66.643	0.000	66.643	65.142	61.778	57.037	55.990	Continuing	Continuing
• 0603512N: 2208, 4004, 9B58A, 9D24A, 10C098	174.914	154.394	83.619	0.000	83.619	61.382	45.447	45.038	45.435	Continuing	Continuing
D. Acquisition Strategy											
The CVN 78 will be 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, advanced arresting gear 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 CVN 78 fire test effort in support of magazine fire protection system, AFFF system and EMALS trough fire protection. Complete update of the LFT&E Managment Plan from Rev A to Rev B. Successfully complete LFT&E surrogate test to any new and emerging threats identified by ONI.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: 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 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	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	38.529	2.045	Oct 2009	2.065	Oct 2010	0.000		2.065	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	C/CPAF	NGSB-NN VA	7.221	0.175	Nov 2009	0.458	Nov 2010	0.000		0.458	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	WR	Miscellaneous Various	0.134	0.146	Dec 2009	0.180	Dec 2010	0.000		0.180	Continuing	Continuing	Continuing
Subtotal			45.884	2.366		2.703		0.000		2.703			
Remarks													
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce	Various/ TBD	Various Various	0.010	0.000		0.000		0.000		0.000	0.000	0.010	Continuing
Subtotal			0.010	0.000		0.000		0.000		0.000	0.000	0.010	
Remarks													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>			PROJECT 4007: <i>CVN 21 LFT&E</i>					
	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	45.894	2.366		2.703		0.000		2.703			
Remarks											

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy																			DATE: February 2010										
APPROPRIATION/BUDGET ACTIVITY												R-1 ITEM NOMENCLATURE												PROJECT					
1319: Research, Development, Test & Evaluation, Navy												PE 0604567N: Ship Contract Design/ Live Fire T&E												4007: CVN 21 LFT&E					
BA 5: Development & Demonstration (SDD)																													
Fiscal Year	2009				2010				2011				2012				2013				2014				2015				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Acquisition Milestones													CVN 79 DAB PR																
Propulsion Plant																													
EMALS			TRR 2										SDD Complete																
Advanced Arresting Gear					TRR 1				Cont Review		TRR 2																		
Test & Evaluation Milestones																													
Development Test	DT B1							DT B2								DT B3										DT B4			
Operational Test	OT B2							OTRR		OT B3						OTRR		OT B4							OTRR		OT B5		OT-C1
Operational Assessments			OT Report								OT Report						OT Report								OT Report				
Contract Milestones																													
IPPD Contract																													
CP Contract																													
Construction Contract																													
Full Funding (SCN)																													

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire</i> T&E	PROJECT 4007: <i>CVN 21 LFT&E</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
CVN 79 DAB PR	2	2012	2	2012
Propulsion Plant	1	2009	4	2015
EMALS TRR 2 (DT/OA)	3	2009	3	2009
EMALS SDD Complete	1	2012	1	2012
Advanced Arresting Gear (AAG) TRR 1 (IT)	1	2010	1	2010
AAG Config Review	1	2011	1	2011
AAG TRR 2 (IT)	3	2011	3	2011
Developmental Tests DT-B1	1	2009	4	2009
Developmental Tests DT-B2	1	2010	4	2011
Developmental Tests DT-B3	4	2011	2	2015
Developmental Test DT-B4	2	2015	4	2015
Operational Tests Readiness Review 1	4	2009	4	2009
Operational Tests Readiness Review 2	4	2011	4	2011
Operational Tests Readiness Review 3	4	2013	4	2013
Operational Tests OT-B2	1	2009	2	2009
Operational Tests OT-B3	1	2010	1	2011
Operational Tests OT-B4	1	2012	1	2013
Operational Tests OT-B5	1	2014	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire</i> T&E	PROJECT 4007: <i>CVN 21 LFT&E</i>	

Event	Start		End	
	Quarter	Year	Quarter	Year
Operational Tests OT-C1	4	2015	4	2015
Operational Tests Report 1	3	2009	3	2009
Operational Tests Report 2	1	2011	1	2011
Operational Tests Report 3	1	2013	1	2013
Operational Tests Report 4	1	2015	1	2015
CVN 79 CP Contract Award	2	2009	2	2009
CVN 80 IPPD Contract Award	1	2013	1	2013
CVN 79 Construction Contract Award	1	2013	1	2013
CVN 80 CP Contract Award	1	2015	1	2015
CVN 78 Ship Delivery	4	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>				PROJECT 9999: <i>Congressional Adds</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	3.790	1.992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.642
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification Congressional adds.											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010				
Congressional Add: AUTOMATED FIBER OPTIC MANUFACTURING INITIATIVE <i>FY 2009 Accomplishments:</i> Production of a fully automated factory work cell that will function as an assembly center of excellence in support of the aircraft carrier construction/overhaul and Virginia Class Submarine programs. The resulting capabilities will allow the shipbuilding industry to produce factory terminated fiber optic cable assemblies/systems utilizing an efficient cost structure generating millions of dollars in shipbuilding program cost savings. The program will address the issue of field installation, field repair, and maintenance by extracting the technologies of the automated manufacturing line and inserting these technologies and process in small, portable, maintenance equipment that can be used by ship construction and ship's force personnel.						2.793	1.992				
<i>FY 2010 Plans:</i> Continue to address the issue of field installation, field repair, and maintenance by extracting the technologies of the automated manufacturing line and inserting these technologies and process in small, portable, maintenance equipment that can be used by ship construction and ship's force personnel.											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i>	PROJECT 9999: <i>Congressional Adds</i>
B. Accomplishments/Planned Program (\$ in Millions)			
		FY 2009	FY 2010
Congressional Add: Landing Craft Composite Lift Fan <i>FY 2009 Accomplishments:</i> Design, development and manufacture of two sets of prototype composite material lift fans for application on current and next generation Navy landing craft vessels. The initiative will address an ongoing problem the Navy has been experiencing with current generation metal lift fan blades that have to be replaced every few months. This technology will extend the life of landing craft lift fans, reducing failures, maintenance and life cycle costs.		0.997	0.000
Congressional Adds Subtotals		3.790	1.992
C. Other Program Funding Summary (\$ in Millions) N/A			
D. Acquisition Strategy N/A			
E. Performance Metrics Congressional adds.			

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