

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA 4					Combat Systems Integration 0603582N					
COST (\$ in Millions)		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total PE Cost		37.492	78.305	32.966	38.054	47.448	48.895	50.726	Cont.	Cont.
Combat Systems Integration S0164		37.492	78.305	32.966	38.054	47.448	48.895	50.726	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
<p>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 (BG), 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. The BG/BF requirements engineering effort is designed to support the development of a system engineering architecture to ensure future combat systems interoperability through a Common Command and Decision capability. Configuration control is maintained by updates to the Surface Combat System Master Plan (SSCSMP).</p> <p>PROGRAM ACCOMPLISHMENT AND PLANS:</p> <p>1. (U) FY 1999 ACCOMPLISHMENTS:</p> <p>(U) (\$6.972) Conducted Combat Systems Integration Testing (CSIT) of Advanced Combat Direction System (ACDS) of Block-0 and 1, Cooperative Engagement Capability (CEC) Baseline 1 and Ships Self Defense System (SSDS) MK-1, and Combat Direction System Level 13 in CV/CVN, LHD, LHA-2, FFG and LSD Ship Classes. Continued design and development of surface ship test beds to include networks for the LHD-7, CVN 68, CVN 76, LHA-1 and LPD 17 ships/classes. Continued planning for out-year Combat System Integration Testing (CSIT) including Common Scenario/Common Environment Simulation (CSCE), test bed and test procedures design and development.</p>										

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<p>(U) (\$15.674) Conducted Battle Group Interoperability Testing (BGIT) in USS THEODORE ROOSEVELT, USS CONSTELLATION AND USS JOHN F. KENNEDY Carrier Battle Groups (CVBGs). Developed the test plans and procedures to support Certification of surface ship combat systems, C4ISR systems and Battle Group Interoperability (BGI). Prepared test beds to support Battle Group Interoperability (BGIO) testing for USS ABRAHAM LINCOLN, USS GEORGE WASHINGTON, USS ENTERPRISE, USS CARL VINSON, USS CONSTELLATION and USS HARRY S. TRUMAN Carrier Battle Groups (CVBGs)</p> <p>(U) (\$5.773) 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.</p> <p>(U) (\$8.773) Initiated the development of Warfare Systems Engineering Requirements. Conducted BG related systems engineering efforts, to include Design Reference Mission (DRM) and Analysis of Alternatives studies (AOA). Initiated Warfare Systems Engineering studies for Common Command and Decision (C&D).</p> <p>(U) (\$.3) Continued SSCSMP updates.</p> <p>2. (U) FY 2000 PLAN:</p> <p>(U) (\$9.1) Conduct Combat System Integration Testing (CSIT) of Advanced Combat Direction System (ACDS) of Block-1, level 2.1X, ACDS Block-0, level 10.24, Cooperative Engagement Capability (CEC) Baseline-1, and Combat Direction System (CDS) level 12/13 in CV/CVN, LHD, LHA-1, LHA-2, and FFG ship classes. Continue design and development of surface ship test beds to include networks for the CVN-68, CVN-76 and LPD-17 ships/classes. Continue planning for out-year Combat System Integration Testing (CSIT) including Common Scenario/Common Environment (CSCE) Simulation, test bed and test procedures design and development.</p> <p>(U) (\$25.10) Conduct Battle Group Interoperability Testing (BGIT) in USS ABRAHAM LINCOLN, USS GEORGE WASHINGTON, USS ENTERPRISE, USS CARL VINSON, USS CONSTELLATION and USS HARRY S. TRUMAN carrier Battle Groups (CVBGs). Develop the test plans and test procedures to support Certification of surface ship class combat systems, C4ISR systems and Battle Group Interoperability (BGI). Prepare test beds to support Battle Group Interoperability (BGIO) testing for up to six Carrier Battle Groups (CVBGs). Conclude DEP Phases 1/2.</p> <p>(U) (\$39.0) Continue Warfare Systems Engineering Requirements development. Conduct BG related systems engineering efforts, to include Design Reference Mission (DRM) and Analysis of Alternatives studies (AOA). Continue Warfare Systems Engineering studies for Common Command and Decision (C&D).</p>			

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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA 4	R-1 ITEM NOMENCLATURE Combat Systems Integration 0603582N	
<p>(U) (\$4.8) Continue execution of D-30 Process including; BGAO efforts, BG Change Control Process, Land Based Triage, BG Capabilities and Limitations Report and Engineering assessments.</p> <p>(U) (\$.3) Continue SSCSMP updates.</p> <p>Note: \$1.065M of the FY00 funding represents that portion of the extramural program that is reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.</p> <p>3. (U) FY 2001 PLAN:</p> <p>(U) (\$8.958) Conduct Combat System Integration Testing (CSIT) of Advanced Combat direction System (ACDS) Block-0, level 10.25, Block-1 upgrades; Command and Control Processor (C2P) upgrade; Cooperative Engagement Capability (CEC) Baseline-2; Ship Self Defense System (SSDS)MK-2, mod-0 in CV/CVN, LHD, and LHA ship classes. Continue design and development of surface ship test beds to include networks for the CVN-76 and CV/LHD SSDS MK-2, mod-1 back-fit classes. Continue planning for out-year Combat System Integration Testing (CSIT) including Common Scenario/Common Environment (CSCE) Simulation, test bed and test procedures design and development.</p> <p>(U) (\$6.458) Conduct Battle Group Interoperability (BGIO) testing in up to six carrier battle Groups (CVBGs). Prepare test beds to support Battle Group Interoperability (BGIO) testing for six Carrier Battle Groups (CVBGs).</p> <p>(U) (\$13.590) Continue Warfare Systems Engineering Requirements development. Conduct BG related systems engineering efforts, to include Design Reference Mission (DRM) and Analysis of Alternatives studies (AOA). Continue Warfare Systems Engineering studies for Common Command and Decision (C&D).</p> <p>(IU) (\$3.66) Continue execution of D-30 Process including; BGAO efforts, BG Change Control Process, Land Based Triage, BG Capabilities and Limitations Report and Engineering assessments.</p> <p>(U) (\$.3) Continue SSCSMP updates.</p>		

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA 4		Combat Systems Integration 0603582N	
	FY 1999	FY 2000	FY 2001
FY 2000 President's Budget:	9.654	46.740	24.239
Appropriated Value:	9.654	78.740	
Adjustment to FY 1999/2000 Appropriated Value/			
FY 2000 President's Budget:	27.838	-0.435	8.727
FY 2001 PRES Budget Submit:	37.492	78.305	32.966
Funding:			
FY 1999: Increase by Above Threshold Reprogramming (+\$30,000); congressional undistributed reductions of -\$1.899K and -\$263K for minor pricing adjustments.			
FY 2000: Decrease for minor pricing adjustments of -\$435K.			
FY 2001: Increase by programming for Common C&D (+\$9,000) and minor pricing adjustments of -\$273K.			
Schedule: 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)			
Acquisition Strategy: Not applicable.			
D. Schedule Profile: Not applicable.			

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Exhibit R-3 Cost Analysis (page 2)							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N			0603582N			Combat Systems Integration						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Combat Sys Integ Testing/SQI	WR/RC	NSWC PHD	5.700	7.500	VAR	8.900	VAR	6.300	VAR	Cont.	Cont	
Combat Sys Integ Testing/SQI	WR/RC	NSWC DD	1.600									
Combat Sys Integ Testing/SQI	WR/RC/PD	VARIOUS	1.500	0.500		0.600		0.460		Cont.	Cont	
BG Capabilities/Limitations	WR/RC	NSWC PHD	1.000	3.500	VAR	4.200	VAR	3.000	VAR	Cont.	Cont	
BG Capabilities/Limitations	WR/RC	NSWC DD										
BG Capabilities/Limitations	WR/RC/PD	VARIOUS		0.100		0.150		0.160	VAR	Cont.	Cont	
DEP/BGIT Cert/Triage	WR/RC	NSWC PHD										
DEP/BGIT Cert/Triage	WR/RC	NSWC DD		13.202		16.890		5.170		Cont.	Cont	
DEP/BGIT Cert/Triage	WR/RC/PD	VARIOUS		1.220		2.965		1.057	VAR	Cont.	Cont	
Warfare Sys Eng/C&D	WR/RC	NSWC PHD										
Warfare Sys Eng/C&D	WR/RC	NSWC DD		1.700		2.000		1.400		Cont.	Cont	
Warfare Sys Eng/C&D	WR/RC/PD	VARIOUS		2.900		33.400		2.557		Cont.	Cont	
Contract Engineering Support	VARIOUS	VARIOUS	1.300	6.790	VAR	9.100	VAR	12.762	VAR	Cont.	Cont	
Travel		NAVSEA Travel	0.040	0.080		0.100		0.100		Cont.	Cont	
Subtotal Test & Evaluation			11.140	37.492		78.305		32.966		Cont.	Cont	
Remarks:												
Total Cost			11.140	37.492		78.305		32.966		Cont.	Cont	
Remarks:												

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Exhibit R-3, Project Cost Analysis
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