

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2006	
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE			
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVBA-5					Ship Contract Design/Live Fire T&E PE 0604567N			
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost		118.644	57.424	72.055	57.237	46.151	33.828	87.686
1803 / Ship Contract Design		3.610	11.364	6.471	4.730	4.756	4.754	4.717
2198 / Life Fire Test and Evaluation		0.000	2.703	1.445	0.000	0.000	0.000	0.000
2301 / CVN-77 Design		0.010	0.000	0.000	0.000	0.000	0.000	0.000
2465 / LHA Replacement		43.022	21.861	34.522	33.594	15.097	11.240	16.979
3108 / CVN (X) Total Ship Integration		0.000	0.000	0.000	0.000	0.000	0.000	57.861
3133 / Sea Base to Shore Connector		0.000	0.000	0.000	9.466	20.001	9.946	2.019
3134 / Intratheater Connectors (Contract Design)		0.000	1.912	0.000	0.000	0.000	0.000	0.000
4007 / CVN 21 LFT&E		8.447	7.420	7.499	2.593	6.297	7.888	6.110
4008 / CVN 21 Total Ship Integration		61.639	9.564	22.118	6.854	0.000	0.000	0.000
9578 / Integrated Modernization Environment		1.916	0.000	0.000	0.000	0.000	0.000	0.000
9999 / Congressional Add		0.000	2.600	0.000	0.000	0.000	0.000	0.000
<b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b>								
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, performance specifications and contractual documentation associated with acquisition of Navy ships. This PE also supports the Congressionally mandated Live Fire Test and Evaluation program for new ship designs.								
Contract Design has traditionally been the engineering development of the technical and contractual definition of the ship design (including ship specifications and drawings) to a level of detail sufficient for shipbuilders to make a sound estimate of the construction cost and schedule. Additionally, the contract design package developed under this PE has provided the technical baseline from which the Navy selects the shipbuilder who then develops the detail design package required to support the construction and eventual delivery of the ship. This PE also supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions, and supports engineering planning and ship affordability studies.								
Under Acquisition Reform for new design ships, traditional distinct phasing of the design process has been replaced with a continuous concurrent engineering Integrated Product and Process Development (IPPD) process extending through and after contract award. This serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, system programs, and suppliers. Government/Industry Integrated Product Team(s) (IPTs) will utilize the IPPD process to develop the design in an Integrated Product and Data Environment (IPDE). The design approach is part of an acquisition strategy that is based on commercial practices and incorporates a phased technical definition.								

R-1 SHOPPING LIST - Item No. 117

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Exhibit R-2, RDTE Budget Item Justification

(Exhibit R-2, page 1 of 49)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 1803 Ship Contract Design			
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		3.610	11.364	6.471	4.730	4.756	4.754	4.717
RDT&E Articles Qty								

## A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Mission Description and Budget Item Justification: 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.

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2006</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 1803 Ship Contract Design																	
<b>B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 40%;">Cruiser Modernization Program</td><td style="width: 10%;"></td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td>0.000</td><td>11.364</td><td>6.471</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					Cruiser Modernization Program		FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		0.000	11.364	6.471	RDT&E Articles Quantity				
Cruiser Modernization Program		FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		0.000	11.364	6.471															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 60px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 40%;">Sea Base Connector</td><td style="width: 10%;"></td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td>1.660</td><td>0.000</td><td>0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					Sea Base Connector		FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		1.660	0.000	0.000	RDT&E Articles Quantity				
Sea Base Connector		FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		1.660	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 40px; margin-top: 10px;"></div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 40%;">ARGOS</td><td style="width: 10%;"></td><td style="width: 15%;">FY 05</td><td style="width: 15%;">FY 06</td><td style="width: 10%;">FY 07</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td>1.950</td><td>0.000</td><td>0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>					ARGOS		FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		1.950	0.000	0.000	RDT&E Articles Quantity				
ARGOS		FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost		1.950	0.000	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 30px; margin-top: 10px;"></div>																			

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2006</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 1803 Ship Contract Design

**C. PROGRAM CHANGE SUMMARY:**

	FY 2005	FY 2006	FY 2007
FY06 President's Budget:	1.696	11.538	6.465
FY07 President's Budget:	3.610	11.364	6.471
Total Adjustments	1.914	-0.174	0.006
Summary of Adjustments			
SBIR Reductions	-0.087		
Congressional Action	1.992	-0.174	
Cancelled Accounts	-0.002		
Other misc. changes:	0.011		0.006
Programmatic Changes			
Subtotal	1.914	-0.174	0.006

Schedule:

CG Modernization procurement contract awards reflect Baseline 2 lead ship funded for long lead equipment procurement in FY06 and modernization availability in FY08. Baseline 3 and Baseline 4 lead ships are funded for procurement in the outyears. Design efforts funded in RDT&E,N leading to procurement contract awards have been scheduled accordingly.

Technical:

Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2006</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 1803 Ship Contract Design				

**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
OPN 096000 CG Modernization	0	125	234	275	289	400	477	1,698	3,498
WPN 422300 CG Modernization	0	5	18	23	45	53	54	187	386
Sea Base Connector									
RDT&E 0603564 3127	0.000	14.198	13.380	13.099	0.000	0.000	0.000	0.000	40.677
RDT&E 0604567 3133	0.000	0.000	0.000	9.466	20.001	9.946	2.019	0.000	41.432
SCN 0204411N 5112	0.000	0.000	0.000	0.000	0.000	98.000	207.080	0.000	305.080

**E. ACQUISITION STRATEGY:**

N/A

**F. MAJOR PERFORMERS:**

N/A

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			Ship Contract Design/LFT&E 0604567N			1803 Ship Contract Design								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CG Mod Class Design/Integration	SS/CPAF	Northrop Grumman, Pascagoula, MS				0.000		8.551	03/06	5.796	11/06		14.347	
CG Mod Electronic Systems Eng	C/CPAF	LMGES, Moorestown, NJ				0.000		2.813	03/06	0.675	11/06		3.488	
S B Connector Conc. Dev./AoA	C/CPFF	TBD				1.660	12/04						1.660	
ARGOS Evaluation	C/CPFF	Navy Systems Support Group, NNSY				1.950	09/05						1.950	
													0.000	
													0.000	
													0.000	
Subtotal Product Development			0.000			3.610		11.364		6.471		0.000	21.445	
Remarks:														
HLCAC Government Engineering Spt	MISC	NSWC DD: Panama City											0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Support			0.000			0.000		0.000		0.000		0.000	0.000	
Remarks:														

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: <b>February 2006</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RD&amp;E, N / BA-5</b>			PROGRAM ELEMENT Ship Contract Design LFT&E 0604567N			PROJECT NUMBER AND NAME 1803 Ship Contract Design									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal T&E			0.000			0.000		0.000		0.000		0.000	0.000		
Remarks:															
HLCACTravel													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Management			0.000			0.000		0.000		0.000		0.000	0.000		
Remarks:															
Total Cost			0.000	0.000		3.610		11.364		6.471		0.000	21.445		
Remarks:															

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2006								
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME															
RDT&E, N / BA-5					Ship Contract Design/LFT&E 0604567N								1803 Ship Contract Design															
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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 4 Contract Design																												
CG Baseline 2 Contract Design																												
CG Baseline 3 Contract Design																												
Sea Base Connector ICD and AoA PE realignment in FY06 and beyond																												
ARGOS																												
Test & Evaluation Milestones																												
CG Modernization: Susceptibility & Vulnerability Analyses																												
Recoverability Analyses																												
Total Ship Survivability Trial Vulnerability Analysis Report																												
Production Milestones																												
CG Modernization: System Procurement Awards																												
Deliveries																												

R-1 SHOPPING LIST - Item No. 117

UNCLASSIFIED

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Exhibit R-2, RDTEN Budget Item Justification

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R-1 SHOPPING LIST - Item No. 117

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Exhibit R-2, RDTEN Budget Item Justification

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## CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5	Ship Contract Design/LFT&E 0604567N				1803 Ship Contract Design			
Schedule Profile		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Cruiser Modernization								
Continue CG Baseline 4 Engineering		1Q	1Q	1Q	1Q	1Q	1Q	1Q
Continue CG Baseline 2 Engineering		1Q	1Q	1Q	1Q	1Q	1Q	1Q
Continue CG Baseline 3 Engineering			1Q	1Q	1Q	1Q	1Q	1Q
Initiate CG Susceptibility and Vulnerability Analyses								
Initiate CG Recoverability Analyses								
CGM Procurement Award								
CGM Procurement Award			1Q					
CGM Procurement Award				1Q				
CGM Procurement Award				1Q				
CGM Procurement Award					1Q			
CGM Procurement Award					1Q			
CGM Procurement Award						1Q		
CGM Procurement Award						1Q		
CGM Procurement Award							1Q	
CGM Procurement Award							1Q	
CGM Procurement Award								1Q
CGM Procurement Award								1Q
CGM Procurement Award								1Q
Sea Base Connector								
Initiate ICD		1Q						
ARGOS		1Q						

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Exhibit R-2, RDTE Budget Item Justification

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N				PROJECT NUMBER AND NAME 2198 LFT&E			
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.000	2.703	1.445	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

This project provides for the development and performance of Live Fire Test and Evaluation analyses, tests, trials, and other engineering information required to fulfill statutory and programmatic requirements for combat effective naval warfare for the Cruiser Modernization Program.

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 2198 LFT&E		
<b>B. Accomplishments/Planned Program</b>				
Cruiser Modernization Program		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.000	2.703	1.445
RDT&E Articles Quantity				
<p>Perform suseptibility, vulnerability, and recoverability analyses for the Cruiser Modernization Program. Continue planning and preparations for the Total Ship Survivability Trial planned for FY09. Conduct Survivability Trial and prepare Vulnerability Analysis Report in FY09.</p>				

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2006</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / EBA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME 2198 LFT&E

**C. PROGRAM CHANGE SUMMARY:**

	FY 2005	FY 2006	FY 2007
President's Budget FY06	0.000	2.745	1.563
President's Budget FY07	0.000	2.703	1.445
Total Adjustments	0.000	-0.042	-0.118
Summary of Adjustments			
SBIR Reductions			
Congressional Action		-0.042	
Cancelled Accounts			
Miscellaneous Adjustments			-0.118
Programmatic Changes			
Subtotal	0.000	-0.042	-0.118

Schedule:

CG Modernization LFT&E efforts are funded in RDT&E,N and have been scheduled consistent with the lead ship Total Ship Survivability Trial and Vulnerability Analysis Report in FY09.

Technical:

Not Applicable.

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EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2006</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 2198 LFT&E				

**D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
OPN 096000 CG Modernization	0	125	234	275	289	400	477	1,698	3,498
WPN 422300 CG Modernization	0	5	18	23	45	53	54	187	386

**E. ACQUISITION STRATEGY:**

Coast wide competitive procurement.

**F. MAJOR PERFORMERS:**

TBD

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE: February 2006				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME									
RDT&E, N / BA-5			Ship Contract Design/LFT&E 0604567N			2198 LFT&E									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Product Development			0.000			0.000		0.000		0.000		0.000	0.000		
Remarks:															
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
													0.000		
Subtotal Support			0.000			0.000		0.000		0.000		0.000	0.000		
Remarks:															

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Exhibit R-3 Cost Analysis (page 2)											DATE: <b>February 2006</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RD&amp;E, N / BA-5</b>			PROGRAM ELEMENT Ship Contract Design/LFT&E 0604567N			PROJECT NUMBER AND NAME 2198 LFT&E								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost			FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
CG Modernization LFT&E	MISC	NRL/Grayhawk	4.213			0.000		2.703	03/06	1.445	10/06	0.000	8.361	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E			4.213			0.000		2.703		1.445		0.000	8.361	
Remarks:														
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal Management			0.000			0.000		0.000		0.000		0.000	0.000	
Remarks:														
Total Cost			4.213			0.000		2.703		1.445		0.000	8.361	
Remarks:														

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2006												
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME																			
RDT&E, N / BA-5					Ship Contract Design/LFT&E 0604567N								2198 LFT&E																			
Fiscal Year	2005				2006				2007				2008				2009				2010				2011							
	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																																
Test & Evaluation Milestones																																
Susceptibility & Vulnerability Analyses																																
Recoverability Analyses																																
Total Ship Survivability Trial Vulnerability Analysis Report																		▲		▲												
Production Milestones																																
CG Modernization System Procurement Awards						▲			▲				▲				▲				▲				▲							
									▲				▲				▲				▲				▲							
Deliveries									R-1 SHOPPING LIST - Item No. 117								1		Exhibit R-2, <sup>2</sup> RD TEN Budget Item <sup>2</sup> Justification													
UNCLASSIFIED																																

R-1 SHOPPING LIST - Item No. 117

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Exhibit R-2,<sup>2</sup>RDTEN Budget Item<sup>2</sup> Justification

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**CLASSIFICATION:**

[illegible]

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E				PROJECT NUMBER AND NAME 2465 LHA(R)			
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		43.022	21.861	34.522	33.594	15.097	11.240	16.979
RDT&E Articles Qty								

### A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The mission of the LHA Replacement (R) Program is to provide a functional replacement for the LHA 1 Class ships which will reach the end of their extended service lives in consecutive years beginning in FY2011, to ensure that the Amphibious Fleet remains capable of Expeditionary Strike Warfare in support of the Navy and Marine Corp's Global Concept of Operations (CONOPS) well into the 21st century and to 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, interagency, and multi-national maritime expeditionary forces. Additionally, they 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 supported by Joint Strike Fighters.

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	DATE: <b>February 2006</b>
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E	PROJECT NUMBER AND NAME 2465 LHA(R)
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### B. Accomplishments/Planned Program

LHA(R) Lead Ship		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		38.322	5.552	9.923
RDT&E Articles Quantity				

Complete requirements trades and feasibility studies toward a more aviation focused LHA(R) Lead Ship configuration. Continue resolution of engineering/design issues and development of the Preliminary and Contract Designs. Continue improvements targeted at reducing operating and support costs. Continue warfare system design refinement. Resolve low confidence areas in analytical models for Live Fire Test and Evaluation (LFT&E) concerns and continue the LFT&E surrogate test program.

LHA(R) Follow Ship		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		4.700	16.309	24.599
RDT&E Articles Quantity				

Continue the integration of design improvements into the Total Ship Design. Continue developing functional and system level design and transition these efforts into the total ship engineering package that forms the basis for the solicitation package for the detail design and construction of the ships. Tasks to include analysis and engineering to support ship design management; design integration; hull systems; machinery; warfare systems; command, control, communication, computers, intelligence (C4I) systems; human system integration; mission systems; aviation systems and total ship survivability. Tasks will also include LFT&E analysis of surrogate test data and determining feasibility of incorporating lessons learned on LHA(R) Lead or Follow Ship.

		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000
RDT&E Articles Quantity				

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2006</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604567N Ship Contract Design / LFT&E	PROJECT NUMBER AND NAME 2465 LHA(R)	

**C. PROGRAM CHANGE SUMMARY:**

Funding:	FY 2005	FY 2006	FY 2007
FY 06 Pres. Controls	43.753	22.194	46.451
FY 07 Pres. Controls	43.022	21.861	34.522
Total Adjustments	-0.731	-0.333	-11.929
Summary of Adjustments			
Small Business Innovation Research	-0.656		
General provisions	-0.020	-0.333	
Trusted Foundry	0.000		
Cancelled Account	-0.055		
Programmatic changes			-11.000
Other misc. changes			-0.929
Subtotal	-0.731	-0.333	-11.929

Schedule:

Contract design and Live Fire Test and Evaluation (LFT&E) efforts to support LHA(R) Lead Ship shipbuilding contract award in FY07 and LHA(R) Follow Ship shipbuilding contract award in FY10.

Technical:

The Assistant Secretary of the Navy for Research, Development and Acquisition (ASN RDA) initiated program changes resulting in a Joint memorandum for LHA(R) Lead Ship requirements. The Joint memorandum was dated APR 30 2004 and signed by the Chief of Naval Operations (CNO), Commandant of the Marine Corps, and ASN (RDA) . Lead Ship requirement is an LHD 8 variant with an aviation focus.

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2006			
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)				
D. OTHER PROGRAM FUNDING SUMMARY:									
Line Item No. & Name	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
SCN 304100 LHA(R) Lead Ship	149.3	148.3	1,135.9	1,380.0	0.0	0.0	0.0	0.0	2,813.5
SCN 304100 LHA(R) Lead Ship (Outfitting / Post Delivery)	0.0	0.0	0.0	0.0	14.5	4.7	29.6	33.6	82.4
SCN 304100 LHA(R) Follow Ship	0.0	0.0	0.0	0.0	0.0	2,003.6	1,728.0	0.0	3,731.6
SCN 304100 LHA(R) Follow Ship (Outfitting / Post Delivery)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.4	87.4
E. ACQUISITION STRATEGY:									
Acquisition strategy signed February 7, 2005 approved stragety for sole source to Northrup Grumman Ship Systems (NGSS) to incorporate previous LHD engineering, design and producibility lessons-learned into LHA(R). Advanced Procurement 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 in early FY07. Advance Procurement contract will be subsumed by FPI DD&C contract.									
F. MAJOR PERFORMERS:									
NGSS - Funds have been provided for preliminary and contract design including ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design.									
CSC Corp. - Funds have been provided for preliminary and contract design. Specific efforts include ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design.									
NSWC, Carderock (Bethesda, MD) - Funds have been provided for preliminary and contract design. Specific efforts include ship design management, design integration, hull systems engineering, machinery control, human system integration, mission systems and total ship survivability analysis for preliminary and contract design. Additionally, the activity will function as Live Fire Test and Evaluation (LFT&E) manager, perform/conduct surrogate tests and develop survivability analysis.									

# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: <b>February 2006</b>					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
<b>RDT&amp;E, N / BA-5</b>			0604567N Ship Contract Design / LFT&E				2465 LHA(R)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date				Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development															
Ancillary Hardware Development															
Component Development															
Ship Design	Various	Various	76.971	33.302	10/04	12.009	10/05	19.299	10/06						
Ship Suitability															
Systems Engineering	Various	Various													
Training Development															
Licenses															
Tooling															
GFE															
Award Fees															
Subtotal Product Development			76.971	33.302		12.009		19.299							
Remarks:															
Development Support															
Software Development															
Training Development															
Integrated Logistics Support															
Configuration Management															
Technical Data															
GFE															
Award Fees															
Subtotal Support			0.000	0.000		0.000		0.000							
Remarks:															

# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2006					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME								
RDT&E, N / BA-5			0604567N Ship Contract Design / LFT&E				2465 LHA(R)								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date			Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	Reimb.	Various	0.000	0.834	10/04	0.780	10/05	0.205	10/06						
Operational Test & Evaluation	Reimb.	COMOPTEVFOR	0.000	0.520	10/04	0.600	10/05	0.923	10/06						
Live Fire Test & Evaluation	Reimb.	Various	15.720	4.166	10/04	4.172	10/05	8.795	10/06						
Test Assets															
Tooling															
GFE															
Award Fees															
Subtotal T&E			15.720	5.520		5.552		9.923							
Remarks:															
Contractor Engineering Support															
Government Engineering Support															
Program Management Support				4.140	Various	4.230	Various	5.260	Various						
Travel				0.060	Various	0.070	Various	0.040	Various						
Labor (Research Personnel)															
SBIR Assessment															
Subtotal Management			0.000	4.200		4.300		5.300							
Remarks:															
Total Cost			92.691	43.022		21.861		34.522							
Remarks:															

# UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:								
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	2005				2006				2007				2008				2009				2010				2011							
	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	1	2	3	4
<b>Acquisition Milestones</b>																																
Overarching Integrated Product Team Review																																
Detailed Design - Lead Ship																																
Feasibility Studies - Follow Ship																																
Trade Studies and Point Design - Follow Ship																																
Milestones																																
Preliminary/ Contract Design - Follow Ship																																
<b>Test &amp; Evaluation Milestones</b>																																
Developmental Testing																																
Vulnerability Assessment Report (VAR)																																
Survivability Assessment Record (SAR)																																
Surrogate Testing																																
TEMP Update																																
<b>Production Milestones</b>																																
Shipbuilding Contract Award - Lead Ship																																
Lay Keel - Lead Ship																																

R-1 SHOPPING LIST - Item No. 117

UNCLASSIFIED

Exhibit R-2, RD TEN Budget Item Justification  
(Exhibit R-2, page 24 of 49)



**UNCLASSIFIED**

**CLASSIFICATION:**

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		FY 2007 PRESIDENT'S BUDGET SUBMISSION				DATE: February 2006		
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E				PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)		
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Project Cost	0.000	1.912	0.000	0.000	0.000	0.000	0.000	
RDT&E Articles Qty								

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Intratheater Connectors** - concept studies in support of intratheater connectors. These ship systems will be capable of self-deploying to the theater of operations, provide the air and surface means to move forces and supplies over operational distances within a theater. Intratheater connectors provide the JFC a mobility asset that enables rapid force closure to the sea base from advanced bases, movement of logistics, ship-to-ship and ship-to-shore replenishment, and in appropriate threat environments, the maneuver of forces to the shore.

The primary missions approved by the Services and defined in the Initial Capabilities Document (ICD) include the following:

- Global War on Terror (GWOT)/Theater Security Cooperation Program (TSCP)
- Intratheater Operational/Littoral Maneuver
- Force Closure/Seabasing Support

The Intratheater connector will have the following characteristics:

- Moderate payload capacity (500 to 1,000 short tons)
- Shallow draft
- Self deploying and sustaining for short periods
- Cross-theater laden ranges

FY07 through FY11 requirements realigned to PE 0208058N, Project 3134

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		FY 2007 PRESIDENT'S BUDGET SUBMISSION	DATE: February 2006
APPROPRIATION/BUDGET ACTIVITY RDTEN/BA-5	PROGRAM ELEMENT NUMBER AND NAME PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E		PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)

### B. Accomplishments/Planned Program

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.000	1.912	
RDT&E Articles Quantity			

**Program Acquisition Efforts for Intratheater Connector** - including pre-acquisition studies, Capability Development Document preparation, milestone A preparation, Test and Evaluation Master Plan (TEMP) development and performance specification preparation.

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost			
RDT&E Articles Quantity			

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		FY 2007 PRESIDENT'S BUDGET SUBMISSION		DATE:																																
				February 2006																																
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME																																	
RD TEN/BA-5	PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E		3134 Intratheater Connectors (Contract Design)																																	
<p><b>C. PROGRAM CHANGE SUMMARY:</b></p> <table> <thead> <tr> <th></th> <th>FY 2005</th> <th>FY 2006</th> <th>FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>President's Budget 2006</td> <td>0.000</td> <td>1.941</td> <td>2.247</td> </tr> <tr> <td>President's Budget 2007</td> <td><u>0.000</u></td> <td><u>1.912</u></td> <td><u>0.000</u></td> </tr> <tr> <td>Total Adjustments</td> <td>0.000</td> <td>-0.029</td> <td>-2.247</td> </tr> <tr> <td>General provisions</td> <td>0.000</td> <td>-0.029</td> <td>0.000</td> </tr> <tr> <td>Realigned to PE 0208058N starting in FY07</td> <td><u>0.000</u></td> <td><u>0.000</u></td> <td><u>-2.247</u></td> </tr> <tr> <td>Total Adjustment</td> <td>0.000</td> <td>0.000</td> <td>-2.247</td> </tr> </tbody> </table> <p>Schedule:</p> <p>Not Applicable</p> <p>Technical:</p> <p>Not Applicable</p>						FY 2005	FY 2006	FY 2007	Funding:				President's Budget 2006	0.000	1.941	2.247	President's Budget 2007	<u>0.000</u>	<u>1.912</u>	<u>0.000</u>	Total Adjustments	0.000	-0.029	-2.247	General provisions	0.000	-0.029	0.000	Realigned to PE 0208058N starting in FY07	<u>0.000</u>	<u>0.000</u>	<u>-2.247</u>	Total Adjustment	0.000	0.000	-2.247
	FY 2005	FY 2006	FY 2007																																	
Funding:																																				
President's Budget 2006	0.000	1.941	2.247																																	
President's Budget 2007	<u>0.000</u>	<u>1.912</u>	<u>0.000</u>																																	
Total Adjustments	0.000	-0.029	-2.247																																	
General provisions	0.000	-0.029	0.000																																	
Realigned to PE 0208058N starting in FY07	<u>0.000</u>	<u>0.000</u>	<u>-2.247</u>																																	
Total Adjustment	0.000	0.000	-2.247																																	

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							FY 2007 PRESIDENT'S BUDGET SUBMISSION			DATE: February 2006	
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA-5			PROGRAM ELEMENT NUMBER AND NAME PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E					PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)			
<b>D. Other Program Funding Summary</b>			FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total Cost
PE 0204228N SCN/BLI3043 Intratheater Connector Surface Support							197.68	174.151	181.788	TBD	553.619
<b>(U) Related RDT&amp;E:</b>											
PE 0603564N/SHIP PRELIM DESIGN & FEASIBILITY STUDIES/3131 Intratheater Connectors											
PE 0208058N (U)JOINT HIGH SPEED VESSEL (JHSV)/ 3131 Intratheater Connectors (Concept Studies)/ 3134 Intratheater Connectors (Contract Design)											
<b>E. Acquisition Strategy:</b>											
Feasibility studies will be conducted to determine the best designs to meet new Joint Service requirements.											
<b>F. Major Performers:</b>											
Field Activities & Locations - Work Performed											
NSWC, Carderock, MD - Concept development and engineering support											
SPAWAR Systems Center, Charleston SC - Concept development and engineering support											
NAVAIR Pax River, MD - Concept development and engineering support											
Contractors & Locations - Work Performed											
CSC, Washington, DC - Engineering Support											
ALION-JJMA, Washington, DC - Program Support											
Universities & Locations - Work Performed											

# UNCLASSIFIED

<b>CLASSIFICATION:</b>												
<b>FY 2007 PRESIDENT'S BUDGET SUBMISSION</b>								DATE: <b>February 2006</b>				
Exhibit R-3 Cost Analysis (page 2)												
APPROPRIATION/BUDGET ACTIVITY <b>RD TEN/BA-5</b>			PROGRAM ELEMENT <b>PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&amp;E</b>					PROJECT NUMBER AND NAME <b>3134 Intratheater Connectors (Contract Design)</b>				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration	MAC	ALION-JJMA				0.278	2Q				0.278	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		0.278		0.000		0.000	0.278	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												






# UNCLASSIFIED

CLASSIFICATION:

FY 2007 PRESIDENT'S BUDGET SUBMISSION								DATE: February 2006				
Exhibit R-3 Cost Analysis (page 2)			PROGRAM ELEMENT					PROJECT NUMBER AND NAME				
RD TEN/BA-5			PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E					3134 Intratheater Connectors (Contract Design)				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support	MAC	CSC				0.615	2Q				0.615	
Government Engineering Support	WX	Various				0.109					0.109	
Program management Support	MAC	ALION-JJMA				0.910	2Q				0.910	
Travel											0.000	
Subtotal Management			0.000	0.000		1.634		0.000		0.000	1.634	
Remarks:												
Total Cost			0.000	0.000		1.912		0.000		0.000	1.912	
Remarks:												

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R4, Schedule Profile																			FY 2007 PRESIDENT'S BUDGET SUBMISSION													DATE: February 2006							
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA-5					PROGRAM ELEMENT NUMBER AND NAME PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E												PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)																						
Fiscal Year	2005				2006				2007				2008				2009				2010				2011														
	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																																							
Source Selection																																							
Award Lead Vessel																																							

\* Not required for Budget Activities 1, 2, 3, and 6



# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-4a, Schedule Detail					FY 2007 PRESIDENT'S BUDGET SUBMISSION				DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA-5		PROGRAM ELEMENT PE 0604567N (U)SHIP CONTRACT DESIGN/LIVE FIRE T&E				PROJECT NUMBER AND NAME 3134 Intratheater Connectors (Contract Design)						
Schedule Profile		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011				
Milestone A			3Q									
Milestone B					1Q							
Award Lead Ship					2Q							

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2006</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA 5</b>	PROGRAM ELEMENT NAME AND NUMBER <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>				PROJECT NAME AND NUMBER <b>CVN 21 LFT&amp;E 4007</b>		
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	<b>8.447</b>	<b>7.420</b>	<b>7.499</b>	<b>2.593</b>	<b>6.297</b>	<b>7.888</b>	<b>6.110</b>
RDT&E Articles Qty							
<p><b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b></p> <p>This project encompasses LFT&amp;E efforts for CVN 78 and CVN 79. Title 10, US Code, Section 2366, CVN 21 Operational Requirements Document (ORD) and the CVN 21 Test and Evaluation Master Plan prescribe requirements for Live Fire Test and Evaluation (LFT&amp;E). The purpose of LFT&amp;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&amp;E Management Plan details the efforts, through testing and engineering analyses, to address potential design vulnerabilities.</p> <p>The high unit cost of CVN 21 class and its shipboard systems preclude consideration of destructive testing of a full-up CVN 21 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 21 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.</p> <p>The LFT&amp;E strategy for the CVN 21 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 CVN 21 will increase and so will the ability to evaluate its survivability.</p>							

R-1 SHOPPING LIST - Item No. 117

R-1 SHOPPING LIST - Item No. 117

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification  
(Exhibit R-2, page 34 of 49)

CLASSIFICATION:

**UNCLASSIFIED**

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2006</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>	PROJECT NUMBER AND NAME <b>CVN 21 LFT&amp;E 4007</b>	

**B. Accomplishments/Planned Program**

	FY05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	<b>8.447</b>	<b>7.420</b>	<b>7.499</b>
RDT&E Articles Quantity			

(U) FY05: Resolved low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes continuation of testing underwater protection features (innerbottom structure and Torpedo Side Protection System), dynamic test of hull girder models and conduct of recoverability tests, and vulnerability modeling of the CVN 78 for Vulnerability Assessment Report #3 (VAR 3). Initiated survivability modeling improvements. Conducted weapon debris full scale tests and analyses. Conducted underwater explosion and recoverability surrogate tests on the Large Test Asset (LTA). Continued with analytical bridge work between scaled model test results and analytical correlations. Updated and developed new Ship Vulnerability Models (SVM). Prepared, constructed and tested full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan. Conducted analyses and tests on ex-SHADWELL to evaluate ordnance in CVN 78 class representative locations, to review hangar bay fire spread, to determine desmoking and dewatering capabilities, data network system, and to assess fire main vulnerability. Continued intensive vulnerability modeling of CVN 78 for Vulnerability Assessment Report #3. Continued survivability model improvements to support CVN 78 vulnerability assessment. Began analyses of CVN 21 class vulnerability for VAR 3. In support of ORD vulnerability requirements testing, began planning efforts & begin representative CVN 21 class fire and smoke spread tests, and main drainage analyses; assess designed passive damage control features and conduct recoverability modeling tests.

(U) FY06: Conduct susceptibility assessment of the CVN 21 class. Continue to resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes continuation of testing underwater protection features (innerbottom structure), and conduct of recoverability tests. Continue survivability modeling improvements. Continue with analytical bridge work between scaled model test results and analytical correlations. Continue update and develop new SVM/Advanced Survivability Assessment Program (ASAP) models. Prepare, construct and test full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan. Refurbish Flight Deck Model. Finalize vulnerability analyses and drafting of Vulnerability Assessment Report #3. Continue survivability model improvements to support CVN 21 class vulnerability assessment. In support of ORD vulnerability requirements testing, conduct representative CVN 21 class fire and smoke spread tests, flight deck fire tests, and main drainage tests; conduct test of the passive damage control features and conduct recoverability modeling tests.

(U) FY07: Continue susceptibility assessment of the CVN 21 class. Continue to resolve low confidence areas in analytical models for LFT&E concerns and continue to conduct LFT&E surrogate test program. This includes testing Damage Prevention Protection System, System B components, & continuation of testing underwater protection features (innerbottom structure), and conduct of recoverability tests, and deliver the CVN 21 Vulnerability Assessment Report #3. Initiate survivability modeling improvements. Continue with analytical bridge work between scaled model test results and analytical correlations. Update and develop new SVM models. Prepare, construct and test full and scaled surrogate model targets as required by TEMP 1610 and the LFT&E Management Plan. Conduct Flight Deck testing and analysis.

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~~Exhibit R-2, RDT&E Budget Item Justification~~

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>	PROJECT NUMBER AND NAME <b>CVN 21 LFT&amp;E 4007</b>	
<b>C. PROGRAM CHANGE SUMMARY:</b>			
Funding:	FY 2005	FY 2006	FY 2007
FY06 President's Budget Controls	8.490	7.533	7.576
FY07 President's Budget Controls	8.447	7.420	7.499
Total Adjustments	-0.043	-0.113	-0.077
Summary of Adjustments			
Rescissions	-0.053	-0.113	-0.116
Programmatic Changes	0.010		0.039
	-0.043	-0.113	-0.077
Schedule:			
The CVN 78 Basic Construction contract will be awarded in FY08 with delivery in FY15.			
Technical:			
Not Applicable			

R-1 SHOPPING LIST - Item No. 117

R-1 SHOPPING LIST - Item No. 117

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Exhibit R-2, RD TEN Budget Item Justification  
(Exhibit R-2, page 36 of 49)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2006</b>																																										
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>			PROJECT NUMBER AND NAME <b>CVN 21 LFT&amp;E 4007</b>																																												
<p><b>D. OTHER PROGRAM FUNDING SUMMARY:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Line Item No. &amp; Name</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> <th style="text-align: right;"><u>FY 2008</u></th> <th style="text-align: right;"><u>FY 2009</u></th> <th style="text-align: right;"><u>FY 2010</u></th> <th style="text-align: right;"><u>FY 2011</u></th> <th style="text-align: center;"><u>To Complete</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>BLI 200100 Carrier Replacement Program</td> <td style="text-align: right;">623.073</td> <td style="text-align: right;">619.097</td> <td style="text-align: right;">784.143</td> <td style="text-align: right;">3,481.631</td> <td style="text-align: right;">3,858.384</td> <td style="text-align: right;">1,679.100</td> <td style="text-align: right;">541.455</td> <td style="text-align: center;">Cont.</td> <td style="text-align: center;">Cont.</td> </tr> <tr> <td>PE 0603512N Carrier System Development</td> <td style="text-align: right;">161.539</td> <td style="text-align: right;">168.283</td> <td style="text-align: right;">153.894</td> <td style="text-align: right;">117.125</td> <td style="text-align: right;">106.872</td> <td style="text-align: right;">164.210</td> <td style="text-align: right;">98.324</td> <td style="text-align: center;">Cont.</td> <td style="text-align: center;">Cont.</td> </tr> <tr> <td>PE 0603570N Adv. Nuclear Power Systems</td> <td style="text-align: right;">167.951</td> <td style="text-align: right;">165.845</td> <td style="text-align: right;">174.648</td> <td style="text-align: right;">165.165</td> <td style="text-align: right;">157.045</td> <td style="text-align: right;">137.766</td> <td style="text-align: right;">109.429</td> <td style="text-align: center;">Cont.</td> <td style="text-align: center;">Cont.</td> </tr> </tbody> </table> <p>*Note: Only a portion of the funding in PE 0603570N and 0603512N is included in the CVN 21 Program</p> <p><b>E. ACQUISITION STRATEGY:</b></p> <p>The CVN 78 will be the first ship of the CVN 21 class of aircraft carriers. Due to the length and cost of construction, each carrier will be contracted for separately. 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 warfighting 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.</p> <p><b>F. MAJOR PERFORMERS:</b></p> <p>NSWC Carderock Maryland</p>										<u>Line Item No. &amp; Name</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>	BLI 200100 Carrier Replacement Program	623.073	619.097	784.143	3,481.631	3,858.384	1,679.100	541.455	Cont.	Cont.	PE 0603512N Carrier System Development	161.539	168.283	153.894	117.125	106.872	164.210	98.324	Cont.	Cont.	PE 0603570N Adv. Nuclear Power Systems	167.951	165.845	174.648	165.165	157.045	137.766	109.429	Cont.	Cont.
<u>Line Item No. &amp; Name</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>																																								
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PE 0603512N Carrier System Development	161.539	168.283	153.894	117.125	106.872	164.210	98.324	Cont.	Cont.																																								
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R-1 SHOPPING LIST - Item No. 117

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# UNCLASSIFIED

**Exhibit R-2, RD TEN Budget Item Justification**  
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# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis												DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>				PROGRAM ELEMENT <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>				PROJECT NUMBER AND NAME <b>CVN 21 LFT&amp;E 4007</b>					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Live Fire Test & Evaluation	WX	NSWC Carderock, MD	15.378	7.435	10/04	6.420	10/05-02/06	6.499	12/06	Continuing	Continuing		
	CPAF	NGNN	2.292	1.012	10/04	1.000	01/06	1.000	12/06	Continuing	Continuing		
Subtotal T&E			17.670	8.447		7.420		7.499		Continuing	Continuing		
Remarks:													
Contractor Engineering Support													
Government Engineering Support													
Program Management Support													
Travel													
Labor (Research Personnel)													
SBIR Assessment													
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000		
Remarks:													
Total Cost			17.670	8.447		7.420		7.499		Continuing	Continuing		
Remarks:													

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Exhibit R-2, RD TEN Budget Item Justification  
(Exhibit R-2, page 38 of 49)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:				
February 2006																												
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME												
RDT&E, N / BA-04								PE 0603512N - Carrier Systems Development								CVN 21 LFT&E 4007												
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	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			SFR △		PDR △				CDR △	DAB △	PR																	
Propulsion Plant																												
EMALS	SRR ▲	SFR ▲		PDR △	CDR 1 △	CDR 2 △			TRR 1 △	TRR 2 △						LRIP △												
DBR Radar Suite	CDR △																											
Advanced Arresting Gear		MS B ▲			CDR-1 △	CDR-2 △			TRR 1 △						TRR 2 △					MS C △								
Test & Evaluation Milestones																												
Development Test	◇	DT A2						◇	DT B1						◇	DT B2						◇	DT B3					
Operational Test		◇	OT B1		◇			◇	OT B2		◇	◇	OT B3		◇	◇	OT B4		◇				◇	OT B5				
Contract Milestones																												
IPPD Contract																												
CP Contract									Contract Award △																			
Construction Contract										Contract Award △																		
Full Funding (SCN)													X															

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\* Not required for Budget Activities 1, 2, 3, and 6

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:
							<b>February 2006</b>
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER		
<b>RDT&amp;E, N / BA 5</b>	<b>Ship Contract Design/LFT&amp;E PE 0604567N</b>				<b>CVN 21 Total Ship Integration 4008</b>		
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	<b>61.639</b>	<b>9.564</b>	<b>22.118</b>	<b>6.854</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
RDT&E Articles Qty							
<p><b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b></p> <p>This project encompasses CVN 78 Total Ship Integration efforts. The traditional distinct phasing of the design process for aircraft carriers has been replaced with a continuous concurrent engineering regime incorporating the methodology, measurement, and management elements of the Navy's Integrated Product and Process Development (IPPD) process, extending it beyond contract award. The CVN 78 total ship integration effort will be managed within a technology change management process at contract award to allow further system development. This will ensure that the latest technologies are properly incorporated during the 8 year construction period for an aircraft carrier, without costly contract changes. The IPPD process serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, aviation programs, and suppliers. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 78 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 (IDE). The CVN 21 class design approach is part of an acquisition strategy that is based on incorporating best available commercial practices and a phased technical definition.</p> <p>CVN 78 Total Ship Integration, the integration of major systems into ship design, includes redesign and rearrangement of ship components; redesign of hull, mechanical and electrical (HM&amp;E) and auxiliary systems (air-conditioning and ventilation, power distribution and generation, airborne noise management, reduction of steam, environmental safety and health (ESH) and interface control; redesign of water production and tankage; electric loads analysis; redesign of power distribution; analysis and redesign of structure; analysis, tracking and management of changes in weight distribution and stability; analysis and redesign of survivability systems, and analysis and design of all associated ship hull, mechanical, electrical, propulsion, combat/warfare system, survivability and other related components.</p>							

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>	PROJECT NUMBER AND NAME <b>CVN 21 Total Ship Integration 4008</b>	
<b>B. Accomplishments/Planned Program</b>			
	FY05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	<b>61.639</b>	<b>9.564</b>	<b>22.118</b>
RDT&E Articles Quantity			
<p>(U) FY05 : Continue to resolve CVN 78 whole ship design issues related to aviation systems, combat and integrated warfare systems, auxiliary systems, and HM&amp;E systems. Update the contract data package, including design drawings and specifications in areas where near- term LLTM advanced purchase and early fabrication work may be impacted. The update accommodates changes to the ship, its systems and equipment necessitated by equipment obsolescence, operational need, and incorporation of newer systems/technology. Provide required program management and logistics support, Accomplish Total Ship Integration through the IPPD process to incorporate the design changes required to the legacy baseline design for definition at the total system level. A significant portion of work originally planned for FY06 was accelerated into FY05.</p> <p>(U) FY06: Continue to resolve CVN 78 whole ship design issues related to aviation systems, combat and integrated warfare systems, auxiliary systems, and HM&amp;E systems. Provide required logistics support and program management support leading up to the FY07 Defense Acquisition Board (DAB) Program Review and the FY08 Construction Contract Award for the lead ship.</p> <p>(U) FY07: Continue to resolve CVN 78 whole ship design issues related to aviation systems, combat and integrated warfare systems, auxiliary systems, and HM&amp;E systems. Provide logistics support and program support leading up to the FY08 Construction Contract Award. Continue construction preparation contract component development process.</p>			

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Exhibit R-2, RD TEN Budget Item Justification  
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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>	PROJECT NUMBER AND NAME <b>CVN 21 Total Ship Integration 4008</b>		
<b>C. PROGRAM CHANGE SUMMARY:</b>				
Funding:	FY 2005	FY 2006	FY 2007	
FY06 President's Budget Controls	62.600	9.721	22.204	
FY07 President's Budget Controls	61.639	9.564	22.118	
Total Adjustments	-0.961	-0.157	-0.086	
Summary of Adjustments				
Cancelled accounts	-0.047			
Other misc. changes			-0.086	
SBIR	-0.876			
General provisions	-0.038	-0.157		
Subtotal	-0.961	-0.157	-0.086	
Schedule:				
The CVN 78 Basic Construction contract will be awarded in FY08 with delivery in FY15.				
Technical:				
Not Applicable				

R-1 SHOPPING LIST - Item No. 117

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Exhibit R-2, RD TEN Budget Item Justification  
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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:		February 2006		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			Ship Contract Design/LFT&E PE 0604567N			CVN 21 Total Ship Integration 4008					
D. OTHER PROGRAM FUNDING SUMMARY:											
<u>Line Item No. &amp; Name</u>			<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	To Complete	Total Cost
BLI 200100 Carrier Replacement Program			623.073	619.097	784.143	3,481.631	3,858.384	1,679.100	541.455	Cont.	Cont.
PE 0603512N Carrier System Development			161.539	168.283	153.894	117.125	106.872	164.210	98.324	Cont.	Cont.
PE 0603570N Adv. Nuclear Power Systems			167.951	165.845	174.648	165.165	157.045	137.766	109.429	Cont.	Cont.
*Note: Only a portion of the funding in PE 0603570N and 0603512N is included in the CVN 21 Program											
E. ACQUISITION STRATEGY:											
The CVN 78 will be the first ship of the CVN 21 class. Due to the length and cost of construction, each carrier will be contracted for separately. 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 warfighting 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.											
F. MAJOR PERFORMERS:											
Northrop Grumman Newport News NSWC Carderock NAWC Lakehurst NAVSEA											

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Exhibit R-2, RDTE Budget Item Justification  
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# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)											DATE:		
APPROPRIATION/BUDGET ACTIVITY											February 2006		
RDT&E, N / BA-5			PROGRAM ELEMENT					PROJECT NUMBER AND NAME					
			Ship Contract Design/LFT&E PE 0604567N					CVN 21 Total Ship Integration 4008					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Total Ship Integration	WX	NSWC Carderock	12.082	3.091	11/04			7.200	12/06	Continuing	Continuing		
	SS, CPAF	NGNN, Newport News Va	38.913	24.509	10/04	1.470	01/06	1.450	12/06	Continuing	Continuing		
	IPR	GSA	5.888							Continuing	Continuing		
	WX	NAWC, Lakehurst	4.123							Continuing	Continuing		
	WX	NSWC Dahlgren	2.554	3.996	11/04			3.500	12/06	Continuing	Continuing		
	CPAF	Raytheon		0.747						Continuing	Continuing		
	CPAF	Raytheon		2.000	04/05					Continuing	Continuing		
	WX	NSWC, Port Hueneme	4.000							Continuing	Continuing		
	CPFF	NAVSEA SEAPORT	8.135	15.228	12/04	4.837	01/06	4.567	12/06	Continuing	Continuing		
	WX	NAWC AD, PAX River	2.383	7.874	10/04	2.045		4.000	12/06	Continuing	Continuing		
	PD	SPAWAR, San Diego	8.766	2.010	10/04					Continuing	Continuing		
	Various	Miscellaneous	10.156	2.051	10/04	1.062	11/05	1.251	12/06	Continuing	Continuing		
Subtotal Product Development			97.000	61.506		9.414		21.968		Continuing	Continuing		
Remarks: For FY02 and prior this effort was accomplished under PE 0603512N, projects 42208 and 42693													
Development Support													
Software Development													
Training Development													
Integrated Logistics Support													
Configuration Management													
Technical Data													
GFE													
Award Fees													
Subtotal Support			0.000	0.000		0.000		0.000					
Remarks:													

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Exhibit R-2, RD TEN Budget Item Justification  
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# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>				PROGRAM ELEMENT <b>Ship Contract Design/LFT&amp;E PE 0604567N</b>				PROJECT NUMBER AND NAME <b>CVN 21 Total Ship Integration 4008</b>					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation													
Operational Test & Evaluation													
Live Fire Test & Evaluation													
Test Assets													
Tooling													
GFE													
Award Fees													
Subtotal T&E			0.000	0.000		0.000		0.000					
Remarks:													
Contractor Engineering Support													
Government Engineering Support													
Program Management Support													
Travel			0.252	0.133	10/04	0.150	10/05	0.150					
Labor (Research Personnel)													
SBIR Assessment													
Subtotal Management			0.252	0.133		0.150		0.150					
Remarks:													
Total Cost			97.252	61.639		9.564		22.118					
Remarks:													

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Exhibit R-2, RDTEN Budget Item Justification  
(Exhibit R-2, page 46 of 49)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:							
February 2006																															
APPROPRIATION/BUDGET ACTIVITY								PROGRAM ELEMENT NUMBER AND NAME								PROJECT NUMBER AND NAME															
RDT&E, N / BA-04								PE 0603512N - Carrier Systems Development								CVN 21 Total Ship Integration 4008															
Fiscal Year	2005				2006				2007				2008				2009				2010				2011						
	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			SFR △		PDR △				CDR △	DAB △	PR																				
Propulsion Plant																															
EMALS	SRR ▲	SFR ▲		PDR △	CDR 1 △	CDR 2 △			TRR 1 △	TRR 2 △						LRIP △															
DBR Radar Suite	CDR △																														
Advanced Arresting Gear		MS B ▲			CDR-1 △	CDR-2 △		TRR 1 △							TRR 2 △			MS C △													
Test & Evaluation Milestones																															
Development Test	◇	DT A2						◇	DT B1						◇	DT B2						◇	DT B3								
Operational Test		◇	OT B1		◇							◇	OT B2		◇	OT B3		◇	OT B4		◇							◇	OT B5		◇
Contract Milestones																															
IPPD Contract																															
CP Contract									Contract Award △							Contract Award △															
Construction Contract																															
Full Funding (SCN)																															

R-1 SHOPPING LIST - Item No. 117

\* Not required for Budget Activities 1, 2, 3, and 6

R-1 SHOPPING LIST - Item No. 117

UNCLASSIFIED

**UNCLASSIFIED**

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2006</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME Ship Contract Design/LFT&E 0604567N	PROJECT NUMBER AND NAME Project 9578C Name: Congressional Add- Integrated Modernization Environment		
<b>B. Accomplishments/Planned Program</b>				
		FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost		0.000	2.600	0.000
RDT&E Articles Quantity				
<p>This project (9578C) will develop an NMCI compatible Integrated Modernization Environment (IME) with a real time information sharing capability to improve the ability to manage program information and facilitate collaboration engineering. This funding continues development of the web based IME initiated in Project 9578 in FY05.</p>				