

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-4					R-1 ITEM NOMENCLATURE Gun Weapons Systems Technology/0603795N					
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		87.466	116.839	143.044	125.772	57.278	57.737	83.536	CONT	CONT
NSFS/K2156/K2624*		61.038	62.291	51.969	32.991	12.920	7.662	14.892	CONT	CONT
ALAM/K2324		0.501	0.000	19.809	33.141	11.874	28.676	48.425	CONT	CONT
NFCS/K2325		18.560	26.864	49.027	40.520	24.699	21.399	20.219	CONT	CONT
LASM/K2409		7.367	21.717	22.239	19.120	7.785	0.000	0.000	0.000	80.928
NSWC Continuous Processor/K2771 **		0.000	5.967	0.000	0.000	0.000	0.000	0.000	0.000	5.967
Quantity of RDT&E Articles & Cost (see attached projects)										
<p>* Funding includes the following Congressional adds for ERGM Project K2624: FY 1999 \$7.745M and FY 2000 \$9.945M. ** FY 2000 Congressional add for Continuous Processor, Naval Surface Warfare Center, Indian Head.</p> <p>A. (U) Mission Description and Budget Item Justification: The Gun Weapons Systems Technology program element supports the Naval Surface Fire Support (NSFS) mission. In order to meet the United States Marine Corp (USMC) requirements for NSFS in support of Operational Maneuvers from the Sea (OMFTS), the Navy is developing a variety of weapons systems including both gun and missile systems that can provide the required range, lethality, accuracy, and responsiveness. The NSFS program (Project K2156/K2624) develops gun systems including the 5"/62 gun (a modification of the existing 5"/54 gun); a 5" Extended Range Guided Munition (ERGM) with a coupled internal Global Positioning System (GPS) and Inertial Navigation System (INS) capable of delivering a submunition payload to a range of 63 Nautical Miles (NM); and associated propelling charge improvements. In order to satisfy USMC requirements for longer range, responsive fire support, the Navy is developing a land attack variant of the Land Attack Standard Missile (LASM) (Project K2409). In addition, the Advance Land Attack Missile (ALAM) (Project K2324) is being developed to expand the interim LASM capability using upcoming technology to fully meet extended range requirements and service the land attack target set as derived from the OMFTS strategy. The Naval Fires Control System (NFCS) (Project K2324) develops systems that will support mission planning for 5"/62 – ERGM and Land Attack Missiles. It will automate shipboard land attack battle management duties to be interoperable and consistent with joint C4ISR systems. These shipboard weapon systems will significantly improve the Navy's ability to support OMFTS. This program element also includes the transition of Advance Technology Demonstrations (ATDs) and Pre-Planned Product Improvements (P3Is) into the NSFS program. In FY 2000 this program element includes a Congressional addition for the Continuous Processor, Naval Surface Warfare Center, Indian Head (NSWC IH) (Project K2771). The continuous processor program will support the advancement and implementation of a lower cost, safer, and less polluting technology for the manufacturing of energetics that will benefit many Navy systems that rely on energetic materials to meet their operational requirements.</p>										

R-1 SHOPPING LIST - Item No. 74 - 1 of 74 - 25

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 1 of 25)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: February 2000																				
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-4	R-1 ITEM NOMENCLATURE Gun Weapons Systems Technology/0603795N																					
<p>B. (U) Program Change Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: right;">FY 1999</th> <th style="width: 15%; text-align: right;">FY 2000</th> <th style="width: 15%; text-align: right;">FY 2001</th> </tr> </thead> <tbody> <tr> <td>FY 2000 President's Budget:</td> <td style="text-align: right;">78.858</td> <td style="text-align: right;">101.489</td> <td style="text-align: right;">93.494</td> </tr> <tr> <td>Appropriated Value:</td> <td style="text-align: right;">105.604</td> <td style="text-align: right;">117.488</td> <td></td> </tr> <tr> <td>Adjustment to FY 1999/2000 Appropriated Value/ FY 2000 President's Budget:</td> <td style="text-align: right;">-18.138</td> <td style="text-align: right;">-0.649</td> <td style="text-align: right;">49.550</td> </tr> <tr> <td>FY 2001 President's Budget Submit:</td> <td style="text-align: right;">87.466</td> <td style="text-align: right;">116.839</td> <td style="text-align: right;">143.044</td> </tr> </tbody> </table> <p>Funding:</p> <p>FY 1999: Adjustment is due to termination of the NTACMS program (\$-11.301), transfer of Vertical Gun Advanced System (VGAS) to PE 0603513N (\$-15.169), increases for Micro-Electro-Mechanical System (MEMS) (\$+1.500), Land Attack Standard Missile (\$+7.400), ERGM (\$+2.033), and Advanced Land Attack Missile (ALAM) (\$+0.501), a SBIR/STTR transfer (\$-1.591), and decreases for various minor adjustments (\$-1.511).</p> <p>FY2000: Adjustment is due to various minor adjustments (\$-0.649).</p> <p>FY 2001: Adjustment is due to increases for ERGM (\$+11.800), Naval Fires Control System (\$+19.000), and ALAM (\$+20.000), and decreases for various minor adjustments (\$-1.250).</p> <p>Note: In accordance with 15 USC 638, \$2.21M in FY 2000 is reserved for the Small Business Innovation Research (SBIR) assessment.</p> <p>Schedule: Since the ERGM contract award in September 1996, the contractor has experienced numerous technical challenges. In addition, the prime contractor recently closed its developmental plant in Lewisville, TX and moved ERGM related development activities to Tucson, AZ. The prime contractor has submitted a proposal to rebaseline the ERGM program to address the technical challenges and the move to Tucson. The Government is still in negotiation for resolution.</p> <p>Technical: N/A</p>				FY 1999	FY 2000	FY 2001	FY 2000 President's Budget:	78.858	101.489	93.494	Appropriated Value:	105.604	117.488		Adjustment to FY 1999/2000 Appropriated Value/ FY 2000 President's Budget:	-18.138	-0.649	49.550	FY 2001 President's Budget Submit:	87.466	116.839	143.044
	FY 1999	FY 2000	FY 2001																			
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R-1 SHOPPING LIST - Item No. 74 - 2 of 74 - 25

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 2 of 25)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4		PROGRAM ELEMENT NAME AND NUMBER Gun Weapons Systems Tech/0603795N			PROJECT NAME AND NUMBER Naval Surface Fire Support/K2156/2624						
COST (\$ in Millions)			FY 1999*	FY 2000**	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost			61.038	62.291	51.969	32.991	12.920	7.662	14.892	CONT	CONT
RDT&E Articles Qty						80					

* FY 1999 funding includes \$7.745M Congressional Plus Up for ERGM Project K2624; BTR 99-55 for \$4.033M for ERGM/MEMs K2156.

** FY2000 funding includes \$9.945M Congressional Plus Up for ERGM Project K2624.

A. (U) Mission Description and Budget Item Justification: These funds provide for the development of the 5"/62 Extended Range Guided Munition (ERGM) weapons system which consists of a: 5" MK 45 gun modification which strengthens the gun to accommodate higher firing loads (18 megajoules) to fire the EX 171 Extended Range Guided Munition (ERGM); ERGM, a 5" munition with an internal Global Positioning System receiver coupled with an inertial Navigation System capable of delivering a submunitions to a range of 63NM; a gun fire control system which updates the MK 160 MOD 7 to a MOD 8 providing direct digital interface with the gun as well as the ERGM; and an upgraded propelling charge to provide the higher gun firing energy required by ERGM. This project also includes the transition of ATDs and P³Is into the NSFS envelope.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1999 ACCOMPLISHMENTS:

- (U) (\$38.228) Continued development of EX-171 EDMs for ERGM. Continued rocket motor testing and component integration.
- (U) (\$ 4.492) Continued development of EX-167 Propelling Charge.
- (U) (\$10.868) Continued development of 5" MK 45 modification and Government Furnished Property (GFP) preparation. Commenced test firing.
- (U) (\$ 4.820) Continued development of the Gun Fire Control modification and required interfaces.
- (U) (\$ 1.130) Analyzed life cycle costs and evaluated tradeoffs.
- (U) (\$ 1.500) Continue development of the Micro-Electro-Mechanical System (MEMS).

2. (U) FY 2000 PLAN:

- (U) (\$42.629) Continue development of EX-171 EDMs for ERGM. Continue rocket motor testing and component integration.
- (U) (\$ 1.406) Continue development of EX-167 Propelling Charge.
- (U) (\$ 11.500) Continue development of 5" MK 45 Modification and GFP preparation.
- (U) (\$ 4.240) Continue development of the Gun Fire Control modification and required interfaces.
- (U) (\$ 2.016) Analyze life cycle costs and evaluated tradeoffs

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CLASSIFICATION:

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4			PROGRAM ELEMENT NAME AND NUMBER Gun Weapons Systems Tech/0603795N			PROJECT NAME AND NUMBER Naval Surface Fire Support/K2156/2624																							
<p>2. (U) FY 2000 PLAN: (Continued)</p> <ul style="list-style-type: none"> - (U) (\$ 0.500) Continue development of the Micro-Electro-Mechanical System (MEMS). <p>3. (U) FY 2001 PLAN:</p> <ul style="list-style-type: none"> - (U) (\$39.120) Continue development of EX-171 EDMs for ERGM. Continue rocket motor testing and component integration. - (U) (\$ 1.448) Continue development of EX-167 Propelling Charge. - (U) (\$ 6.800) Continue development of 5" MK 45 modification and GFP preparation. Commence test firing of the modification. - (U) (\$ 2.695) Continue development of the Gun Fire Control Modification and required interfaces. - (U) (\$ 1.906) Analyze life cycle costs and evaluated tradeoffs. <p>B. (U) Other Program Funding Summary:</p> <table border="1"> <thead> <tr> <th></th> <th><u>FY 1999</u></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th>To <u>Complete</u></th> <th>Total <u>Cost</u></th> </tr> </thead> <tbody> <tr> <td>PAN,MC BL, 025300 14.225</td> <td></td> <td>2.992</td> <td>5.723</td> <td>6.233</td> <td>32.155</td> <td>56.982</td> <td>0.000</td> <td>CONT.</td> <td>CONT.</td> </tr> </tbody> </table> <p>(U) Related RDT&E,N: N/A</p> <p>C. (U) Acquisition Strategy: A competition was held in FY 96 for the ERGM. It resulted in an award to Texas Instruments (now Raytheon Systems Company) with a corporate investment of 47.5% of development cost. The gun is being developed under a sole source arrangement with United Defense, the current MK 45 MOD 2 producer. The Fire Control (MK 160) and the propelling charge are being developed by the Naval Surface Warfare Center, Indian Head since they are modifications to current government owned/supplied equipment.</p>											<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Complete</u>	Total <u>Cost</u>	PAN,MC BL, 025300 14.225		2.992	5.723	6.233	32.155	56.982	0.000	CONT.	CONT.
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Complete</u>	Total <u>Cost</u>																				
PAN,MC BL, 025300 14.225		2.992	5.723	6.233	32.155	56.982	0.000	CONT.	CONT.																				

R-1 SHOPPING LIST - Item No. 74 - 4 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 4 of 25)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4			Gun Weapons Systems Tech/0603795N			Naval Surface Fire Support/K2156/2624						
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 of Contract
Primary Hardware Development	CPFF	UDLP, Minneapolis, MN	42.961	8.517	10/98	7.200	12/99	5.400	10/00	CONT	CONT	44.726
	CPAF/IF	Raytheon Texas Inst.,	33.237	23.428	10/98	29.952	Various	25.200	10/00	CONT	CONT	87.000
	WR	NSWC Dahlgren, VA	39.999	16.868	10/98	17.174	11/99	13.063	10/00	CONT	CONT	N/A
	WR	NSWC Indian Head, MD	11.024	4.065	10/98	1.899	11/99	1.841	10/00	CONT	CONT	N/A
	WR	NSWC Port Hue., CA	23.096	2.290	10/98	2.343	11/99	2.283	10/00	CONT	CONT	N/A
MEMS	VAR	Miscellaneous	0.000	1.500	Various	0.500	Various	0.000		CONT	CONT	N/A
Systems Engineering	VAR	Miscellaneous	48.357	3.623	10/98	2.975	11/99	4.000	10/00	CONT	CONT	N/A
Award Fees	CPAF/IF	Raytheon Texas Inst.,	1.123	0.647	6/99	0.148	12/99; 6/00	0.082	12/00; 06/01	0.019	2.019	2.070
Subtotal Product Development			199.797	60.938		62.191		51.869		CONT	CONT	CONT
Remarks: The budget for each development contract is higher than the target value based on the program managers estimate of what will be needed to cover changes to requirements and cost growths.												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4			PROGRAM ELEMENT Gun Weapons Systems Tech/0603795N			PROJECT NAME AND NUMBER Naval Surface Fire Support/K2156/2624						
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
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks: Test & Evaluation included with hardware development.												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel	PD	NAVSEA HQ	0.223	0.100	Various	0.100	VAR	0.100	VAR	CONT	CONT	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.223	0.100		0.100		0.100		CONT	CONT	
Remarks:												
Total Cost			200.020	61.038		62.291		51.969		CONT	CONT	CONT
Remarks:												

R-1 SHOPPING LIST - Item No. 74- 7 of 74 - 25

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 7 of 25)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER					
RDT&E, N/BA-4	Gun Weapons Systems Tech/0603795N				Advanced Land Attack Missile/K2324					
COST (\$ in Millions)		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost		0.501	0.000	19.809	33.141	11.874	28.676	48.425	CONT	CONT
RDT&E Articles Qty										
<p>A. (U) Mission Description and Budget Item Justification: The Advanced Land Attack Missile (ALAM) and its associated weapons control system is intended to expand present interim capability provided by LASM in Aegis ships and to fully meet extended range requirements beyond present capability and service the land attack target set as derived from the OMFTS strategy. This capability shall be introduced into the DD21 Land Attack Destroyer to supplement its operational Mission Needs Statement. The ALAM will exploit upcoming technologies to service high threat mobile and stationary targets during all stages of conflict. It will be compatible with and integrated into future theater level command, control and other support weapons and systems. The program will proceed to a Milestones I and II decision in FY 2001 and FY 2003, respectively.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 1999 ACCOMPLISHMENTS: - (U) (\$0.501) Initiated Analysis of Alternatives (AOA).</p> <p>2. (U) FY 2000 PLAN: (\$0)</p> <p>3. (U) FY 2001 PLAN: - (U) (\$19.809) Complete analysis of alternatives: Initiate concept development; Begin program development and risk reduction; Continue program planning and execution for Milestone I and Preliminary Design Review (PDR).</p> <p>B. (U) Other Program Funding Summary: N/A</p> <p>- (U) Related RDT&E,N: N/A</p> <p>C. (U) Acquisition Strategy: Competitive development program FY01-03, down selected in FY03 after demo/fly-off.</p>										

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2000

APPROPRIATION/BUDGET ACTIVITY
RDTE, N/BA-4

PROGRAM ELEMENT NAME AND NUMBER
Gun Weapons Systems Tech/0603795N

PROJECT NAME AND NUMBER
Advanced Land Attack Missile/K2324

D. (U) Schedule Profile:

Fiscal Year	99	00	01	02	03	04	05	06
Quarter	I II III IV	I II III IV	I II III IV	I II III IV	I II III IV	I II III IV	I II III IV	I II III IV
Milestone			△ MS I			△ MS II		
Analysis of Alternatives		△	△					
		18 months						
Advanced Design Demo			△ Award(s)		△ Down Select			
EMD						△ Award		△ CDR

R-1 SHOPPING LIST - Item No. 74 - 9 of 74 - 25

Exhibit R-2a, RDT&E Project Justification

(Exhibit R-2a, page 9 of 25)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, NBA-4			Gun Weapons Systems Tech/0603795N			Advanced Land Attack Missile/K2324						
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 of Contract
Primary Hardware Dev Phase I & II	C/CP	ALAM Industry Team						15.000	10/00 & 3/01			
Ancillary Hardware Development												
Systems Engineering	WR	NSWC, Dahlgren, VA	0.000	0.155		0.000		1.000	10/00	CONT	CONT	
	SS/CPFF	JHU/APL	0.000	0.090		0.000		1.000	10/00	CONT	CONT	
	WR	NAWC, China Lake, CA	0.000	0.000		0.000		0.309	10/00	CONT	CONT	
	VAR	Various (AOA contractors)	0.000	0.090		0.000		0.800	11/00	CONT	CONT	
Tooling												
GFE												
Award Fees												
Subtotal Product Development			0.000	0.335		0.000		18.109		CONT	CONT	CONT
Remarks:												
Development Support Equipment												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4			PROGRAM ELEMENT Gun Weapons Systems Tech/0603795N			PROJECT NAME AND NUMBER Advanced Land Attack Missile/K2324						
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
Developmental Test & Evaluation												
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			0.000	0.000		0.000		0.000			0.000	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support	VAR	VARIOUS	0.000	0.166		0.000		1.600	11/00	CONT	CONT	
Travel	PD	NAVSEA HQ	0.000	0.000		0.000		0.100	VAR	CONT	CONT	
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.000	0.166		0.000		1.700		CONT	CONT	
Remarks:												
Total Cost			0.000	0.501		0.000		19.809		CONT	CONT	CONT
Remarks:												

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER					
RDT&E, N/BA-4	Gun Weapons Systems Tech/0603795N				Naval Fires Control System/K2325					
COST (\$ in Millions)		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost		18.560	26.864	49.027	40.520	24.699	21.399	20.219	CONT	CONT
RDT&E Articles Qty										
<p>A. (U) Mission Description and Budget Item Justification: Naval Fires Control System (NFCS) covers the mission planning and coordination for future Naval Surface Fire Support system requirements. NFCS will plan, coordinate and manage the firing of the new Naval Surface Fires Support (NSFS) weapon systems including the 5"/62 caliber gun and the Land Attack Standard Missile (LASM) and LASM Fire Control. It will be available to amphibious ships, command ships, and the DD-21 program if selected by the full service contractor. The software may ultimately be integrated into future Tactical TOMAHAWK Weapons Control Systems (TTWCS), but will initially be hosted in the existing combat suite on DDG-81 for fleet introduction in FY 2002. Prototyping, demonstrations and developments will be conducted during FY 1999, FY 2000 and FY 2001.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 1999 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - (U) (\$12.066) Software development and system engineering including analysis, design and reuse of existing government and commercial computer programs to support ERGM, LASM, and other naval weapon applications. - (U) (\$ 4.050) Identified and configured hardware configuration to support NFCS implementation. - (U) (\$ 1.174) Technical Direction Agent support, joint requirements investigation, Concept of Operations (CONOPs) scenario development. - (U) (\$.300) C4I and combat system interface investigation and analysis including Battle Force Tactical Trainer (BFTT), LINK 16, TTWCS and other developing C4I system and technology. - (U) (\$.970) Developmental testing, and logistic support elements development. <p>2. (U) FY 2000 PLAN:</p> <ul style="list-style-type: none"> - (U) (\$15.354) Software and system engineering to include analysis, development, reuse and integration of government and commercial computer programs to support ERGM, LASM and other naval weapon applications. - (U) (\$ 5.880) Support hardware configuration to support NFCS implementation. Support Developmental Testing (DT) Validation. - (U) (\$ 1.930) Technical Direction Agent support, joint requirements investigation, Concept of Operations (CONOPs) scenario development. - (U) (\$ 1.700) C4I and combat system interface investigation and analysis to include BFTT, Link 16, TTWCS and other developing C4I system and technology. - (U) (\$ 2.000) Developmental test and evaluation and logistic support elements development. 										

R-1 SHOPPING LIST - Item No. 74 - 12 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 12 of 25)

UNCLASSIFIED

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000																						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4			PROGRAM ELEMENT NAME AND NUMBER Gun Weapons Systems Tech/0603795N				PROJECT NAME AND NUMBER Naval Fires Control System/K2325																						
<p>3. (U) FY 2001 PLAN:</p> <ul style="list-style-type: none"> - (U) (\$16.509) Software and system engineering to include analysis, development, reuse and integration of government and commercial computer programs to support ERGM, LASM and other naval weapon applications. - (U) (\$ 6.318) Support hardware configuration to support NFCS implementation. Support DT Validation. - (U) (\$ 2.700) Technical Direction Agent support, joint requirements investigation, Concept of Operations (CONOPs) scenario development. - (U) (\$ 1.000) C4I and combat system interface investigation and analysis to include BFTT, Link 16, TTWCS and other developing C4I system and technology. - (U) (\$ 3.500) Developmental test & evaluation, and logistic support elements development. - (U) (\$ 7.500) LASM integration design, development and integration includes modification to Vertical Launch System. - (U) (\$ 9.500) LASM Fire Control system engineering and software development including interface development with NFCS, GPS and other weapon systems. - (U) (\$ 2.000) LASM Fire Control Program management and logistic support elements development. <p>B. (U) Other Program Funding Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 10%;">FY 1999</th> <th style="width: 10%;">FY2000</th> <th style="width: 10%;">FY2001</th> <th style="width: 10%;">FY 2002</th> <th style="width: 10%;">FY 2003</th> <th style="width: 10%;">FY 2004</th> <th style="width: 10%;">FY 2005</th> <th style="width: 10%;">To Complete</th> <th style="width: 10%;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>O&MN</td> <td></td> <td></td> <td></td> <td style="text-align: center;">1.900</td> <td style="text-align: center;">2.500</td> <td style="text-align: center;">3.200</td> <td style="text-align: center;">3.300</td> <td style="text-align: center;">CONT.</td> <td style="text-align: center;">CONT.</td> </tr> </tbody> </table> <p>(U) Related RDT&E,N: N/A</p> <p>C. (U) Acquisition Strategy: The acquisition strategy has been approved. A sole source contract will be awarded to ITC for Phase 1. Phase 2 requirements will be either competed or an existing system development contract will be used.</p>											FY 1999	FY2000	FY2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost	O&MN				1.900	2.500	3.200	3.300	CONT.	CONT.
	FY 1999	FY2000	FY2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Cost																				
O&MN				1.900	2.500	3.200	3.300	CONT.	CONT.																				

R-1 SHOPPING LIST - Item No. 74 - 13 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 13 of 25)

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EXHIBIT R-2a, RDT&E Project Justification																	DATE:																	
APPROPRIATION/BUDGET ACTIVITY																	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER													
RDT&E, N/BA-4																	Gun Weapons Systems Tech/0603795N				Naval Fires Control System/K2325													
D. (U) Schedule Profile:																																		
		FY98				FY99				FY00				FY01				FY02				FY03				FY04				FY05				
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
Naval Fires Control System (NFCS)																																		
Milestones							★ MS II																	★ MS III										
Design Development							Build 1					Build 2																						
Tests							LBT																											
Tests - DT/OT																																		
Land Attack Missile Fire Control System (LAM FCS)																																		
Milestones												★ MS II													★ MS III									
Design Development							Option Evaluation & Risk Reduction					H/W & S/W Development																						
Tests																																		

R-1 SHOPPING LIST - Item No. 74 - 14 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 14 of 25)

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CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 1)							DATE: February 2000					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4			Gun Weapons Systems Tech/0603795N			Naval Fires Control System/K2325						
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
Primary Software Development	SS/CPFF	ITC, Arlington, VA	0.000	3.500	01/99	0.000		0.000		0.000	3.500	
	SS/CPAF	ITC, Arlington, VA	0.000	3.404	06/99	11.200	11/99/TBD	12.985	11/99	CONT	CONT	TBD
	WR	NSWC, Dahlgren, VA	0.000	1.000	11/98	1.300	11/99	1.600	10/99	CONT	CONT	
	VAR	VARIOUS	0.000	0.919	11/98	0.700	02/00	0.400	11/00	CONT	CONT	
Systems Engineering	WR	SSC/SD	0.000	1.500	02/99	1.451	11/99	1.700	10/00	CONT	CONT	
	SS/CP	VITRO	0.000	0.300	11/98	0.300	11/99	0.300	11/00	CONT	CONT	
	VAR	VARIOUS	0.000	1.104	Various	0.700	11/99	0.582	Various	CONT	CONT	
Ancillary Harware Development	WR	NUWC, Keyport Division	0.000	1.000	04/99	5.100	11/99/TBD	4.484	10/00	CONT	CONT	
	WR	NSWC, Dahlgren, VA	0.000	1.000	11/98	1.100	11/99	1.200	10/00	CONT	CONT	
	VAR	VARIOUS	0.000	2.028	Various	0.513	11/99	0.411	10/00	CONT	CONT	
Systems Engineering	WR	NSWC, Dahlgren, VA	0.000	1.339	11/98	1.100	11/99	1.200	10/00	CONT	CONT	
LASM FC Hardware/Software Dev	SS/CPFF	LM/Baltimore, MD	0.000	0.000		0.000		5.000	11/00	CONT	CONT	
	SS/CPFF	Contractor TBD	0.000	0.000		0.000		7.000	11/00	CONT	CONT	
LASM FC Systems Engineering	SS/CPFF	JHU/APL	0.000	0.000		0.000		1.300	11/00	CONT	CONT	
	SS/CPFF	Contractor TBD	0.000	0.000		0.000		1.200	11/00	CONT	CONT	
	WR	NSWC, Dahlgren, VA	0.000	0.000		0.000		1.500	10/00	CONT	CONT	
	VAR	VARIOUS	0.000	0.000		0.000		1.000	11/00	CONT	CONT	
	VAR	VARIOUS	0.000	0.000		0.000		2.000	11/00	CONT	CONT	
Award Fees			0.000	0.396	02/00	1.300	TBD	1.565	TBD	CONT	CONT	
Subtotal Product Development			0.000	17.490		24.764		45.427	10/00	CONT	CONT	
Remarks:												
Development Support Equipment												
Software Development												
Training Development												
Integrated Logistics Support	VAR	VARIOUS	0.000	0.670	11/98	1.500	Various	2.000	Various	CONT	CONT	
Configuration Management												
Technical Data												
GFE												
Subtotal Support			0.000	0.670		1.500		2.000		CONT	CONT	
Remarks:												

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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/BA-4			Gun Weapons Systems Tech/0603795N			Naval Fires Control System/K2325						
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
Developmental Test & Evaluation	WR	NSWC/PT HUE, CA	0.000	0.300	01/99	0.500	11/99	1.500	10/00	CONT	CONT	
Operational Test & Evaluation												
Tooling												
GFE												
Subtotal T&E			0.000	0.300		0.500		1.500		CONT	CONT	
Remarks:												
Contractor Engineering Support												
Government Engineering Support												
Program Management Support												
Travel	PD	NAVSEA HQ	0.000	0.100	Various	0.100	Various	0.100	Various	CONT	CONT	
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.000	0.100		0.100		0.100		CONT	CONT	
Remarks:												
Total Cost			0.000	18.560		26.864		49.027		CONT	CONT	
Remarks:												

R-1 SHOPPING LIST - Item No. 74 - 16 of 74 - 25

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 25)

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CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4	0603795N Gun Weapons Systems Tech			Land Attack Standard Missile K2409						
COST (\$ in Millions)		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost		7.367	21.717	22.239	19.120	7.785	0.000	0.000	0.000	80.928
RDT&E Articles Qty			8	5	2					15
<p>A. (U) Mission Description and Budget Item Justification: This project funds the Land Attack Standard Missile (LASM) (SM-4) program to provide responsive, all-weather, around-the-clock Naval Surface Fire Support to Ground Combat Elements beyond that which is available from gun systems. Major efforts involved are systems integration and testing. Systems integration consists of integrating GPS/INS guidance, height of burst (HOB) sensor(s), warhead modifications, and new flight software to optimize effects against ground targets. Testing will include ground and flight tests to demonstrate safety, range, accuracy, jamming resistance, lethality, and reliability. RDT&E,N articles include inert operational missiles (IOMs) and a Dynamic Inert Missile (DIM) for ground testing and complete all up rounds (AURs) for flight testing.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 1999 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - (U) (\$ 1.488) Initiated and developed ORD, TEMP, APB, Program Protection Plan, Acquisition Strategy, Plans, and other program management documents; planned PDRR and E&MD efforts. - (U) (\$ 5.879) Initiated Program Definition and Risk Reduction (PDRR): a series of trade studies, engineering analyses, assessments, and tests which will result in the definition of a preliminary design to assure a low risk entry into E&MD. <p>2. (U) FY 2000 PLAN:</p> <ul style="list-style-type: none"> - (U) (\$ 0.700) Develop programmatic documentation and make other preparations for Milestone II decision meeting and award of E&MD contract. - (U) (\$ 4.000) Complete PDRR. Continue to define missile system technical requirements; analyze, test, and select GPS/INS, HOB sensor(s), warhead mods, and other component hardware and software; develop ITEP, SRD, TLR, PIPS, CIPS, ICDs, and other preliminary drawings. - (U) (\$13.467) Integrate hardware and software, develop preliminary missile design, and apply results of early testing to verify and/or refine preliminary design. - (U) (\$ 3.550) Procure, test, and evaluate hardware, and plan for next round of testing (including flight tests). <p>3. (U) FY 2001 PLAN:</p> <ul style="list-style-type: none"> - (U) (\$16.609) Continue round level integration as well as integration of missile with ship systems, and continue to use testing results to refine preliminary design. - (U) (\$ 5.630) Continue ground testing and conduct engineering flight tests, evaluate results, finalize plans for developmental flight testing, and initiate planning for and procurement of production representative hardware for TECHEVAL and OPEVAL. 										

R-1 SHOPPING LIST - Item No. 74 - 17 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 17 of 25)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000																																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-4	PROGRAM ELEMENT NAME AND NUMBER 0603795N Gun Weapons Systems Tech					PROJECT NAME AND NUMBER Land Attack Standard Missile K2409																																					
<p>B. (U) Other Program Funding Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Cost</u></th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>To Complete</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>WPN 223700</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">11.611</td> <td style="text-align: center;">13.772</td> <td style="text-align: center;">31.324</td> <td style="text-align: center;">33.875</td> <td style="text-align: center;">304.000</td> <td style="text-align: center;">394.582</td> </tr> <tr> <td>O&MN</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.945</td> <td style="text-align: center;">2.707</td> <td style="text-align: center;">3.670</td> <td style="text-align: center;">4.293</td> <td style="text-align: center;">115.000</td> <td style="text-align: center;">126.615</td> </tr> </tbody> </table> <p>(U) Related RDT&E,N: N/A</p> <p>C. (U) Acquisition Strategy: Pre E&MD efforts will be conducted under level of effort contracts with the SM-2 Design Agent (DA). A cost-plus E&MD completion contract will be awarded to the DA to develop and integrate the necessary changes and to support DT/OT of LASM. Existing GFE SM-2 Block II/III missiles will be refurbished and converted into Land Attack Missiles (SM-4). Refurbishment and conversions are "turn key" and do not involve separate installations.</p>											<u>Cost</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Complete</u>	<u>Total Cost</u>	WPN 223700	0	0	0	0	11.611	13.772	31.324	33.875	304.000	394.582	O&MN	0	0	0	0	0.945	2.707	3.670	4.293	115.000	126.615
<u>Cost</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Complete</u>	<u>Total Cost</u>																																	
WPN 223700	0	0	0	0	11.611	13.772	31.324	33.875	304.000	394.582																																	
O&MN	0	0	0	0	0.945	2.707	3.670	4.293	115.000	126.615																																	

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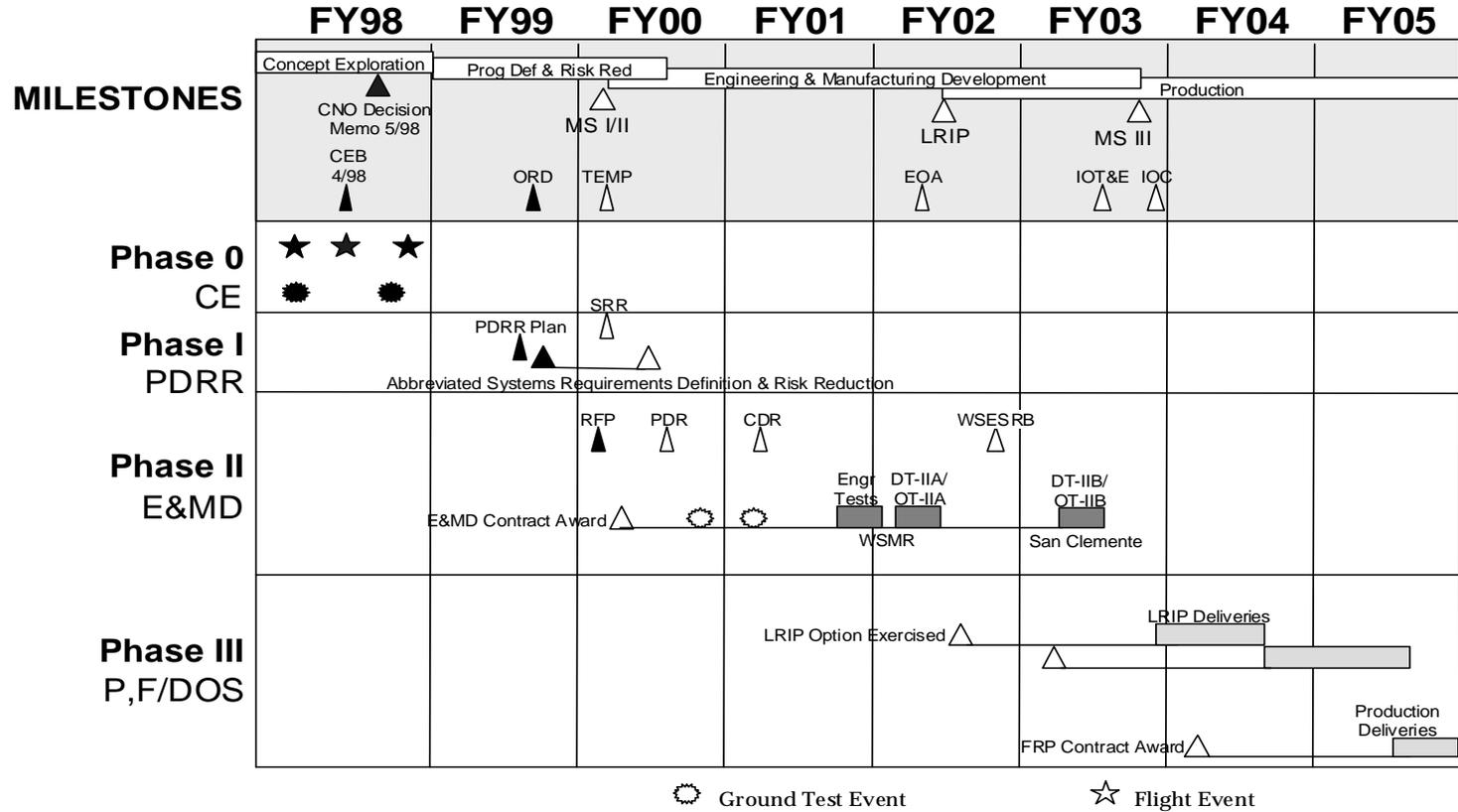
CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification DATE: **February 2000**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N/BA-4** PROGRAM ELEMENT NAME AND NUMBER: **Gun Weapons Systems Tech/0603795N** PROJECT NAME AND NUMBER: **Land Attack Missile/K2409**

E. (U) Schedule Profile



R-1 SHOPPING LIST - Item No. 74 - 19 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 19 of 25)

UNCLASSIFIED

CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2000		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-4			0603795N Gun Weapons Systems Tech			Land Attack Standard Missile K2409						
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
Primary Hardware Development												
Ancillary Hardware Development	WR	NSWC/Dahlgren, VA	0.700	0.525	07/99	1.600	12/99	1.400	10/00	0.600	4.825	
	WR	VAR	0.110	0.150	07/99	0.415	12/99	0.585	10/00	0.525	1.785	
Systems Engineering	WR	VAR	0.300	1.600	07/99	2.200	12/99	0.900	10/00	1.650	6.650	
	SS/CPAF	Raytheon Missile	0.819	3.353	07/99	14.400	02/00	13.978	10/00	15.736	48.286	52.470
Award Fees			0.071	0.276	07/99	1.252	02/00	1.216	10/00	1.369	4.184	
Subtotal Product Development			2.000	5.904		19.867		18.079		19.880	65.730	
Remarks:												
Development Support Equipment												
Software Development												
Training Development												
Integrated Logistics Support	WR	VARIOUS	0.000	0.090	07/99	0.220	12/99	0.200	10/00	0.240	0.750	
Configuration Management	WR	VARIOUS	0.000	0.135	07/99	0.330	12/99	0.300	10/00	0.360	1.125	
Technical Data												
GFE												
Subtotal Support			0.000	0.225		0.550		0.500		0.600	1.875	
Remarks:												

R-1 SHOPPING LIST - Item No. 74 - 20 of 74 - 25

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 20 of 25)

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CLASSIFICATION:

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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/BA-4			0603795N Gun Weapons Systems Tech			Naval Surface Fire Support K2409						
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
Developmental Test & Evaluation	WR	NAWC/WD, White Sands	0.700	0.000		0.250	12/99	1.700	10/00	1.200	3.850	
	WR	VAR	0.000	0.095	07/99	0.140	12/99	0.460	10/00	0.330	1.025	
Operational Test & Evaluation	WR	NAWC/AD, Pt Mugu,CA	0.000	0.050	07/99	0.150	12/99	0.200	10/00	2.800	3.200	
	WR	VAR	0.000	0.030	07/99	0.060	12/99	0.090	10/00	0.195	0.375	
Tooling												
GFE												
Subtotal T&E			0.700	0.175		0.600		2.450		4.525	8.450	
Remarks:												
Contractor Engineering Support	VAR	VAR	0.000	0.425	07/99	0.550	12/99	0.850	10/00	1.175	3.000	
Government Engineering Support												
Program Management Support	VAR	VAR	0.000	0.613	07/99	0.100	12/99	0.300	10/00	0.625	1.638	
Travel	PD	NAVSEA HQ	0.000	0.025	VAR	0.050	VAR	0.060	VAR	0.100	0.235	
Labor (Research Personnel)												
Overhead												
Subtotal Management			0.000	1.063		0.700		1.210		1.900	4.873	
Remarks:												
Total Cost			2.700	7.367		21.717		22.239		26.905	80.928	
Remarks:												

R-1 SHOPPING LIST - Item No. 74 - 21 of 74 - 25

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 21 of 25)

UNCLASSIFIED

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2000			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER					
RDT&E, N	0603795N Gun Weapons Systems Tech				Continuous Processor K2771					
COST (\$ in Millions)		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost		0.000	5.967	0.000	0.000	0.000	0.000	0.000	0.000	5.967
RDT&E Articles Qty										
<p>A. (U) Mission Description and Budget Item Justification: Development of technology to manufacture propellants and explosives using continuous processing methods will result in lower costs for the energetic materials used in Naval Guns. Prior investments in this technology have established the fundamental science and engineering supporting the feasibility of this process to significantly reduce the cost to produce energetics, to reduce waste and pollution during manufacturing, improve the safety of operations and to improve product quality and reproducibility. The efforts under this project will be directed towards scale-up of the continuous processing technology, demonstration of the benefits, and the technology transition to industry for the manufacture of gun propellants and other energetics.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. (U) FY 1999 ACCOMPLISHMENTS: N/A</p> <p>2. (U) FY 2000 PLAN: - (U) (\$5.967) Initiate process definition and design for a flexible capability to scale-up continuous processing technology. This includes hazards and environmental analyses, design and acquisition of specific process equipment needed to demonstrate gun propellant manufacture, and processing technology development and support.</p> <p>3. (U) FY 2001 PLAN: N/A</p>										

R-1 SHOPPING LIST - Item No. 74 - 22 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
 (Exhibit R-2a, page 22 of 25)

UNCLASSIFIED

CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2000
APPROPRIATION/BUDGET ACTIVITY RDT&E, N	PROGRAM ELEMENT NAME AND NUMBER 0603795N Gun Weapons Systems Tech	PROJECT NAME AND NUMBER Continuous Processor K2771
B. (U) Other Program Funding Summary: Not Applicable		
C. (U) Acquisition Strategy: Not Applicable		
D. (U) Schedule Profile: Not Applicable		

R-1 SHOPPING LIST - Item No. 74 - 23 of 74 - 25

Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 23 of 25)

UNCLASSIFIED

CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 1)	DATE: February 2000
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N	PROGRAM ELEMENT 0603795N Gun Weapons Systems Tech	PROJECT NAME AND NUMBER Continuous Processor K2771
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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
Technology Development	WR	NSWC IHDIV	0.000	0.000	N/A	3.435	01/00	0.000	N/A	0.000	3.435	
Ancillary Hardware Development											0.000	
Systems Engineering											0.000	
Licenses											0.000	
Process equipment/tooling	C/FP	Various/TBD	0.000	0.000	N/A	2.532	Various	0.000	N/A		2.532	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		5.967		0.000		0.000	5.967	

Remarks:

Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	

Remarks: Categories do not apply

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2000				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N			PROGRAM ELEMENT 0603795N Gun Weapons Systems Tech			PROJECT NAME AND NUMBER Continuous Processor K2771						
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
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks: This is a non-ACAT program and a FY00 Congressional plus-up. DT and OT testing of energetics manufactured by this process will be conducted when those products are incorporated into a weapon systems development or product improvement program.												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		5.967		0.000		0.000	5.967	
Remarks:												

R-1 SHOPPING LIST - Item No. 74 - 25 of 74 - 25

Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 25 of 25)

UNCLASSIFIED