

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 4					R-1 ITEM NOMENCLATURE Carrier Systems Development - 0603512N				
COST (\$ in Millions)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Total PE Cost	143.951	162.635	88.913	85.486	87.484	60.664	44.291	Cont.	Cont.
S1722 CV Weapons Elevator Improvements	1.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.604
42208 Future CV R & D	120.187	123.359	81.095	84.265	87.404	60.664	44.291	Cont.	Cont.
42693 Carrier Systems Definition	13.818	33.134	0.000	0.000	0.000	0.000	0.000	0.000	136.128
W1723 CV Launch & Recovery Systems	3.829	5.299	7.818	1.221	0.080	0.000	0.000	0.000	Continuing
W2269 EAF Matting	5.077	0.843	0.000	0.000	0.000	0.000	0.000	0.000	15.81
Quantity of RDT&E Articles									

A. Mission Description and Budget Item Justification: This Navy unique program addresses all technology areas associated with Navy/Marine Corps aircraft operations aboard ships. The program includes:

- (U) (S1722) -- Development of standardized, supportable and maintainable aircraft carrier weapons elevators components.
- (U) (42208) -- Development of ship hull, mechanical, propulsion, electrical, aviation and combat support systems, subsystems and components to significantly improve aircraft carrier affordability, manpower requirements, survivability, operational capabilities, and to meet the requirements of existing and pending regulations and statutes critical to the operation of existing and future aircraft carriers.
- (U) (42693) - Supports post Milestone I ship system technical definition and refinement of cost estimates through engineering efforts. These efforts will support ORD level requirements definition and assessments for industrial capability, risk, Integrated Logistics Support (ILS), schedule development and tracking to ensure a coordinated acquisition effort. Continue Total Ship Integration efforts to develop ship requirements and definition at the total systems level.
- (U) (W1723) -- Development of all systems required to provide approach and landing guidance and control, recovery, service, support and launch aircraft operating onto or from ships. Payoffs include increased safety, greater sortie generation rates, enhanced aircraft boarding rates, reduced manning, increased aircraft service life and fleet modernization.
- (U) (W2269) -- Development of Lightweight Mat and Expeditionary Arresting Gear for use at Marine Corps Expeditionary Airfields (EAF).

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE		
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 4	Carrier Systems Development - 0603512N		
<u>Program Change Summary</u>			
	FY 2001	FY 2002	FY 2003
(U) FY 2002 President's Budget:	149.549 *	165.148	
(U) Appropriated Value:	150.952	165.150	
(U) Adjustments to FY 2001/2002 Appropriated Value/FY 2002 President's Budget:	-7.001	-2.515	
(U) FY 2003 OSD/OMB Budget Submit:	143.951	162.635	88.913
Funding:			
* FY01 President's Budget includes \$1.938M Congressional plus up for ASW Tactical Decision Aids (\$2.0M plus up decreased by \$0.062M for rescissions).			
FY01 change (-7.001\$M) The FY01 net decrease is the result of adjustments as follows:			
Decrease of \$3.588M due to Small Business Innovation Research assessment in accordance with 15 USC 638. Project Unit 42208 (-\$3.011), PROJECT UNIT 42693 (- \$0.376), and PROJECT UNIT			
W1723 (-\$.201);			
Decrease of \$2.587M within PU W1723, CV Launch & Recovery Systems- reflects a Below Threshold Reprogramming (BTR) of \$2.587M to fund the M-31 program for \$1.0M, and the VISUAL program			
for \$1.587M;			
Increase of \$0.971M within PU W2269, EAF Matting resulting from an internal BTR to reprioritize programs and support unfunded requirements; and			
Decrease of \$1.797M for reprioritization of requirements within the Navy.			
FY02 change (- \$2.515M) Decrease of \$1.049M within Program Unit S1722, CV Weapons Elevator Improvements due to termination of development effort; a miscellaneous increase of \$0.002M within PROJECT UNIT W1723; a decrease of \$1.450M for Section 8123: Management Reform Initiative, and miscellaneous decreases of \$0.014M.			
FY03 change			
Schedule: (1) W1723 - Deferral of the ARC System program contract award from 2Q FY01 to 1Q FY02 was due to assignment of this effort as an ACAT IVM program and delays in developing, coordinating, and finalizing program documentation and source selection. These delays have caused the following delays in the ARC program: RFP has moved from 4Q/00 to 4Q/01, PDR has moved from 3Q/01 to 2Q/02, CDR has moved from 2Q/02 to 1Q03, DT has moved from 4Q/02 to 2Q/03. OT requirement has been deleted based on ACAT IVM assignment. Discussions with industry resulted in changes to the AAG solicitation which delayed the RFP from 3Q/01 to 1Q/02 and is now reflected in the 0604512N budget. CREI CDR has been moved from 2Q/03 to 3Q/03 and CREI DT has moved from 2-3Q/03 to 1-3Q/04 to ensure sufficient time to design and test prototype.			
(2) W2269 - Prototype delivery delayed from 4Q/00 to 2Q/01. This delay in delivery has caused DT to move from 1Q-4Q/01 to 3Q/01-2Q/02.			
(3) S1722 - Advanced development of weapons elevator components is terminated within this Project Unit.			
Technical: Not applicable.			

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER				
RDT&E, N / BA 4		Carrier Systems Development - 0603512N				CV Weapons Elevator Improvements S1722				
COST (\$ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost		1.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
<p>A. Mission Description and Budget Item Justification This project provides for advanced development, fabrication, test, evaluation and documentation of standardized aircraft carrier weapons elevators components such as control systems, hoist machinery, doors and hatches. Emphasis is placed on the reduction of total ownership cost, improvement of safety, reliability, maintainability and watertight integrity and weight reduction.</p> <p>- (U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>FY 2001 ACCOMPLISHMENTS: (U)(\$.230) – Completed design for model ropeless elevator safety system. (U)(\$.200) – Developed simulation model for multiple cars in non-traditional trunk. (U)(\$.160) – Investigated feasibility of available smart sensor networks for condition sensing. (U)(\$.100) – Tested magnetostrictive actuator for use on elevator closure systems. (U)(\$.150) - Developed intelligent networked controls for existing elevator systems. (U)(\$.100) - Completed alternate overspeed governor tests. (U)(\$.100) - Investigated use of embedded force sensing pins.</p>										

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N	February 2002
B. Other Program Funding Summary: Not applicable		
C. Acquisition Strategy: Not applicable		
D. Schedule Profile	<u>FY 2001</u>	
Program Milestones	3Q Complete design for ropeless elevator	
Engineering Milestones	4Q Develop simulation model for multiple cars 2Q Investigate feasibility of available SMART sensor networks for condition sensing. 4Q Develop intelligent networked controls for existing elevator systems 4Q Investigate embedded force sensing pins	
T&E Milestones	4Q Test magnetostrictive actuator for use on elevator closures 2Q Complete alternate governor testing	
Contract Milestones		

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Exhibit R-3 Cost Analysis (page 1)							DATE: February 2002					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4			PROGRAM ELEMENT Carrier Systems Development - 0603512N			PROJECT NAME AND NUMBER CV Weapons Elevator Improvements S1722						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	NSWC Philadelphia	1.218	0.850	12/00						2.068	
Ancillary Hardware Development		Misc	0.821								0.821	
Systems Engineering												
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			2.039	0.850							2.889	
Remarks:												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											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: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N / BA 4			Carrier Systems Development - 0603512N			CV Weapons Elevator Improvements S1722						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC Philadelphia	0.525	0.190	12/00						0.715	
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			0.525	0.190							0.715	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			2.564	1.040		0.000		0.000		0.000	3.604	
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE:								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4							PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N			PROJECT NAME AND NUMBER Future Carrier R&D - 42208					
COST (\$ in Millions)							FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	ost to Comple	Total Cost
Project Cost							120.187	123.359	81.095	84.265	87.404	60.664	44.291	Cont.	Cont.
RDT&E Articles Qty															
<p>A. (U) <u>Mission Description and Budget Item Justification</u></p> <p>This project provides for the development of 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 transitions the most promising technologies from the Navy technology base, other government laboratories, and the private sector into specific advanced development efforts. 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 and combat support systems, sub-systems and components to significantly improve 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.</p> <p>- (U) PROGRAM ACCOMPLISHMENTS AND PLANS: FY 2001 ACCOMPLISHMENTS:</p> <p>- (U) (\$50.411) Non-Nuclear Propulsion Plant Development</p> <ul style="list-style-type: none"> - (U) (\$18.003) Began detailed design of the main turbine generator (MTG) prototype, development of MTG prototype testing requirements and plans. Continued preliminary design of the main propulsion unit. - (U) (\$6.226) Determined changes to and complete layout of major electric plant equipment such as load centers outside of propulsion plant spaces. Continued development of inputs to the integrated product model database. Refined interface requirements for the non-propulsion systems with the propulsion and power distribution systems. - (U) (\$7.785) Continued prototyping and implementation of automated workflow for construction deliverables. Continued to integrate analysis and other required function into the product model design and continue adding design data to the database. - (U) (\$18.397) Completed preliminary designs and continue development of mechanical and electrical systems that interface with the propulsion plant. Finalized overall layout of non-propulsion plant mechanical and electrical systems and assess preliminary volume and weight data. <p>- (U) (\$43.738) – Aircraft Launch, Recovery & Support – Continued Electromagnetic Aircraft Launch System Program Definition and Risk Reduction (PDRR) phase. Initiated prototype system long-lead time material procurements. Conducted component and subsystem development testing. Conducted incremental Preliminary and Contract Design Reviews. Began PDRR system manufacture and integration. Continued CVNX-1/CVNX-2 arrangement studies, system integration and support requirements development. Developed hull, mechanical and electrical system requirements. Provide management, system engineering, and ship integration support for all aviation related systems.</p> <p>- (U) (\$4.488) – Battle Damage Prevention & Recovery - Continued battle prevention and ship survivability ship design assessments with limited small scale testing and analyses for Under Water Protection System (UWPS), Weapons Damage and Residual Strength and Torpedo/ Mine Side Protection System (T/MSPS) protection systems. Commenced design of Dynamic Armor Protection System (DAPS) components and small scale testing of DAPS concepts. Commenced Live Fire Test & Evaluation efforts to support development of documentation required for MS II approval, including commencing of surrogate testing.</p>															

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N	PROJECT NAME AND NUMBER Future Carrier R&D - 42208
<p>- (U) (\$12.052) – Systems Development – Commenced total ship design integration. Commenced design, engineering and interoperability analyses to support overall CVNX Design Development. Perform total ownership cost (TOC) reductions/analyses, survivability analyses, systems readiness reviews gap analyses, Advanced Launch & Recovery analyses, trade studies and Lethality Studies. Continue development of manpower and material support alternatives which will achieve manpower reductions and total ownership cost savings. Performed acquisition planning, system readiness reviews (SRR), and documentation to support MS II.</p> <p>- (U) (\$7.560) - Smart Carrier - The Smart Carrier Program is a Naval Aviation (N88) initiative involving the introduction of information technology, automation and controls, and process improvements with the goal of reducing total workload, lowering TOC, and enhancing quality of life. The following technologies were installed for a demonstration and assessment: Advanced Damage Control, Remote Shaft Alley Monitoring, Integrated Condition Assessment System, Rechargeable Battle Lanterns, Battery-powered Tools and Bulkhead Surface Coating.</p> <p>- (U) (\$1.938) - ASW Tactical Decision Aids - Integrated tactical decision aid technology from the Advanced Undersea Warfare Concept into future aircraft carrier combat systems, an initial step in fulfilling a larger vision of Network - Centric Undersea Warfare Theater Combat System. Developed a prototype system in the aircraft carrier tactical Support Center Integrated Warfare Commander Cell.</p> <p>FY 2002 PLAN:</p> <p>-(U) (\$55.799) Non-Nuclear Propulsion Plant Development -(U) (\$26.500) Begin fabrication of prototype MTG and complete detailed design. Complete preliminary design of the main propulsion unit. Continue development of testing requirements and the identification and evaluation of testing capabilities. -(U) (\$8.900) Continue development of inputs to the integrated product model. -(U) (\$6.149) Continue prototyping and implementation of automated workflow for construction deliverables. Continue to integrate analysis and other required functions into product model design. -(U) (\$14.250) Continue development of mechanical and electrical systems that interface with the propulsion plant.</p> <p>- (U) (\$4.900) - Commence development of the Large Capacity Reverse Osmosis Desalination Plant based on system design requirements developed by non-nuclear propulsion plant efforts.</p> <p>- (U) (\$47.683) – Aircraft Launch, Recovery & Support – Continue Electromagnetic Aircraft Launch System Program definition and Risk Reduction phase. Complete prototype test facility design and construction. Complete manufacture, integration and acceptance testing of prototype launch systems. Begin installation of prototype systems in test facilities. Initiate CVNX-1 integration development. Provide management, system engineering, and ship integration support for all aviation related systems.</p> <p>- (U) (\$5.000) – Battle Damage Prevention & Recovery - Continue battle damage prevention and recovery assessments and design improvements development. Continue acoustic and non-acoustic signatures design support efforts. Expand modeling and simulation and scaled testing efforts for advanced protection systems development to address Underwater Protection, Weapons Damage and Residual Strength and Dynamic Armor Protection system that are applicable to Nimitz and modified Nimitz hull forms. Continue and expand advanced damage control systems and improved magazines/shipboard fire protection systems technologies development.</p>		

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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N	February 2002
<p>- (U) (\$5.000) - CVNX Class Technologies - Commence development of long term technology features for integration into the CVNX Class ship design to fulfill operational requirements and to meet ship construction schedule . Items for which initial technology investment will be made include survivability features such as dynamic armor protection and development of items to address deficiencies in service life allowance for weight and stability requirements (KG), as well as meeting sortie generation rate requirements.</p> <p>- (U) (\$2.977) - Systems Development - Continue total ship design integration. Continue design, engineering and interoperability analyses to support overall CVNX Design Development. Perform TOC reductions/analyses, survivability analyses, systems readiness reviews gap analyses, Advanced Launch & Recovery analyses, trade studies and Lethality Studies. Continue development of manpower and material support alternatives which will achieve manpower reductions and total ownership cost savings. Provide acquisition planning support.</p> <p>- (U) (\$2.000) - Smart Carrier - Continue the Smart Carrier initiative involving the introduction of technology insertions and process improvements with the goal of reducing total workload, lowering total ownership cost (TOC). Continue research, evaluation and integration of new technologies and process engineering efforts in support of potential workload reductions. New technologies to be evaluated and/or demonstrated are listed, but not limited to the following: Integrated Workload Reduction System, Lattice Block Material, Laser Induced Surface Improvement.</p> <p>FY 2003 PLAN:</p> <p>-(U) (\$20.900) Non-Nuclear Propulsion Plant Development. Continue fabrication of prototype MTG and continue detailed design. Complete preliminary design of the main propulsion unit. Continue development of testing requirements and the identification and evaluation of testing capabilities.</p> <p>- (U) (\$6.613) - Continue development of the Large Capacity Reverse Osmosis Desalination Plant based on system design requirements developed by non-nuclear propulsion plant efforts.</p> <p>- (U) (\$46.127) – Aircraft Launch, Recovery & Support – Continue Electromagnetic Aircraft Launch System Program Definition and Risk Reduction phase at a reduced level. EMALS integration and testing @ NAWC Lakehurst deferred one year. Ship integration effort deferred one year. Down select and CVNX 1 final configuration decision delayed one year. Estimated cost to complete EMALS increased 22% due to FY03 funding deferral.</p> <p>- (U) (\$5.455) - CVNX Class Technologies - Commence development of long term technology features for integration into the CVNX Class ship design to fulfill operational requirements and to meet ship construction schedule . Items for which initial technology investment will be made include survivability features such as dynamic armor protection and development of items to address deficiencies in service life allowance for weight and stability requirements (KG) as well as sortie generation rate improvement required for CVNX2.</p>		

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PROJECT NAME AND NUMBER Future Carrier R&D - 42208		
<p>- (U) (\$2.000) - Smart Carrier - Continue the Smart Carrier initiative to identify, evaluate, demonstrate, install, test, and measure the effectiveness of revised processes and selected technologies to meet stated goals for Aircraft Carriers. The USS GEORGE WASHINGTON (CVN 73) and USS ABRAHAM LINCOLN (CVN 72) will be fully outfitted Smart Carriers during FY03.</p>		

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4							PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N				PROJECT NAME AND NUMBER Future Carrier R&D - 42208			
B. Other Program Funding Summary														
Related RDT&E:		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Complete</u>	<u>Total Cost</u>				
0604567N/42301 CV Contract Design														
CVN-77		40.502	65.791	91.690	35.566	9.406	3.764	0	0	246.719				
CVNX		7.736	31.853	40.343	33.984	39.521	21.435	28.530	Cont.	Cont.				
0603570N/S2692 Advance Nuclear Power Systems		98.302	105.175	146.609	136.658	122.664	121.948	121.058	448.217	1,370.049				
Related SCN:														
200100 Carrier Replacement Program		4143.6	136.000	243.703	1262.908	397.916	417.377	2645.398	Cont.	Cont.				

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<p>C. <u>Acquisition Strategy</u>: The Carrier acquisition strategy for CVNX will utilize a phased design and technology insertion or "evolutionary" strategy. This strategy will focus on combat system redesign (topside) on CVN77, new propulsion plant and Electro-Magnetic Aircraft Launching System (EMALS) on CVNX-1 and improvements in the area of aviation, survivability, service life restoration and Total Ownership Costs (TOC) reduction on both CVNX1 & CVNX2. On each hull, core capabilities will be maintained and TOC will be reduced in accordance with Carrier goals. As with previous NIMITZ class carriers, the CVN77 was awarded as a sole source Fixed Price Incentive Fee (FPIF) contract to Newport News Shipbuilding. For CVNX-1 and future hulls, early Integrated Product and Process Development (IPPD) design efforts will be cost type contracts with construction contracts anticipated to be FPIF similar to CVN 77.</p>		
D. Schedule Profile:	<u>FY 2001</u>	<u>FY 2002</u> <u>FY 2003</u>
Program Milestones		CVNX: 4Q MSB
Engineering Milestones	EMALS: 3Q CDR	EMALS: 4Q Initiate Sys Instl @ LKE
T&E Milestones		
Contract Milestones		

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Exhibit R-3 Cost Analysis (page 1)							DATE: February 2002					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N / BA 4			Carrier Systems Development - 0603512N			Future Carrier R&D - 42208						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development												
Aircraft Launch, Recovery & Support	CPAF	Northrop Grumman	13.727	16.513	N/A	20.077	11/01	15.078	11/02	Cont.	Cont.	Cont.
	CPAF	General Atomics	14.000	16.513	N/A	20.625	11/01	14.446	11/02	Cont.	Cont.	Cont.
	WR	NAWC Lakehurst, NJ	5.930	2.294	11/00	2.920	11/01	8.336	11/02	Cont.	Cont.	Cont.
	CPAF	NNS, VA		2.270	11/00	2.544	11/01	1.000	11/02	Cont.	Cont.	Cont.
		Miscellaneous	42.538	3.458				0.250	11/02			
Battle Damage & Recovery	WR	NSWC/CD, MD	3.831	3.408	12/00	3.400	11/01			Cont.	Cont.	Cont.
	WR	APG, MD			11/00		11/01			Cont.	Cont.	Cont.
	CPAF	NNS, VA	1.592	0.680	03/01	1.200	11/01			Cont.	Cont.	Cont.
	Various	Miscellaneous	1.511							Cont.	Cont.	Cont.
Propulsion Plant Development	SS,CPFP	BETTIS, PA	71.627	0.000	N/A					0.000	71.627	71.627
	C	NNS, VA		48.399	11/00	53.500	11/01	20.000	11/02		73.500	73.500
	Various	Miscellaneous	2.299	2.012	11/00	2.299	11/01	0.900	11/02			
Reverse Osmosis Desalination Plant	CPAF	NNS, VA				4.900	11/01	5.900	11/02	Cont.	Cont.	Cont.
	Various	Miscellaneous						0.413	11/02			
Manpower & Material Support	WR	NSWC/CD, MD	0.320								0.320	0.320
	Various	Miscellaneous	2.518								2.518	2.518
	C	Boeing, CA	0.800								0.800	0.800
Systems Development	CPAF	NNS, VA		4.906		2.077						
	WR	NSWC/CD, MD		3.528	12/00	0.675	11/01			Cont.	Cont.	
	Various	Miscellaneous	3.252	2.143								
Combat & Intelligence Systems	C	NNS, VA	9.261	0.000	N/A					Cont.	Cont.	Cont.
		Bath Iron Works	10.417	0.000	N/A					Cont.	Cont.	Cont.
ASW Tactical Decision Aids		Progeny, VA		1.500	03/01							
		NUWC KP		0.256								
	Various	Miscellaneous										
Smart Carrier	C	NNS, VA		0.205	12/00					Cont.	Cont.	Cont.
	Various	Miscellaneous		6.478	11/00	1.500	11/01	1.500	11/02	Cont.	Cont.	Cont.
CVNX Class Technologies	Various	Miscellaneous				5.000	11/01	1.177	11/02			
	WR	NSWC/CD, MD						4.278	11/02			
Subtotal Product Development			183.623	114.563		120.717		73.278		Cont.	Cont.	Cont.
Remarks:												
Development Support Equipment											0.000	
GFE											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: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N / BA 4			Carrier Systems Development - 0603512N			Future Carrier R&D - 42208						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Aircraft Launch, Recovery & Support	CPAF	Miscellaneous	0.713	0.706	11/00	1.517	11/01	7.017	11/02	Cont.	Cont.	Cont.
Operational Test & Evaluation												
Aircraft Launch, Recovery & Support												
Subtotal T&E			0.713	0.706		1.517		7.017		Cont.	Cont.	Cont.
Remarks:												
Contractor Engineering Support												
Program Management Support	CSS	TBD		4.002	11/00	0.250	11/01	0.000	11/02	Cont.	Cont.	Cont.
Systems Development	TBD			0.100	11/00	0.100	11/01	0.000	11/02			
Smart Carrier	TBD			0.541	11/00	0.500	11/01	0.500	11/02			
Travel				0.275		0.275		0.300				
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.000	4.918		1.125		0.800		Cont.	Cont.	Cont.
Remarks:												
Total Cost			184.336	120.187		123.359		81.095		Cont.	Cont.	Cont.
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2002

APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N				PROJECT NAME AND NUMBER Carrier Systems Definition - 42693				
COST (\$ in Millions)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost	13.818	33.134	0.000	0.000	0.000	0.000	0.000	Cont.	Cont.
RDT&E Articles Qty									

A. (U) Mission Description and Budget Item Justification: This project performs the Ship Feasibility Studies required after Milestone 0 (MS 0) to address a specific Mission Needs Statement (MNS) and support the Analysis of Alternatives (AOA) for the Future Carrier (CVNX) Program; performs impact studies of aircraft/air wing composition, propulsion, hull alternatives, combat systems, machinery and electrical subsystems, and cost on CVNX designs, supports the development of the Operational Requirements Document (ORD) and other documentation required at Milestone I. Completion of this phase allows review and approval, at Milestone I, to transfer a ship program to the Contract Design Program Element 0604567N. Ship Feasibility Study products include a description of the alternative ships' principal characteristics and mission critical subsystems, weight estimates, general arrangement sketches, technical risk assessments, and Class F cost estimates.

- (U) PROGRAM ACCOMPLISHMENTS AND PLANS:

FY 2001 ACCOMPLISHMENTS:

- (U) (\$0.819) Continued conducting ORD level requirements definition, industrial capability assessments, risk assessment and management, schedule development and tracking, and threat assessments necessary to insure a coordinated acquisition effort. Continued developing an Integrated Master Plan and the Test and Evaluation Master Plan. Continued development of logistics requirements including integrated logistics assessments, maintenance planning, supportability analysis, logistics process improvements, computer resource requirements analysis, and manpower/workload assessments. Continued developing cost model and baseline cost estimate.

- (U) (\$12.999) Continued conducting engineering effort associated with the CVNX Ship Development phase to develop ship requirements and definition at the total system level. Continued trade studies to support total ship definition including baseline design/build budget and baseline cost estimate. Further developed IPPD.

FY 2002 PLAN:

-(U) (\$33.134) Continue to conduct engineering effort associated with the CVNX Ship Development phase. Continue ship design definition to meet ORD Key Performance Parameters such as Service Life Allowance and Sortie Generation Rate. Conduct Total Ship Integration of the design changes required to the legacy baseline design to develop ship requirements and definition at the total system level. Further develop IPPD in support of Milestone B.

R-1 SHOPPING LIST - Item No. 51-15 of 51-29

Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER					PROJECT NAME AND NUMBER				
RDT&E, N / BA 4	Carrier Systems Development - 0603512N					Carrier Systems Definition -- 42693				
B. Other Program Funding Summary										
Related RDT&E:	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Complete</u>	<u>Total Cost</u>	
0604567N/42301 CV Contract Design										
CVN-77	40.502	65.791	91.690	35.566	9.406	3.764	0	0	246.719	
CVNX	7.736	31.853	40.343	33.984	39.521	21.435	28.530	Cont.	Cont.	
0603570N/S2692 Advance Nuclear Power System	98.302	105.175	146.609	136.658	122.664	121.948	121.058	449.989	1,302.403	
Related SCN:										
200100 Carrier Replacement Program	4143.6	136.000	243.703	1262.908	397.916	417.377	2645.398	Cont.	Cont.	

R-1 SHOPPING LIST - Item No. 51-16 of 51-2930

Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N	PROJECT NAME AND NUMBER Carrier Systems Definition - 42693
<p>C. <u>Acquisition Strategy</u>: The Carrier acquisition strategy for CVNX will utilize a phased design and technology insertion or "evolutionary" strategy. This strategy will focus on combat system redesign (topside) on CVN77, new propulsion plant and Electro-Magnetic Aircraft Launching System (EMALS) on CVNX-1 and improvements in the area of aviation, survivability, service life restoration and Total Ownership Costs (TOC) reduction on both CVNX-1 & CVNX-2. On each hull, core capabilities will be maintained and TOC will be reduced in accordance with Carrier goals. As with previous NIMITZ class carriers, the CVN77 was awarded as a sole source Fixed Price Incentive Fee (FPIF) contract to Newport News Shipbuilding. For CVNX-1 and future hulls, early IPPD design efforts will be cost type contracts with construction contracts anticipated to be FPIF similar to CVN 77.</p>		
D. Schedule Profile:	<u>FY 2001</u>	<u>FY 2002</u>
Program Milestones		CVNX: 4Q MS B
Engineering Milestones	EMALS: 3Q CDR	EMALS: 4Q Initiate Sys Instl @ LKE
T&E Milestones		
Contract Milestones		

R-1 SHOPPING LIST - Item No. 51-17 of 51-29

Exhibit R-2a, RDT&E Project Justification
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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N / BA 4			Carrier Systems Development - 0603512N			Carrier Systems Definition - 42693						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	SS, CPFF	BETTIS, PA	35.372								35.372	
		AME, VA	6.851								6.851	
	C, CPFF	JJMA, VA	6.200								6.200	
	C, CPFF	NSWC/CD, MD	5.083			2.300	11/01				7.383	
	WR	NSWC/DD, VA	1.670								1.670	
	WR	Miscellaneous	12.329				11/01				12.329	
	Various	Miscellaneous	4.001	0.319	11/00	2.034	11/01				6.354	
	C	NNS	16.530	13.499	10/00	24.000	11/01				54.029	
	WR	NAWC Lakehurst, NJ	1.140								1.140	
	FP	Anteon, VA	0.000			4.800	11/01				4.800	
Subtotal Product Development			89.176	13.818		33.134					136.128	
Remarks:												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											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: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, N / BA 4			Carrier Systems Development - 0603512N				Carrier Systems Definition - 42693					
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel												
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			89.176	13.818		33.134		0.000		0.000	136.128	
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE:								
APPROPRIATION/BUDGET ACTIVITY							PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER					
RDT&E, N / BA 4							Carrier Systems Development - 0603512N			CV Launch & Recovery Systems - W1723					
COST (\$ in Millions)							FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost							3.829	5.299	7.818	1.221	0.080	0.000	0.000	Cont.	Cont.
RDT&E Articles Qty								2							
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project addresses the development of systems providing approach and landing guidance, recovery, service, support, and launch of aircraft operating on or from ships. Payoffs include increased safety, greater sortie generation rates, enhanced aircraft boarding rates, reduced manning, and increased aircraft service life. Specific programs include:</p> <ul style="list-style-type: none"> - (U) Virtual Imaging System for Approach and Landing (VISUAL): VISUAL will provide the Landing Signal Officer (LSO) and other command personnel with enhanced images of the aircraft and ship in low visibility and night conditions during launch and recovery operations. - (U) Constant Run-Out Valve (CROV): The CROV program has been renamed the Aircraft Recovery Control (ARC) system. The system development effort will replace the existing control valve and valve actuation/control system on the MK7 arresting gear, providing enhanced performance and restoring margins of safety. This program addresses the near term solution to the CV(N) FY01 OAG's Number 12 priority item (arresting gear improvements). - (U) Advanced Arresting Gear Engine (AAGE) The AAG E replaces the MK7 arresting gear engine, which has reached the limits of its operating capability. This program represents the long term solution to the CV(N) FY01 OAG's Number 12 priority item (arresting gear improvements). - (U) Cost Reduction Effective Improvement Initiative (CREI) Arresting Gear Fairlead Sheaves: This program seeks to replace the arresting gear fairlead drive system sheaves with a more durable product that will have a longer service life thus decreasing system life cycle costs. <p>JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under DEMONSTRATION AND VALIDATION because it develops and integrates hardware for experimental tests related to specific ship or aircraft application.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - (U) (\$1.370) ARC System - Developed draft system specifications and RFP. - (U) (\$2.117) AAG - Developed Analysis of Alternative system specification. Solicited industry participation and evaluated potential technologies capable of achieving system objectives. Prepared draft solicitation and milestone documentation. Provided engineering and management support to the program. - (U) (\$0.342) VISUAL - Completed evaluation of VISUAL "centerline camera" sensor candidates. Conducted laboratory evaluations and selected sensor configuration for incorporation in VISUAL EMD program. Selected best candidates for installation of prototype system in CVN flight deck and evaluated under controlled operational conditions. 															

R-1 SHOPPING LIST - Item No. 51-20 of 51-29

Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N	February 2002
FY 2002 PLAN: - (U) (\$5.299) CROV/ARC - Complete SOW and systems specifications and release draft RFP to industry. Prepare milestone documentation and complete Milestone B. Award development contract. Conduct Preliminary Design Review (PDR) and Critical Design Review (CDR). Program recategorized as ACAT IVM.		
FY 2003 PLAN: - (U) (\$7.595) ARC - Conduct Critical Design Review (CDR) and complete fabrication of two (2) PRM test articles. Deliver two PRM test articles and conduct developmental testing. Provide engineering and management support to the program. - (U) (0.223) CREI (Arresting Gear Fairlead Sheaves) - Select candidate materials and samples and conduct laboratory testing. Commence design and manufacture prototype CREI Sheaves.		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N					PROJECT NAME AND NUMBER CV Launch & Recovery Systems - W1723		
(U) B. OTHER PROGRAM FUNDING SUMMARY:								
	FY 2001	FY 2002	FY2003	FY 2004	FY 2005	FY2006	FY2007	Total Cost
(U) (ALRE, OPN, 43SJ)	36.092	27.312	19.355	20.871	22.42	32.837	34.079	Continuing
Related RDT&E:								
(U) P.E. 0604512N (Shipboard Aviation Systems)								
(U) C. ACQUISITION STRATEGY:								
VISUAL: The Navy conducted system integration and risk reduction efforts at NAWCADLKE, including sensor and subsystem development and integration. Based on these efforts, a full system performance specification was prepared and an EDM contract was competitively awarded.								
ARC System: The Navy is preparing a performance specification for the valve actuation and control system and a build to print data package for the CROV valve. NAWCADLKE will serve as the prime contractor and competitively award contracts for the development, manufacture and production of the ARC components.								
CREI: A/G Fairlead Sheaves: Competitively award for sample materials and lab test samples for wear resistance, Down select to one material with one heat treatment process. Test this material on one engine of one ship on each coast. New fairlead sheaves will be installed by the fleet through attrition once tested and approved.								
(U) D. SCHEDULE PROFILE:								
	<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		<u>TO COMPLETE</u>	
(U) Program Milestones								
(U) Engineering Milestones			ARC System: 2Q/02 PDR		CREI: 1Q/03 Design Prototype CREI: 3Q/03 CDR ARC System: 1Q/03 CDR			
(U) T&E Milestones					ARC System: 2Q/03 DT		CREI: 1Q/04 - 3Q/04 DT	
(U) Contract Milestones	ARC 4Q/01 RFP		ARC System: 1Q/02 EDM Award					

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Exhibit R-2a, RDT&E Project Justification
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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, N			Carrier Systems Development - 0603512N				CV Launch & Recovery Systems - W1723					
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ARC System Primary Hardware Dev.	WX	NAWCAD, Lakehurst	22.167	1.370	10/00	1.357	11/01	0.212	11/02	Continuing	Continuing	
ARC Primary Hardware Dev.	CPAF	TBD				3.942	01/02	4.651	11/02		8.593	8.609
AAGE Systems Engineering	WX	NAWCADLKE		2.117	10/00					Continuing	Continuing	
VISUAL Design, Manufacturing	C/FP	FIIR SYSTEMS		0.342	01/01						0.342	0.342
Subtotal Product Development			22.167	3.829		5.299		4.863		Continuing	Continuing	
Remarks:												
Development Support Equipment												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
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: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N			Carrier Systems Development - 0603512N			CV Launch & Recovery Systems - W1723						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
ARC System Develop testing	WX	NAWCAD, Lakehurst						2.732	11/01	1.101	3.833	
CREI Devolp testing								0.223	11/02		0.223	
Subtotal T&E			0.000	0.000		0.000		2.955		1.101	4.056	
Remarks:												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			22.167	3.829		5.299		7.818		Continuing	Continuing	
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N				PROJECT NAME AND NUMBER EAF Matting W2269				
COST (\$ in Millions)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	ost to Comple	Total Cost
Project Cost	5.077	0.843	0.000	0.000	0.000	0.000	0.000	0.000	19.618
RDT&E Articles Qty	2								2

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project addresses the Program Definition and Risk Reduction (PDRR) phase of the lightweight airfield mat and expeditionary arresting gear to meet naval aviation unique Expeditionary Airfield (EAF) operational requirements, including transportability requirements on Maritime Prepositioning Ships (MPS).

(U) The currently deployed EAF mat (AM-2) was developed for heavy fighter (such as the F-4) operations and is cumbersome to deploy. Lightweight (1/2 the weight of AM-2), less voluminous (1/2 the volume of AM-2), and easier to install (five days vice fifteen days to install a complete airfield) mat material may be technically feasible and commercially available, but must be evaluated for use with current type/model/series naval and Air Mobility Command (AMC) aircraft at conventional and Vertical and Short Take-off and Landing (V/STOL) airfields ashore. Candidate mat materials under consideration include reinforced synthetic composite materials and polyvinyl fiberglass. These mat materials will be configured and evaluated under Marine Corps operational scenarios.

(U) The expeditionary arresting gear program will provide the Marine Corps with the capability to conduct short span arrestments of designated Navy and Marine Corps tail hook equipped aircraft in the expeditionary environment. The current arresting gear (M-21) cannot be adapted to operate on short span (100 feet or less) surfaces and is incapable of arresting the current inventory under casualty (no flaps or half flap) conditions. The M-21 has inadequate reliability and several replacement components are no longer produced. The replacement gear, M-31, will provide air transportability, rapid setup, full inventory operational compatibility under all arrestment conditions, and adequate operational reliability. Two M-31 prototype systems will be built under this project.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under DEMONSTRATION AND VALIDATION because it develops and integrates hardware for experimental tests related to specific ship or aircraft application.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$5.077) M-31: Delivered two Production Representative Models (PRMs) and initiated developmental testing (DT). Completed M-31 performance testing with deadloads. Provided engineering and management support to the program.

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N	PROJECT NAME AND NUMBER EAF Matting W2269						
<p>2 . FY 2002 PLANS: - (U) (\$0 .843) M-31: Demonstrate compatibility and performance thresholds with aircraft. Complete developmental testing (DT) and achieve Milestone III. Provide engineering and management support to the program.</p>								
<p>(U) B. OTHER PROGRAM FUNDING SUMMARY:</p>								
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	Total Cost
EAF OP,N (PE 0206139M)	3.203	7.445	7.540	7.718	7.867	8.104	8.182	Continuing

R-1 SHOPPING LIST - Item No. 51-26 of 51-29

Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA 4	PROGRAM ELEMENT NAME AND NUMBER Carrier Systems Development - 0603512N	PROJECT NAME AND NUMBER EAF Matting W2269
<p>C. Acquisition Strategy: The advanced lightweight mat acquisition strategy envisions the solicitation of candidate material panels from commercial sources for evaluation in the laboratory and in the operational environment. Upon qualification of a viable material, limited production quantities will be procured for full scale environmental, performance, and operational testing. Production quantities will be procured from the commercial source in accordance with Marine Corps priorities.</p> <p>The M-31 arresting gear acquisition strategy is predicated on the creation of a fully integrated team consisting of Navy and contractor personnel. Initial technology development and system design effort will be shared between the partners. The commercial partner will take the lead in the prototype manufacturing effort; the Navy partner will lead the test effort; and the commercial partner will ultimately be tasked with system production.</p>		
D. Schedule Profile	<u>FY 2001</u>	<u>FY 2002</u>
Program Milestones		MS III 2Q 02
Engineering Milestones	2 prototype delivery 2Q/01	
T&E Milestones	M-31: DT 3Q/01 -2Q/02	Final DT - 1Q/02-2Q/02
Contract Milestones		

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N / BA 4			Carrier Systems Development - 0603512N			EAF Matting W2269						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPAF	ESCO		2.825	11/00	0.519	11/01				3.344	3.344
Ancillary Hardware Development	WX	NAWCAD,LKE										
Award Fees	C/CPAF	ESCO				0.045	12/01				0.045	
Subtotal Product Development			0.000	2.825		0.564		0.000			3.389	
Remarks: None												
Development Support Equipment												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks: None												

R-1 SHOPPING LIST - Item No. 51-28 of 51-29

Exhibit R-3, Project Cost Analysis
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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NAME AND NUMBER					
RDT&E, N / BA 4			Carrier Systems Development - 0603512N				EAF Matting W2269					
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	WCAD, Lakehurst		2.252	11/00	0.279	11/01				2.531	
Subtotal T&E			0.000	2.252		0.279		0.000		0.000	2.531	
Remarks: N/A												
Subtotal Management			0.000	0.000		0.000		0.000		0.000		
Remarks: N/A												
Total Cost			0.000	5.077		0.843		0.000		0.000	5.920	
Remarks: N/A												

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