

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification					DATE:	February 2005		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-4			R-1 ITEM NOMENCLATURE 0603795N/Land Attack Technology					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	117.110	100.305	14.195	20.298	31.806	43.007	31.038	20.208
2156/Naval Surface Fire Support (NSFS)	41.236	31.239	10.849	17.912	30.323	41.250	29.241	18.372
9051/Advance Medium Caliber Gun Demonstrator (AMCGD) ⁽¹⁾⁽²⁾	3.295	3.367	0.000	0.000	0.000	0.000	0.000	0.000
9052/Autonomous Naval Support Round (ANSR) ⁽¹⁾	16.355	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2325/Naval Fires Control System (NFCS)	5.984	6.075	3.346	2.386	1.483	1.757	1.797	1.836
2927/2871/Naval Fires Network (NFN) ⁽¹⁾	15.217	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9359/Affordable Weapon System (AWS) ⁽¹⁾	27.045	48.433	0.000	0.000	0.000	0.000	0.000	0.000
9360/Hardened Precision Sensors For Missiles & Projectiles (HPSFMP) ⁽¹⁾	2.766	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9361/Local Situational Assessment Segment Adjunct To TES-N(LSASATT) ⁽¹⁾	2.401	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9362/Millennium Gun System (MGS) ⁽¹⁾	1.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9363/TES-N And P-3 Ground Station (TP3GS) ⁽¹⁾	1.635	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9542/ 57mm Gun Qualification and Test ⁽³⁾	0.000	11.191	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles & Cost (see attached projects)								
⁽¹⁾ Funding includes the following FY04 Congressional Adds: NFN Project 2871 - \$.970M, ANSR Project 9052 - \$16.355M, AMCGD Project 9051 - \$3.295M, AWS Project 9359 - \$27.045M, HPSFMP Project 9360 - \$2.766M, LSASATT Project 9361 - \$2.401M, MGS Project 9362 - \$1.176M, TP3GS - Project 9363 - \$1.635M								
⁽²⁾ Funding includes the following FY05 Congressional Adds: 57mm Gun Qualification and Test - \$11.191M - Project 9542, Advanced XLR Medium Gun Demo Project 9051 - \$3.367M								
<p>A. (U) Mission Description and Budget Item Justification: The Land Attack Technology program element supports the Naval Surface Fire Support (NSFS) mission. To meet the United States Marine Corp (USMC) requirements for NSFS, 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 2156) 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 payload to a range in excess of current capability; associated propelling charge improvements; and the demonstration of the Ballestic Trajectory Extended Range Munition II. The program is currently being restructured to provide a robust NSFS capability within existing resources. The Autonomous Naval Support Round (ANSR) (Project 9052) is a rolling airframe platform used to demonstrate/advance gun-launched guided projectile technologies. The Advanced Medium Caliber Gun System (AMCGD) (Project 9051) is a demonstration to investigate an advanced gun design encompassing modularity, scalability, compactness, and long range. The Naval Fires Network (NFN) (Project 2927) is a system which will automate, coordinate, and correlate, in a real time fashion, the processing of multiple tactical data streams from various surveillance/intelligence sources to provide time-critical fire control solutions for advanced weapon systems and sensors. The automation/correlation provided by NFN will provide the Navy an ability to quickly target and re-target precision weapons, greatly enhancing their effectiveness and lethality. The Naval Fires Control System (NFCS) (Project 2325) 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. The Land Attack Technology program element also includes the transition of Advance Technology Demonstrations (ATDs) and Pre-Planned Product Improvements (P3Is) into the NSFS program. Hardened Precision Sensors for Missiles and Projectiles (Project 9360) compliments an ongoing Phase II SBIR to develop a Miniature Electromechanical System (MEMS) Annular Rotating Sensor (MARS). It will conduct hardware prototyping and evaluate gun hardening approaches for a potential very low cost, high performance guidance and control unit. The Affordable Weapons System (AWS) (Project 9359) is a COTS based Land Attack and Strike missions missile that can loiter and be directed to the target by the shooter or a Forward Observer (FO/FAC). The Millennium Gun System (MGS) (Project 9362) supports the investigation of a 35mm minor caliber gun mount and associated munitions for ship self defense mission area capability in USN Surface Ships. The 57mm Gun qualification and Test (Project 9542) - The 57mm Gun Sysm is being procured and installed on US Coast Guard Integrated Deepwater System Cutters and is planned to be installed on other Naval platforms. Effort encompasses complete qualification and fire control system development for 57mm MK 110 Mod 0.</p>								

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 1 of 56)

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EXHIBIT R-2a, RDT&E Project Justification					DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4				PROJECT NUMBER AND NAME 2156/9051/9052/9360Naval Surface Fire Support				
COST (\$ in Millions)	FY 2004 ⁽³⁾	FY 2005	FY 2006 ⁽¹⁾	FY 2007 ⁽¹⁾	FY 2008 ^(1,2)	FY 2009 ^(1,2)	FY 2010 ⁽¹⁾	FY 2011 ⁽¹⁾
Project Cost	63.652	34.606	10.849	17.912	30.323	41.250	29.241	18.372
RDT&E Articles Qty						60		
⁽¹⁾ Funding in FY06 - FY11 will be provided to the winner of the ERM competitive contract. ⁽²⁾ If ERGM wins the competitive contract, 60 rounds procured in FY08 to support DT/OT; if BTERM II wins, 60 rounds procured in FY09 ⁽³⁾ Funding includes FY 2004 Congressional Adds for NSFS: ANSR Project 9052 - \$16.355M, AMCGD Project 9051 - \$3.295M, HPSFMP Project 9360 - \$2.766M ⁽⁴⁾ Funding includes FY05 Conressional Add: AMCGD Project 9051 - \$3.367M A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The funds provide for the development of two separate 5" guided projectiles; the Extended Range Guided Munition (ERGM) and the Ballistic Trajectory Extended Range Munition (BTERM) II as part of the ERM demonstration. ERGM is being executed as a formal ACAT program while ERM is a demonstration project via a Broad Agency Announcement. Both will be executed through the end of FY05. In FY06, a full and open competition will be held to select a single 5" guided projectile for System Development and Demonstration leading to an Initial Operational Capability in FY11. These funds also provide for the development of 5" MK 45 gun modifications. The modifications (i.e. Mod 4) strengthen the gun to accommodate higher firing loads to fire extended range munitions. Other activities include an upgrade to the MK 160 Gun Fire Control System (MOD 6 to a MOD 8) that provides a direct digital interface with the gun and an improved propelling charge (EX-167) to provide the higher firing energy required to launch ERGM. This project also includes the demonstration and the advancement of gun-launched guided projectile technologies such as MARS, the demonstration and advancement of long-range modular scalable gun designs, the transition of ATDs and Pre-Planned Product Improvements (P3Is), and installation of ERM compatibilty upgrades into the NSFS envelope.								

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B. Accomplishments/Planned Program																			
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Continue development and testing of the Gun Fire Control Modification and required interfaces .																			
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Continue fabrication and development of AMCGD gun. Begin testing of the 5" version of the Advance Modular, Scalable, Compact, Long-Range Gun Design.																			
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RDT&E Articles Quantity																			
Begin hardware prototyping for gun hardening and evaluation of manufacturing processes for high yield MEMS devices.																			

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 5 of 56)

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<p>C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Funding:</th> <th style="text-align: right; width: 15%;">FY 2004</th> <th style="text-align: right; width: 15%;">FY 2005</th> <th style="text-align: right; width: 15%;">FY 2006</th> <th style="text-align: right; width: 15%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Previous President's Budget: (FY 05Pres Controls)</td> <td style="text-align: right;">65.097</td> <td style="text-align: right;">38.345</td> <td style="text-align: right;">6.516</td> <td style="text-align: right;">5.469</td> </tr> <tr> <td>Current BES/FY06 President's Budget: (FY04-07 Pres Budget Controls)</td> <td style="text-align: right;">63.652</td> <td style="text-align: right;">34.606</td> <td style="text-align: right;">10.849</td> <td style="text-align: right;">17.912</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right;">-1.445</td> <td style="text-align: right;">-3.739</td> <td style="text-align: right;">4.333</td> <td style="text-align: right;">12.443</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments:</td> </tr> <tr> <td style="padding-left: 20px;">Miscellaneous Adjustments</td> <td style="text-align: right;">-1.445</td> <td style="text-align: right;">-0.306</td> <td style="text-align: right;">0.033</td> <td style="text-align: right;">0.088</td> </tr> <tr> <td style="padding-left: 20px;">Extended Range Guided Munition Reduction</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">-6.800</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td style="padding-left: 20px;">Advanced XLR Medium Caliber Gun</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">3.367</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> </tr> <tr> <td style="padding-left: 20px;">Change ERGM to ERM</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">6.755</td> </tr> <tr> <td style="padding-left: 20px;">ERM</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">4.300</td> <td style="text-align: right;">5.600</td> </tr> <tr> <td></td> <td style="text-align: right;">-1.445</td> <td style="text-align: right;">-3.739</td> <td style="text-align: right;">4.333</td> <td style="text-align: right;">12.443</td> </tr> </tbody> </table> <p style="margin-top: 20px;">The Land Attack Technology PE comprises multiple programs to provide a Naval Surface Fire Support capability. The challenge is the coordinated delivery of the Mk 45 Mod 4 Gun System, extended range munition capability, the Mk 160 Fire Control upgrades and the EX-167 Propelling Charge upgrade. These together provide a significant enhancement to Naval Surface Fire Support. The ERGM program was restructured reflecting schedule delays associated with test failures, budget shortfalls, and recognition of the extended range munition source selection plan. The contractor began the ERGM LBFT series in FY04. Awarded contract in 3Q FY04 for the BTERM II demonstration. ERM source selection will occur in 2Q FY06 with IOC planned for FY11. Advanced Medium Caliber Gun Demonstrator continues fabrication and begins testing. Hardened Precision Sensors continues prototyping.</p> <p style="margin-top: 20px;">Technical: N/A</p>					Funding:	FY 2004	FY 2005	FY 2006	FY 2007	Previous President's Budget: (FY 05Pres Controls)	65.097	38.345	6.516	5.469	Current BES/FY06 President's Budget: (FY04-07 Pres Budget Controls)	63.652	34.606	10.849	17.912	Total Adjustments	-1.445	-3.739	4.333	12.443	Summary of Adjustments:					Miscellaneous Adjustments	-1.445	-0.306	0.033	0.088	Extended Range Guided Munition Reduction	0.000	-6.800	0.000	0.000	Advanced XLR Medium Caliber Gun	0.000	3.367	0.000	0.000	Change ERGM to ERM	0.000	0.000	0.000	6.755	ERM	0.000	0.000	4.300	5.600		-1.445	-3.739	4.333	12.443
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 2156/9051/9052/9360Naval Surface Fire Support		

D. OTHER PROGRAM FUNDING SUMMARY:

	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>	<u>Complete</u>	<u>Cost</u>
PAN,MC BL, 025300	2.903	0.500	0.000	0.000	0.000	0.000	69.828	124.414		
WPN BLI:4217, E5004	34.338	15.164	1.316	1.676	0	0	0	0		

E. ACQUISITION STRATEGY:

The ERGM development contract was awarded to Texas Instruments (now Raytheon Missile Systems) as a result of a competitive acquisition process. TI provided a corporate investment of \$55M that was applied to development. When full rate production commences for ERM a competitive procurement will be awarded under a fixed price contract. The gun is being developed under a sole source arrangement with United Defense, the sole source manufacturer of the 5" MK 45 Gun Mount. The Fire Control (MK 160) is being developed by the Naval Surface Warfare Center, Dahlgren and the propelling charge is being developed by the Naval Surface Warfare Center, Indian Head. The BTERM II demonstration is via a BAA contract award. ERM source selection will occur in FY06. The AMCGD demonstration was awarded to AOT. The Hardened Precision Sensors prototyping will be awarded to Archangel Systems.

F. MAJOR PERFORMERS:

Prime Contractor for ERM: TBD

Prime Contractor for ERGM development: Raytheon Missile Systems located in Tucson, AZ. Contract awarded to Texas Instruments (TI) in September 1996. Raytheon subsequently purchased TI and moved operations to Tucson location.

Prime Contractor for Gun development: United Defense Limited Partnership (UDLP) located in Minneapolis, MN. Contract awarded to UDLP in February 1996 to modify the existing 5"/54 gun to a 5"/62 Gun to accomodate handling, loading, and firing the ERGM round.

Prime Contractor for BTERM II development: Alliant TechSystems located in Woodland Hills, CA. Contract awarded May 2004.

Prime Contractor for AMCGD development: AOT located in Waldorf, MD.

Prime Contractor for HPSFMP development: Archangel Systems located in Auburn, AL.

Primary Navy Warfare Center: Naval Surface Warfare Center (NSWC) located in Dahlgren, VA. Serve as the Technical Direction Agent, program management for the Integrated Product Team Leaders, and responsible for all Land Based Flight testing and evaluation. NSWC, Indian Head is development activity for ERGM Propelling Charge.

Prime Contractor ANSR: Alliant TechSystems located in Woodland Hills, CA.

R-1 SHOPPING LIST - Item No. 74

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			0603795N/Land Attack Technology			2156/9051/9052/9360Naval Surface Fire Support								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Privatization	CPAF	UDLP, Louisville, KY	3.908											
Primary Hardware Development	CPIF/FF	UDLP, Minneapolis, MN (C5223)	58.738	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	59.657
	CPFF	UDLP, Minneapolis, MN (C4101)	6.954	2.000	11/03	0.800	11/04	0.500	11/05	1.750	11/06	CONT	CONT	48.414
	CPAF/IF	Raytheon, Tucson, AZ	160.444	17.255	11/03	4.466	11/04	0.000	11/05	0.000	N/A	CONT	CONT	182.862
	WR	NSWC Dahlgren, VA	56.867					0.250		0.250				N/A
	WR	NSWC Indian Head, MD	15.088											N/A
	WR	NSWC Port Hue., CA	25.386											N/A
LRIP	CPAF/IF	Raytheon, Tucson, AZ	0.000	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	0.000
LCGEU	CPFF	Draper, Cambridge, MA	13.611	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	13.611
	CPAF/IF	Raytheon, Tucson, AZ	1.492	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	1.492
	WX/WR	NSWC	3.259	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
	VAR	Miscellaneous	0.734	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
BTERM II Demonstration	CPIF/AF	ATK, Woodland Hills, CA	0.000	7.913	06/04	14.744	11/04	0.000	N/A	0.000	N/A	CONT	CONT	22.657
	WX/WR	NSWC	0.000	0.190	11/03	1.317	11/04	0.000	N/A	0.000	N/A	CONT	CONT	N/A
ERM SDD	TBD	TBD	0.000	0.000	N/A	0.000	N/A	9.224	1/06	14.398	11/06	CONT	CONT	TBD
ANSR Demonstration	CPFF	Draper, Cambridge, MA	10.323	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	10.323
	CPIF/AF	ATK, Woodland Hills, CA	0.000	15.350	05/04	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	15.350
	WX/WR	NSWC	3.035	0.574	06/04	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
	SS/CPAF	JHU/APL	0.430	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
	VAR	Miscellaneous	0.090	0.431	VAR	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
AMCGD Demonstration	CPFF	AOT, Waldorf, MD	5.268	2.898	09/04	3.367	N/A	0.000	N/A	0.000	N/A	CONT	CONT	11.533
	WX/WR	NSWC	0.462	0.102	07/04	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
	VAR	Miscellaneous	0.000	0.295	VAR	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
Hardened Precision Sensor	CPFF	Archangel Systems, Auburn	0.000	2.400	07/04	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	2.400
	WX/WR	NSWC	0.000	0.150	06/04	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
	VAR	Miscellaneous	0.000	0.216	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
MEMS	VAR	Miscellaneous	2.000	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
Systems Engineering	WX/WR	NSWC	14.662	1.300	11/03	0.579	11/04	0.000	N/A	0.000	N/A	CONT	CONT	N/A
Systems Engineering	VAR	Miscellaneous	33.281	0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	N/A
Award Fees	CPAF/IF	Raytheon, Tucson, AZ	3.369	0.000	11/03	0.800	11/04	0.000	N/A	0.000	N/A	CONT	CONT	4.915
Subtotal Product Development			419.401	51.074		26.073		9.974		16.398		CONT	CONT	CONT
Development Support Equipment														
Software Development														
Training Development														
Integrated Logistics Support	WR/WX	NSWC	7.695	0.964	11/03	0.106	11/04	0.000	N/A	0.000	N/A	CONT	CONT	N/A
Configuration Management														
Technical Data														
GFE														
Subtotal Support			7.695	0.964		0.106		0.000		0.000		CONT	CONT	CONT

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-4			PROGRAM ELEMENT 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 2156/9051/9052/9360Naval Surface Fire Support								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR/WX	NSWC	27.451	7.393	11/03	4.188	11/04	0.000	11/05	0.000	11/06	CONT	CONT	N/A
Operational Test & Evaluation														
Tooling														
GFE														
Subtotal T&E			27.451	7.393		4.188		0.000		0.000		CONT	CONT	N/A
Contractor Engineering Support														
Government Engineering Support	WR/WX	NSWC	15.595	1.400	11/03	1.066	11/04	0.500	11/05	0.964	11/06	CONT	CONT	N/A
Project Engineering Support	WR/WX	NSWC	5.869	0.800	11/03	1.073	11/04	0.000	11/05	0.000	11/06	CONT	CONT	N/A
Program Management Support	WR/WX	Various	10.126	1.921	11/03	2.000	11/04	0.325	11/05	0.500	11/06	CONT	CONT	N/A
Travel	PD	NAVSEA HQ	0.928	0.100	VAR	0.100	VAR	0.050	VAR	0.050	VAR	CONT	CONT	N/A
Labor (Research Personnel)														
Overhead														
Subtotal Management			32.518	4.221		4.239		0.875		1.514		CONT	CONT	N/A
Total Cost			487.065	63.652		34.606		10.849		17.912		CONT	CONT	CONT
Remarks:														

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EXHIBIT R-4, Schedule Profile

DATE:

February 2005

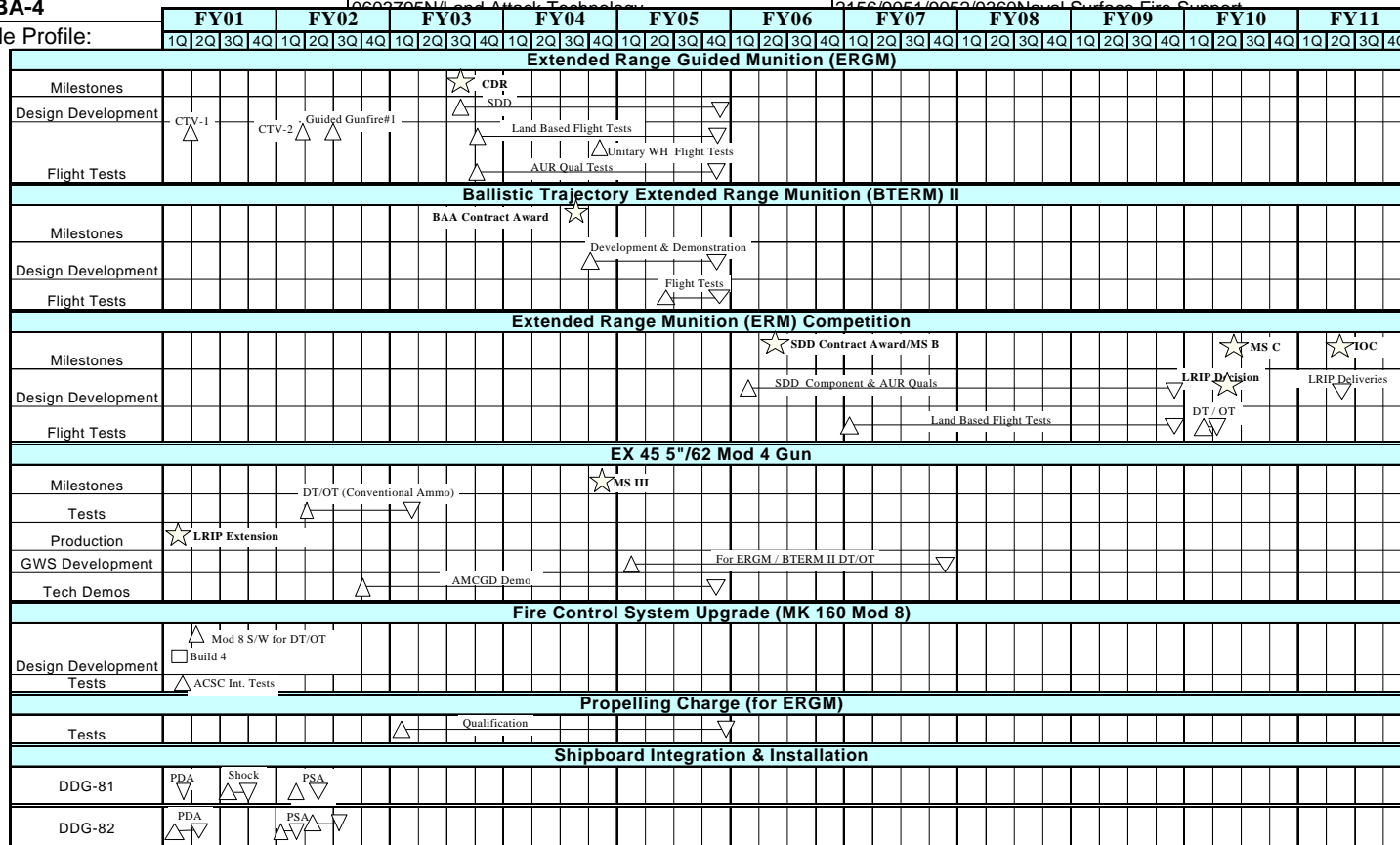
APPROPRIATION/BUDGET ACTIVITY

PROGRAM ELEMENT NAME AND NUMBER

PROJECT NAME AND NUMBER

RDT&E, N / BA-4

D. (U) Schedule Profile:



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Exhibit R-2, RDTE Budget Item Justification

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail				DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4				PROJECT NUMBER AND NAME 2156/9051/9052/9360Naval Surface Fire Support				
Schedule Profile for NSFS Munition	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ERGM								
Systems Development & Demonstration	1Q-4Q	1Q-4Q						
Land Based Flight Test Series	1Q-4Q	1Q-4Q						
Unitary Warhead Flight Test	4Q							
Component & All-Up Round Qualifications (Part of SDD)	1Q-4Q	1Q-4Q						
DevelopTesting (DT)/Operational Testing(OT)								
Operational Evaluation (OPEVAL) Rounds Decision								
Operational Evaluation (OPEVAL) Award								
LRIP Decision								
LRIP Deliveries								
MS C								
IOC								
BTERM II								
BAA Contract Award	3Q							
Systems Development & Demonstration	3Q-4Q	1Q-4Q						
Flight Tests		2Q-4Q						
ERM COMPETITION								
SDD Contract Award/MS B			2Q					
Land Based Flight Test				1Q-4Q	1Q-4Q	1Q-4Q		
Component & All-Up Round Qualifications (Part of SDD)			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Technical Evaluation (TECHEVAL)							1Q	
Operational Evaluation (OPEVAL)							2Q	
LRIP Decision							2Q	
LRIP Deliveries								2Q
MS C							2Q	
IOC								2Q
EX 45 5"/62 MOD 4								
Development Testing (DT) (Conventional Ammo)								
Operational Test (OT) (Conventional Ammo)								
MS III	4Q							
GWS Development & Integration for ERM		1Q <-----> 4Q						
PROPELLING CHARGE (for ERGM)								
Qualification Tests	1Q-4Q	1Q-4Q						

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 11 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROJECT NUMBER AND NAME 2325/Naval Fires Control System					
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011
Project Cost	5.984	6.075	3.346	2.386	1.483	1.757	1.797	1.836
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

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 Conventional Munitions. It will be available to amphibious ships, command ships, and the DD-X program if selected by the full service contractor. The NFCS phase I will be interfacing with the Advanced TOMAHAWK Weapons Control Systems (ATWCS) and the Tactical TOMAHAWK Weapons Control Systems (TTWCS) in order for the NFCS to share the Advanced Tactical Display Console (ATDC) with the ATWCS and TTWCS. Prototyping, demonstrations and developments were conducted during FY00 through FY02. Developmental testing was conducted in FY03 and Operational testing is being conducted in FY04. Naval Surface Fire Support (NSFS) functionality and hardware/software improvements to incorporate OPEVAL deficiencies will be done in FY05. The NFCS phase II functionality (Battle Force Tactical Trainers (BFTT) integration, Massing of fires, Surface Fires Coordination, improved air de-confliction) will be developed and implemented in FY06 throughout the FYDP.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROJECT NUMBER AND NAME 2325/Naval Fires Control System		
B. Accomplishments/Planned Program				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.065	3.550	2.150	1.085
RDT&E Articles Quantity				
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 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.421	0.404	0.199	0.150
RDT&E Articles Quantity				
Funding supports hardware configuration to support NFCS implementation. Support DT validation.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.806	0.909	0.399	0.301
RDT&E Articles Quantity				
Funding provides Technical Direction Agent support, joint requirements investigation, Concept of Operations (CONOPs) scenario development.				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 2325/Naval Fires Control System		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.399	0.404	0.299	0.150
RDT&E Articles Quantity				
Funding provides C4I and combat system interface investigation and analysis to include BFTT, Link 16, TTWCS and other developing C4I system and technology.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.299	0.303	0.299	0.200
RDT&E Articles Quantity				
Funding supports developmental test and evaluation, and logistics support elements development.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.994	0.505	0.000	0.500
RDT&E Articles Quantity				
Funding supports operational test and evaluation, and logistics support elements development.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	2325/Naval Fires Control System		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous Pres Budget: (FY 05 PresBud Controls)	6.001	6.135	3.351	2.384
Current BES/President's Budget: (FY 06 Pres Budget Controls)	5.984	6.075	3.346	2.386
Total Adjustments	-0.017	-0.060	-0.005	0.002
Summary of Adjustments				
Cancelled accounts	-0.015	0.000	0.000	0.000
Section 8105: Reduce IT	0.000	-0.004	0.000	0.000
Section 8122: Assumed Management Adjustment	0.000	-0.019	0.000	0.000
Section 8131: Non Statutory	0.000	-0.036	0.000	0.000
Issue 74664: 702 . OSD 09 Nuclear Physical	0.000	-0.001	0.000	0.000
Customer Rate Adjustment	0.000	0.000	-0.006	-0.004
PBD 604 Adjustment	0.000	0.000	0.001	0.002
PBD 426 - 612	0.000	0.000	0.000	0.001
PBD 426 - 614	0.000	0.000	0.000	0.003
Cancelled accounts	-0.002	0.000	0.000	0.000
Subtotal	-0.017	-0.060	-0.005	0.002
Schedule:				
NFCS milestone III and IOC scheduled adjustment from first quarter FY04 to 3rd quarter FY04 due to test ship availability for TECHEVAL and OPEVAL and software development delay.				
Technical:				
N/A				

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 15 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification									DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 2325/Naval Fires Control System				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
O&MN 1D4D, 070812N	2.397	2.366	2.211	2.167	2.650	2.706	2.792	2.879	20.168	
OPN BL, 511200	4.129	2.828	6.057	5.023	4.788	4.104	4.212	4.320	35.461	
 E. ACQUISITION STRATEGY:										
A sole source contract has been awarded to GDIS for Phase 1. Phase 1 is being executed in 2 steps. Step 1 is to integrate the NFCS Phase 1 with ATWCS and Step 2 is to integrate NFCS Phase 1 with TTWCS.										
 F. 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.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME									
RDT&E, N / BA-4			0603795N/Land Attack Techn		2325/Naval Fires Control System									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Software Development	SS/CPAF	GDIS, Arlington, VA	27.517	0.000		0.000						CONT	CONT	TBD
	SS/CPAF	LM/MDS, Valley Forge, PA	19.079	0.000		0.000						CONT	CONT	
	WR/WX	NSWC, Dahlgren, VA	6.780	1.522	10/03	3.143	10/04	2.056	10/05	1.111	10/06	CONT	CONT	
	VAR	VARIOUS	1.119									CONT	CONT	
	WR/WX	SSC/SD	3.836	0.400	10/03	0.400	10/04	0.300	10/05	0.100	10/06	CONT	CONT	
Systems Engineering	WR	SSC/SD	2.951									CONT	CONT	
	WR/WX	NSWC, Dahlgren, VA	16.605	0.500	10/03	0.582	10/04	0.200	10/05	0.100	10/06	CONT	CONT	
	SS/CP	VITRO/BAE	0.670	0.000	N/A	0.000	N/A					CONT	CONT	
	VAR	VARIOUS	1.304									CONT	CONT	
Ancillary Hardware Development	WR/WX	NUWC, Keyport Division	10.074	0.400	10/03	0.400	10/04	0.100	10/05	0.070	10/06	CONT	CONT	
	WR/WX	NSWC/PT HUE, CA	4.732	0.403	10/03	0.403	10/04	0.150	10/05	0.070	10/06	CONT	CONT	
	VAR	PMFATDS	3.536	0.040	N/A	0.000	N/A					CONT	CONT	
	SS/CPAF	JHU/APL	1.362									1.362	1.362	
	SS/CPFF	JHU/APL	0.000	0.121	05/04							CONT	CONT	
	WR	NSWC, Dahlgren, VA	2.236	0.000	N/A	0.000	N/A					CONT	CONT	
	VAR	VARIOUS	1.541	0.000	N/A	0.000	N/A					CONT	CONT	
LAM FC Hardware/Software Dev	SS/CPFF	LM/Baltimore, MD	4.181										4.181	
TERMINATED	SS/CPAF	LM/MDS, Valley Forge, PA	12.131										12.131	
	SS/CPFF	UDLP	0.455										0.455	
	WR	NSWC, Dahlgren, VA	1.162										1.162	
	WR	SSC/SD	0.486										0.486	
LAM FC Systems Engineering	SS/CPFF	JHU/APL	0.386										0.386	
TERMINATED	WR	NSWC/PT HUE, CA	0.361										0.361	
Award Fees			3.979										3.979	
Subtotal Product Development			126.483	3.386		4.928		2.806		1.451		CONT	CONT	
Remarks:														
Development Support Equipment														
Software Development		NSWC, Panama City	0.049											
Training Development	VAR	VARIOUS	0.487	0.000		0.000		0.000						
Integrated Logistics Support	VAR	VARIOUS	4.560	0.105	Various	0.105	Various	0.090	Various	0.105	Various	CONT	CONT	
Configuration Management														
Technical Data														
GFE														
Subtotal Support			5.096	0.105		0.105		0.090		0.105		CONT	CONT	
Remarks:														

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 17 of 56)

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME									
RDT&E, N / BA-4			0603795N/Land Attack Techn		2325/Naval Fires Control System									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR/WX	NSWC/PT HUE, CA	5.315	0.300	10/03	0.300	10/05	0.300	10/05	0.200	10/06	CONT	CONT	
	VAR	Various	1.500											
Operational Test & Evaluation	VAR	Various	2.948	2.000	10/03	0.500	10/04	0.000	10/05	0.500	10/06	CONT	CONT	
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			9.763	2.300		0.800		0.300		0.700				
Remarks:														
BTR			0.000											
Contractor Engineering Support														
Government Engineering Support														
Program Management Support	VAR	VARIOUS	4.349	0.143	Various	0.192	Various	0.120	Various	0.100	Various	CONT	CONT	
Travel	PD	NAVSEA HQ	0.405	0.050	Various	0.050	Various	0.030	Various	0.030	Various	CONT	CONT	
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			4.754	0.193		0.242		0.150		0.130		CONT	CONT	
Remarks:														
Total Cost			146.096	5.984		6.075		3.346		2.386		CONT	CONT	
Remarks:														

R-1 SHOPPING LIST - Item No. 74

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 18 of 56)

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 19 of 56)

R-1 SHOPPING LIST - Item No. 74

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CLASSIFICATION:

[illegible]

R-1 SHOPPING LIST - Item No. 74

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 20 of 56)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 9362/Millennium Gun System					
COST (\$ in Millions)		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost		0.000	1.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty			1000							

* FY 2004 Millenium Gun System Program Add - \$1.176

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

These funds provide for the initial review of the 35mm Millennium Gun and ammunition development process and planning for successful weapon suitability. It also supports the Weapon System Explosives Safety Review Board (WSESRB) review, testing and certification process as well as required logistics support analyses and planning. The gun is a candidate system for future USN ship classes.

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROJECT NUMBER AND NAME 9362/Millennium Gun System																	
B. Accomplishments/Planned Program																		
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.176</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td style="text-align: center;">1000</td><td></td><td></td><td></td></tr></tbody></table>					FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.176	0.000	0.000	0.000	RDT&E Articles Quantity	1000			
	FY 04	FY 05	FY 06	FY 07														
Accomplishments/Effort/Subtotal Cost	1.176	0.000	0.000	0.000														
RDT&E Articles Quantity	1000																	
Conduct basic research, planning, safety and logistics investigations for the 35mm Millennium Gun Mount for the manufacture of the first article test rounds.																		
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>					FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07														
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000														
RDT&E Articles Quantity																		
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>					FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07														
Accomplishments/Effort/Subtotal Cost		0.000	0.000	0.000														
RDT&E Articles Quantity																		

R-1 SHOPPING LIST - Item No. 74

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-4	0603795N/Land Attack Technology	9362/Millennium Gun System		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05 Pres Controls)	1.187	0.000	0.000	0.000
Current BES/FY06 NAVCOMPT Budget: (DON Controls)	1.176	0.000	0.000	0.000
Total Adjustments	-0.011	0.000	0.000	0.000
Summary of Adjustments				
Non-pay Inflation Savings	-0.001	0.000	0.000	0.000
FY04 SBIR (9 Apr 04)	-0.010	0.000	0.000	0.000
Subtotal	-0.011	0.000	0.000	0.000
<p>Millennium Gun Mount Program comprises of research, logistics elements, testing and engineering necessary to qualify the 35mm Millennium Gun Mount for USN/USCG use. The contractor has currently completed some basic planning and research into this effort and this will be reviewed by NSWC and continued. Any additional T&E and ISEA efforts for this project will be planned in FY-04 with possible continuation in FY-05.</p>				
<p>Technical:</p> <p>N/A</p>				

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Exhibit R-2, RDTE Budget Item Justification

(Exhibit R-2, page 23 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9362/Millennium Gun System								
D. OTHER PROGRAM FUNDING SUMMARY:										
N/A										
	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>	<u>Complete</u>	<u>Cost</u>
E. ACQUISITION STRATEGY:										
The Millennium Gun Program will procure components and munitions necessary for the test and evaluation as well as support of the Millennium Gun Mount. The gun is developed by Oerlikon (Switzerland) and is licensed for manufacture and sale by Lockheed Martin in the United States. This system is a candidate gun mount for HSV class ships as well as other future ships for the USN. Work will be conducted by the NSWC centers at Louisville and Dahlgren in support of WSESRB certification, T&E, logistics planning and preparation for initial operational capability for HSV type ships or other surface ships as necessary. Provisions will be made for zero cost bailments of equipment for T&E as necessary.										
F. MAJOR PERFORMERS:										
Millennium Gun Mount: Prime Contractor for Millennium Gun is Lockheed Martin, Akron, Ohio.										
Primary Navy Warfare Center: Naval Surface Warfare Center, Louisville will provide program and acquisition management. NSWC Dahlgren will support in WSESRB research and T&E functions.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)						DATE: February 2005								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT		PROJECT NUMBER AND NAME									
RDT&E, N / BA-4			0603795N/Land Attack Tech		9362/Millennium Gun System									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation														
Operational Test & Evaluation														
Tooling														
GFE														
Subtotal T&E														
Contractor Engineering Support														
Government Engineering Support														
Project Engineering Support														
Program Management Support														
Travel														
Labor (Research Personnel)														
Overhead														
Subtotal Management														
Total Cost			0.000	1.176		0.000						CONT	CONT	CONT
Remarks:														

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EXHIBIT R-4, Schedule Profile						DATE: February 2005					
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-4				PROGRAM ELEMENT NAME AND NUMBER 0603795N/Land Attack Technology				PROJECT NAME AND NUMBER 9362/Millennium Gun System			

D. (U) Schedule Profile:

FY01				FY02				FY03				FY04				FY05				FY06				FY07				FY08				FY09				FY10				FY11			
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	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
35mm Millennium Gun Mount																																											
Milestones													★	WSESRB Review								★	WSESRB Final																				
Tests														△	Land Based Tests								▽																				
Production														★	Test Rounds for LBT																												
Tech Demos														△	LSA/Log Demo								▽																				

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Exhibit R-2, RDTEN Budget Item Justification

(Exhibit R-2, page 28 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network				
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	19.253*	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>*Funding includes FY2004 Congressional Adds for NFN Project 2871 - \$.970M; NFN Project 9361 - \$2.401M; NFN Project 9363 - \$1.635M</p> <p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Distributed Common Ground System – Navy (DCGS-N) is the Navy’s portion of the OSD DCGS effort. DCGS is a cooperative effort between the services, agencies, and DoD to provide systems capable of automating, coordinating, and correlating, in real time, the reception, processing, exploiting, storing and disseminating of multiple source intelligence (MULTI-INT) from airborne and national reconnaissance assets to provide time-critical fire control solutions for advanced weapon systems and sensors and situational awareness to support C2 decision making and planning. DCGS utilizes the entire spectrum of available intelligence data including Measurements Analysis and Signatures Intelligence (MASINT) data, Signals Intelligence (SIGINT) data, Multi-Intelligence Reconnaissance data, and Imagery Intelligence (IMINT). The automation/correlation provided by DCGS-N will provide the Navy an ability to quickly target and re-target precision strike weapons, greatly enhancing their effectiveness and lethality.</p> <p>The DCGS-N Converged Architecture (CA) brings together the proven imagery exploitation capabilities of Joint Services Imagery Processing System – Navy (JSIPS-N) Tactical Input Segment (TIS) and the precision mensuration capability of the Precision Targeting Workstation (PTW) and merges them with the Time Critical Strike/Targeting (TCS/T) capability developed by the Joint Fires Network (JFN) and disseminates this throughout the ashore and afloat nodes through the Joint Concentrator Architecture (JCA). This converged capability provides unparalleled flexibility to the warfighter and rapid response capability against rapidly relocatable, time critical targets.</p> <p>DCGS-N Converged Architecture will become part of the DoD DCGS Network Enterprise via the DCGS Integration Backbone (DIB). Engineering work is funded to migrate legacy JFN/JSIPS systems to this network environment. As DCGS 10.2 is developed by the Air Force, DCGS-N will stay abreast of expanding requirements and ensure compliance with the DoD DCGS network architecture.</p> <p>The former JFN and JSIPS-N programs have been merged by direction of ASN (RDA) as of January 2004. OSD directed that the JSIPS and JFN funding lines be consolidated in PE 0305208N starting FY05. Although the FY05 funding lines are depicted as separate programs, the DCGS-N program has consolidated its goals and taskings and the resulting combined and centrally coordinated effort is reflected in the budget lines and categories beginning in FY05. In FY06, the budget lines will be merged permanently.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 10%; text-align: center;">FY 04</td> <td style="width: 10%; text-align: center;">FY 05</td> <td style="width: 10%; text-align: center;">FY 06</td> <td style="width: 10%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">2.401</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 5px; padding: 5px;">Development of hardware for NFN.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.401	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.401	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 10%; text-align: center;">FY 04</td> <td style="width: 10%; text-align: center;">FY 05</td> <td style="width: 10%; text-align: center;">FY 06</td> <td style="width: 10%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.970</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 5px; padding: 5px;">Development of Tactical Dissmeination Module (TDM).</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.970	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.970	0.000	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 10%; text-align: center;">FY 04</td> <td style="width: 10%; text-align: center;">FY 05</td> <td style="width: 10%; text-align: center;">FY 06</td> <td style="width: 10%; text-align: center;">FY 07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.950</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; height: 60px; margin-top: 5px; padding: 5px;">Acquisition Planning/ DoD Documentation.</div>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.950	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.950	0.000	0.000	0.000															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Item No. 74

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network		
B. Accomplishments/Planned Program (Cont.)				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	5.707	0.000	0.000	0.000
RDT&E Articles Quantity				
Support hardware/software, GFE buy, installation and upgrades for existing interfaces and communications.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.825	0.000	0.000	0.000
RDT&E Articles Quantity				
Program Management Support.				
	FY 04	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.950	0.000	0.000	0.000
RDT&E Articles Quantity				
DT/OT&E.				

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network																	
B. Accomplishments/Planned Program (Cont.)																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">2.350</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	2.350	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.350	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Spiral Development																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.950</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.950	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.950	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Acquisition Strategy, AoA, TEMP and other Rrequired Acquisition Documentation, Technical Data Collection																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">4.150</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.150	0.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.150	0.000	0.000	0.000															
RDT&E Articles Quantity																			
Rqmts Definition - System Eng, Config Mgt, Architecture Support																			

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 32 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-4	0603795N/Land Attack Technology	2927/2871/9361/9363/9209 Naval Fires Network		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05 Pres Controls)	19.711	8.663	8.565	7.783
Current President's Budget (FY 06 Pres Controls)	19.253	0.000	0.000	0.000
Total Adjustments	-0.458	-8.663	-8.565	-7.783
Summary of Adjustments				
SBIR Withholds	-0.453			
Inflation Savings	-0.005			
Realign JFN/JSIPS-N		-8.663		
Technical Correction			-8.565	-7.783
Subtotal	-0.458	-8.663	-8.565	-7.783
Schedule:				
N/A				
Technical:				
N/A				

R-1 SHOPPING LIST - Item No. 74

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 33 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network				

D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
Naval Fires Control System/ 511200	24.0	4.8							0	0
Distributed Common Ground System/ PE 0305208N (A2174)		3.6	12.3	11.5	5.7	4.6	4.7	4.8	Continuing	Continuing
Common Imagery Ground Surface Systems/ 291400		49.6	20.9	94.2	103.5	85.0	86.7	88.4	Continuing	Continuing

E. ACQUISITION STRATEGY:

The Distributed Common Ground Station - Navy (DCGS-N) program will utilize contracting vehicles already in place for the existing Army Tactical Exploitation System (TES) program. The Navy plan is to adapt Army TES and develop interoperability with the USAF DCGS 10.2 DIB for support of Navy Network Centric Warfare Time Critical Targeting.

F. MAJOR PERFORMERS:

HQ/SAF - Develop and Build Naval Fires Network System Hardware/Software

Naval Air Warfare Center (China Lake) - Systems Engineering and Interface Development/Test

Northrup Grumman Corporation (NGC), Electronic Sensors and Systems Division (ESSD), of Baltimore, Maryland

R-1 SHOPPING LIST - Item No. 74

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	IP	SAF/FMB/OLE (Air Force)	42.183	2.401	11/03							0.000	44.584	
Ancillary Hardware Development	WX	NAWC, China Lake, CA	11.600	0.970	11/03							0.000	12.570	
Component Development	VAR	VARIOUS	1.245	5.707	11/03							0.000	6.952	
Ship Integration	WR	NSWC PHD, Pt. Hueneme, CA	1.270									0.000	1.270	
Ship Suitability														
Systems Engineering	WX	VARIOUS	2.355	4.150	11/03							0.000	6.505	
Training Development	WX	VARIOUS	2.700									0.000	2.700	
Licenses														
Tooling														
GFE	IP	SAF/FMB/OLE (Air Force)	2.000									0.000	2.000	
Award Fees														
Subtotal Product Development			63.353	13.228		0.000		0.000		0.000		0.000	76.581	
Remarks:														
Development Support	MIPR	Various	1.034	0.950	11/03							0.000	1.984	
Software Development	VAR	Various	3.759	2.350	11/03							0.000	6.109	
Software Development (SAIP)	IP	SAF/FMB/OLE (Air Force)	1.047									0.000	1.047	
Training Development	VAR	Various	2.830									0.000	2.830	
Integrated Logistics Support	WX/IP	Various	2.100									0.000	2.100	
Configuration Management														
Technical Data	WX/MIPR	Various	3.050	0.950	11/03							0.000	4.000	
GFE	VAR	Various	0.600									0.000	0.600	
Award Fees														
Subtotal Support			14.420	4.250		0.000		0.000		0.000		0.000	18.670	
Remarks: The former JFN and JSIPS-N programs have been merged by direction of ASN (RDA) as of January 2004. OSD directed that the JSIPS and JFN funding lines be consolidated in PE 0305208N starting FY05. Although the FY05 funding lines are depicted as separate programs, the DCGS-N program has consolidated its goals and taskings and the resulting combined and centrally coordinated effort is reflected in the budget lines and categories beginning in FY05.														

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network									
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX/MIPR	VAR	0.350	0.475	11/03							0.000	0.825	
Operational Test & Evaluation	WX/MIPR	VAR		0.475	11/03							0.000	0.475	
Live Fire Test & Evaluation	WX/MIPR	VAR	5.611									0.000	5.611	
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			5.961	0.950		0.000		0.000		0.000		0.000	6.911	
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support	IP	VARIOUS	2.692	0.825	11/03							0.000	3.517	
Travel	PD	NAVSEA HQ	0.350									0.000	0.350	
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			3.042	0.825		0.000		0.000		0.000		0.000	3.867	
Remarks:														
Total Cost			86.776	19.253		0.000		0.000		0.000		0.000	106.029	
Remarks: The former JFN and JSIPS-N programs have been merged by direction of ASN (RDA) as of January 2004. OSD directed that the JSIPS and JFN funding lines be consolidated in PE 0305208N starting FY05. Although the FY05 funding lines are depicted as separate programs, the DCGS-N program has consolidated its goals and taskings and the resulting combined and centrally coordinated effort is reflected in the budget lines and categories beginning in FY05.														

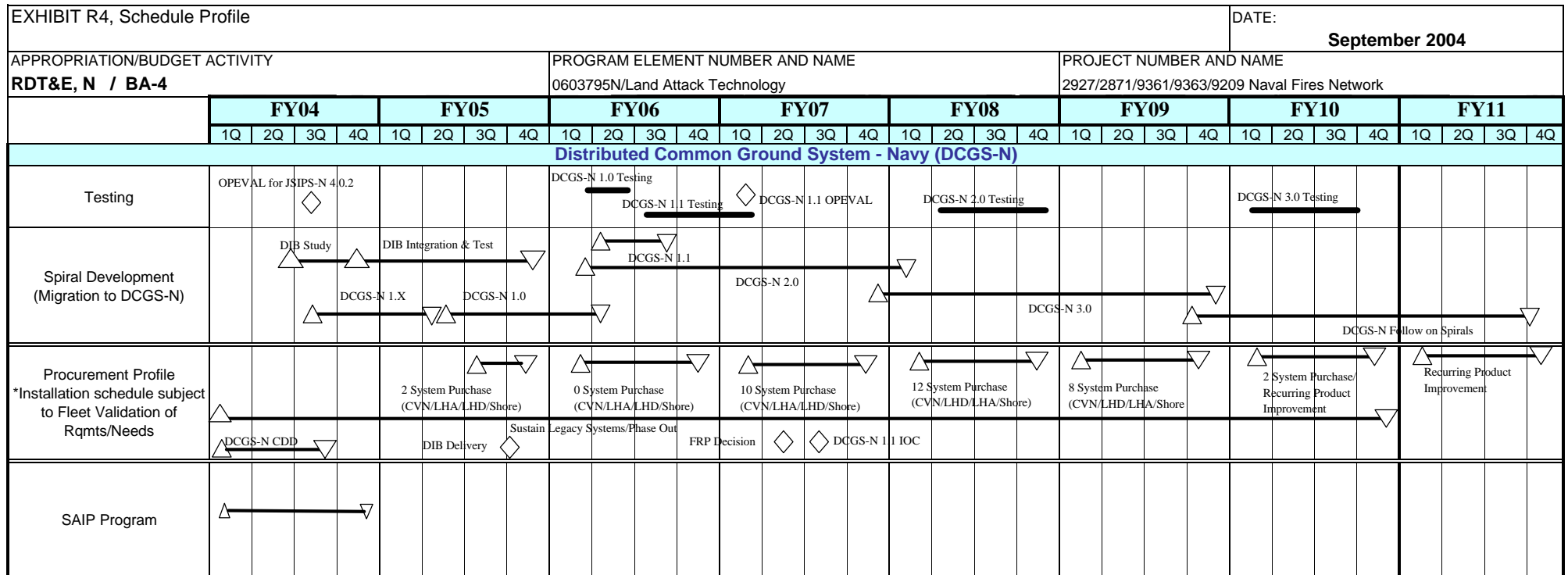
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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 36 of 56)

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Exhibit R-4a, Schedule Detail								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT 0603795N/Land Attack Technology				PROJECT NUMBER AND NAME 2927/2871/9361/9363/9209 Naval Fires Network			
Schedule Profile			FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Testing										
	JSIPS 4.0.2 OPEVAL	3Q								
	DCGS-N 1.0 Testing			1Q-2Q						
	DCGS-N 1.1 Testing			3Q-4Q	1Q					
	DCGS-N 1.1 OPEVAL				1Q					
	DCGS-N 2.0 Testing					2Q-4Q				
	DCGS-N 3.0 Testing								1Q-3Q	
Spiral development (Migration to Converged Architecture)										
	DIB Study	2Q-4Q								
	DIB Integration and Test	4Q	1Q-4Q							
	DCGS-N 1.X Development	3Q-4Q	1Q-2Q							
	DCGS-N 1.0 Development		2Q-4Q	1Q-2Q						
	DCGS-N 1.1 Development			2Q-3Q						
	DCGS-N 2.0 Development			1Q-4Q	1Q-4Q	1Q				
	DCGS-N 3.0 Development				4Q	1Q-4Q	1Q-4Q			
	DCGS-N Follow on Spiral Development									
Acquisition Program										
	CDD	1Q-3Q								
	Sustain/Phase Out Legacy Equipment	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
	DCGS-N Procurement		3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
	DIB Delivery		4Q							
	FRP Decision				2Q					
	DCGS-N 1.1 IOC				3Q					
	Recurring Product Improvement/P3I								1Q-4Q	1Q-4Q
SAIP Program										
	SAIP	1Q-4Q								

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Exhibit R-2, RDTE Budget Item Justification
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 9359/Affordable Weapon System			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	27.045	48.433	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Affordable Weapons System (AWS) is a COTS based Land Attack and Strike missions missile that can loiter and be directed to the target by the shooter or a Forward Observer (FO/FAC).</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9359/Affordable Weapon System																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	8.800	3.000	0.000	0.000															
RDT&E Articles Quantity																			
Production Engineering/Production Tooling																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">4.400</td><td style="text-align: center;">11.800</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	4.400	11.800	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	4.400	11.800	0.000	0.000															
RDT&E Articles Quantity																			
Missile Fabrication and Assembly																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.200</td><td style="text-align: center;">4.800</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.200	4.800	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.200	4.800	0.000	0.000															
RDT&E Articles Quantity																			
Launcher Design, Fabrication and Test																			

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Exhibit R-2, RDTEB Budget Item Justification

(Exhibit R-2, page 40 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9359/Affordable Weapon System																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.500	2.000	0.000	0.000															
RDT&E Articles Quantity																			
Missile Design Maturation, Systems Engineering																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.000	4.500	0.000	0.000															
RDT&E Articles Quantity																			
IR Seeker & Sensor development and Data Link Development																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">3.500</td><td style="text-align: center;">1.500</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	3.500	1.500	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	3.500	1.500	0.000	0.000															
RDT&E Articles Quantity																			
Test Demonstration and Evaluation																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9359/Affordable Weapon System																	
B. Accomplishments/Planned Program																			
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Accomplishments/Effort/Subtotal Cost	1.200	0.500	0.000	0.000															
RDT&E Articles Quantity																			
Warhead design and assessment																			
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Accomplishments/Effort/Subtotal Cost	0.000	1.500	0.000	0.000															
RDT&E Articles Quantity																			
Hazard Assessment & Insensitive Munitions testing																			
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Accomplishments/Effort/Subtotal Cost	0.395	10.033	0.000	0.000															
RDT&E Articles Quantity																			
Test Ranges, Support, missile component testing , and Facilities including E3/HERO, PHST & Ship compatibility, and developmental testing																			

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Exhibit R-2, RDTEEN Budget Item Justification

(Exhibit R-2, page 42 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9359/Affordable Weapon System																	
B. Accomplishments/Planned Program																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	2.500	3.400	0.000	0.000															
RDT&E Articles Quantity																			
Safety Engineering, System Engineering, and Missile/Launcher Engineering																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">1.400</td><td style="text-align: center;">2.400</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	1.400	2.400	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	1.400	2.400	0.000	0.000															
RDT&E Articles Quantity																			
Program Management																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY 06</th><th style="width: 15%;">FY 07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.150</td><td style="text-align: center;">3.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.150	3.000	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.150	3.000	0.000	0.000															
RDT&E Articles Quantity																			
Force Integration, Alternate Warhead, and Production Readiness																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9359/Affordable Weapon System		

C. PROGRAM CHANGE SUMMARY:

Funding:	FY 2004	FY 2005	FY 2006	FY 2007
President's Budget: (FY 05 Pres Controls)	27.688	28.906	0.000	0.000
President's Budget: (FY 06 Pres Controls)	27.045	48.433	0.000	0.000
Total Adjustments	-0.643	19.527	0.000	0.000

(U) Summary of Adjustments

Issue 67705 - FY04 SBIR	-0.617	0.000	0.000	0.000
Issue 67607 - FY04 Non-pay Inflation Savings	-0.026	0.000	0.000	0.000
Misc	0.000	-0.190	0.000	0.000
Congressional Add	0.000	20.000	0.000	0.000
Issue 72490 -Non-Statutory Funding Set Aside	0.000	-0.283	0.000	0.000
Total	-0.643	19.527	0.000	0.000

Schedule:

None

Technical:

None

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Exhibit R-2, RD TEN Budget Item Justification

(Exhibit R-2, page 44 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4			PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 9359/Affordable Weapon System				
D. OTHER PROGRAM FUNDING SUMMARY:										
<u>Line Item No. & Name</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>To Complete</u>	<u>Total Cost</u>
N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
 E. ACQUISITION STRATEGY:										
N/A										
 F. MAJOR PERFORMERS:										
Titan Corp - Primary hardware development & fabrication										
Various Naval Actys - Warhead design & assessment, Engineering Support										
- NSWC Dah Div, VA										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-4			0603795N/Land Attack Technology			9359/Affordable Weapon System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 4 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Production Engineering & Tooling	SS	Titan Corp, San Diego CA	0.000	8.800	02/04	1.500	03/05				10.300	
Missile Fabrication & Assy	SS	Titan Corp, San Diego CA	0.000	4.400	02/04	11.800	03/05				16.200	
Launcher Design, Fab & Test	SS	Titan Corp, San Diego CA	0.000	1.200	02/04	4.800	03/05				6.000	
Program Management	SS	Titan Corp, San Diego CA	0.000	1.100	02/04	1.000	03/05				2.100	
T&E	SS	Titan Corp, San Diego CA	0.000	3.500	02/04	1.500	03/05				5.000	
Missile Maturation & System Eng	SS	Titan Corp, San Diego CA	0.000	3.500	02/04	2.000	03/05				5.500	
IR Seeker & Senor Development	SS	Titan Corp, San Diego CA	0.000	0.000	N/A	2.000	03/05				2.000	
Data Link Development	SS	Titan Corp, San Diego CA	0.000	0.000	N/A	2.500	03/05				2.500	
Force Integration	SS	Titan Corp, San Diego CA	0.000	0.000	N/A	1.500	03/05				1.500	
Alternate Warhead (SFW)	SS	Titan Corp, San Diego CA	0.000	0.000	N/A	0.400	03/05				0.400	
Production Cost Reduction	SS	Titan Corp, San Diego CA	0.000	0.000	N/A	1.500	03/05				1.500	
Safety/Sys/Missile/Launcher Eng	WX	Var.	0.000	1.500	N/A	2.650	10/04				4.150	
System Analysis	WX	Var.	0.000	1.000	02/04	0.750	N/A				1.750	
Hazard Assessment & Insensitive Mu	WX	Var.	0.000	0.000	N/A	1.500	10/04				1.500	
Test Ranges, Support & Facilities	WX	Var.	0.000	0.395	N/A	10.033	10/04				10.428	
Warhead Design & Assessment	WX	NSWC Dah	0.000	1.200	N/A	0.500	10/04				1.700	
Program Management Support	CPFF	Var.	0.000	0.300	01/04	1.400	10/04				1.700	
Production Readiness Review	WX	Var.	0.000	0.150	N/A	0.600	10/04				0.750	
Force Integration	WX	Var.	0.000	0.000	N/A	0.250	10/04				0.250	
Alternate Warhead (SFW)	WX	Var.	0.000	0.000	N/A	0.250	10/04				0.250	
											0.000	
Subtotal Product Development			0.000	27.045		48.433					75.478	
Remarks:												

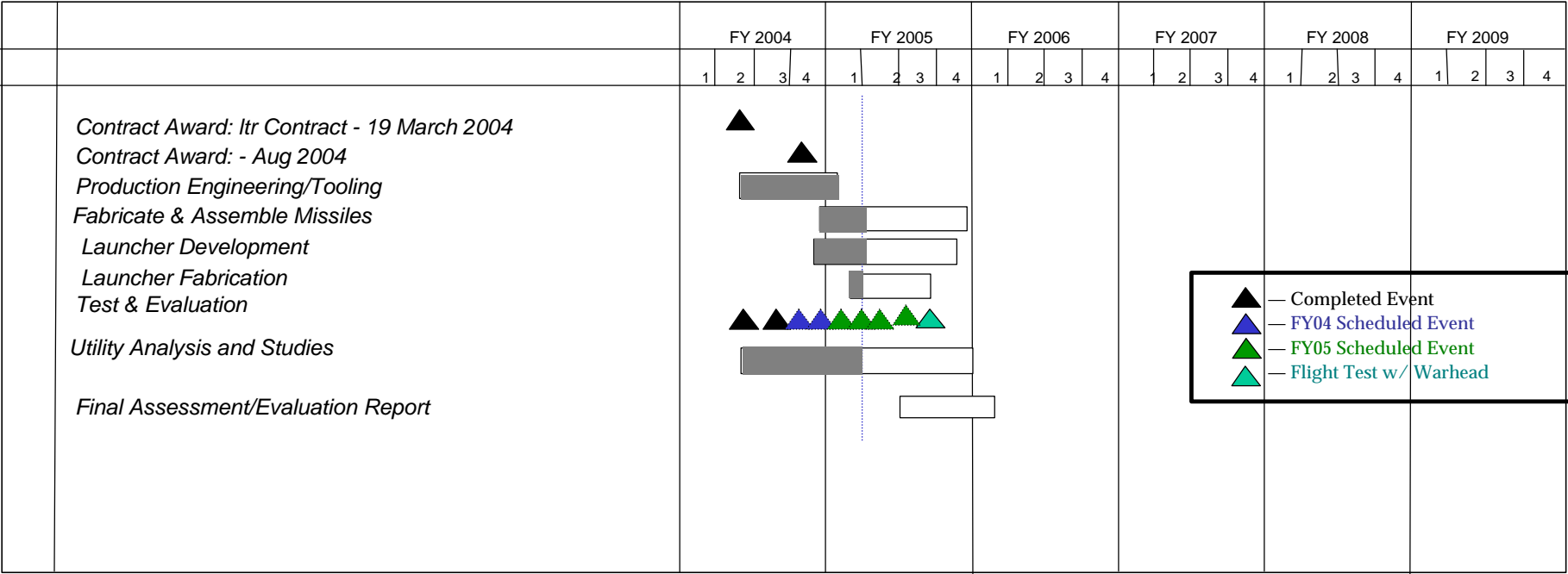
R-1 SHOPPING LIST - Item No. 74

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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 46 of 56)

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile		DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER	
RDT&E, N/BA-4	0603795N/Land Attack Technology	9359/Affordable Weapon System	



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Exhibit R-2, RD TEN Budget Item Justification
(Exhibit R-2, page 48 of 56)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2005		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4		PROJECT NUMBER AND NAME 9542/ 57mm Gun Qualification and Test						
COST (\$ in Millions)	FY 2004	FY 2005 ⁽¹⁾	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011
Project Cost	0.000	11.191	0.000	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								

⁽¹⁾ FY05 Congressional Addd

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The 57mm Gun is being procured and installed on US CG IDS Cutters and is planned to be installed on other platforms. Funding establishes a continental US production cabapility for the 57mm MK 110 Mod gun and completes qualification testing for the gun and ammunition.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9542/ 57mm Gun Qualification and Test																	
B. Accomplishments/Planned Program																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">2.041</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Conduct certification/ safety qualification testing of the MK 110 Mod 0 gun and designated ammunition/fuzes to USN standards to meet USCG NSC requirements. Perform engineering support analysis and test result assessment of the gun and associated interfaces. Provide program management support. Provide a plan and schedule to update the Weapon Systems Explosive Safety Review Board (WSES RB) technical data packages.</div>						FY 04	FY 05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	2.041	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	2.041	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.450</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Provide qualification engineering support, engineering drawings, test evaluation support, provisional documentation development, and tooling.,</div>						FY 04	FY 05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	0.450	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	0.450	0.000	0.000															
RDT&E Articles Quantity																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th><th style="width: 15%;">FY06</th><th style="width: 15%;">FY07</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">8.700</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Award contract in 2nd qtr FY05 for continuation of the 57mm Mk110 Mod 0 gun/ammunition certification project to complete testing and analysis.</div>						FY 04	FY 05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.000	8.700	0.000	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY06	FY07															
Accomplishments/Effort/Subtotal Cost	0.000	8.700	0.000	0.000															
RDT&E Articles Quantity																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005	
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9542/ 57mm Gun Qualification and Test		
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05Pres Controls)	0.000	0.000	0.000	0.000
Current BES/FY06 President's Budget: (FY04-07 Pres Budget Controls)	0.000	11.191	0.000	0.000
Total Adjustments	0.000	11.191	0.000	0.000
Summary of Adjustments:				
FY05 Congressional Add	0.000	11.191	0.000	0.000
	0.000	11.191	0.000	0.000
Technical: N/A				

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2005							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-4	PROGRAM ELEMENT NUMBER AND NAME 0603795N/Land Attack Technology	PROJECT NUMBER AND NAME 9542/ 57mm Gun Qualification and Test								
D. OTHER PROGRAM FUNDING SUMMARY:										
N/A	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>	<u>Complete</u>	<u>Cost</u>
E. ACQUISITION STRATEGY:										
The 57mm Gun Sysem is being procured and installed on U.S. Coast Guard Integrated Deepwater System Cutters and is planned to be installed on other Naval platforms. Effort encompasses complete qualification and fire control system development for 57mm MK 110 Mod 0 gun. Work will be performed by NSWC centers at Louisville and Dahlgren in support of qualification analysis/testing for the 57mm gun system . United Defense will execute the task required to establish a continental U.S. production capability at ULDP Louisville, KY.										
F. MAJOR PERFORMERS:										
Primary Navy Warfare Center: Naval Surface Warfare Center, PHD, Lousiville will provide engineering support and engineering drawings, test evaluation support, provisional documentation development, shipboard installation test and checkout development documentation for the 57mm MK 110 Gun Mod and ancillary items. NSWC Dahlgren will support FY05 qualification analysis and testing for the 57mm gun system and ammunition.										

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)											DATE: February 2005			
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-4			PROGRAM ELEMENT 0603795N/Land Attack Technology			PROJECT NUMBER AND NAME 9542/ 57mm Gun Qualification and Test								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR/WX	NSWC												
Operational Test & Evaluation														
Tooling	WX	NSWC/PHD (Louisville)				0.052						0.052	0.052	
GFE														
Subtotal T&E			0.000	0.000		0.052		0.000		0.000		0.052	0.052	
Contractor Engineering Support														
Government Engineering Support														
Project Engineering Support														
Program Management Support	WX	NSWC/Dahlgren	0.000	0.000	N/A	0.150	N/A	0.000	N/A	0.000	N/A	0.150	0.150	
Travel														
Labor (Research Personnel)														
Overhead														
Subtotal Management			0.000	0.000		0.150		0.000		0.000		0.150	0.150	
Total Cost			0.000	0.000		11.191		0.000		0.000		11.191	11.191	
Remarks:														

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EXHIBIT R-4, Schedule Profile						DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-4				PROGRAM ELEMENT NAME AND NUMBER				PROJECT NAME AND NUMBER 9542 / 57MM Gun Qualificaion and Test							

D. (U) Schedule Profile:

	FY03				FY04				FY05				FY06				FY07				FY08				FY09				FY10				FY11			
	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				
9542 / 57mm Gun Qualification & Test																																				
Milestones											★																									
Progress Reviews											△																									
WSESRB Review											△																									

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UNCLASSIFIED R-1 SHOPPING LIST - Item No. 74 Exhibit R-2, RD TEN Budget Item Justification (Exhibit R-2, page 56 of 56)