

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE PE 0604300N - DD (X) Total Ship Systems Engineering			
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	668.472	1,052.273	1,431.585	1,701.238	1,314.772	897.563	592.981
2463 / DD(X) 1 Construction	0.000	0.000	221.116	637.421	546.406	480.063	355.755
2464 / DD(X) System Design, Development and Int	569.537	821.377	1,034.002	1,017.159	721.649	369.859	188.635
2466 / Multi-Function Radar	48.933	22.790	12.277	0.015	0.000	0.000	0.000
2735 / Volume Search Radar	47.703	72.243	57.667	0.002	0.000	0.000	0.000
2880 / Power Node Control Centers (PNCC)	1.348	0.000	0.000	0.000	0.000	0.000	0.000
4009 / Advanced Gun System (AGS)	0.000	50.410	46.455	46.641	46.717	47.641	48.591
4010 / Integrated Power System (IPS)	0.000	72.202	60.068	0.000	0.000	0.000	0.000
9062 / Reg Elec Pwr Tec Integ & Lev (REPTILE)	0.951	0.000	0.000	0.000	0.000	0.000	0.000
9376 / DD (X) Alternative Engine	0.000	6.923	0.000	0.000	0.000	0.000	0.000
9377 / Knowledge Projection for Fleet Maintenance	0.000	1.978	0.000	0.000	0.000	0.000	0.000
9378 / Modular Radio	0.000	3.362	0.000	0.000	0.000	0.000	0.000
9379 / Wirless LAN Design Tools	0.000	0.988	0.000	0.000	0.000	0.000	0.000
Defense Emergency Response Funds (DERF) Funds: N/A							
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element (PE) provides funds for development of the DD(X) Class of U. S. Navy surface combatants, advanced development R&D which is integral to DD(X); and Detailed Design and Construction of the first DD(X) class ship. The mission of the DD(X) class is to provide affordable and credible independent forward presence/deterrence and operate as an integral part of Naval, Joint or Combined Maritime Forces. DD(X) will provide advanced land attack capability in support of the ground campaign and contribute to Naval, Joint or Combined battlespace dominance in littoral operations. DD(X) will establish and maintain surface and sub-surface superiority, provide local air defense, and incorporate signature reduction to operate in all threat environments. DD(X) will have seamless Joint Interoperability to integrate all source information for battlespace awareness and weapons direction. The PNCC Congressional add pursues a technology which will support present and future surface ship and submarine platforms as a building block for increased use of electrical equipment. PNCC has the potential to integrate all of the shipboard power functions, such as switching, conversion, distribution and system operation and protection. The Congressional add for REPTILE is an initiative for the advancement of naval platform and battle-force systems through the discovery, invention, integration, leveraging and demonstration of innovative electrical technologies for naval sea and land applications. The Alternative Engine provides a system alternative for the lead ship power solution and will further enhance the GE engine design. Knowledge Projection will develop a new system to remotely monitor Navy ships (systems and equipment), enable technicians to repair and maintain increasing complex equipment utilizing equipment failure characteristics, and share related repair knowledge with off-ship technical experts via the DOD/Navy communications systems. Wireless LAN Design Tools will develop a computer-based wireless LAN to reduce the costs of designing wireless LAN systems and to aid in developing cost-effective WLAN solutions for Navy ships.							

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 Exhibit R-2, RDTEN Budget Item Justification  
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EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	0.000	0.000	221.116	637.421	546.406	480.063	355.755
RDT&E Articles Qty							

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

This project funds the detail design and construction of the first DD(X) Class Ship using RDT&E funding. DD(X), a multi-mission surface combatant tailored for land attack and maritime dominance, will provide independent forward presence and deterrence, and operate as an integral part of joint and combined expeditionary forces. In addition, the DD(X) program will provide a baseline for spiral development of technology and engineering to support a range of future surface ships such as the future cruiser (CG(X)) and the Littoral Combat Ship (LCS), to meet the maritime requirement well into the 21st century.

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction	
<b>B. Accomplishments/Planned Program</b>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	221.116
RDT&E Articles Quantity			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Begin detailed production planning for first DD(X) to include: Transition design from the functional design done prior to Critical Design Review (CDR) to a 3-D Design (Zone design); Begin initial development of purchase specifications / drawings for all the significant equipment; Begin detail design of DD(X); Begin initial competition and selection of components, issue contracts and begin production of components; Begin initial material procurement of long lead equipment; Begin logistics support analysis -- develop crew training; Populate the Computer Aided Design (CAD) and Smart Product Model (SPM) with additional detail and expand standard parts libraries for use in SPM; Design fixtures and gigs to facilitate construction; Begin production design for early work packages to include work instructions, schedules, work locations, material list, tooling, facilities and manpower requirements.</div>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			
<div style="border: 1px solid black; height: 60px;"></div>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			
<div style="border: 1px solid black; height: 60px;"></div>			

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Exhibit R-2a, RDTEN Project Justification  
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EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>																																								
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction																																								
<b>C. PROGRAM CHANGE SUMMARY:</b>  <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 40%;"></th><th style="width: 15%; text-align: right;">FY 2003</th><th style="width: 15%; text-align: right;">FY 2004</th><th style="width: 30%; text-align: right;">FY 2005</th></tr></thead><tbody><tr><td>Funding:</td><td></td><td></td><td></td></tr><tr><td>Previous President's Budget: (FY04 Pres Controls)</td><td style="text-align: right;">0.000</td><td style="text-align: right;">0.000</td><td style="text-align: right;">242.969</td></tr><tr><td>Current BES/President's Budget: (FY05 Pres Controls)</td><td style="text-align: right;">0.000</td><td style="text-align: right;">0.000</td><td style="text-align: right;">221.116</td></tr><tr><td>Total Adjustments</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">-21.853</td></tr><tr><td colspan="4" style="padding-top: 10px;">Summary of Adjustments</td></tr><tr><td>    Inflation Adjustment</td><td></td><td></td><td style="text-align: right;">-0.718</td></tr><tr><td>    Programmatic Adjustment</td><td></td><td></td><td style="text-align: right;">-21.000</td></tr><tr><td>    Miscellaneous</td><td></td><td></td><td style="text-align: right;">-0.135</td></tr><tr><td>    Subtotal</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">-21.853</td></tr></tbody></table> <div style="margin-top: 20px;">Schedule:     Not Applicable</div> <div style="margin-top: 20px;">Technical:     Not Applicable</div>				FY 2003	FY 2004	FY 2005	Funding:				Previous President's Budget: (FY04 Pres Controls)	0.000	0.000	242.969	Current BES/President's Budget: (FY05 Pres Controls)	0.000	0.000	221.116	Total Adjustments	0.000	0.000	-21.853	Summary of Adjustments				Inflation Adjustment			-0.718	Programmatic Adjustment			-21.000	Miscellaneous			-0.135	Subtotal	0.000	0.000	-21.853
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction			

**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

**E. ACQUISITION STRATEGY:**

(U) The DD(X) acquisition strategy encompasses five contract phases: Phase I – System Concepts, Phase II – Initial System Design, Phase III – System Design, Phase IV – Detail Design and Construction, and Phase V – Engineering and Logistics Life Cycle Support. The Navy awarded section 845/804 agreements for Phases I and II for two DD(X) Industry teams. Downselection to a single DD(X) Design Agent occurred 3rd quarter FY 2002 to begin Contract Phase III. The Lead DD(X) will be competitively awarded in FY 2005.

**F. MAJOR PERFORMERS:**

**DD(X) Design Agent** - Northrop Grumman Ship Systems

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## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2004</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2463 - DD(X) 1 Construction						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	Compet	TBD						221.116	4QFY05	2,479.884	2,701.000	
Ancillary Hardware Development											0.000	
Component Development											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		0.000		221.116		2,479.884	2,701.000	
Remarks:												
Development Support											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	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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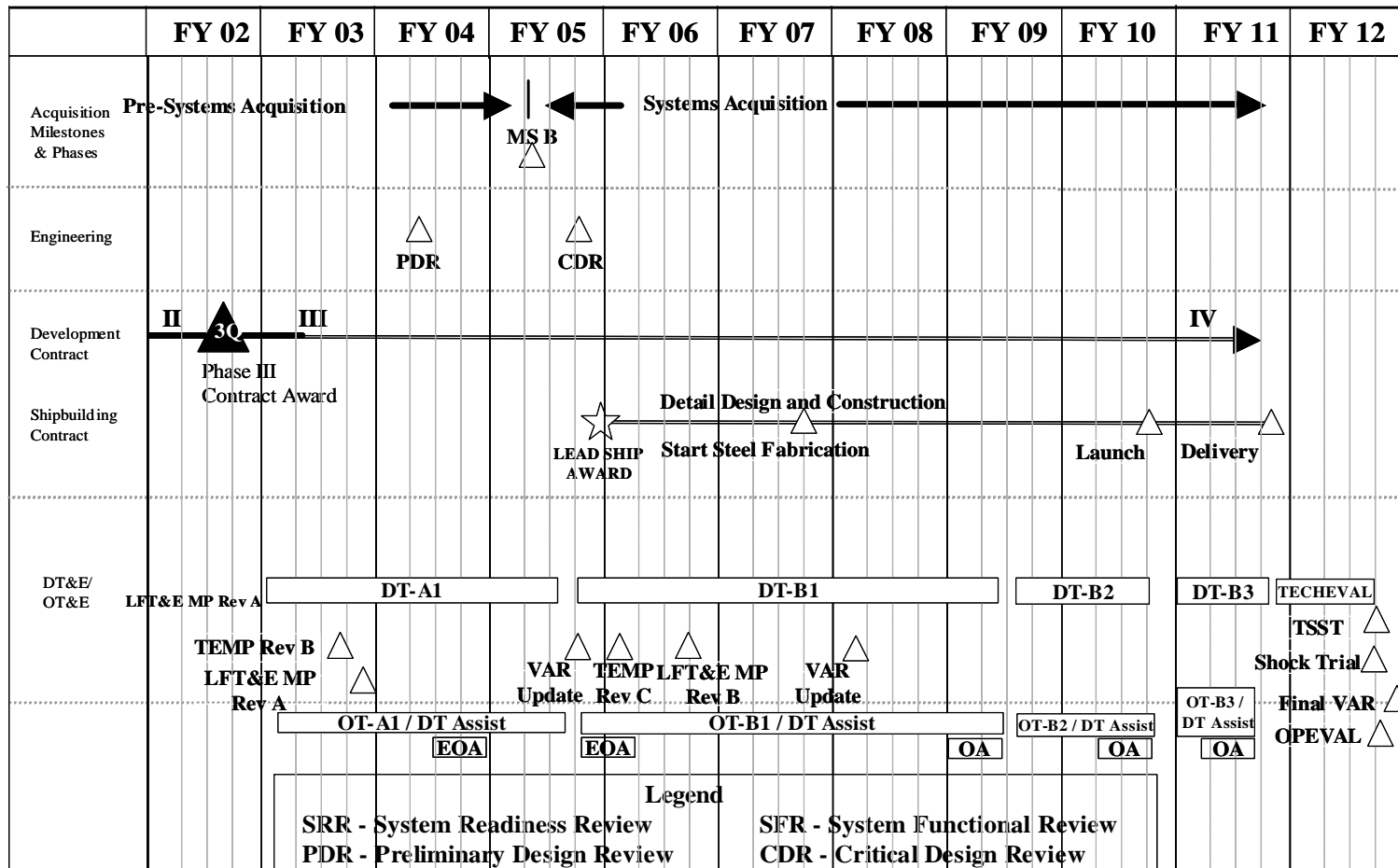
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering			2463 - DD(X) 1 Construction						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	0.000		0.000		221.116		2,479.884	2,701.000	
Remarks:												

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EXHIBIT R4, Schedule Profile							DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N / BA-5				PE 0604300N - DD(X) Total Ship Systems Engineering				2463 - DD(X) 1 Construction			



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Exhibit R-4, Schedule Profile  
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**Exhibit R-4a, Schedule Detail**  
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EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	569.537	821.377	1,034.002	1,017.159	721.649	369.859	188.635
RDT&E Articles Qty							

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

This project encompasses efforts for the total ship system engineering development and integration of Hull, Mechanical and Electrical (HM&E), communications, electronics, command and control, combat, weapons and shipboard systems into the DD(X) class. These engineering development and integration efforts include systems engineering, analysis, software development, interface design, technical documentation, and system/subsystem testing to ensure fully functional systems integration. These efforts also include the design, development and testing (factory, land-based and at-sea) of the following Engineering Development Models (EDMs): Total Ship Computing Environment, Advanced VLS, Integrated Deckhouse and Apertures, Autonomic Fire Suppression System, Infrared mock-ups, AGS magazine and Hull Form Scale Model. These systems engineering development efforts are required to ensure that DD(X) is a totally integrated ship system, delivering required warfighting technologies to the fleet within the reduced manning and cost goals. In addition, this project includes efforts to incorporate the EDMs into the overall DD(X) ship design.

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<b>B. Accomplishments/Planned Program</b>																																							
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**Exhibit R-2a, RDTEN Project Justification**  
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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2464 - DD(X) System Design, Development & Integration	
<b>B. Accomplishments/Planned Program (Cont.)</b>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	10.353	16.710	20.341
RDT&E Articles Quantity			
<div style="border: 1px solid black; padding: 5px; min-height: 60px;">Continue identification and risk mitigation efforts in high risk areas such as Manning, Life Cycle Engineering and Support (LCE&amp;S), and Total Ship Computing. Continue Manning/Human Systems Integration (HSI) and LCE&amp;S Integrated Product Teams (IPTs) to address the impact of how industry-developed concepts will impact the future Navy support infrastructure in these functional areas. Monitor the industry-developed risk watch list and evaluate as a mechanism for reporting risk metrics in DD(X) Aquisition reporting documentation. Review and develop proposed policy changes as a result of DD(X) industry concepts that impact Navy manning and life cycle support structure as a result of industry proposals. Establish Executive Steering Groups to review/ monitor specific Phase III technology development focus areas: Integrated Power System (IPS) and propulsion, Radar Suite and Software.</div>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			
<div style="border: 1px solid black; height: 60px;"></div>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			
<div style="border: 1px solid black; height: 60px;"></div>			

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Exhibit R-2a, RDTEN Project Justification  
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**C. PROGRAM CHANGE SUMMARY:**

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	588.849	845.890	1,039.714
Current BES/President's Budget: (FY05 Pres Controls)	569.537	821.377	1,034.002
Total Adjustments	-19.312	-24.513	-5.712
Summary of Adjustments			
SBIR	-13.563		
Internal Realignment	-0.400		
Cancelled Accounts	-1.505		
Reprogrammings-BTR	-3.844		
Congressional Reductions		-15.000	
Miscellaneous Reductions		-9.506	
Inflation Adjustments			-4.010
Miscellaneous Adjustments		-0.007	-0.601
NWCF Rate Adjustments			-1.101
Subtotal	-19.312	-24.513	-5.712

Schedule:

Not Applicable

Technical:

Not Applicable

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**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

**E. ACQUISITION STRATEGY:**

(U) The DD (X) acquisition strategy encompasses five contract phases: Phase I – System Concepts, Phase II – Initial System Design, Phase III – System Design, Phase IV – Detail Design and Construction, and Phase V – Engineering and Logistics Life Cycle Support. The Navy awarded section 845/804 agreements for Phases I and II for two DD (X) Industry teams. Downselection to a single DD (X) Design Agent occurred 3rd quarter FY 2002 to begin Contract Phase III.

**F. MAJOR PERFORMERS:**

**DD(X) Design Agent** - Northrop Grumman Ship Systems  
**Government Field Activities** - NSWC Carderock, NSWC Dahlgren.  
**Universities** -

R-1 SHOPPING LIST - Item No. 101

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# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2004</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			PE 0604300N - DD(X) Total Ship Systems Engineering			2464 - DD(X) System Design, Development & Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date (1)	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Initial System Concepts - Phase I	OTA	DD(X) Industry Team	54.800	0.000	N/A	0.000	N/A	0.000	N/A	0.000	54.800	
Initial System Design - Phase II	OTA	DD(X) Industry Team	139.919	0.000	N/A	0.000	N/A	0.000	N/A	0.000	139.919	
Primary H/W Development- Phase III	CPAF	DD(X) Design Agent	78.000	507.213	1QFY03	730.918	1QFY04	913.780	1QFY05	Continuing	Continuing	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			272.719	507.213		730.918		913.780		CONT.	CONT.	
Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.												
Development Support											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	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks: Support costs are included in the Development contract costs.												

# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering			2464 - DD(X) System Design, Development & Integration						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Live Fire Test & Evaluation	OTA	DD(X) Industry Teams	4.875	0.000	N/A	0.000	N/A	0.000	N/A	Continuing	Continuing	
Live Fire Test & Evaluation	CAPF	DD(X) Design Agent	0.000	4.100	12/02	0.000	N/A	0.000	N/A	Continuing	Continuing	
Live Fire Test & Evaluation	WR	NSWC CD Bethesda MD	10.262	4.550	11/02	7.921	11/03	8.921	11/04	Continuing	Continuing	
Live Fire Test & Evaluation	WR	NSWC DD Dahlgren VA	0.200	1.750	11/02	1.450	11/03	1.500	11/04	Continuing	Continuing	
Live Fire Test & Evaluation	Various	Various	5.150	1.872	11/02	9.154	11/03	16.950	11/04	Continuing	Continuing	
GFE												
Award Fees												
Subtotal T&E			20.487	12.272		18.525		27.371		CONT.	CONT.	
Remarks:												
Contractor Engineering Support	GSA/FFP	Anteon Arlington VA	6.800	8.817	11/02	9.320	11/03	11.083	11/04	Continuing	Continuing	
	GSA	GRCI, Falls Church VA	2.500	3.842	11/02	3.845	11/03	4.100	11/04	Continuing	Continuing	
	Misc	Various	6.100	2.565	11/02	2.668	11/03	2.890	11/04	Continuing	Continuing	
Government Engineering Support	WR	NSWC DD Dahlgren VA	41.232	9.905	11/02	15.855	11/03	24.005	11/04	Continuing	Continuing	
	WR	NSWC CD Bethesda MD	16.916	9.790	11/02	14.895	11/03	18.895	11/04	Continuing	Continuing	
	WR	NSWC CR Crane IN	3.712	1.000	11/02	2.000	11/03	2.575	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	4.205	2.500	11/02	3.344	11/03	4.650	11/04	Continuing	Continuing	
	WR	SSCSD Dan Diego CA	5.657	1.204	11/02	2.604	11/03	3.404	11/04	Continuing	Continuing	
	WR	NUWC/N Newport RI	2.855	1.250	11/02	2.800	11/03	3.000	11/04	Continuing	Continuing	
	WR	NSWC/PC Panama City, FL	0.980	0.400	11/02	2.000	11/03	2.723	11/04	Continuing	Continuing	
	Various	Other Govt Activities	11.316	1.825	11/02	3.401	11/03	5.091	11/04	Continuing	Continuing	
Program Management Support	Various	Various	9.509	3.031	11/02	3.727	11/03	3.960	11/04	Continuing	Continuing	
Travel	Various	Various	1.712	0.700	Various	1.500	Various	1.500	Various	Continuing	Continuing	
Labor (Research Personnel)	CPFF	APL/JHU Laurel MD	8.357	3.223	11/02	3.975	11/03	4.975	11/04	Continuing	Continuing	
SBIR Assessment												
Subtotal Management			121.851	50.052		71.934		92.851		CONT.	CONT.	
Remarks:												
Total Cost			415.057	569.537		821.377		1,034.002		CONT.	CONT.	
Remarks:												

R-1 SHOPPING LIST - Item No. 101

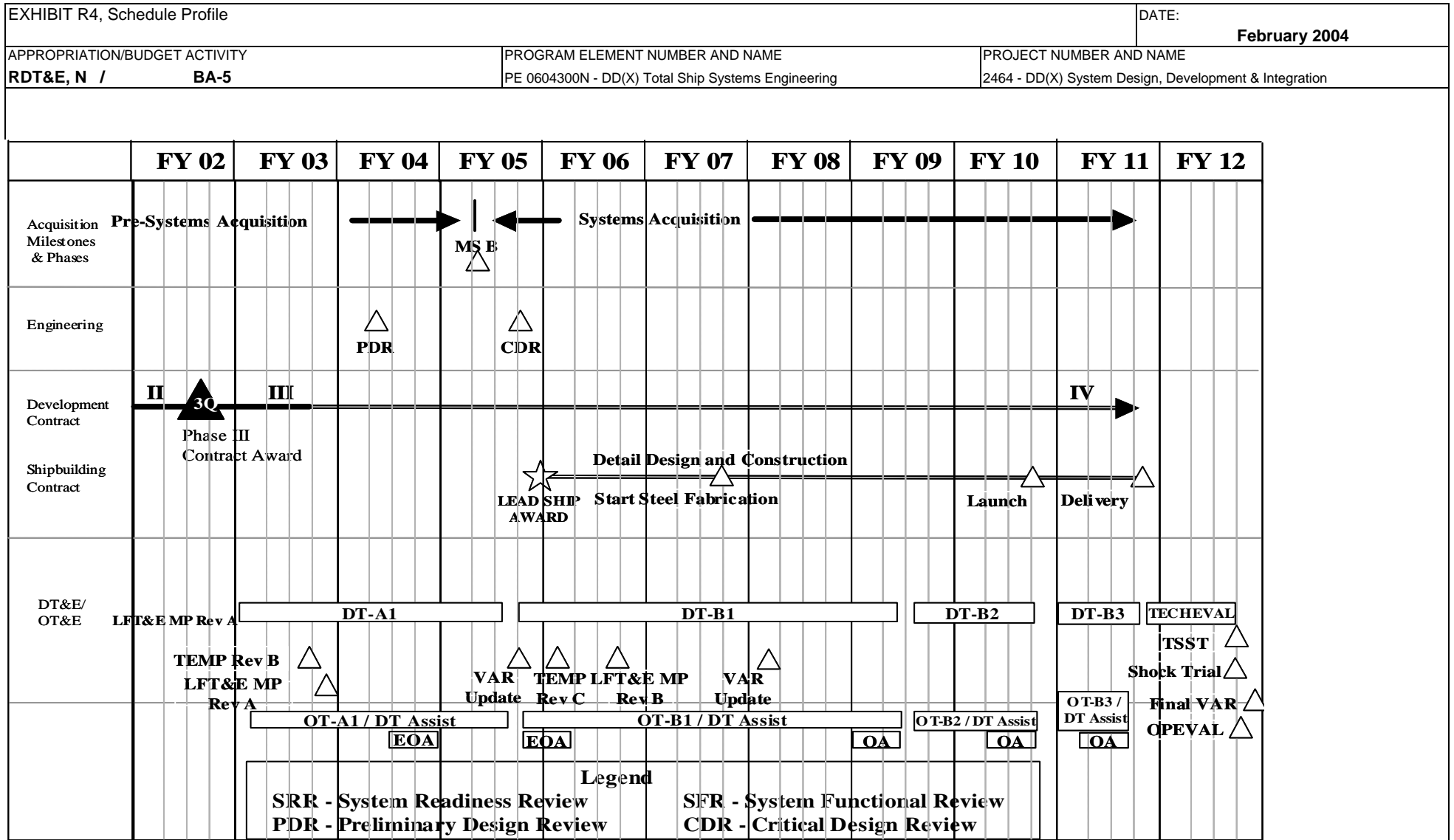
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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 16 of 53)



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Exhibit R-4, Schedule Profile  
(Exhibit R-4, page 17 of 53)

**UNCLASSIFIED**

**CLASSIFICATION:**

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CLASSIFICATION:

**UNCLASSIFIED**

EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	48.933	22.790	12.277	0.015	0.000	0.000	0.000
RDT&E Articles Qty	1						

**\*(1) Transferred to PE0603513N, Project 4019**

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

This project provides funds for the development of the Multi-Function Radar (MFR) in association with DD(X) . This provides DD(X) and other applicable surface ships with an affordable, high performance radar for ship defense well into the next century. This system is based on solid state, active array radar technology and will provide search, detect, track, and weapon control functions while dramatically reducing manning and life-cycle costs associated with multiple systems that perform these functions today. The MFR will achieve a level of force protection that greatly enhances ship defense capability against all threats envisioned in the littoral environment. A Test Article was delivered to Wallops Island in FY 03 to support Developmental Test/Operational Assessment (DT/OA) land-based and at-sea testing.

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>													
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)													
<b>B. Accomplishments/Planned Program</b>															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 20%; text-align: center;">FY 03</td> <td style="width: 20%; text-align: center;">FY 04</td> <td style="width: 30%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">37.063</td> <td style="text-align: center;">5.969</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td style="text-align: center;">1</td> <td></td> <td></td> </tr> </table>					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	37.063	5.969	0.000	RDT&E Articles Quantity	1		
	FY 03	FY 04	FY 05												
Accomplishments/Effort/Subtotal Cost	37.063	5.969	0.000												
RDT&E Articles Quantity	1														
<div style="border: 1px solid black; padding: 5px;"> <p>Engineering and Manufacturing Development (E&amp;MD) phase of MFR hardware and software. Delivered and installed Engineering Development Model (EDM) in FY03 at Navy Land Based Test Site to begin Factory Testing. Complete Factory Qualification Testing, conduct Factory Integration Testing, and begin land based testing in FY04. Complete land based testing in FY05 and prepare for at-sea testing. Began transition to production efforts.</p> </div>															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 20%; text-align: center;">FY 03</td> <td style="width: 20%; text-align: center;">FY 04</td> <td style="width: 30%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">4.796</td> <td style="text-align: center;">5.694</td> <td style="text-align: center;">8.300</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> </tr> </table>					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	4.796	5.694	8.300	RDT&E Articles Quantity			
	FY 03	FY 04	FY 05												
Accomplishments/Effort/Subtotal Cost	4.796	5.694	8.300												
RDT&E Articles Quantity															
<div style="border: 1px solid black; padding: 5px;"> <p>Government Engineering Services and Program Management support for E&amp;MD. Perform oversight and assessment of MFR E&amp;MD efforts including factory and land-based Test and Evaluation. Begin transition to production, including the development, fabrication, documentation and engineering support associated with the following efforts: (1) high speed automated manufacturing equipment, (2) test equipment and associated test program sets, (3) systems engineering and test engineering support and (4) failure analysis, parts engineering and configuration management. Provide support for integration of MFR into the DD(X) radar suite and overall ship systems. Provide engineering support for transition of MFR EDM to the MFR production system for DD(X).</p> </div>															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 20%; text-align: center;">FY 03</td> <td style="width: 20%; text-align: center;">FY 04</td> <td style="width: 30%; text-align: center;">FY 05</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">6.262</td> <td style="text-align: center;">9.028</td> <td style="text-align: center;">2.400</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> </tr> </table>					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	6.262	9.028	2.400	RDT&E Articles Quantity			
	FY 03	FY 04	FY 05												
Accomplishments/Effort/Subtotal Cost	6.262	9.028	2.400												
RDT&E Articles Quantity															
<div style="border: 1px solid black; padding: 5px;"> <p>Evaluation, planning, documentation, scheduling and conduct of Developmental Test / Operational Assessment. Hardware / Software updates resulting from DT/OA. Complete Navy Land Based Testing.</p> </div>															

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**Exhibit R-2a, RDTEN Project Justification**  
(Exhibit R-2a, page 20 of 53)

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>																																				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)																																				
<b>B. Accomplishments/Planned Program (Cont.)</b>																																						
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.812</td><td style="text-align: center;">2.099</td><td style="text-align: center;">1.577</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px; padding: 5px;">Provide Program Management in support of the above milestones.</div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"><thead><tr><th style="width: 30%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"><thead><tr><th style="width: 30%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 60px; margin-top: 10px;"></div>				FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.812	2.099	1.577	RDT&E Articles Quantity					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	RDT&E Articles Quantity					FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000	RDT&E Articles Quantity			
	FY 03	FY 04	FY 05																																			
Accomplishments/Effort/Subtotal Cost	0.812	2.099	1.577																																			
RDT&E Articles Quantity																																						
	FY 03	FY 04	FY 05																																			
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000																																			
RDT&E Articles Quantity																																						
	FY 03	FY 04	FY 05																																			
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000																																			
RDT&E Articles Quantity																																						

R-1 SHOPPING LIST - Item No.

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)	
<b>C. PROGRAM CHANGE SUMMARY:</b>			
Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	46.300	23.047	12.393
Current BES/President's Budget: (FY05 Pres Controls)	48.933	22.790	12.277
Total Adjustments	2.633	-0.257	-0.116
Summary of Adjustments			
SBIR	-0.029		
Internal Realignment	0.706		
Cancelled Accounts	-0.118		
Inflation Adjustments			-0.040
Reprogrammings	2.074		
Congressional Undistributed Reduction		-0.257	
Miscellaneous Adjustments			-0.008
NWCF Rate Adjustments			-0.068
Subtotal	2.633	-0.257	-0.116
Schedule:			
Not Applicable			
Technical:			
Not Applicable			

R-1 SHOPPING LIST - Item No. 101

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)			

**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

**E. ACQUISITION STRATEGY:**

(U) In FY 1999, the Government selected a single MFR contractor (Raytheon) to begin Phase III E&MD. EDM delivered in FY 2003. The Navy truncated the Raytheon contract to align development efforts with the DD(X) development.

**F. MAJOR PERFORMERS:**

**DD(X) Design Agent** - Northrop Grumman Ship Systems  
**Government Field Activities** -  
**Universities** -

R-1 SHOPPING LIST - Item No. 101

UNCLASSIFIED

# UNCLASSIFIED

**CLASSIFICATION:**

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2004</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDTE&amp;E, N / BA-5</b>			PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date (1)	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF/IF	Prime E&MD (Raytheon)	175.079	22.074	1QFY03	0.000	1QFY04	0.000	N/A	Continuing	Continuing	
	CPAF	DD(X) Design Agent	2.434	14.989	Various	5.969	2QFY04	0.000	N/A	Continuing	Continuing	
	CP	Various	12.414	0.000	N/A	0.000	N/A	0.000	N/A	0.000	12.414	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			189.927	37.063		5.969		0.000		CONT.	CONT.	
Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.												
Development Support											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	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												



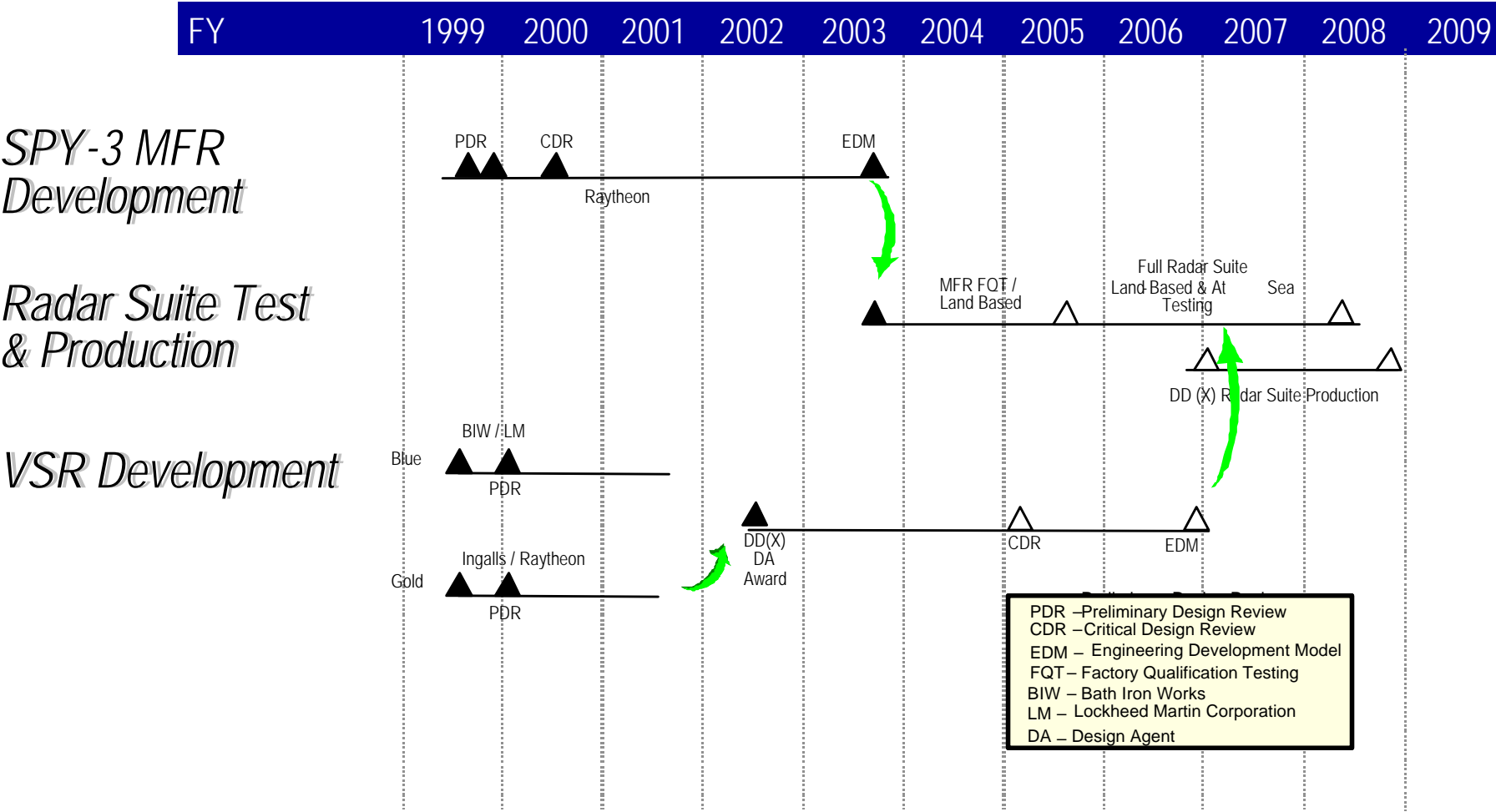
# UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: <b>February 2004</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various	7.466	1.817	11/02	2.386	11/03	1.500	11/04	Continuing	Continuing	
	CPAF	SCSC Wallops Island VA	1.262	0.894	11/02	1.388	11/03	0.000	11/04	0.000	3.544	
	SS/CPFF	JHU/APL Laurel MD	1.495	0.946	11/02	0.565	11/03	0.300	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	1.044	0.426	11/02	1.630	11/03	0.300	11/04	Continuing	Continuing	
	WR	NSWC DD Dahlgren VA	0.000	0.984	11/02	2.333	11/03	0.300	11/04	Continuing	Continuing	
	WR/RC	NAWC Pt Mugu CA	0.000	1.195	11/02	0.726	11/03	0.000	11/04	0.000	1.921	
Subtotal T&E			11.267	6.262		9.028		2.400		CONT.	CONT.	
Remarks:												
Government Engineering Support	WR	NSWC DD Dahlgren VA	5.067	0.510	11/02	1.500	11/03	1.971	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	2.764	0.201	11/02	1.199	11/03	0.900	11/04	Continuing	Continuing	
	SS/CPFF	APL/JHU Laurel MD	3.220	0.264	11/02	0.188	11/03	0.700	11/04	Continuing	Continuing	
	WR	Various	4.571	3.821	11/02	2.807	11/03	4.729	11/04	Continuing	Continuing	
Government Engineering Support											0.000	
Program Management Support	C/CPFF	Various	3.995	0.812	11/02	2.099	11/03	1.577	11/04	Continuing	Continuing	
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			19.617	5.608		7.793		9.877		CONT.	CONT.	
Remarks:												
Total Cost			220.811	48.933		22.790		12.277		CONT.	CONT.	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering		PROJECT NUMBER AND NAME 2466 - Multi-Function Radar (MFR)



**UNCLASSIFIED**

**CLASSIFICATION:**

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CLASSIFICATION:

**UNCLASSIFIED**

EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering				PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	47.703	72.243	57.667	0.002	0.000	0.000	0.000
RDT&E Articles Qty		1					

\* \$21M transferred from PE0604300N, Project 2463

**A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:**

This project provides funds for the development of the S-Band Volume Search Radar (VSR) in association with DD(X). This provides DD(X) and other applicable surface ships with an affordable, high performance air search radar. This system is based on solid state, active array radar technology and will provide search, detect, and track while dramatically reducing manning and life-cycle costs associated with multiple systems that perform these functions today. VSR provides long range above-the-horizon surveillance and timely cueing to Multi-Function Radar (MFR). A Test Article will be available in FY06 to support Developmental Test/Operational Assessment (DT/OA) land-based and at-sea testing.

**UNCLASSIFIED**

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)	
<b>B. Accomplishments/Planned Program</b>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	36.057	66.501	51.527
RDT&E Articles Quantity	1		
<div>Completed Phase II development efforts. In Phase III DD(X) Design Agent will finalize S-Band VSR design and procurement Engineering Development Model (EDM) hardware and will begin fabrication. Began test and evaluation planning. In FY06, delivery of EDM to Wallops to conduct VSR Factory Qualification Testing and prepare for Land Based Testing in FY05.</div>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	9.643	5.742	6.140
RDT&E Articles Quantity			
<div>Government Engineering Services and Program Management support for E&amp;MD. Perform oversight and assessment of VSR E&amp;MD efforts including Test and Evaluation. Support VSR Land Based Testing.</div>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	2.003	0.000	0.000
RDT&E Articles Quantity			
<div>Provide Program Management in support of the above milestones.</div>			

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Exhibit R-2a, RDTEN Project Justification  
(Exhibit R-2a, page 29 of 53 )

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)

**C. PROGRAM CHANGE SUMMARY:**

Funding:	FY 2003	FY 2004	FY 2005
Previous President's Budget: (FY04 Pres Controls)	50.659	45.057	36.896
Current BES/President's Budget: (FY05 Pres Controls)	47.703	72.243	57.667
Total Adjustments	-2.956	27.186	20.771
Summary of Adjustments			
SBIR	-1.445		
Realignment	0.693		
Cancelled Accounts	-0.130		
Congressional Undistributed Reductions		-0.814	
Congressional Add: S-Band Dev		28.000	
NWCF Rate Adjustments			-0.006
Programmatic Adjustment	-2.074		21.000
Miscellaneous Adjustments			-0.223
Subtotal	-2.956	27.186	20.771

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 101

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)			

**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

**E. ACQUISITION STRATEGY:**

(U) Downselection to a DD (X) Design Agent occurred 3rd quarter FY2002. The DD(X) Design Agent will initiate fabrication delivery of the VSR EDM in FY 2004. MFR/VSR Radar Suite DT/OA is anticipated in FY 2003 through FY 2005.

**F. MAJOR PERFORMERS:**

**DD(X) Design Agent** - Northrop Grumman Ship Systems

**Government Field Activities** - NAWC China Lake, NAWC Pt Mugu, NAWC TSD, NSWC Carderock, NSWC Crane, NSWC Dahlgren, NSWC Newport, NSWC Panama City, NSWC Port Hueneme, Naval Research Laboratory, SPAWAR Systems Center

**Universities** - John Hopkins University / Applied Physics Laboratory, Applied Research Labs at University of Texas, University of Washington and Penn State University, Georgia Tech Research Institute

R-1 SHOPPING LIST - Item No. 101

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# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2004</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
<b>RDT&amp;E, N / BA-5</b>			PE 0604300N - DD(X) Total Ship Systems Engineering			2735 - Volume Search Radar (VSR)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date (1)	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	OTA	DD(X) Industry Team	50.000	0.000	N/A	0.000	N/A	0.000	N/A	0.000	50.000	
	CPAF	DD(X) Design Agent	23.000	36.057	1QFY03	60.501	1QFY04	51.527	1QFY05	Continuing	Continuing	
Ship Integration	CPAF	Lockheed Martin SBAR N00024-02-C-5321				6.000	2QFY04				6.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			73.000	36.057		66.501		51.527		CONT.	CONT.	
Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year.												
Development Support											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	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												



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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: <b>February 2004</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test Evaluation	CPAF	SCSC Wallops Island VA	0.600	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.600	
	Various	Various	0.497	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.497	
											0.000	
Subtotal T&E			1.097	0.000		0.000		0.000		0.000	1.097	
Remarks:												
Government Engineering Support	WR	NSWC DD Dahlgren VA	1.646	1.860	11/02	0.000	11/03	0.000	11/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	0.000	1.230	11/02	0.000	N/A	0.000	N/A	0.000	1.230	
	WR	Various	3.937	6.553	11/02	5.742	11/03	6.140	11/04	Continuing	Continuing	
Government Engineering Support												
Program Management Support	CPFF	Various	0.627	2.003	11/02	0.000	11/03	0.000	11/04	Continuing	Continuing	
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			6.210	11.646		5.742		6.140		CONT.	CONT.	
Remarks:												
Total Cost			80.307	47.703		72.243		57.667		CONT.	CONT.	
Remarks:												

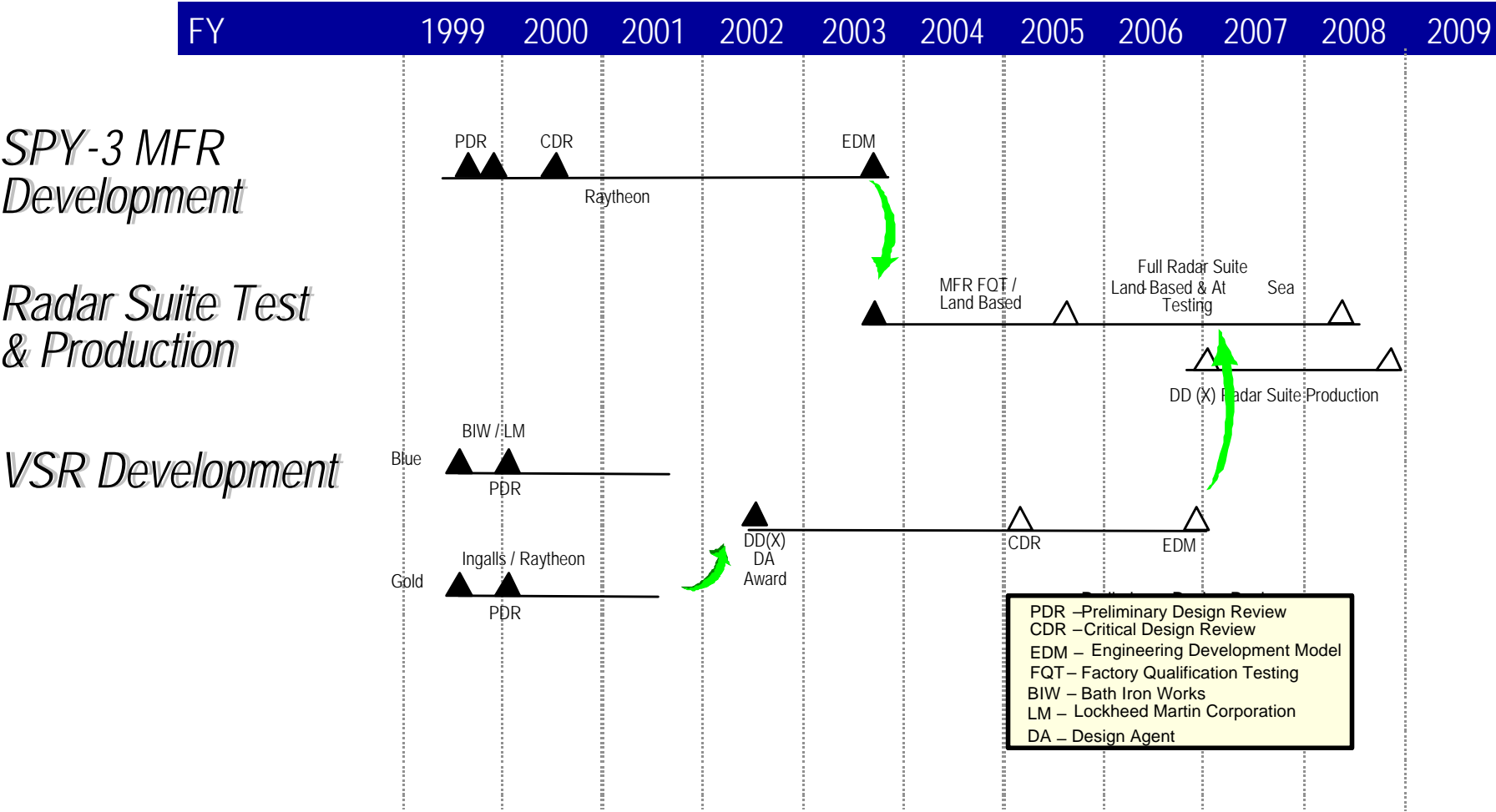
R-1 SHOPPING LIST - Item No. 101

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Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 33 of 53)

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: <b>February 2004</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 2735 - Volume Search Radar (VSR)	



**UNCLASSIFIED**

**CLASSIFICATION:**

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CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	<b>0.000</b>	<b>*50.41</b>	<b>46.455</b>	<b>46.641</b>	<b>46.717</b>	<b>47.641</b>	<b>48.591</b>
RDT&E Articles Qty		<b>1</b>					
<p><b>*Transferred from PE 0603513N, AGS Project 2467</b></p> <p><b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b></p> <p>These funds provide for the development of the Advanced Gun System (AGS) associated with the development of DD(X). The AGS will consist of a major caliber gun, an automated ammunition handling system, and a family of munitions/propelling charges. The AGS will, at a minimum, meet the Land Attack and Surface Dominance Missions assigned to the gun system. The system will provide a high rate of fire (approximately 12 rounds per minute) with a magazine capacity sufficient in size for meeting USMC operational requirements.</p>							

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**Exhibit R-2a, RDTEN Project Justification**  
(Exhibit R-2a, page 36 of 53)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>												
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)												
<b>B. Accomplishments/Planned Program</b>														
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">13.040</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td style="text-align: center;">1</td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div>				FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.000	13.040	0.000	RDT&E Articles Quantity		1	
	FY 03	FY 04	FY 05											
Accomplishments/Effort/Subtotal Cost	0.000	13.040	0.000											
RDT&E Articles Quantity		1												
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">9.253</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div>				FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.000	9.253	0.000	RDT&E Articles Quantity			
	FY 03	FY 04	FY 05											
Accomplishments/Effort/Subtotal Cost	0.000	9.253	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: 20%;">FY 03</th><th style="width: 20%;">FY 04</th><th style="width: 30%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">7.823</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; height: 80px; margin-top: 10px;"></div>				FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.000	7.823	0.000	RDT&E Articles Quantity			
	FY 03	FY 04	FY 05											
Accomplishments/Effort/Subtotal Cost	0.000	7.823	0.000											
RDT&E Articles Quantity														

R-1 SHOPPING LIST - Item No.

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)	
<b>B. Accomplishments/Planned Program</b>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	13.040	20.328
RDT&E Articles Quantity			
Continue LRLAP EDM development and testing.			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	7.254	0.000
RDT&E Articles Quantity			
Support Ship Design development with Gun, Magazine, LRLAP integration efforts.			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	18.970
RDT&E Articles Quantity			
Commence integration of Gun, Magazine, ISC EDMs.			

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)	
<b>B. Accomplishments/Planned Program</b>			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	7.157
RDT&E Articles Quantity			
Commence Land Based testing of AGS EDM.			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			
	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.000	0.000	0.000
RDT&E Articles Quantity			

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering	PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)

**C. PROGRAM CHANGE SUMMARY:**

	FY 2003	FY 2004	FY 2005
Funding:			
Previous President's Budget: (FY04 Pres Controls)	0.000	50.978	46.726
Current BES/President's Budget: (FY05 Pres Controls)	0.000	50.410	46.455
Total Adjustments	0.000	-0.568	-0.271
Summary of Adjustments			
Congressional undistributed reductions		-0.568	
Miscellaneous Adjustments			-0.271
Subtotal	0.000	-0.568	-0.271

Schedule:

Not Applicable

Technical:

Not Applicable

R-1 SHOPPING LIST - Item No. 101

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME PE 0604300N - DD(X) Total Ship Systems Engineering			PROJECT NUMBER AND NAME 4009 - Advanced Gun System (AGS)			

**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total Cost
PE 0603513N / Shipboard Sys Component De	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
BLI 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

**E. ACQUISITION STRATEGY:**

(U) The Navy conducted a comparison of concepts for the DD(X) Advanced Gun System, the results of which were reported to Congress by SECNAV on 10/99. The Advanced Gun System will be acquired in conjunction with the DD(X) development schedule. Initial phases were conducted under section 845/804 other transaction authority. Initial phases include: Phase I – Concept Formulation, Phase II - Initial Prototype Development. Downselection to a single DD(X) Design Agent occurred in 3rd quarter FY02 to begin Phase III. The AGS EDM development will continue under this contract.

**F. MAJOR PERFORMERS:**

**Contractors** - United Defense Limited Partnership and DD(X) Design Agent - Northrop Grumman Ship Systems

**Field Activities** - NSWC Carderock, NSWC Dahlgren, NSWC Port Hueneme, NSWC Port Hueneme Louisville detachment, NSWC Indian Head

**Universities** - N/A

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UNCLASSIFIED

# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering			4009 - Advanced Gun System (AGS)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF	DD(X) Design Agent	157.342			45.064	1QFY04	36.935	1QFY05	Continuing	Continuing	
	845/804	DD(X) Industry Teams	177.435							0.000	177.435	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			334.777	0.000		45.064		36.935		CONT.	CONT.	
Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year. (2) The FY03 and Prior Year Cost are reflected in PE 0603513N, project 2467.												
Development Support											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	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5			PE 0604300N - DD(X) Total Ship Systems Engineering				4009 - Advanced Gun System (AGS)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test Evaluation											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support	GSA/CPFF	Anteon Arlington VA	3.776			1.200	10/03	2.594	10/04	Continuing	Continuing	
	Various	Other Contractors	1.444			0.746	Various	0.776	Various	Continuing	Continuing	
Government Engineering Support	WR	NSWC DD Dahlgren VA	14.011			1.200	10/03	3.000	10/04	Continuing	Continuing	
	WR	NSWC PHD Pt Hueneme CA	6.942			1.200	10/03	1.600	10/04	Continuing	Continuing	
	WR	Other Gov't Activities	10.824			1.000	Various	1.550	Various	Continuing	Continuing	
Program Management Support												
Travel												
Labor (Research Personnel)												
SBIR Assessment												
Subtotal Management			36.997	0.000		5.346		9.520		0.000	51.863	
Remarks: (1) The FY03 and Prior Year Cost are reflected in PE 0603513N, project 2467.												
Total Cost			371.774	0.000		50.410		46.455		0.000	468.639	
Remarks:												

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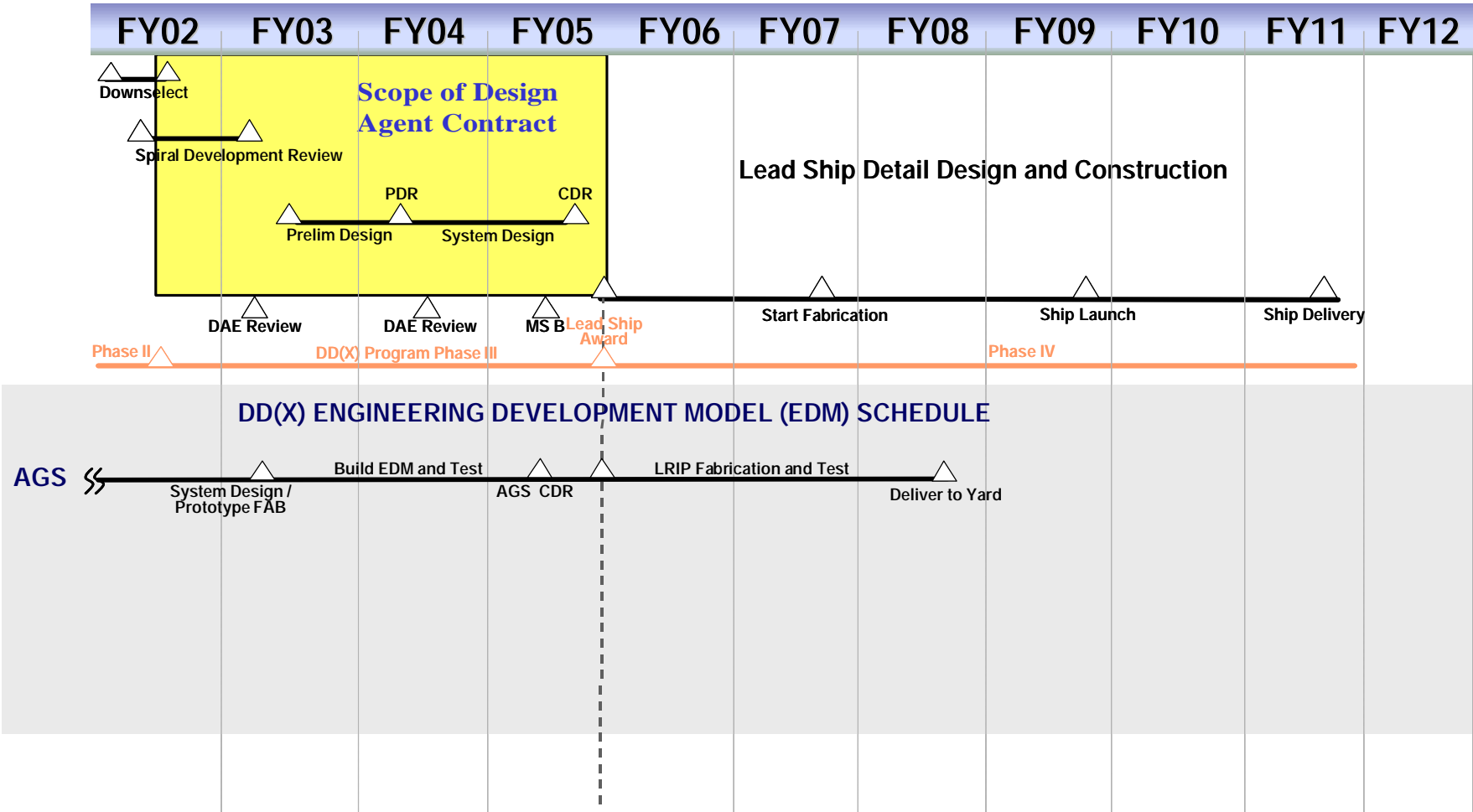
UNCLASSIFIED

Exhibit R-3, Project Cost Analysis  
(Exhibit R-3, page 43 of 53)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R4, Schedule Profile			DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5		PE 0604300N - DD(X) Total Ship Systems Engineering	4009 - Advanced Gun System (AGS)	



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**CLASSIFICATION:**

**UNCLASSIFIED**

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CLASSIFICATION:

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EXHIBIT R-2a, RDT&E Project Justification						DATE: <b>February 2004</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>		PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering			PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)		
COST (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Project Cost	0.000	72.202	60.068	0.000	0.000	0.000	0.000
RDT&E Articles Qty	0	0	0	0	0	0	0
<p><b>*FY 2004 and FY 2005 IPS DD(X) funds transferred from PE 0603513N IPS Project 2471</b></p> <p><b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b> This project provides funds to develop and test integrated power system Engineering Development Modules (EDMs) for DD (X) including Permanent Magnet (PM) motor and motor drive technologies . On 6 January 2000, SECNAV announced Navy intent that DD(X) be an electric drive ship with integrated power architecture. IPS reduces acquisition and operating costs of naval ships and increases military effectiveness. IPS provides total ship electric power, including electric propulsion, power conversion and distribution, and mission load interfaces to the electric power system. IPS leverages investments in technologies that will be useable by both military and commercial sectors.</p> <p>- (U) IPS has the potential to revolutionize the design, construction, and operation of U.S. naval ships by using electricity as the primary energy transfer medium aboard ship. The flexibility of electric power transmission allows power generating modules with various power ratings to be connected to propulsion loads and ship service in any arrangement that supports the ship's mission at lowest overall cost. Systems engineering in IPS is focused on increasing the commonality of components used across ship types and in developing modules which will be integral to standardization, zonal system architectures, and generic shipbuilding strategies. The purpose of increased commonality is to reduce the total cost of ship ownership by using common modules composed of standard components and/or standard interfaces.</p> <p>- (U) IPS addresses ship platform program goals through: reduced ship acquisition cost through integration of propulsion and ship's service prime movers; lower ship operational costs resulting from more flexible operating characteristics and more efficient components; reduced ship construction costs by allowing more extensive modular construction of power generation, distribution, and loads; improved ship survivability and reduced vulnerability through increased arrangement flexibility and improved electrical system survivability; reduced manning through improved power management systems and reduced on-board maintenance requirements; improved ship signature characteristics; improved design adaptability to meet future requirements of multiple ship types or missions; integrating power management and protection by fully utilizing the power electronics in the system to perform fault protection as well as power conversion and load management functions; simplified technology insertion which allows new technologies to be installed within IPS much less expensively than presently possible; and, reduced machinery system acquisition costs through utilization of commercially shared technologies and components.</p>							

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Exhibit R-2a, RDTEN Project Justification

(Exhibit R-2a, page 46 of 53)

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>												
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering	PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)												
<b>B. Accomplishments/Planned Program</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"><tr><td style="width: 30%;"></td><td style="width: 20%; text-align: center;">FY 03</td><td style="width: 20%; text-align: center;">FY 04</td><td style="width: 30%; text-align: center;">FY 05</td></tr><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">0.000</td><td style="text-align: center;">72.202</td><td style="text-align: center;">60.068</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px; min-height: 100px;"><p>Platform Specific Development: FY03 funds are in PE 0603513N Project 2471. Fabricate two (2) DD(X) IPS Engineering Development Models (EDMs) for land based and at-sea testing. Perform factory acceptance tests of major components. In support of DD(X) IPS EDM land based and at sea testing, complete test site preparations and prepare test plans. Deliver DD(X) IPS EDMs to land based and at sea test platforms. Install, checkout, integrate and conduct land based and at sea testing.</p></div>				FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	0.000	72.202	60.068	RDT&E Articles Quantity	0	0	0
	FY 03	FY 04	FY 05											
Accomplishments/Effort/Subtotal Cost	0.000	72.202	60.068											
RDT&E Articles Quantity	0	0	0											

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2004</b>																																				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-5</b>	PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering	PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)																																				
<b>C. PROGRAM CHANGE SUMMARY:</b>  <table style="width: 100%; border-collapse: collapse;"><thead><tr><th style="text-align: left;"></th><th style="text-align: right;">FY 2003</th><th style="text-align: right;">FY 2004</th><th style="text-align: right;">FY 2005</th></tr></thead><tbody><tr><td>Funding:</td><td></td><td></td><td></td></tr><tr><td>Previous President's Budget: (FY04 Pres Controls)</td><td style="text-align: right;">0.000</td><td style="text-align: right;">73.015</td><td style="text-align: right;">60.300</td></tr><tr><td>Current BES/President's Budget: (FY05 Pres Controls)</td><td style="text-align: right;">0.000</td><td style="text-align: right;">72.202</td><td style="text-align: right;">60.068</td></tr><tr><td>Total Adjustments</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">-0.813</td><td style="text-align: right; border-top: 1px solid black;">-0.232</td></tr><tr><td colspan="4" style="padding-top: 10px;">Summary of Adjustments</td></tr><tr><td>    Congressional undistributed reductions</td><td></td><td style="text-align: right;">-0.813</td><td></td></tr><tr><td>    Miscellaneous Adjustments</td><td></td><td></td><td style="text-align: right;">-0.232</td></tr><tr><td>    Subtotal</td><td style="text-align: right; border-top: 1px solid black;">0.000</td><td style="text-align: right; border-top: 1px solid black;">-0.813</td><td style="text-align: right; border-top: 1px solid black;">-0.232</td></tr></tbody></table> <div style="margin-top: 20px;">Schedule:     Not Applicable</div>  <div style="margin-top: 20px;">Technical:     Not Applicable</div>				FY 2003	FY 2004	FY 2005	Funding:				Previous President's Budget: (FY04 Pres Controls)	0.000	73.015	60.300	Current BES/President's Budget: (FY05 Pres Controls)	0.000	72.202	60.068	Total Adjustments	0.000	-0.813	-0.232	Summary of Adjustments				Congressional undistributed reductions		-0.813		Miscellaneous Adjustments			-0.232	Subtotal	0.000	-0.813	-0.232
	FY 2003	FY 2004	FY 2005																																			
Funding:																																						
Previous President's Budget: (FY04 Pres Controls)	0.000	73.015	60.300																																			
Current BES/President's Budget: (FY05 Pres Controls)	0.000	72.202	60.068																																			
Total Adjustments	0.000	-0.813	-0.232																																			
Summary of Adjustments																																						
Congressional undistributed reductions		-0.813																																				
Miscellaneous Adjustments			-0.232																																			
Subtotal	0.000	-0.813	-0.232																																			

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2004</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-5</b>			PROGRAM ELEMENT NUMBER AND NAME 0604300N/ DD(X) Total Ship Sys Engineering			PROJECT NUMBER AND NAME 4010/Integrated Power Systems on DD(X)			

**D. OTHER PROGRAM FUNDING SUMMARY:**

<u>Line Item No. &amp; Name</u>	<u>FY 2003</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>To Complete</u>	<u>Total Cost</u>
PE 0603513N/ Shipboard Sys Component	247.513	36.664	18.993	33.276	23.125	21.393	21.780	CONT	CONT
PE 211900 / SCN	0.000	0.000	0.000	99.418	3,594.003	3,320.500	4,695.647	CONT	CONT

**E. ACQUISITION STRATEGY:**

(U) IPS is a candidate system for DD(X) and all other future surface ships.

**F. MAJOR PERFORMERS:**

IPS DD(X) Design Agent, Northrop Grumman Ship Systems

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604300N/ DD(X) Total Ship Sys Engineering			4010/Integrated Power Systems on DD(X)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date (1)	FY 05 Cost	FY 05 Award Date (1)	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPAF	DD(X) Design Agent	154.500			72.202	1QFY04	60.068	1QFY05	CONT	CONT	
	845/804	DD(X) Industry Teams	66.661									
Ancillary Hardware Development											0.000	
Systems Engineering											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			221.161	0.000		72.202		60.068		CONT	CONT	
Remarks: (1) The DD(X) Design Agent contract (FY03-FY05) is incrementally funded. The contract was awarded in April 2002. The yearly increment will be funded in the 1st Quarter of the fiscal year. (2) The FY03 and Prior Year Cost are reflected in PE 0603513N, project 2471.												
Development Support											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000			0.000	
Remarks:												

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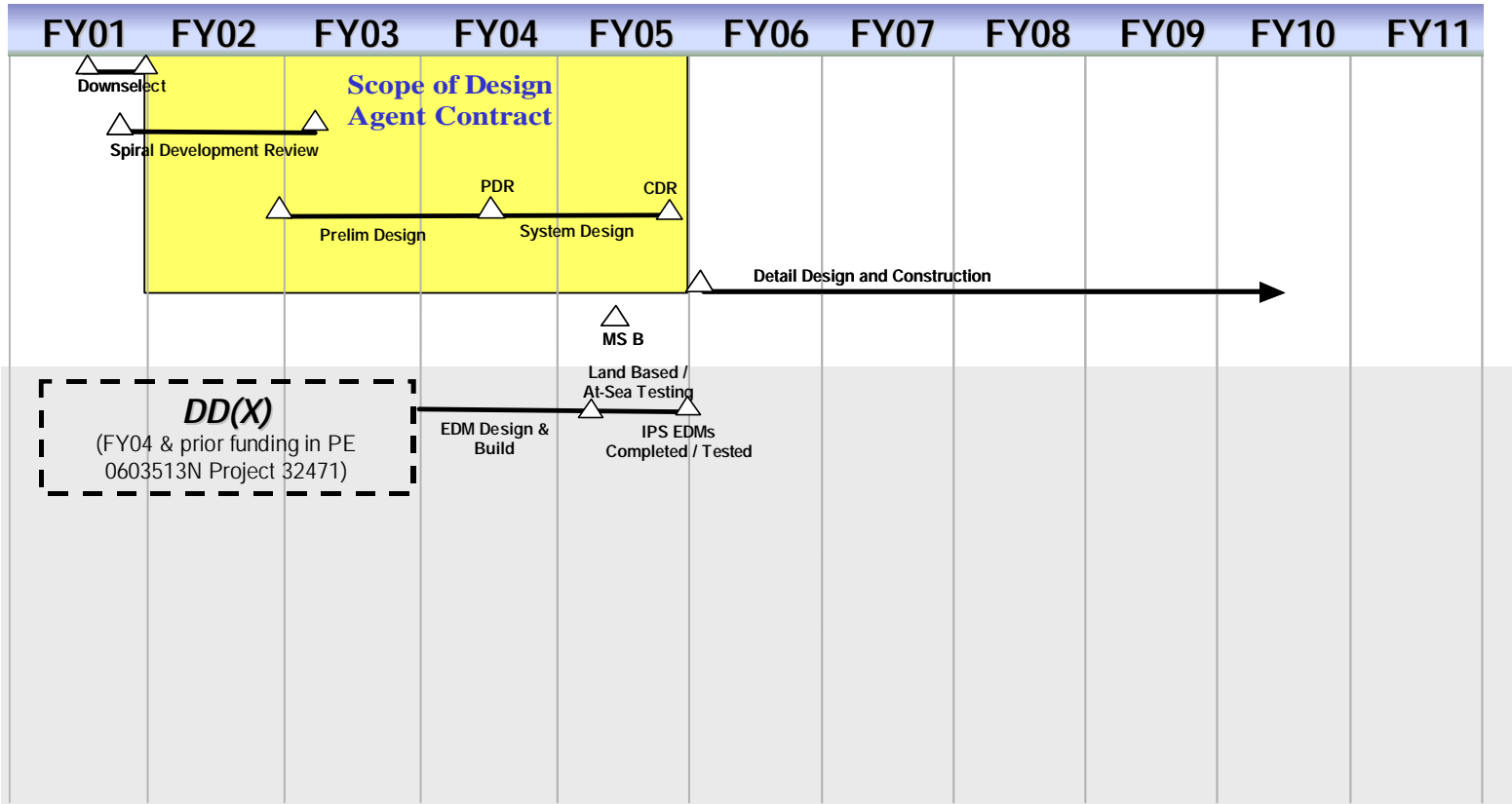
Exhibit R-3 Cost Analysis (page 2)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			0604300N/ DD(X) Total Ship Sys Engineering			4010/Integrated Power Systems on DD(X)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			0.000	0.000		0.000		0.000		CONT	CONT	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		CONT	CONT	
Remarks:												
Total Cost			0.000	0.000		72.202		60.068		CONT	CONT	
Remarks:												

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EXHIBIT R4, Schedule Profile			DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-5		0604300N/ DD(X) Total Ship Sys Engineering	4010/Integrated Power Systems on DD(X)	

# IPS Schedule



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