

CLASSIFICATION:**UNCLASSIFIED****EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION**

DATE

May 2009

APPROPRIATION/BUDGET ACTIVITY

RD TEN/BA 4

R-1 ITEM NOMENCLATURE

0603795N/LAND ATTACK TECHNOLOGY

COST (In Millions)

FY 2008

FY 2009

FY 2010

Total PE Cost

49.919

17.971

1.238

2156 / NAVAL SURFACE FIRE SUPPORT

29.084

3.969

0.000

2325 / Naval Fires Control System

0.784

1.237

1.238

9999 / CONGRESSIONAL ADDS

20.051

12.765

0.000

A. MISSION DESCRIPTION:

A. (U) Mission Description and Budget Item Justification: The Naval Surface Fire Support (NSFS) mission supports the Land Attack Technology program element. To meet the United States Marine Corp (USMC) requirements for NSFS, the Navy will assess projectiles and systems capable of meeting requirements including range, lethality, accuracy, and responsiveness. The NSFS program (Project 2156) was developing a 5" Extended Range Munition (ERM) with a coupled Global Positioning System (GPS)/Inertial Navigation System (INS) to be fired from the 5"/62 gun (a modification of the existing 5"/54 gun). FY09 funding is being used to close-out the ERGM contract and perform an Analysis of Alternatives for Joint Expeditionary Fires.

The Naval Fires Control System (NFCS) (Project 2325) automates shipboard land attack battle management duties to be interoperable and consistent with joint C4ISR systems. This shipboard system will significantly improve the Navy's ability to support Operational Maneuver from the Sea (OMFTS).

The 76mm Super Rapid Medium Caliber Gun System Explosives Safety Review (Project 9829A) - The 76mm Super Rapid Gun effort is comprised of an evaluation of both the gun and associated ammunition.

The Affordable Weapons System (AWS) (Project 9359A) - Affordable Weapon System-Program previously funded under Project 9359C to conduct a Phase I Study for an Affordable Weapon System (AWS). Phase I includes mission concept analysis, mission analysis, system architecture analysis, fly-away cost analysis with life cycle cost impacts, and system engineering for a sea-based land attack and strike mission capable precision strike weapon. The proposed system(s) will operate from ships with potential sea-based Navy/Marine Corps aircraft launch and submarine capability of defeating targets at standoff ranges, and can rapidly complete the engagement phase consistent with making the kill chain short. The potential AWS(s) will not exceed \$250K in fly-away cost. Phase II was funded to exercise contract options for contractor preferred system concept(s), which will be supported by system engineering, best material approach(es), risk analysis, and future plans, while updating fly-away costs and life cycle impacts.

Modular Advanced Ultra Light Weapons Systems Prototype Mount (Project 9B96A) - To develop lightweight augmentations to current stabilized and potentially crew served small arms systems. Weight on small Navy and combatant crafts is very critical. Current industry methods involving the use of composite materials will help alleviate some of this weight burden on conventional and advance small arms weapon systems being used.

76mm Swarbuster Capability (Project 9D60A) - To begin efforts to integrate the MK 75 with Close-In Weapons System (CIWS) for ASuW capability against swarming boats.

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EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)

DATE
May 2009

APPROPRIATION/BUDGET ACTIVITY
RDTEN/BA 4

R-1 ITEM NOMENCLATURE
0603795N/LAND ATTACK TECHNOLOGY

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2008	FY 2009	FY 2010
FY09 President's Budget	51.027	40.028	28.627
FY10 President's Budget	49.919	17.971	1.238
Total Adjustments	-1.108	-22.057	-27.389
(U) Summary of Adjustments			
Congressional Rescissions			
Congressional Adjustments		-0.049	
SBIR/STTR/FTT Assessment	-0.871		
Program Adjustments	-0.237	-21.995	-27.363
Rate/Misc Adjustments		-0.013	-0.026
Total	-1.108	-22.057	-27.389

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CLASSIFICATION:		UNCLASSIFIED					
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY			PROJECT NUMBER AND NAME 2156/NAVAL SURFACE FIRE SUPPORT		
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Project Cost	29.084	3.969	\$0.000				
RDT&E Articles Qty	0	0	0				
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>The NSFS program developed a 5"/62 gun system (a modification to the existing 5"/54 gun) and a 5" Extended Range Munition (ERM) with a coupled Global Positioning System (GPS) and an Inertial Navigation System (INS). This munition will have the capability to deliver its payload to a range in excess of current conventional ammunition utilizing rocket assisted propulsion with associated propelling charge improvements. In 3Q FY08, a contract modification was initiated to discontinue ERGM System Development and Demonstration (SDD). The SDD phase concluded in 2Q FY08. An Acquisition Decision Memorandum (ADM) was signed by USD (AT&L) on July 25, 2008 for the purpose of terminating the ERM program and conducting future requirements analysis for Joint Fires. The remaining funding in FY08 and FY09 will be used for contract close-out and conducting the required analysis.</p>							

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY	PROJECT NUMBER AND NAME 2156/NAVAL SURFACE FIRE SUPPORT	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	12.202	0.000	0.000
RDT&E Articles Quantity	0	0	0
Cancellation of ERGM development including component testing, qualification efforts and flight tests. A contract modification for ERGM SDD was implemented in 4Q FY07 to include a 20 round reliability test in 4Q FY08. However, engineering flight tests in 2Q FY08 resulted in a decision to cease the ERGM effort.			
	FY 2008	FY 2009	FY 2010
ERM Close-out and Requirement Analysis	16.882	3.969	0.000
RDT&E Articles Quantity	0	0	0
Performed integration testing ERGM System Development and Demonstration (SDD). The remaining funding in FY08 and FY09 will be used for contract close-out and conducting the required analysis.			
C. OTHER PROGRAM FUNDING SUMMARY:			
Not Applicable at this time due to ERGM cancellation. Supporting program requirements will be re-evaluated as part of the Analysis of Alternatives (AOA).			
D. ACQUISITION STRATEGY:			
The ERGM program was cancelled. Therefore all qualification testing and Land Based Flight Testing has been suspended. A new AOA is being conducted that will determine program strategy.			
E. MAJOR PERFORMERS:			
Analysis of Alternative (AOA): Center for Naval Analysis. Primary Navy Warfare Center: Naval Surface Warfare Center (NSWC) located in Dahlgren, VA. Will provide technical assistance to the PMO supporting the AOA.			

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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY			PROJECT NUMBER AND NAME 2325/Naval Fires Control System		
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Project Cost	0.784	1.237	1.238				
RDT&E Articles Qty	0	0	0				
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>A. (U) Mission Description and Budget Item Justification: Naval Fires Control System (NFCS) covers the mission planning and coordination for current and future Naval Surface Fire Support system requirements. NFCS plans, coordinates and manages the firing of Naval Surface Fires Support (NSFS) weapon systems including the 5"/62 caliber gun and Conventional Munitions. The NFCS phase I is interfacing with the Advanced TOMAHAWK Weapons Control Systems (ATWCS) and the Tactical TOMAHAWK Weapons Control Systems (TTWCS) in order for NFCS to share the Advanced Tactical Display Console (ATDC) with ATWCS and TTWCS. Funding provides software and system engineering analysis and development, reuse and integration of government and commercial computer programs to support extended range munitions and other naval weapon applications.</p>							

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION							DATE May 2009	
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY			PROJECT NUMBER AND NAME 2325/Naval Fires Control System			
B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
		FY 2008		FY 2009		FY 2010		
Software/System Engineering		0.484		0.737		0.738		
RDT&E Articles Quantity		0		0		0		
Funding provides software and system engineering analysis and development, reuse and integration of government and commercial computer programs to support extended range munitions and other naval weapon applications.								
		FY 2008		FY 2009		FY 2010		
Tech Design Agent		0.100		0.100		0.100		
RDT&E Articles Quantity		0		0		0		
Funding provides Technical Direction Agent support, joint requirements investigation and Concept of Operations (CONOPs) scenario development.								
		FY 2008		FY 2009		FY 2010		
C4I Systems		0.100		0.100		0.100		
RDT&E Articles Quantity		0		0		0		
Funding provides C4I and combat system interface investigation and analysis in relation to developing C4I systems and technologies.								
		FY 2008		FY 2009		FY 2010		
Logistic Support		0.100		0.100		0.100		
RDT&E Articles Quantity		0		0		0		
Funding supports developmental test and evaluation, and logistics support elements development.								
		FY 2008		FY 2009		FY 2010		
Operational Development		0.000		0.200		0.200		
RDT&E Articles Quantity		0		0		0		
Funding supports operational test and evaluation and logistics support elements development.								
C. OTHER PROGRAM FUNDING SUMMARY:								
Line Item No. and Name	FY 2008	FY 2009	FY 2010					Total Cost
O&M, N 14DS0	2.520	2.797	2.818					8.135
OPN BLI 5112	1.371	1.690	1.391					4.452
D. ACQUISITION STRATEGY:								
A sole source contract was awarded to GDIS for Phase 1 software development. NSWC/DD took over this function from GDIS and will remain the software developer. The hardware developer is NUWC-KP.								

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY	PROJECT NUMBER AND NAME 2325/Naval Fires Control System	
<p>E. MAJOR PERFORMERS: NSWC/DD - Technical Direction Agent, Software Development Agent and Systems Engineering Lead. NUWC/KP - Hardware Design Agent and Hardware Developer. NSWC/PHD - Test and Evaluation Agent and Integrated Logistics Support Agent. SPAWARSYSCEN, San Diego - Common Operating Environment (COE) and Adjunct Processor Developer.</p>			

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EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE May 2009			
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY				PROJECT NUMBER AND NAME 2325/Naval Fires Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)			FY 2009 Cost (\$000)	FY 2009 Award Date	FY 2010 Cost (\$000)	FY 2010 Award Date		Total Cost (\$000)	Target Value of Contract
Primary Software Development	SS/CPAF	GDIS, Arlington, VAQ	25.517			0.000		0.000			25.517	0.000
	SS/CPAF	LM/MDS, Valley Forge, PA	19.079			0.000		0.000			19.079	0.000
	WR/WX	NSWC, Dahlgren, VA	13.787			0.430	NOV-08	0.397	NOV-09		CONT	0.000
	VAR	VARIOUS	1.119			0.000		0.000			1.119	0.000
	WR/WX	SSC/SD	5.085			0.171	NOV-08	0.171	NOV-09		5.427	0.000
Systems Engineering	WR	SSC/SD	2.951			0.000		0.000			2.951	0.000
	WR/WX	NSWC, Dahlgren, VA	18.448			0.100	NOV-08	0.134	NOV-09		18.682	0.000
	SS/CP	VITRO/BAE	0.670			0.000		0.000			0.670	0.000
	VAR	VARIOUS	1.304			0.000		0.000			1.304	0.000
Ancillary Hardware Development	WR/WX	NUWC, Keyport Division	11.058			0.000		0.000			11.058	0.000
	WR/WX	NSWC, PT HUE., CA	5.735			0.000		0.000			5.735	0.000
	VAR	PMFATDS	3.576			0.000		0.000			3.576	0.000
	SS/CPAF	JHU/APL	1.362			0.000		0.000			1.362	0.000
	SS/CPFF	JHU/APL	0.121			0.000		0.000			0.121	0.000
	WR	NSWC, Dahlgren, VA	2.236			0.000		0.000			2.236	0.000
LAM FC Hardware/Software Dev	SS/CPFF	LM/Baltimore, MD	4.181			0.000		0.000			4.181	0.000
TERMINATED	SS/CPAF	LM/MDS, Valley Forge, PA	12.131			0.000		0.000			12.131	0.000
	SS/CPFF	UDLP	0.455			0.000		0.000			0.455	0.000
	WR	NSWC, Dahlgren, VA	1.162			0.000		0.000			1.162	0.000
	WR	SSC/SD	0.486			0.000		0.000			0.486	0.000
LAM FC Systems Engineering	SS/CPFF	JHU/APL	0.386			0.000		0.000			0.386	0.000
TERMINATED	WR	NSWC, PT HUE., CA	0.361			0.000		0.000			0.361	0.000
Award Fees			3.979			0.000		0.000			3.979	0.000
Ancillary Hardware Dev	VAR	VARIOUS	1.541			0.000		0.000			1.541	0.000
Subtotal Product Development			136.730			0.701		0.702			CONT	0.000
Remarks:												
Software Development		NSWC, Panama City	0.049			0.000		0.000			0.049	0.000
Training Development	VAR	VARIOUS	0.487			0.000		0.000			0.487	0.000

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APPROPRIATION/BUDGET ACTIVITY RDTEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY				PROJECT NUMBER AND NAME 2325/Naval Fires Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost (\$000)			FY 2009 Cost (\$000)	FY 2009 Award Date	FY 2010 Cost (\$000)	FY 2010 Award Date		Total Cost (\$000)	Target Value of Contract
Integrated Logistics Support	VAR	VARIOUS	5.455			0.100	OCT-08	0.100	OCT-09		5.655	0.000
Subtotal Support Costs			5.991			0.100		0.100			6.191	0.000
Remarks:												
Developmental Test & Eval	WR/WX	NSWC, PT HUE., CA	6.277			0.100	OCT-08	0.100	OCT-09		6.477	0.000
	VAR	VARIOUS	1.500			0.000		0.000			1.500	0.000
Operational Test & Eval	VAR	VARIOUS	5.508			0.200	OCT-08	0.200	OCT-09		5.908	0.000
Subtotal Test and Evaluation			13.285			0.300		0.300			13.885	0.000
Remarks:												
Program Management Spt	VAR	VARIOUS	5.333			0.106	OCT-08	0.106	OCT-09		5.545	0.000
TRAVEL	PD	NAVSEA HQ	0.545			0.030	OCT-08	0.030	OCT-09		0.605	0.000
			0.000			0.000		0.000			0.000	0.000
Subtotal Management Services			5.878			0.136		0.136			6.150	0.000
Remarks:												
Total Cost			161.884			1.237		1.238			CONT	0.000

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EXHIBIT R-4, SCHEDULE PROFILE			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY	PROJECT NUMBER AND NAME 2325/Naval Fires Control System	

Naval Fires Control System (NFCS) Phase I/II

	FY08				FY09				FY10			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Program Reviews		△				△					△	
Software Development & Testing	B/L 4.0						B/L 5.0					
Tests - OT		△	▽									
	Shipboard Test (TLDHSPFED)											

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EXHIBIT R-4a, SCHEDULE DETAIL						DATE May 2009	
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY			PROJECT NUMBER AND NAME 2325/Naval Fires Control System		
Schedule Profile		FY 2008	FY 2009	FY 2010			
Naval Fires Control System (NFCS) Phase I/II							
FOT&E #1 (TLDHS & PFED)		2Q-3Q					
Software Development & Testing B/L 4.0		1Q-4Q					
Software Development & Testing B/L 5.0			1Q-4Q	1Q-4Q			

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/LAND ATTACK TECHNOLOGY	PROJECT NUMBER AND NAME 9999/CONGRESSIONAL ADDS	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	20.051	12.765	0.000
RDT&E Articles Quantity	0	0	0
<p>Project 9359A Affordable Weapons System - FY08 \$14,653K; FY09 \$11,169K Program previously funded under Project 9359C to conduct a Phase I Study for an Affordable Weapon System (AWS). Phase I includes mission concept analysis, mission analysis, system architecture analysis, fly-away cost analysis with life cycle cost impacts, and system engineering for a sea-based land attack and strike mission capable precision strike weapon. The proposed system(s) will operate from ships with potential sea-based Navy/Marine Corps aircraft launch and submarine capability of defeating targets at standoff ranges, and can rapidly complete the engagement phase consistent with making the kill chain short. The potential AWS(s) will not exceed \$250K in fly-away cost. FY08 funding will be used to exercise AWS Phase II Study contract options for contractor preferred system concept(s), which will be supported by system engineering, best material approach(es), risk analysis, and future plans, while updating fly-away costs and life cycle impacts for potential Milestone "A" start into System Development & Demonstration (SDD).</p> <p>Project 9B96A Modular Advanced Ultra Light Weapons Systems Prototype Mount - FY08 \$3,855K To develop lightweight augmentations to current stabilized and potentially crew served small arms systems. Weight on small Navy Combatant crafts is very critical. Current industry methods involving the use of composite materials will help alleviate some of this weight burden on conventional and advance small arms weapon systems being used.</p> <p>Project 9829A 76mm Super Rapid Medium Caliber Gun System Explosives Safety Review - FY08 \$1,543K To test and evaluate the 76mm Super Rapid Gun Mount (SRGM) using current Navy inventory ammunition. The results from these tests will be provided to the Weapon System Explosive Safety Review Board (WSESRB) for qualification of the 76mm SRGM. Specifically, safety assessment testing of the gun and ammunition will be completed 1st quarter FY09 followed by a WSESRB meeting 2nd quarter FY09. Plans include the conduct of mount serviceability and range table testing, electromagnetic vulnerability followed by analysis of test results.</p> <p>Project 9D60A 76mm Swarbuster Capability - FY09 \$1,596K To begin efforts to integrate the MK 75 with Close-In Weapons System (CIWS) for ASuW capability against swarming boats.</p>			