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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 **Combat Systems Integration/ Battle Force Interoperability 0603582N**					
COST ($ in Millions)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY2007	Cost to Complete	Total Cost
Total PE Cost	**57.211**	**61.368**	**40.464**	**43.955**	**43.323**	**43.740**	**44.113**	**Cont.**	**Cont.**
Combat Systems Integration S0164/S2865/S2763	**57.211**	**61.368**	**40.464**	**43.955**	**43.323**	**43.740**	**44.113**	**Cont.**	**Cont.**
Quantity of RDT&E Articles	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

A. Mission Description and Budget Item Justification: COMNAVSEASYSCOM (SEA 53) was assigned central responsibility for interoperability by CNO MSG DTG 021648Z May 1998 to develop policy and architecture for Battle Force warfare systems engineering, implement a common warfare systems engineering process and provide top level direction for fielding and support of balanced combat systems for ships and submarines. SEA 53 has responded with processes and tools to include: establishment of a force-level warfare systems engineering process, stewardship of the Fleet's deployment-minus-thirty months (D-30) configuration management and certification process per CINCLANTFLT/CINCPACFLT Inst. 4720.3A, and force-level interoperability assessment efforts using the Distributed Engineering Plant (DEP) land-based testing tool.

This project funds shore based testing and Combat System Integration Testing (CSIT) certification of integrated combat direction, weapon, sensor, and computing systems prior to their installation in operational fleet units. The operational computer systems are assembled and tested to assure proper configuration and interoperability in a test environment similar to their ultimate shipboard operational environment. Included is operational assessment testing of the integrated suite of computer programs. To support the Battle Group Interoperability (BGI) program, this project funds: Battle Group (BG)/Battle Force (BF) requirements engineering and analysis. BG/BF configuration management through the D-30 process and updates to the Surface Combat System Master Plan (SSCSMP) and Battle Group and Battle Force interoperability testing (BGIT/BFIT) which is a prerequisite for operational Certification of the battle group configuration prior to deployment. BGIT/BFIT Certification of deploying Battle Group configurations in accomplished through the utilization of the Navy's Distributed Engineering Plant (DEP), which provides operational configurations for all combat system configurations located at multiple Navy land-based sites located across the country and connected via ATM networking technology. The DEP provides the only opportunity for comprehensive interoperability testing of combat system and C4I configuration items prior to shipboard delivery for operational use in surface combatant platforms and battle group units.

The program was directed to focus on and execute to it's minimum executable requirement for Anti Air Warfare (AAW) across mission requirements.

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1. (U) FY 01 ACCOMPLISHMENTS:

 (U) ($9.731) Conducted Combat System Integration Testing (CSIT) of Advanced Combat Direction System (ACDS) Block-0, Level 10.25, Block-1 upgrades, Command and Control Processor (C2P) upgrades, Cooperative Engagement Capability (CEC) Baseline-2, Ship Self Defense System (SSDS) MK-2, Mod 0 in CV/CVN, LHD, and LHA ship classes. Continued design and development of surface ship test beds to include networks for the CVN-76 and CV/LHD SSDS MK-2, Mod 1 backfit classes. Continued planning for out-year Combat System Integration Testing (CSIT), including Common Scenario/Common Environment (CSCE) Simulation, test bed and test procedures design and development. Continued SSCSMP updates.

(U) ($15.828) Provided Distributed Engineering Plant (DEP) Testbed to support land based testing of complex computer program configurations for the battleforce. Conducted Battle Group Interoperability Testing (BGIT) for JOHN F. KENNEDY, JOHN C. STENNIS, THEODORE ROOSEVELT Battle Groups. Conducted Collaborative Systems Test (CST) for JOHN F. KENNEDY Battle Group in support of CEC OPEVAL. Conducted Interoperability Systems Engineering Tests (ISETs) for root cause determination of key interoperability trouble report observations.

(U) ($6.256) Continued execution of D-30 Process for all Battle Groups in the deployment cycle, including: BFAO efforts, BG Change Control Process, Land Based Triage, BG Capabilities and Limitations Report and Engineering assessments. Continued configuration management for all battle groups. Supported AMPS website and Electronic Configuration Control Board (ECCB).

(U) ($4.082) Continued Warfare Systems Engineering Requirements development. Conducted BG related systems engineering efforts to include Analysis of Alternatives (AOA). Continued to establish System Engineering Teams (SETs). Continued to develop Design Reference Mission (DRM) to communicate requirements in their operational context, and produce Warfare Area Layouts as integrated program plans for introducing new capability.

(U) ($19.332) Common Command and Decision
   (U) ($14.015) Continued Design Engineering.
   (U) ($2.389) Continued Acquisition Management Support.
   (U) ($2.928) Continued Technical Management Support.

(U) ($1.982) Development of optically multiplexed wideband radar beamfinder.

2. (U) FY02 PLAN:

(U) ($9.613) Conduct Combat System Integration Testing (CSIT) of Advanced Combat Direction System (ACDS) Block-0, level 10.24.X, ACDS Block-1 2.1.8, Combat Direction System (CDS) level 12.X/13.X in CV/CVN, LSD, and LHD ship classes, SSDS MK-2, Mod 0, and Command and Control Processor (C2P) upgrade. Continue planning for out-year Combat System Integration Testing (CSIT). Continue SSCMP updates.

(U) ($17.630)   Provide Distributed Engineering Plant (DEP) Testbed to support land based testing of complex computer program configurations for the Battle Force. Conduct Battle Group Interoperability Testing (BGIT) for ABRAHAM LINCOLN, GEORGE WASHINGTON, KITTY HAWK, HARRY S. TRUMAN, NIMITZ, THEODORE ROOSEVELT, and CONSTELLATION Battle Groups. Conduct Interoperability Systems Engineering Tests (ISETs) for root cause determination of key interoperability trouble report observation.

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EXHIBIT R-2, RDT&E Budget Item Justification	DATE:
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U) ($3.954) Continue Warfare Systems Engineering Requirements development to include testing and evaluation of new weapons technologies and incorporation of land-based test sites to support new technologies associated with accomplishing the objectives of a Single Integrated Air Picture (SIAP) such as directed energy technologies. Conduct BG related systems engineering efforts to include Analysis of Alternatives (AOA). Continue to develop Design Reference Mission (DRM) to communicate requirements in their operational context, and produce Warfare Area Layouts as integrated program plans for introducing new capability.

(U) ($4.943) Fund Navy participation in Joint Distributed Engineering Plant (JDEP).

(U) ($17.000) Common Command and Decision**. Per Congressional direction funds will be used for SBIR Phase III efforts to develop CC&D functions.

**FY 02 Congressional plus-up of $17M for Common Command and Decision/Program Element 0604518N incorrectly placed under Program Element 0603582N, CSI/BFI.

(U) ($2,000) Development of Optically Multiplexed Wideband Radar Beamfinder

(U) FY03 PLAN:

(U) ($9.417) Conduct Combat System Integration Testing (CSIT) of Advanced Combat Direction (ACDS)Block-0, level 10.24.X, ACDS Block-1 2.1.X in CV/LHD/LHA ship classes, Combat Direction System (CDS) level 12, and Ship Wide Area Network (SWAN). Continue planning for out-year Combat System Integration Testing (CSIT). Continue SSCMP updates.

(U) ($16.076) Provide Distributed Engineering Plant (DEP) testbed to support land-based testing of complex computer program configurations for the Battle Force. Conduct Battle Force Interoperability Testing (BFIT) for ENTERPRISE, CARL VINSON, GEORGE WASHINGTON, HARRY S. TRUMAN, JOHN C. STENNIS Battle Groups.

(U) ($5.775) Continue execution of D-30 Process for all Battle Groups in the deployment cycle, including: BFAO efforts, BG Change Control Process, Land-Based Triage, and BG Capabilities and Limitations reports. Continue configuration management for all Battle Groups. Support AMPS website and Electronic Configuration Control Board (ECCB).

(U) ($3.576) Continue Warfare Systems Engineering Requirements development to include testing and evaluation of new weapons technologies and incorporation of land-based test sites to support new technologies associated with accomplishing the objectives of a Single Integrated Air Picture (SIAP) such as directed energy technologies.

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA 4	**Combat Systems Integration/Battle Force Interoperability 0603582N**

B. Program Change Summary:

	FY2001	FY2002	FY2003
FY 2002 President's Budget:	54.461	42.915	
Appropriated Value:	54.966	42.915	
Adjustments to FY 2001/2002 Appropriated Value/2002			
Presidents Budget:	2.245	18.453	
FY 2003 Pres Budget Submit:	57.211	61.368	40.464

Funding:

FY 2001: Increase due to Program Adjustments (+$3.695), (-$.945) for SBIR and Minor Pricing Adjustments of (+$-505).

FY 2002: Increase for Common Command and Decision (+17.000K), Increase for Wideband Optically Multiplexed Radar beamfinder (+$2.000K) and Decrease for Section 8123 (-$547).

Schedule: Not Applicable

Technical: Not Applicable

C. Other Program Funding Summary: Not applicable.

Related RDT&E: Computer programs developed under these programs are tested in their integrated configuration.

PE 0204571N (Consolidated Training Systems Development)
PE 0205620N (Surface ASW Combat System Technology)
PE 0603382N (Advanced Combat System Technology)
PE 0603755N (Ship Self Defense)
PE 0603852N (Cooperative Engagement Capability)
PE 0604307N (AEGIS Combat Systems Engineering)
PE 0604755N (Ship Self Defense)
PE 0604518N (CIC Conversion/Common Command and Decision)
PE 0603879N (Single Integrated Air Picture)

Acquisition Strategy: Not applicable.

D. Schedule Profile: Not applicable.

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Exhibit R-3 Cost Analysis									DATE: **February 2002**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N**			PROGRAM ELEMENT **0603582N**			PROJECT NAME AND NUMBER **Combat Systems Integration/Battle Force Interoperability**						
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
Combat Sys Integ Testing/SQI	WR/RC	NSWC PHD	8.200	6.100	VAR	7.200	VAR	7.099	VAR	Cont.	Cont	
Combat Sys Integ Testing/SQI	WR/RC	NSWC DD	0.000									
Combat Sys Integ Testing/SQI	WR/RC	VARIOUS	0.600			1.878		1.341		Cont.	Cont	
D-30 Process	WR/RC	NSWC PHD	4.100	3.300	VAR	4.292	VAR	4.233	VAR	Cont.	Cont	
D-30 Process	WR/RC	NSWC DD								N/A		
D-30 Process	WR/RC/PD	VARIOUS	0.150	0.100		1.108		1.114	VAR	Cont.	Cont	
DEP/BGIT Cert/JDEP	WR/RC	NSWC PHD										
DEP/BGIT Cert/JDEP	WR/RC	NSWC DD	17.406	15.306		16.602		16.100		Cont.	Cont	
DEP/BGIT Cert/JDEP	WR/RC/PD	VARIOUS	2.332			2.444		2.440	VAR	Cont.	Cont	
Optical Multi-plex Wideband Radar	WR/RC	NSWC CRANE	1.989	1.982		2.000						
Warfare Sys Engineering	WR/RC	NSWC DD	2.000	1.310		1.850		1.674		Cont.	Cont	
Warfare Sys Engineering	WR/RC/PD	VARIOUS	2.228	0.900		1.287		1.113		Cont.	Cont	
Common C&D	WR/RC	NSWC DD	5.000	5.000		N/A		N/A				
Common C&D Contract	VARIOUS	VARIOUS	24.362	14.332		17.000		N/A				
Contract Engineering Support	VARIOUS	VARIOUS	6.806	4.406	VAR	4.157		4.000	VAR	Cont.	Cont	
Contract Program Mgt Support	VARIOUS	VARIOUS	1.162	4.315		1.450		1.200				
Travel		NAVSEA TRAVEL	0.205	0.160		0.100		0.150		Cont.	Cont	
SBIR Assessment	VARIOUS	VARIOUS	1.065									
Subtotal Product Development			77.605	57.211		61.368		40.464		Cont.	Cont	

Remarks:

Total Cost			77.605	57.211		61.368		40.464		Cont.	Cont	

Remarks:

Exhibit R-3, Project Cost Analysis
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