

CLASSIFICATION:	UNCLASSIFIED
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EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION	DATE February 2008
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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 5	R-1 ITEM NOMENCLATURE 0604601N/MINE DEVELOPMENT						
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COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	5.410	2.048	2.008	2.277	2.414	2.472	2.519
0267 / MINE IMPROVEMENTS	5.410	2.048	2.008	2.277	2.414	2.472	2.519

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields.

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
Previous Presidents Budget	5.610	2.092	2.016
Current President's Budget	5.410	2.048	2.008
Total Adjustments	(0.200)	(0.044)	(0.008)
Summary of Adjustments:			
Miscellaneous Adjustments	(0.007)	(0.031)	0.000
Economic Assumptions	0.000	0.000	(0.008)
SBIR/Federal Technology Transfer Tax	(0.193)	0.000	0.000
Congressional Undistributed Reductions	0.000	(0.013)	0.000
Subtotal	(0.200)	(0.044)	(0.008)
(U) Schedule: Not Applicable			
(U) Technical: Not Applicable			

C. OTHER PROGRAM FUNDING SUMMARY:

To Total

Line Item No. and Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Line 323100, WPN	3.091	3.214	3.506	9.588	14.874	15.245	0.646		
QS Mod 3									

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EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 5	R-1 ITEM NOMENCLATURE 0604601N/MINE DEVELOPMENT	
<p>D. ACQUISITION STRATEGY: In FY 07, NSWC Panama City held an open competition for a follow-on FFP production contract for the TDD Mk 71 covering FY 2007-2011. In FY 06, NSWC Panama City held an open competition for a production contract contract for the TDD Adapter Mk 157 used in Quickstrike Mk 65 Mod 3 kits - for FY 2007-2008. In FY 08, NSWC Panama City will hold open competitions to produce the Safe and Arming Device Mk 75, TDD Adapter Mk 163, and Lithium Battery Mk 176 used in the Quickstrike Mk 62/63 Mod 3 kits.</p>		

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604601N/MINE DEVELOPMENT			PROJECT NUMBER AND NAME 0267/MINE IMPROVEMENTS		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	5.410	2.048	2.008	2.277	2.414	2.472	2.519
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields.

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APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604601N/MINE DEVELOPMENT	PROJECT NUMBER AND NAME 0267/MINE IMPROVEMENTS	
B. ACCOMPLISHMENTS/PLANNED PROGRAM:			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	3.698	1.508	1.457
RDT&E Articles Quantity	0	0	0
Development Support:			
<p>FY 2007 PLANS: Software Development: Completed initial development of the Diesel Electric Submarine/Mini-Submarine and Air Cushioned Vehicle algorithms for the Quickstrike Mod 3 (Target Detecting Device Mk 71 Mod 1). Began initial development of an algorithm optimized against High Speed Vessels/Shallow Water Twin Hull (HSV/SWATH) targets. Conducted in-water testing of the D/E Sub/Mini-sub, Fast Patrol Boat, and large ship algorithms against representative targets. Began generating operational data for tested algorithms for minefield planning. Completed initial development of a ForceNet-compliant Tactical Decision Aid for minefield planning in MEDAL/GCCS-M. Integrated Logistic Support (ILS).</p> <p>FY 2008 PLANS: Software Development: Continue initial development of the High Speed Vessels/Shallow Water Twin Hull (HSV/SWATH) algorithm for the Quickstrike Mod 3 (Target Detecting Device Mk 71 Mod 1). Conduct in-water testing of the Air Cushioned Vehicle algorithm. Complete generating operational data (OPDATA) for the Fast Patrol Boat and large ship algorithms for minefield planning, and begin generating OPDATA for the Air Cushioned Vehicle algorithm. Begin the second phase of development for the ForceNet-compliant Tactical Decision Aid for minefield planning in MEDAL/GCCS-M, to pass minefield plans directly to Forcenet target and aircraft-mission planning software. Integrated Logistic Support (ILS).</p> <p>FY 2009 PLANS: Software Development: Complete initial development of the High Speed Vessels/Shallow Water Twin Hull (HSV/SWATH) algorithm for the Quickstrike Mod 3 (Target Detecting Device Mk 71 Mod 1). Conduct in-water testing of the HSV/SWATH algorithm. Generate operational data for the Air Cushioned Vehicle algorithm for minefield planning. Continue the second phase of development for the ForceNet-compliant Tactical Decision Aid for minefield planning in MEDAL/GCCS-M, to pass minefield plans directly to Forcenet target and aircraft-mission planning software. Integrated Logistic Support (ILS).</p>			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.456	0.470	0.484
RDT&E Articles Quantity	0	0	0
Product Development:			
<p>FY 2007 PLANS: System Engineering: Began flight testing leading to flight certification of the Quickstrike Mk 62/63 Mod 3 on B-52 aircraft.</p>			

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EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 5	PROGRAM ELEMENT NUMBER AND NAME 0604601N/MINE DEVELOPMENT	PROJECT NUMBER AND NAME 0267/MINE IMPROVEMENTS	
FY 2008 PLANS: System Engineering: Complete flight testing leading to flight certification of the Quickstrike Mk 62/63 Mod 3 on B-52 aircraft. Begin flight certification testing for the P-3 aircraft.			
FY 2009 PLANS: System Engineering: Complete flight testing leading to flight certification of the Quickstrike Mk 62/63 Mod 3 on P-3 aircraft. Begin flight certification testing for the B-1 aircraft.			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	1.089	0.000	0.000
RDT&E Articles Quantity	0	0	0
FY 2007 PLANS: Development Test & Evaluation: Completed Test and Evaluation of Mine Mk 56 to to determine whether upgrade of replacement is appropriate, and gather data on the performance characteristics needed to defeat today's high priority threats.			
FY 2008 PLANS: N/A			
FY 2009 PLANS: N/A			
	FY 2007	FY 2008	FY 2009
Accomplishments/Effort/Subtotal Cost	0.167	0.070	0.067
RDT&E Articles Quantity	0	0	0
Management: FY 2007 PLANS: Program Management Support and Travel			
FY 2008 PLANS: Program Management Support and Travel			
FY 2009 PLANS: Program Management Support and Travel			

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EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE		
										February 2008		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RD TEN/BA 5		0604601N/MINE DEVELOPMENT					0267/MINE IMPROVEMENTS					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WX	NSWC PC	110.173	0.456	OCT-06	0.470	OCT-07	0.484	OCT-08	CONT	CONT	0.000
Ancillary Hardware Development			2.158	0.000		0.000		0.000		CONT	CONT	0.000
Ship Suitability	WX	NSWC PC	2.467	0.000		0.000		0.000		CONT	CONT	0.000
GFE			4.790	0.000		0.000		0.000		CONT	CONT	0.000
Subtotal Product Development			119.588	0.456		0.470		0.484		CONT	CONT	0.000
Remarks:												
Software Development	WX	Various	7.730	3.648	DEC-06	1.488	OCT-07	1.437	OCT-08	CONT	CONT	0.000
Integrated Logistics Support	WX	NSWC PC	0.469	0.050	OCT-06	0.020	OCT-07	0.020	OCT-08	CONT	CONT	0.000
Subtotal Support Costs			8.199	3.698		1.508		1.457		CONT	CONT	0.000
Remarks:												
Development Test & Evaluation	WX	NSWC PC	16.827	1.089	OCT-06	0.000		0.000		0.000	17.916	0.000
Subtotal Test and Evaluation			16.827	1.089		0.000		0.000		0.000	17.916	0.000
Remarks:												
Government Engineering Support			35.599	0.000		0.000		0.000		0.000	35.599	0.000
Program Management Support	Various	Various	1.439	0.162	OCT-06	0.065	OCT-07	0.062	OCT-08	CONT	CONT	0.000
Travel	PD	NAVSEA	0.028	0.005	OCT-06	0.005	OCT-07	0.005	OCT-08	CONT	CONT	0.000
Subtotal Management Services			37.066	0.167		0.070		0.067		CONT	CONT	0.000
Remarks:												
Total Cost			181.680	5.410		2.048		2.008		CONT	CONT	0.000

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EXHIBIT R-4, SCHEDULE PROFILE			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604601N/MINE DEVELOPMENT	PROJECT NUMBER AND NAME 0267/MINE IMPROVEMENTS

E. Schedule Profile

MINE DEVELOPMENTS PROGRAM SCHEDULE

	FY 2007				FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Events																												
QUICKSTRIKE MOD 3																												
Diesel Electric Sub/Mini-sub Algorithm *	█	█	█	█																								
Fast Patrol Boat & Lg Ship Algorithms	█	█	█	█																								
Air Cushioned Vehicle Algorithm	█	█	█	█																								
HSV/SWATH & MCM Algorithms		█	█	█																								
Quickstrike Mod 3 MCM Algorithm																												
Aircraft Certification																												
MINEFIELD PLANNING DECISION AID IN MEDAL																												
Phase I - Initial Minefield Planning Capability	█	█	█	█																								
Phase II - Interface With Other ForceNet Programs																												
Phase III - Use Additional Environmental Parameters																												
* At the request of the fleet, work on the Diesel Electric Sub/Mini-sub algorithm has been accelerated; other algorithms will be completed later.																												

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EXHIBIT R-4a, SCHEDULE DETAIL						DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY RD TEN/BA 5		PROGRAM ELEMENT NUMBER AND NAME 0604601N/MINE DEVELOPMENT			PROJECT NUMBER AND NAME 0267/MINE IMPROVEMENTS			
Schedule Profile		FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Quickstrike Mod 3 Diesel Electric Sub/Mini Sub Algorithm		1Q-4Q						
Quickstrike Mod 3 Fast Patrol Boat & Lg Ship Algorithms		1Q-4Q	1Q-3Q					
Quickstrike Mod 3 Air Cushioned Vehicle Algorithm		1Q-4Q	1Q-4Q	1Q-4Q	1Q			
Quickstrike Mod 3 HSV/SWATH & MCM Algorithms		2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Quickstrike Mod 3 MCM Algorithm				1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Quickstrike Mod 3 Aircraft Certification B-52		1Q-4Q	1Q					
Quickstrike Mod 3 Aircraft Certification P-3		2Q-4Q	1Q-2Q					
Quickstrike Mod 3 Aircraft Certification B-1				3Q-4Q	1Q-3Q			
Quickstrike Mod 3 Aircraft Certification B-2					4Q	1Q-4Q		
Quickstrike Mod 3 Aircraft Certification F/A-18 E/F							1Q-4Q	1Q
Quickstrike Mod 3 Aircraft Certification P-8								1Q-3Q
Initial Minefield Planning Capability in MEDAL		1Q-4Q						
Phase II - Interface with other ForceNet Programs			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Phase II - Use Additional Environmental Parameters							1Q-4Q	1Q-4Q