

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification	Date: February 1999
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E/BUDGET ACTIVITY 4</b>	R-1 ITEM NOMENCLATURE Program Element (PE) Name and No. COMBAT SYTEMS INTEGRATION PE 0603582N

COST (\$ in Millions)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total P.E. Cost										
Combat System Integration S0164	11.1	39.2*	46.7	24.3	24.4	23.6	23.8	24.0	CONT.	CONT.
Quantity of RDT&E Articles & cost	N/A	N/A								

A. Mission Description and Budget Item Justification: This project provides shore based testing of integrated combat direction, weapon, sensor and computing systems prior to their installation in operational fleet units. The operational computer programs 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. Additionally, with issuance of CNO MSG DTG 021648Z May 1998, on Battle Group Interoperability (BGI), this program includes Battle Group (BG)/Battle Force (BF) requirements engineering, analysis, BG/BF configuration management and BG Interoperability testing which is a prerequisite for operational Certification of the battle group configuration. This is 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. Configuration control is maintained by updates to the Surface Combat System Master Plan (SSCSMP).

\* FY 1999 amount includes a planned prior approval reprogramming of \$30 million to fund continued development of a distributed engineering "plant" to support interoperability testing as well as the development of prototype interoperability profiles and correction of deficiencies for deploying battle groups in 1999 and 2000.

**PROGRAM ACCOMPLISHMENTS AND PLANS:**

1. FY 1998 ACOMPLISHMENTS:

- (U) (\$5.5) Conducted combat system integration testing of Advanced Combat Direction System (ACDS) Block1 upgrades, Cooperative Engagement Capability (CEC) Baseline 1 and Ship Self Defense System (SSDS) in CV/CVN, LHD, LHA and LSD ship classes.
- (U) (\$4.3) Continued design and development of test beds for CVN 68, CVN 76 and LPD 17 Classes. Continued planning for out-year testing including simulation system, test bed and test procedures design and development. Initiated planning, design and development of test beds and Distributed Engineering Plant (DEP) to support battle group interoperability testing for USS THEODORE ROOSEVELT, USS CONSTELLATION AND USS JOHN F. KENNEDY.
- (U) (\$1.0) Continued execution of D-30 Process including; Battle Group Action Officer (BGAO) efforts, BG Change Control Process, Land Based Triage, BG Capabilities and Limitations Report and Engineering assessments.
- (U) (\$.3) Continued SSCSMP updates.

2. FY 1999 PLAN:

- (U) (\$7.2) Conduct integration testing of Advanced Combat Direction System (ACDS) of Block 1, Cooperative Engagement Capability (CEC) Baseline 1 and Ships Self Defense System (SSDS) in CV/CVN, LHD, LHA and LSD Classes. Conduct Battle Group Integration Testing (BGIT) in USS THEODORE ROOSEVELT, USS CONSTELLATION AND USS JOHN F. KENNEDY Carrier Battle Groups (CVBGs). Develop the test plans and procedures to support Certification of platform combat systems, C4I systems and Battle Group Interoperability (BGI).

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2. FY 1999 PLAN Continued:
- (U) (\$6.0) Continue execution of D-30 Process including; Battle Group Action Officer (BGAO) efforts, BG Change Control Process, Land Based Triage, BG Capabilities and Limitations Report and Engineering assessments.
  - (U) (\$9.0) Initiate the development of Warfare Systems Engineering Requirements. Conduct BG related systems engineering efforts, to include Design Reference Mission (DRM) and Analysis of Alternatives studies (AOA).
  - (U) (\$16.6) Continue design and development of platform test beds to include test networks for the CVN 68, CVN 76 and LPD 17 classes. Conclude development of DEP Phase 0 JFK BG configuration. Continue development of DEP phases 1 and 2. Prepare test beds to support battle group interoperability testing for USS STENNIS, USS DWIGHT D. EISENHOWER AND USS HARRY S. TRUMAN. Continue planning and preparations for out-year testing including simulation system, test bed and test procedures design and development.
  - (U) (\$.3) Continue SSCSMP updates.
  - (U) (\$.1) Portion of extramural program is reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.
3. FY 2000 PLAN:
- (U) (\$7.0) Conduct integration testing of Integrated Combat Direction System (ICDS) Block 1, Cooperative Engagement Capability (CEC) Baseline 2 and Integrated Ships Defense System (ISDS) in CV/CVN, LHD, LSD, LHA and LPD Ship Classes. Conduct Battle Group Integration Testing (BGIT) in USS STENNIS, USS DWIGHT D. EISENHOWER AND USS HARRY S. TRUMAN CVBGs. Develop the test plans and procedures to support Certification of platform combat systems, C4I systems and Battle Group Interoperability (BGI).
  - (U) (\$24.4) Continue planning and preparations for out-year testing including simulation system, test bed and test procedures design and development. Prepare test beds to support battle group interoperability testing for USS ABRAHAM LINCOLN, USS GEORGE WASHINGTON AND USS CONSTELLATION. Conclude DEP Phases 1/2.
  - (U) (\$9.0) Continue Warfare Systems Engineering Requirements development. Conduct BG related systems engineering efforts, to include Design Reference Mission (DRM) and Analysis of Alternatives studies (AOA).
  - (U) (\$6.0) Continue execution of D-30 Process including; BGAO efforts, BG Change Control Process, Land Based Triage, BG Capabilities and Limitations Report and Engineering assessments.
  - (U) (\$.3) Continue SSCSMP updates.

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B. Program Change Summary:

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
FY 1999 President's Budget:	7.4	9.7	9.4
Appropriated Value:	7.7	9.7	
Adjustment to FY 1998 Appropriated Value/ FY 1999 President's Budget			
a. Adjustments	+3.4	+29.6	+37.4
FY 2000 PRESBUDG Submit:	11.1	39.2	46.7

Funding: FY 1998: Increase by programming for Battle Group Interoperability (BGI) efforts (+\$3,809); Minor Pricing Adjustments (-\$360).

FY 1999: Increase by programming for Battle Group Interoperability (BGI) efforts (+\$30,000); Undistributed reductions (-\$406).

FY 2000: Increase by programming for Battle Group Interoperability (BGI) efforts (+\$38,000); Rate adjustments, undistributed reductions (-\$601).

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 0604518N (CIC Conversion)

PE 0604755N (Ship Self Defense)

PE 0603514N (Ship Combat Survivability)

Acquisition Strategy: Not applicable.

D. Schedule Profile: Not applicable.

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Exhibit R-3 Cost Analysis		Date: February 1999
APPROPRIATION/BUDGET ACTIVITY RDT&E/BUDGET ACTIVITY 4	PROGRAM ELEMENT NAME AND NUMBER Combat System Integration PE 0603582N	PROJECT NAME AND NUMBER Combat System Integration S0164

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total <u>PYs</u> Cost	FY99 Cost	FY99 Award Date	FY00 Cost	FY00 Award Date				Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development													
Ancillary Hardware Development													
Systems Engineering													
Licenses													
Tooling													
GFE													
Award Fees													
Subtotal Product Development													
Remarks: Not applicable.													
Development Support Equipment													
Software Development													
Training Development													
Integrated Logistics Support													
Configuration Management													
Technical Data													
GFE													
Subtotal Support													
Remarks: Not applicable.													

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Exhibit R-3 Project Cost Analysis  
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APPROPRIATION/BUDGET ACTIVITY RDT&E/BUDGET ACTIVITY 4	PROGRAM ELEMENT NAME AND NUMBER Combat System Integration PE 0603582N	PROJECT NAME AND NUMBER Combat System Integration S0164

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY99 Cost	FY99 Award Date	FY00 Cost	FY00 Award Date			Cost To Complete	Total Cost	Target Value of Contract
Integration Interoperability Testing	WR/RC	NSWC PHD	5.7	8.4	VAR.	10.2	VAR.			CONT.	CONT.	
	WR/RC	NSWC DD	1.6	14.5		20.2						
	MIPR	JPO DISA	1.0									
	MIPR	JPO GSA	0.5									
BG Interop Eng & Analysis	WR/RC	NSWC PHD	1.0	6.0	VAR.	6.0	VAR.			CONT.	CONT.	
		NSWC DD		8.0		8.0						
Contract Engineering Support	VAR.	VARIOUS	1.3	2.3	VAR.	2.3	VAR.			CONT.	CONT.	
Travel		NAVSEA Travel	.04	.04		.04				CONT.	CONT.	
Subtotal Test & Evaluation			11.1	39.2		46.7						
Remarks:												
Program Management Support												
Program Management Personnel												
Travel												
Labor (Research Personnel)												
Overhead												
Subtotal Management												
Remarks: Not applicable.												
Total Cost			11.1	39.2		46.7				CONT.	CONT.	
Remarks:												

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Exhibit R-3 Project Cost Analysis  
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