

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY / BA-4</b>					R-1 ITEM NOMENCLATURE PE0603721N / Environmental Protection			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	31.456	28.113	21.977	22.373	23.426	24.022	24.587	25.144
Shipboard Waste Management / 0401	24.653	16.818	9.008	7.510	8.078	8.612	8.849	9.071
Environmental Compliance / 2210	0.751	0.770	0.841	1.026	1.068	0.832	0.847	0.863
Pollution Abatement / 0817	4.027	6.809	7.592	9.261	9.651	9.910	10.176	10.446
Marine Mammal Detection & Mitigation / 9204*	2.025	2.080	4.536	4.576	4.629	4.668	4.715	4.764
Anoxia Research In Puget Sound / 9536**	0.000	1.388	0.000	0.000	0.000	0.000	0.000	0.000
COMNAVMAR Invasive Species Demonstration Program / 9537**	0.000	0.248	0.000	0.000	0.000	0.000	0.000	0.000
<b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b> (U) Many environmental laws, regulations, and policies impose restrictions on Navy vessels, aircraft, and facilities that interfere with operations and/or increase the cost of operations. The Navy must be able to conduct its national security mission in compliance with applicable environmental requirements in the U.S. and abroad without compromising performance, safety, or health, while simultaneously minimizing the cost of compliance. This program develops and evaluates processes, hardware, systems, and operational procedures that will allow the Navy to operate in U.S., foreign, and international waters, air, space, and land areas while complying with environmental U.S. statutes and international agreements. Projects support the Navy's compliance with: OPNAVINST 5090.1B CH-4 and other Navy environmental-related policies; the Clean Water Act, Clean Air Act, Act to Prevent Pollution from Ships, National Environmental Policy Act, Marine Plastic Pollution Research and Control Act, Endangered Species Act, Marine Mammal Protection Act, Resource Conservation and Recovery Act, Toxic Substances Control Act, U.S. Public Vessel Medical Waste Anti-Dumping Act, and Federal Facility Compliance Act; and Executive Orders 12088, 12114, 12843, 13089, 13101, 13112, 13148, and 13158. Project 0401 supports RDT&E efforts that allow Navy ships and submarines to comply with existing laws, regulations, and policies in four major areas: ozone depleting substances, liquid wastes, solid wastes, and hazardous and other wastes. Project 2210 funds RDT&E requirements that allow Navy compliance with laws, regulations and policies impacting the basing, re-alignment, operation, repair, and replacement of Naval aircraft in four major areas: engine emissions, air vehicle hazardous materials and wastes, ozone depleting substances, and aviation shipboard emissions. Project 0817 funds RDT&E requirements that allow the Navy to develop and validate technologies to enable Navy facilities to comply with environmental laws, regulations, and policies in a cost-effective manner. * Project 9204 is a Congressional add. Becomes a budgeted project in FY06. ** Projects 9536 and 9537 are Congressional adds.								

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EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection				PROJECT NUMBER AND NAME 0401 / Shipboard Waste Management			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	24.653	16.818	9.008	7.510	8.078	8.612	8.849	9.071
RDT&E Articles Qty								

## A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Navy ships and submarines must routinely operate in U.S., international, and foreign waters, and visit numerous U.S. and foreign ports. No body of water is without environmental restrictions that impact the movements and operations of Navy vessels. Environmental requirements tend to be most restrictive in port and in coastal waters, where the Navy's increasing littoral presence places ships and submarines in discharge-restricted waters for longer periods of time. Growing international cooperation in addressing global environmental concerns is resulting in expanding areas of ocean designated as environmentally sensitive, where special prohibitions on ship discharges are imposed. Navy vessels must comply with applicable environmental legal requirements while ensuring continued access to all waters for operations, exercises, training, and port access. The large crews and limited onboard space of Navy ships and submarines severely constrain their ability to hold wastes for return to port for shoreside disposal. This project develops and evaluates shipboard waste processing equipment and systems to enable ships and submarines to manage their wastes in an environmentally-compliant, safe, and operationally-compatible manner. It also addresses afloat environmental issues other than shipboard wastes, e.g., protected marine animals and hull antifouling, that pose significant operational and port entry threats to the Navy Fleet.

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Exhibit R-2a, RDTEN Project Justification

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EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0401 / Shipboard Waste Management																	
<b>B. Accomplishments/Planned Program</b>																			
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"><tr><td style="width: 30%;"></td><td style="width: 15%; text-align: center;">FY 04</td><td style="width: 15%; text-align: center;">FY 05</td><td style="width: 15%; text-align: center;">FY 06</td><td style="width: 15%; text-align: center;">FY 07</td></tr><tr><td>Ozone Depleting Substances</td><td style="text-align: center;">1.000</td><td style="text-align: center;">1.000</td><td style="text-align: center;">0.100</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></table>						FY 04	FY 05	FY 06	FY 07	Ozone Depleting Substances	1.000	1.000	0.100	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Ozone Depleting Substances	1.000	1.000	0.100	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; min-height: 150px; margin-bottom: 10px;"></div>																			

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0401 / Shipboard Waste Management		
<b>B. Accomplishments/Planned Program</b>				
	FY 04	FY 05	FY 06	FY 07
Integrated Liquid Wastes	5.646	5.600	5.300	5.100
RDT&E Articles Quantity				
<p><b>FY 04:</b> (U) Continued support of rulemaking process with Environmental Protection Agency (EPA) in development of Uniform National Discharge Standards (UNDS) for liquid waste discharges from Navy vessels: continued discharge analyses and setting of Marine Pollution Control Device (MPCD) performance standards. Continued development of integrated liquid waste treatment system: completed development of Engineering Development Model (EDM) non-oily wastewater treatment system; initiated development of MPCD treatment systems; initiated development of shipboard Oil Pollution Abatement System improvements; initiated evaluation of commercial non-oily wastewater treatment systems.</p> <p><b>FY 05:</b> (U) Continue support of rulemaking process with Environmental Protection Agency (EPA) in development of Uniform National Discharge Standards (UNDS) for liquid waste discharges from Navy vessels: continue discharge analyses and setting of Marine Pollution Control Device (MPCD) performance standards. Continue development of Integrated liquid waste treatment system: continue development of MPCD treatment systems; continue development of shipboard Oil Pollution Abatement System improvements; continue evaluation of commercial non-oily wastewater treatment systems.</p> <p><b>FY 06:</b> (U) Continue support of rulemaking process with Environmental Protection Agency (EPA) in development of Uniform National Discharge Standards (UNDS) for liquid waste discharges from Navy vessels: continue discharge analyses and setting of Marine Pollution Control Device (MPCD) performance standards. Continue development of Integrated liquid waste treatment system: continue development of MPCD treatment systems; complete development of shipboard Oil Pollution Abatement System improvements; continue evaluation of commercial non-oily wastewater treatment systems.</p> <p><b>FY 07:</b> (U) Continue support of rulemaking process with Environmental Protection Agency (EPA) in development of Uniform National Discharge Standards (UNDS) for liquid waste discharges from Navy vessels: continue discharge analyses and setting of Marine Pollution Control Device (MPCD) performance standards. Continue development of Integrated liquid waste treatment system: continue development of MPCD treatment systems; continue evaluation of commercial non-oily wastewater treatment systems.</p>				

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0401 / Shipboard Waste Management																	
<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: 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>Solid Wastes</td><td style="text-align: center;">3.000</td><td style="text-align: center;">0.500</td><td style="text-align: center;">0.050</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Solid Wastes	3.000	0.500	0.050	0.000	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Solid Wastes	3.000	0.500	0.050	0.000															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><p><b>FY 04:</b> (U) Completed development of advanced thermal destruction system for processing shipboard solid wastes. Initiated evaluation of commercial thermal destruction systems for shipboard solid wastes.</p><p><b>FY 05:</b> (U) Continue evaluation of commercial thermal destruction systems for shipboard solid wastes.</p><p><b>FY 06:</b> (U) Complete evaluation of commercial thermal destruction systems for shipboard solid wastes.</p></div>																			
<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>Hazardous and Other Major Ship Wastes</td><td style="text-align: center;">15.007</td><td style="text-align: center;">9.718</td><td style="text-align: center;">3.558</td><td style="text-align: center;">2.410</td></tr><tr><td>RDT&amp;E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Hazardous and Other Major Ship Wastes	15.007	9.718	3.558	2.410	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Hazardous and Other Major Ship Wastes	15.007	9.718	3.558	2.410															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><p><b>FY 04:</b> (U) Continued shipboard hazardous materials substitution and elimination process and continued test and evaluation of pollution-prevention equipment aboard surface ships and submarines. Continued development of marine mammals ship database tracking system: continued demonstration of acoustic modelling. Continued development and testing of new low/no-copper underwater hull antifouling coatings. Continued development of underwater hull cleaning system. Continued development of Environmental Information Management System (EIMS).</p><p><b>FY 05:</b> (U) Continue shipboard hazardous materials substitution and elimination process and continue test and evaluation of pollution-prevention equipment aboard surface ships and submarines. Continue development of marine mammals ship database tracking system: continue demonstration of acoustic modelling; transition to Project 9204 in FY06. Continue development and testing of new low/no-copper underwater hull antifouling coatings. Continue development of underwater hull cleaning system. Continue development of Environmental Information Management System (EIMS).</p><p><b>FY 06:</b> (U) Continue shipboard hazardous materials substitution and elimination process and continue test and evaluation of pollution-prevention equipment aboard surface ships and submarines. Continue development and testing of new low/no-copper underwater hull antifouling coatings. Continue development of underwater hull cleaning system. Continue development of Environmental Information Management System (EIMS).</p><p><b>FY 07:</b> (U) Continue shipboard hazardous materials substitution and elimination process and continue test and evaluation of pollution-prevention equipment aboard surface ships and submarines. Continue development and testing of new low/no-copper underwater hull antifouling coatings. Complete development of underwater hull cleaning system. Complete development of Environmental Information Management System (EIMS).</p></div>																			

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0401 / Shipboard Waste Management		

**C. PROGRAM CHANGE SUMMARY:**

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget: (FY 05 Pres Controls)	25.283	16.980	12.172	10.670
Current BES/President's Budget:	24.653	16.818	9.008	7.510
Total Adjustments	-0.630	-0.162	-3.164	-3.160
Summary of Adjustments				
Program Adjustments		-0.003	-3.164	-3.160
SPAWAR Service Cost Center Adjustment	-0.007			
Section 8094: Management Improvements	-0.067			
Efficiencies/Revised Econ. Assumptions	-0.215			
FY04 SBIR (19-Apr-04)	-0.255			
Cancelled Account	-0.063			
FY04 Non-Pay Inflation Savings	-0.023			
Section 8105, 8122, 8131		-0.159		
Subtotal	-0.630	-0.162	-3.164	-3.160

Schedule:

Not applicable.

Technical:

Not applicable.

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**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
(U) Demonstrated and validated technologies are transitioned to various SCN, OPN, and O&MN budget accounts for implementation as part of a Fleet modernization program or new ship construction.										
(U) Related RDT&E: (U) Defense Research Sciences/Shipboard Processes (PE 61153N / 3162)										
(U) Readiness, Training, and Environmental Quality/Logistics and Environmental Quality (PE 62233N)										

**E. ACQUISITION STRATEGY:**

(U) RDT&E Contracts are Competitive Procurements.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2005						
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N / BA-4			PE0603721N / Environmental Protection			0401 / Shipboard Waste Management								
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	C/CPFF	WMTD, Pitts, PA	14.580										14.580	14.580
Primary Hardware Development	C/CPFF	Geo-Centers, Inc,Bos.,MA	23.250	1.500	01/04	0.500		0.000		0.000		Cont	Cont	N/A
Primary Hardware Development	SS/CPFF	York Internat'l Corp,York,PA	2.700									N/A	2.700	2.700
Primary Hardware Development	SS/CPFF	York Internat'l Corp,York,PA	11.850									10.150	25.000	25.000
Primary Hardware Development	SS/CPFF	N. Res & Eng Corp,Wab.,MA	1.200									N/A	1.200	1.200
Primary Hardware Development	C/CPFF	M. Rosenblatt & Son, NY,NY	10.363									Cont	Cont	N/A
Ancillary Hardware Development	Various	Misc. Contracts	16.884	1.500	Various	0.500	Various	0.500		0.500		N/A	N/A	N/A
Component Development													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering	C/CPFF	John J. McMullen & Son	4.487	0.000		0.000						Cont	Cont	N/A
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			85.314	3.000		1.000		0.500		0.500		Cont	Cont	N/A
Remarks: (1) Hardware Development and Systems Engineering Tasks use CPFF Delivery Contracts for Continuing Development of Pollution Abatement Hardware and Ship Systems Engineering Analysis.														
Development Support													0.000	
Software Development	WR	SPAWARS, Charleston, SC	5.938	2.100	10/03	2.838	10/04	1.000		0.000		0.000	11.876	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			5.938	2.100		2.838		1.000		0.000		0.000	11.876	
Remarks:														

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Exhibit R-3, Project Cost Analysis



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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>			PROGRAM ELEMENT PE0603721N / Environmental Protection			PROJECT NUMBER AND NAME 0401 / Shipboard Waste Management								
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	NSWCCD, Bethesda, MD	130.524	11.000	10/03	6.500		4.000		4.000		Cont	Cont	N/A
Developmental Test & Evaluation	WR	NRL, Wash, DC	25.982	2.000	11/03	1.000		0.500		0.400		Cont	Cont	N/A
Developmental Test & Evaluation	WR	SPAWARSYSCEN, SD, CA	8.570	1.500	10/03	0.500		0.500		0.200		Cont	Cont	N/A
Process Control Engineering	C/CPFF	GSA/BAH, Arlington, VA	9.322	3.000	5/04	3.000		1.500		1.500		Cont	Cont	N/A
Developmental Test & Evaluation	WR	Misc. Govt Labs	22.232	0.500	Various	0.500		0.000		0.000		Cont	Cont	N/A
Developmental Test & Evaluation	C/CPFF	Geo-Centers, Inc, Bos., MA	13.251	1.000	01/04	1.000	01/05	0.600		0.500		Cont	Cont	N/A
Developmental Test & Evaluation	C/CPFF	York Internat'l Corp, York, PA	12.000									0.000	12.000	12.000
Developmental Test & Evaluation	C/CPFF	Misc. Contracts	11.519	0.533	Various	0.460	Various	0.388		0.390		Cont	Cont	N/A
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	N/A
Subtotal T&E			233.400	19.533		12.960		7.488		6.990		0.000	Cont	N/A
Remarks:														
Contractor Engineering Support													0.000	
Government Engineering Support													0.000	
Program Management Support													0.000	
Travel			0.190	0.020		0.020		0.020		0.020			Cont	
Labor (Research Personnel)													0.000	
SBIR Assessment													0.000	
Subtotal Management			0.190	0.020		0.020		0.020		0.020		0.000	Cont	
Remarks:														
Total Cost			324.842	24.653		16.818		9.008		7.510		Cont	Cont	Cont
Remarks:														

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EXHIBIT R4, Schedule Profile																		DATE:				February 2005							
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-4					PE0603721N / Environmental Protection												0401 / Shipboard Waste Management												
Fiscal Year	2004				2005				2006				2007				2008				2009								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Ozone Depleting Substances																													
Alternative (Non-Vapor-Compression) Cooling Concepts																													
Lubrication and Engineering Problems for HFC-236fa																													
Air-Conditioning Plants																													
Integrated Liquid Wastes																													
Uniform National Discharge Standards (UNDS )																													
Rulemaking																													
Develop Marine Pollution Control Device (MPCD)																													
Treatment Systems																													
Oil Pollution Abatement (OPA) System																													
Improvements																													
Evaluate Commercial Non-Oily Wastewater																													
Treatment Systems																													
Solid Wastes																													
Advanced Thermal Destruction System																													
Evaluate Commercial Thermal Destruction Systems																													
Hazardous and Other Major Ship Wastes																													
Hazardous Materials Substitution/Elimination																													
Pollution Prevention Equipment																													
Protected Marine Animals																													
Low/No-Copper Hull Antifouling Coatings																													
Underwater Hull Cleaning System																													
Environmental Information Management System (EIMS)																													

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Exhibit R-4, Schedule Profile

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection				PROJECT NUMBER AND NAME 2210 Environmental Compliance			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	<b>0.751</b>	<b>0.770</b>	<b>0.841</b>	<b>1.026</b>	<b>1.068</b>	<b>0.832</b>	<b>0.847</b>	<b>0.863</b>
RDT&E Articles Qty								

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

A. (U) Mission Description and Budget Item Justification: This project supports development and implementation of technologies which will lead to environmentally safe naval aviation operations and support; compliance with international, federal, state, and local regulations and policies; reduction of increasing compliance costs and personal liability; and enhancement of naval aviation mission readiness and effectiveness. This project will support aviation compliance and pollution prevention technologies as well as additional operational and shipboard aviation requirements previously unsupported. Specific regulatory requirements include Executive Orders 12873 (Recycling & Waste Prevention), and 13148, the National Environmental Policy Act (NEPA), Clean Air Act (CAA) Title I, National Ambient Air Quality Standards (NAAQS), relating to pollutants aircraft contribute to base air emission limits (volatile organic compounds (VOCs), particulate matter (PM), oxides of nitrogen (NOx), oxides of sulfur (SOx), and unburned hydrocarbons (UHCs)), the National Emission Standards for Hazardous Air Pollutants (NESHAPs), the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), as well as Occupational, Safety and Health Administration (OSHA) standards.

2210 legacy aircraft maintenance facility requirements were rebaselined to Project 0817, Pollution Abatement Ashore, beginning FY 04.

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<b>B. Accomplishments/Planned Program</b>																			
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	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.524	0.532	0.565	0.726															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><b>Engine Emissions Technology:</b> Research, develop and test low emissions technology for gas turbine engines. Objectives include test, demonstrate and validate jet fuel additives for pollution prevention and compliance, gas turbine engine particulate matter measurement and testing technology, low emissions combustor technology, aircraft source noise modeling and mitigation technologies.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></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;">0.227</td><td style="text-align: center;">0.238</td><td style="text-align: center;">0.276</td><td style="text-align: center;">0.300</td></tr><tr><td>RDT&amp;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	0.227	0.238	0.276	0.300	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost	0.227	0.238	0.276	0.300															
RDT&E Articles Quantity																			
<div style="border: 1px solid black; padding: 5px;"><b>Aircraft Hazardous Materials and Shipboard Waste Reduction:</b> Research, develop and test alternatives to aircraft and propulsion and power systems manufacture, finishing and repair processes that generate toxic heavy metals, hazardous air pollutants (HAPs) and volatile organic compounds (VOCs). Objectives include the test, demonstration and validation of aircraft structural stainless steels, long life lead and cadmium free aircraft batteries and shipboard validation of corrosion and composite repair kits, environmentally compliant cleaners, coatings and coatings maintenance technologies repair kits.</div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></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></td><td></td><td></td></tr><tr><td>RDT&amp;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					RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 2210 Environmental Compliance		

**C. PROGRAM CHANGE SUMMARY:**

	FY 2004	FY 2005	FY 2006	FY 2007
Funding:				
Previous President's Budget:	0.758	0.776	0.811	1.027
Current BES/President's Budget	0.751	0.770	0.841	1.026
Total Adjustments	-0.007	-0.006	0.030	-0.001
Summary of Adjustments				
Congressional undistributed reductions		-0.006		
SBIR/STTR Transfer	-0.007			
Program Adjustments			-0.077	-0.068
Economic Assumptions			0.007	0.013
Congressional increases			0.100	0.054
Subtotal	-0.007	-0.006	0.030	-0.001
Schedule:				
Not applicable				
Technical:				
Not applicable				

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# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	<b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
<b>RDT&amp;E, N / BA-4</b>	PE0603721N / Environmental Protection	2210 Environmental Compliance		

### D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. &amp; 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>
Related RDT&E:										
PE0603851D (Environmental Security Technology Certification Program)	0.950	0.750								
PE0602121N (Ship, Submarine and Logistics Technology)										
PE060223N (Readiness/Training/Environmental Quality)										
PE0603716D (Strategic Environmental R&D Program)										

### E. ACQUISITION STRATEGY:

Technologies developed under this project are demonstrated and validated primarily through competitive procurements. Validated technology is transitioned to users through new or revised performance specifications, technical manuals or competitive procurements of subsystems, materials or processes.

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# UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification

# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)									DATE: <b>February 2005</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>			PROGRAM ELEMENT 0603721N Environmental Protection			PROJECT NUMBER AND NAME 2210 Environmental Compliance						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	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											0.000	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering	WR	NAWCAD, Pax River	2.990	0.532	10/04	0.565	10/05	0.726	10/06	Continuing	Continuing	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			2.990	0.532		0.565		0.726		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											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 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-4</b>			PROGRAM ELEMENT 0603721N Environmental Protection				PROJECT NUMBER AND NAME 2210 Environmental Compliance					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	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											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	WR	NAWCAD, Pax River	0.502	0.238	10/04	0.276	10/05	0.300	10/06	Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.502	0.238		0.276		0.300		Continuing	Continuing	
Remarks:												
Total Cost			3.492	0.770		0.841		1.026		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis



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**CLASSIFICATION:**

EXHIBIT R4, Schedule Profile																								DATE:				FEBRUARY 2005				
APPROPRIATION/BUDGET ACTIVITY									PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-4									0603721N Environmental Protection												2210 Environmental Compliance											
Fiscal Year	2004				2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Acquisition Milestones																																
Engine Emission Technology																																
Aircraft Hazardous Material																																
Shipboard Waste Reduction																																
Test & Evaluation Milestones																																
Engine Emission Development Test																																
Shipboard Waste Reduction Development Test																																
Production Milestones																																
Deliveries																																

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Exhibit R-4, Schedule Profile

**UNCLASSIFIED**

**CLASSIFICATION:**

[illegible]

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Exhibit R-4a, Schedule Detail

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection				PROJECT NUMBER AND NAME 0817 / Pollution Abatement			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.027	6.809	7.592	9.261	9.651	9.910	10.176	10.446
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>(U) This project develops and validates new technologies needed to address pervasive Navy shoreside environmental requirements imposed on Naval shore activities by the need to comply with environmental laws, regulations, orders, and policies. The goal of the program is to minimize personnel liabilities, operational costs, and regulatory oversight while preserving or enhancing the ability of Naval shore activities to accomplish their required missions and functions. Each project task addresses one or more of the requirements from the Navy Environmental Quality RDT&amp;E Requirements. Project investment supports 4 of 5 Environmental Enabling Capabilities (EECs) as detailed in the POM06 Integrated Navy Environmental Readiness Capability Assessment for S&amp;T and DT&amp;E.</p> <p>(U) EEC-2 MAXIMIZE TRAINING AND TESTING REQUIREMENTS WITHIN ENVIRONMENTAL CONSTRAINTS</p> <p>(U) This capability addresses environmental impacts and restrictions at Navy ranges to ensure that Naval training ranges and munitions testing/manufacturing ranges are fully available and efficiently utilized. Investments under 0817 for the FYDP address address two thrust areas: Environmental effects of underwater UXO and Navy range sustainability. Investment in ordnance testing, manufacture and disposal is concluding in FY04.</p> <p>(U) ENVIRONMENTAL EFFECTS OF UNDERWATER UXO</p> <p>(U) The thrust was added in FY04 based on results of the Initiation Decision Report (IDR) completed on Environmental Effects of Underwater UXO in FY02. The tasks in this thrust support the requirements for addressing the transport, fate, and effects of underwater UXO needed to support scientifically valid decisions.</p> <p>(U) RANGE SUSTAINABILITY</p> <p>(U) Technology gaps and opportunities to support Navy range sustainability were investigated in FY03-04. An IDR on Navy training lands sustainability was completed in FY04. The tasks in this thrust, added for FY05 will address the technology needs and gaps identified in the IDR and supported by the Navy range community.</p> <p>(U) ORDNANCE TESTING/MANUFACTURE/DISPOSAL</p> <p>(U) Tasks conducted in this thrust addressed specific compliance-driven environmental requirements of Navy ordnance activities. These efforts are concluding in FY04 with the completion of the pilot scale confined burn facility. Further investment in the CBF test and evaluation will be pursued through the DoD's ESTCP program.</p>								

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EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0817 / Pollution Abatement
<p><b>(U) EEC-3 PLATFORM MAINTENANCE AND REPAIR WITH MINIMAL ENVIRONMENTAL FOOTPRINT</b></p> <p>(U) This capability focuses on identifying systems and processes that minimize or eliminate environmental hazards in critical repair and maintenance operations. Investment under 0817 for the FYDP address two thrust area: Ship maintenance and repair, and Aircraft maintenance and repair.</p> <p><b>(U) SHIP MAINTENANCE AND REPAIR</b></p> <p>(U) Tasks in this thrust area address environmental requirements originating at Naval shipyards (NSYs) and Ship Intermediate Maintenance Activities (SIMAs). As the Navy pursues a strategy to reduce ship maintenance costs by shifting work to SIMAs, new requirements are emerging as these processes and resulting hazardous waste streams become more decentralized. SIMAs require technologies that are cost-effective when operated less frequently and with lower throughput. The projects address technology needs for NSYs and SIMAs identified by the NAVSEA P2 Technology Needs Subcommittee.</p> <p><b>(U) AVIATION MAINTENANCE AND REPAIR</b></p> <p>(U) This thrust was added in FY04. The tasks in this thrust reduce the shoreside environmental impacts of aviation maintenance at air bases and depots. Projects in this thrust address environmental technology needs for aviation maintenance at air bases and depots identified by the NAVAIR P2 Working IPT.</p> <p><b>(U) EEC-4. SUPPORT SHORE READINESS WITHIN ENVIRONMENTAL CONSTRAINTS</b></p> <p>(U) This capability provides cost effective services at Naval bases and air facilities in compliance with environmental regulations. RDT&amp;E is focused on elimination and reduction of environmental constraints related to base operations to ensure operational readiness through sustained airfield, waterfront, and facilities support operations, as well as cost savings and avoidance associated with relief from compliance burdens. Investment under 0817 for the FYDP addresses the Base operations and maintenance thrust area.</p> <p><b>(U) BASE OPERATIONS AND MAINTENANCE</b></p> <p>(U) Tasks in this thrust address compliance and pollution prevention environmental requirements originating from the industrial operations of Navy Public Works Centers and Naval Stations. As part of an overall Navy strategy, future tasks will shift more of the investment from compliance technologies to pollution prevention technologies that are cost-effective solutions to compliance requirements. It is also expected that there will be new requirements driven by the trend towards stricter federal, state, and local air emission and wastewater regulations. The tasks address environmental technology needs validated by NAVFAC Compliance Media Field Teams. Technology solutions are determined within the EPA hierarchy source reduction (process changes, material substitutions), recycle/reuse, waste treatment, and waste disposal.</p>		

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EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0817 / Pollution Abatement
<p><b>(U) EEC-5. COST-EFFECTIVE MANAGEMENT OF ENVIRONMENTAL REGULATORY REQUIREMENTS</b></p> <p>(U) This capability provides cost-effective methods for identifying, analyzing, and managing environmental constraints related to current and projected regulatory impacts. Naval shore establishment needs scientific data, improved methods, and models to support Navy positions and policy in commenting on proposed regulations, assessing the environmental impacts of Navy operations on harbors, US waterways, and surrounding communities, and conducting ecological risk assessments. Significant technical improvements are needed in all areas of environmental management including source control, assessment, remediation, and monitoring. Investment under 0817 for the FYDP addresses two thrust area: Coastal Contamination and Contaminated Sediments and Environmental Monitoring and Reporting.</p> <p><b>(U) COASTAL CONTAMINATION AND CONTAMINATED SEDIMENTS</b></p> <p>(U) This thrust area was created in FY02. Tasks within this area address requirements for reducing the cost of environmental compliance and cleanup for coastal contamination and contaminated sediments. Navy compliance with all of the laws and regulations dealing with marine and coastal environments is complex and costly. Tasks will develop and evaluate technologies for sediment characterization and monitoring, sediment management and remediation, and contaminant impacts to receiving waters, and marine environmental risk assessment.</p> <p><b>(U) ENVIRONMENTAL MONITORING AND REPORTING</b></p> <p>(U) This thrust area was created in FY02. Tasks under this thrust will address legal and policy requirements for permitting, monitoring and detection, record keeping, and reporting of wastewater discharges, air emissions, and hazardous wastes, and other environmental issues. The detection and monitoring devices and procedures demonstrated under this thrust will improve process performance, provide mission-compatible compliance with provisions of the Clean Water Act (CWA), Clean Air Act (CAA), Resource Conservation &amp; Recovery Act (RCRA), Toxic Substance Control Act (TSCA), State, and local regulations and reduce costs for environmental sampling, analysis, and reporting.</p>		

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Exhibit R-2a, RDTEN Project Justification

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																															
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0817 / Pollution Abatement																																
<b>B. Accomplishments/Planned Program - Maximize Training and Testing Requirements Within Environmental Constraints</b>																																		
<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>Environmental Effects of Underwater Ordnance</td> <td style="text-align: center;">0.845</td> <td style="text-align: center;">0.850</td> <td style="text-align: center;">0.588</td> <td style="text-align: center;">1.150</td> </tr> <tr> <td>RDT&amp;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: 10px;"> <p>FY 04: The thrust was new for FY04 based on results of the Initiation Decision Report (IDR) completed on Environmental effects of Underwater UXO in FY02. The tasks in this thrust support the requirements for addressing the transport, fate, and effects of underwater UXO needed to support scientifically valid decisions. Continued toxicity and degradation studies of ordnance and explosives in marine environment. Continued UXO casing corrosion evaluation. Continued evaluation of UXO transport in marine sediments.</p> <p>FY 05: Complete Toxicity and Degradation Study of Ordnance in Marine Sediments. Complete UXO Casing Corrosion. Complete UXO Transport Evaluation. Continue Underwater UXO Risk Assessment Model.</p> <p>FY06: Complete Toxicity and Degradation Study of Ordnance in Marine Sediments. Complete Underwater UXO Risk Assessment Model. Initiate Ecorisk Assessment of Underwater UXO.</p> <p>FY07: Continue Ecorisk Assessment of Underwater UXO. Initiate Field Screening Techniques for MC in Marine Sediments.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 20px;"> <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>Range Sustainability - formerly Ordnance Testing/Manufacture/Disposal</td> <td style="text-align: center;">0.320</td> <td style="text-align: center;">0.728</td> <td style="text-align: center;">1.099</td> <td style="text-align: center;">1.209</td> </tr> <tr> <td>RDT&amp;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: 10px;"> <p>FY 04: Continued development of Confined Burn Facility (CBF): Completed construction and checkout and developed documentation for transition to other funding sources. Task will not be funded under 0817 after FY04 due to funding reductions. Completed task to evaluate Navy Training Lands Sustainability and prepare Initiation Decision Report (IDR). Initiated task to provide risk assessment methodology for decisions related to the long-term disposition of seafloor cables.</p> <p>FY 05: Initiate Navy Training Lands Sustainability tasks, including fate and transport modeling to support Range Condition Assessments. Initiate Enhanced Recycle of Range Scrap Ordnance. Initiate task to develop Ecological Soil Screening Levels for munitions contaminants.</p> <p>FY 06: Continue fate and transport modeling. Continue Enhanced Recycle of Range Scrap Ordnance. Continue Ecological Soil Screening Levels.</p> <p>FY 07: Complete fate and transport modeling. Continue Enhanced Recycle of Range Scrap Ordnance. Continue Ecological Soil Screening Levels.</p> </div>						FY 04	FY 05	FY 06	FY 07	Environmental Effects of Underwater Ordnance	0.845	0.850	0.588	1.150	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Range Sustainability - formerly Ordnance Testing/Manufacture/Disposal	0.320	0.728	1.099	1.209	RDT&E Articles Quantity				
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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																															
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0817 / Pollution Abatement																																
<b>B. Accomplishments/Planned Program (Cont.) - Platform Repair &amp; Maintenance with Minimal Environmental Impact</b>																																		
<table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <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> <tr> <td>Ship Maintenance</td> <td style="text-align: center;">0.199</td> <td style="text-align: center;">1.208</td> <td style="text-align: center;">1.286</td> <td style="text-align: center;">1.521</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>FY 04: Continued convergent spray process for non-skid coatings. Initiated acid recycle system for pipe flushing wastes.</p> <p>FY 05: Continue convergent spray process for non-skid coatings. Initiate dry dock best management practices. Conduct alternative solvents demonstrations for ship maintenance operations. Initiate alternatives for NAVSEA targeted chemicals.</p> <p>FY06: Complete convergent spray process for non-skid coatings. Continue dry dock best management practices. Continue alternative solvents demonstrations for ship maintenance operations. Continue alternatives for NAVSEA targeted chemicals. Initiate mobile surface cleaner for drydock and industrial areas.</p> <p>FY07: Complete dry dock best management practices. Continue alternative solvents demonstrations for ship maintenance operations. Continue alternatives for NAVSEA targeted chemicals. Complete mobile surface cleaner for drydock and industrial areas.</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <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> <tr> <td>Aviation Maintenance</td> <td style="text-align: center;">0.940</td> <td style="text-align: center;">1.274</td> <td style="text-align: center;">1.460</td> <td style="text-align: center;">1.561</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> <p>FY 04: This thrust is new for FY04. Tasks include on-going shoreside efforts tranferred from Project 2210 to Project 0817. Continued and completed legacy 2210 aircraft maintenance projects. Completed high velocity oxygen fuel (HVOF) evaluations for hard chrome replacements. Completed thin film sulfuric acid anodize demonstration. Continued cadmium plating alternatives evaluations. Initiated alternative sealants. Conductd demonstration of F404 drive shaft cleaning.</p> <p>FY 05: Complete Non-chromated Post Treatments. Continue cadmium plating alternatives. Complete alternative sealant demonstration. Initiate demonstration for alternative solvents. Initiate radome repair task. Initiate ultra chem alternative to hard chome.</p> <p>FY 06: Complete radome repair task. Complete cadmium plating alternatives. Continue demonstration for alternative solvents. Continue ultra chem alternative to hard chome. Initiate efforts to evaluate chrome free alternatives for aircraft pretreatment (conversion coatings) and aircraft primer coatings.</p> <p>FY 07: Complete demonstrations for alternative solvents. Complete demonstration of ultra chem alternative to hard chome. Continue efforts to evaluate chrome free alternatives for aircraft pretreatment (conversion coatings) and aircraft primer coatings. Initiate evaluation of chrome free alternative for magnesium pretreatment.</p> </div>						FY 04	FY 05	FY 06	FY 07	Ship Maintenance	0.199	1.208	1.286	1.521	RDT&E Articles Quantity						FY 04	FY 05	FY 06	FY 07	Aviation Maintenance	0.940	1.274	1.460	1.561	RDT&E Articles Quantity				
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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0817 / Pollution Abatement		
<b>B. Accomplishments/Planned Program (Cont.) - Support Shore Readiness within Environmental Constraints</b>				
	FY 04	FY 05	FY 06	FY 07
Base Operations and Maintenance	0.775	1.142	1.499	1.882
RDT&E Articles Quantity				
<p>FY 04: Completed demonstration of alternative AFFF. Continued Reduction of Solvent Based Paint task. Completed Triservice Methodology to Evaluate Alternative Cleaning Solvents. Conducted demonstrations evaluation of new cleaning solvents. Continued evaluation of Improved BMPs- Stormwater Treatment Technology.</p> <p>FY 05: Complete Reduction of Solvent Based Paint task. Complete evaluation of Improved BMPs- Stormwater Treatment Technology. Continue selected demonstrations of alternative solvents for industrial operations. Initiate task to evaluate fouling resistant permanent booms. Initiate demonstration of NoFoam system for fire fighting pumper trucks. Conduct evaluation of new process for lead based paint removal.</p> <p>FY06: Continue selected demonstrations of alternative solvents for industrial operations. Continue task to evaluate fouling resistant permanent booms. Continue demonstration of NoFoam system for fire fighting pumper trucks. Initiate effort to determine strategy for use of compliant diesel engines. Initiate effort to demonstrate oil recovery system.</p> <p>FY07: Continue selected demonstrations of alternative solvents for industrial operations. Complete task to evaluate fouling resistant permanent booms. Complete demonstration of NoFoam system for fire fighting pumper trucks. Complete strategy for use of compliant diesel engines. Continue effort to demonstrate oil recovery system. Initiate sustainable facilities demonstration.</p>				

R-1 SHOPPING LIST - Line No. 62



# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0817 / Pollution Abatement																	
<b>B. Accomplishments/Planned Program (Cont.) - Cost-Effective Management of Environmental Regulatory Requirements</b>																			
<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>Coastal Contamination and Contaminated Sediments</td><td style="text-align: center;">0.528</td><td style="text-align: center;">1.036</td><td style="text-align: center;">1.170</td><td style="text-align: center;">1.323</td></tr><tr><td>RDT&amp;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: 10px;"><p>FY 04: Completed site-specific validation methodologies for in-place sediment management. Continued task for evaluating Sediment Transport. Completed TMDL Technical Strategy.</p><p>FY 05: Continue task for evaluating Sediment Transport. Initiate containment and monitoring strategies for contaminated sediments . Initiate effort to develop nonpoint source runoff coefficients.</p><p>FY 06: Complete task for evaluating Sediment Transport Tools. Continue containment and monitoring strategies for contaminated sediments . Continue effort to develop nonpoint source runoff coefficients. Initiate contaminant mobility for in situ treatment technologies.</p><p>FY07: Continue containment and monitoring strategies. Continue contaminant mobility for in situ treatment technologies.</p></div>						FY 04	FY 05	FY 06	FY 07	Coastal Contamination and Contaminated Sediments	0.528	1.036	1.170	1.323	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Coastal Contamination and Contaminated Sediments	0.528	1.036	1.170	1.323															
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>Environmental Monitoring and Reporting</td><td style="text-align: center;">0.420</td><td style="text-align: center;">0.571</td><td style="text-align: center;">0.490</td><td style="text-align: center;">0.615</td></tr><tr><td>RDT&amp;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: 10px;"><p>FY 04: Completed improved monitoring for stormwater assessment. Developed automated system for monitoring birds at Naval airstations.</p><p>FY 05: Continue automated system for monitoring birds. Demonstrate TMDL Technical Strategy.</p><p>FY06: Complete automated system for monitoring birds. Continue effort to develop nonpoint source runoff coefficients. Demonstrate automated reporting of toxic emissions. Initiate task for improves sensors for environmental monitoring.</p><p>FY07: Demonstrate nonpoint source runoff coefficients. Continue improved sensors for environmental monitoring.</p></div>						FY 04	FY 05	FY 06	FY 07	Environmental Monitoring and Reporting	0.420	0.571	0.490	0.615	RDT&E Articles Quantity				
	FY 04	FY 05	FY 06	FY 07															
Environmental Monitoring and Reporting	0.420	0.571	0.490	0.615															
RDT&E Articles Quantity																			

R-1 SHOPPING LIST - Line No. 62

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 0817 / Pollution Abatement		
<b>C. PROGRAM CHANGE SUMMARY:</b>				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
FY2005 President's Budget:	4.077	6.885	7.588	9.184
Current FY2006 President's Budget:	<b>4.027</b>	<b>6.809</b>	<b>7.592</b>	<b>9.261</b>
Total Adjustments	-0.050	-0.076	0.004	0.077
Summary of Adjustments				
Economic assumptions				
Other program adjustments	-0.050	-0.076	0.004	0.077
Subtotal	-0.050	-0.076	0.004	0.077
Schedule: Not applicable.				
Technical: Not applicable.				

R-1 SHOPPING LIST - Line No. 62

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>			PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection			PROJECT NUMBER AND NAME 0817 / Pollution Abatement			

**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
<p>P-1 Procurement Line Item No. &amp; Name. Not Applicable.</p> <p>C-1 MILCON Project No. &amp; Name. Not Applicable.</p> <p>(U) RELATED RDT&amp;E: This project transitions shoreside pollution abatement technologies from two Navy Science and Technology programs and the Strategic Environmental Research and Development Program (SERDP). Project funding is leveraged by transitioning technologies to the Environmental Security Technology Certification Program (ESTCP) for final certification and by providing funding for Navy participation in ESTCP projects. Execution of this project is coordinated with related Marine Corps, Army, Air Force and NASA programs through direct coordination and active participation in the Joint Group for Pollution Prevention (JG-PP).</p> <p>(U) PE 0602233N, Readiness, Training, and Environmental Quality Technology Development</p> <p>(U) PE 0603712N, Environmental Quality, Logistics Advanced Technology Demonstrations</p> <p>(U) PE 0603716D, Strategic Environmental Research &amp; Development Program (SERDP)</p> <p>(U) PE 0603851D, Environmental Security Technology Certification Program (ESTCP)</p>										

**E. ACQUISITION STRATEGY:**

(U) This project is categorized as Non-ACAT (Non Acquisition). The project delivers a broad spectrum of products that require a variety of acquisition processes to implement. Equipment products for Naval stations and other mission funded activities costing over 100K are often procured centrally through the Navy Pollution Prevention Equipment Program (PPEP) where as equipment products for Shipyards and other Navy Working Capital Fund (NWCF) activities costing over 100K are procured through their Capital Purchases Program (CPP). For both types of activities, equipment products costing less than 100K, and process changes not requiring the purchase of new equipment such as consumable material or product substitutions, are funded through the activity's operating budgets. Occasionally there is a technology that must be implemented as a specialized facility. These are acquired through the Military Construction (MCON) Program. All these acquisition processes are pursued using a common strategy that satisfies the needs of all the critical stakeholders: 1) Navy end user; 2) Funding sponsor for the Navy end user; 3) Cognizant environmental federal, state, and local regulators; 4) Other stakeholders with cognizance over the Navy process or operation being changed, and 5) The private or government organization that will produce the product.

R-1 SHOPPING LIST - Line No. 62

# UNCLASSIFIED

## 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			PE0603721N / Environmental Protection			0817 / Pollution Abatement								
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
Env. Effects of Underwater UXO	WR/PO	NFESC		0.645	varies	0.598	varies	0.061	varies	0.580	varies	Continuing	Continuing	N/A
Env. Effects of Underwater UXO	WR/PO	SSC/SD		0.200	varies	0.252	varies	0.527	varies	0.570	varies	Continuing	Continuing	N/A
Ordnance Testing/Manufact/Disp	WR/PO	NSWC/IH	15.666	0.100	varies	0.000		0.000		0.000		0.000	15.766	N/A
Training Lands Sustainability	WR/PO	NFESC	0.222	0.220	varies	0.728	varies	1.099	varies	1.209	varies	Continuing	Continuing	N/A
Ship Maint/Repair	WR/PO	NSWC/CD	10.582	0.050	varies	0.329	varies	0.476	varies	0.879	varies	Continuing	Continuing	N/A
Ship Maint/Repair	WR/PO	NFESC	5.040	0.149	varies	0.879	varies	0.810	varies	0.642	varies	Continuing	Continuing	N/A
Aviation Maintenance	WR/PO	NSWC PAX		0.745	varies	0.924	varies	1.071	varies	1.204	varies	Continuing	Continuing	N/A
Aviation Maintenance	WR/PO	NFESC		0.195	varies	0.350	varies	0.389	varies	0.357	varies	Continuing	Continuing	N/A
Base Operations & Maintenance	WR/PO	NFESC	16.558	0.775	varies	1.142	varies	1.499		1.882	varies	Continuing	Continuing	N/A
Coastal Contam/Contaminated Sed	WR/PO	SSC/SD	1.137	0.378	varies	0.812	varies	0.666	varies	0.875	varies	Continuing	Continuing	N/A
Coastal Contam/Contaminated Sed	WR/PO	NFESC	1.576	0.150	varies	0.224	varies	0.504	varies	0.448	varies	Continuing	Continuing	N/A
Env. Monitoring	WR/PO	NFESC	0.547	0.090	varies	0.291	varies	0.376	varies	0.615	varies	Continuing	Continuing	N/A
Env. Monitoring	WR/PO	SSC/SD	0.705	0.330	varies	0.280	varies	0.114	varies	0.000	varies	Continuing	Continuing	N/A
Subtotal Product Development			52.033	4.027		6.809		7.592		9.261				
Remarks: Performing Activities: Naval Surface Warfare Center, Carderock Division (NSWC/CD), Naval Facilities Engineering Service Center (NFESC), Naval Surface Warfare Center, Indian Head Division (NSWC/IH), Space and Warfare Systems Center, San Diego (SSC/SC), Naval Research Laboratory (NRL). Total Prior Years Cost: Summation starts with FY80. Subtotal does not include performing activities from prior years that are no longer performing activities. Award Dates: About 55% of the project is executed via contracts awarded by the performing activities.														
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: Included in Product Development costs.														

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# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>					
APPROPRIATION/BUDGET ACTIVITY <b>RD&amp;E, N / BA-4</b>			PROGRAM ELEMENT PE0603721N / Environmental Protection			PROJECT NUMBER AND NAME 0817 / Pollution Abatement									
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													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	0.000		
Remarks: Not applicable.															
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	0.000		
Remarks: Not applicable.															
Total Cost			52.033	4.027		6.809		7.592		9.261		0.000			
Remarks:															

R-1 SHOPPING LIST - Line No. 62

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection				PROJECT NUMBER AND NAME 9204 / Marine Mammal Research			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	2.025	2.080	4.536	4.576	4.629	4.668	4.715	4.764
RDT&E Articles Qty								

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

(U) The Navy has been subject to litigation with regard to the alleged injuring and killing of marine animals. Since Fleet operation and training areas coincide with known or probable marine mammal habitats, migration routes, or breeding areas, such incidents are likely to continue into the future. The increasing public interest and pressure has given way to escalating Fleet costs. For example, Fleet activities have been interrupted or altogether cancelled; and, new ship construction shock trials have required Federal permits, extensive planning, and mitigation measures to minimize the potential impacts on protected marine animals. In addition, the deployment of new platform detection and monitoring systems that use active acoustics are under severe scrutiny for their potential effects on whales and other marine animals.

(U) This program will develop planning and monitoring tools to aid the Fleet in minimizing contact with, and harassment of, protected marine animals during operations, exercises, training, and testing. These capabilities will encompass historical and newly acquired data and analysis on marine animal locations and susceptibilities, computer databases that indicate potential conflicts with marine animals, and new scientific insights to help identify mitigation options. Accurate and timely monitoring and prediction of the movements of whales and other protected marine animals, plus an enhanced knowledge of how marine animals may react to Fleet activity (e.g., hearing and behavioral effects) will: reduce Navy interaction with these animals; minimize the risk that legally-imposed monitoring and avoidance measures will adversely affect Fleet operations and exercises; minimize the substantial costs associated with operations, exercises, and tests that have to be modified or curtailed as a result of concerns about protected marine animals; and potentially avoid lawsuits related to actual or anticipated problems with protected animals.

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 9204 / Marine Mammal Research																	
<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: 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>Marine Mammal Location, Abundance and Movement</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">1.980</td><td style="text-align: center;">1.981</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Marine Mammal Location, Abundance and Movement	0.000	0.000	1.980	1.981					
	FY 04	FY 05	FY 06	FY 07															
Marine Mammal Location, Abundance and Movement	0.000	0.000	1.980	1.981															
<div style="border: 1px solid black; padding: 5px;"><p><b>FY 06:</b> (U) Initiate investigation in marine mammal location, abundance, and movement through habitat investigations; predictive models; marine mammal database; and data analysis, protocols and surveys.</p><p><b>FY 07:</b> (U) Continue investigations in marine mammal location, abundance, and movement through habitat investigations; predictive models; marine mammal database; and data analysis, protocols and surveys.</p></div>																			
<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>Criteria and Thresholds, Physiology and Behavior, and Effects of Sound</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.940</td><td style="text-align: center;">0.941</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Criteria and Thresholds, Physiology and Behavior, and Effects of Sound	0.000	0.000	0.940	0.941					
	FY 04	FY 05	FY 06	FY 07															
Criteria and Thresholds, Physiology and Behavior, and Effects of Sound	0.000	0.000	0.940	0.941															
<div style="border: 1px solid black; padding: 5px;"><p><b>FY 06:</b> (U) Initiate investigation in criteria and thresholds, physiology and behavior, and effects of sound through hearing sensitivity; temporary threshold shift (TTS)/Sub-TTS; physical injury models; cumulative effects of sound and/or multiple events; effects of sound on the marine mammal habitat; and workshops.</p><p><b>FY 07:</b> (U) Continue investigations in criteria and thresholds, physiology and behavior, and effects of sound through hearing sensitivity; temporary threshold shift (TTS)/Sub-TTS; physical injury models; cumulative effects of sound and/or multiple events; effects of sound on the marine mammal habitat; and workshops.</p></div>																			

R-1 SHOPPING LIST - Line No. 62

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>																
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 9204 / Marine Mammal Research																	
<b>B. Accomplishments/Planned Program</b>																			
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	FY 04	FY 05	FY 06	FY 07															
Mitigation Methodologies: Monitoring, New Technology, and Risk Assessment	0.000	0.000	1.350	1.351															
<div style="border: 1px solid black; padding: 5px; min-height: 100px;"><p><b>FY 06:</b> (U) Initiate mitigation methodologies for monitoring, new technology and risk assessment through passive acoustic monitoring; active acoustic monitoring; improved tag development; alternative monitoring; defining risk assessment variables; model risk assessment and determine mitigation effectiveness.</p><p><b>FY 07:</b> (U) Continue mitigation methodologies for monitoring, new technology and risk assessment through passive acoustic monitoring; active acoustic monitoring; improved tag development; alternative monitoring; defining risk assessment variables; model risk assessment and determine mitigation effectiveness.</p></div>																			
<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>Acoustic Source Propagation</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.266</td><td style="text-align: center;">0.303</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>						FY 04	FY 05	FY 06	FY 07	Acoustic Source Propagation	0.000	0.000	0.266	0.303					
	FY 04	FY 05	FY 06	FY 07															
Acoustic Source Propagation	0.000	0.000	0.266	0.303															
<div style="border: 1px solid black; padding: 5px; min-height: 100px;"><p><b>FY 06:</b> (U) Initiate investigation of acoustic source propagation through 3-D modeling of multiple acoustic sources.</p><p><b>FY 07:</b> (U) Continue investigation of acoustic source propagation through 3-D modeling of multiple acoustic sources.</p></div>																			

R-1 SHOPPING LIST - Line No. 62



# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: <b>February 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection	PROJECT NUMBER AND NAME 9204 / Marine Mammal Research		
<b>C. PROGRAM CHANGE SUMMARY:</b>				
Funding:	FY 2004	FY 2005	FY 2006	FY 2007
Previous President's Budget: (FY 05 Pres Controls)				
Current BES/President's Budget:			4.536	4.576
Total Adjustments	0.000	0.000	4.536	4.576
Summary of Adjustments				
Marine Mammal RDT&E Project Line			3.000	3.000
Marine Mammal RDT&E Funding Plus Up			1.501	1.506
Other Program Adjustments	0.000	0.000	0.035	0.070
Subtotal	0.000	0.000	4.536	4.576
Schedule:				
Not applicable.				
Technical:				
Not applicable.				

R-1 SHOPPING LIST - Line No. 62

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## CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: <b>February 2005</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>			PROGRAM ELEMENT NUMBER AND NAME PE0603721N / Environmental Protection			PROJECT NUMBER AND NAME 9204 / Marine Mammal Research			

**D. OTHER PROGRAM FUNDING SUMMARY:**

Line Item No. & Name	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost
(U) Related RDT&E: (U) Office of Naval Research (PE 601153 / PE 602435 / PE 602782 / PE 603235) (U) Strategic Environmental Research & Development Program (SERDP) (U) National Oceanographic Partnership Program (NOPP)										

**E. ACQUISITION STRATEGY:**

(U) RDT&E Contracts are Competitive Procurements.

R-1 SHOPPING LIST - Line No. 62

# UNCLASSIFIED

## 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			PE0603721N / Environmental Protection			9204 / Marine Mammal Research								
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														
Primary Hardware Development														
Primary Hardware Development														
Primary Hardware Development														
Primary Hardware Development														
Primary Hardware Development														
Ancillary Hardware Development														
Component Development														
Ship Integration														
Ship Suitability														
Systems Engineering														
Training Development														
Licenses														
Tooling														
GFE														
Award Fees														
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000				
Remarks: (1) Hardware Development and Systems Engineering Tasks use CPFF Delivery Contracts for Continuing Development of Pollution Abatement Hardware and Ship Systems Engineering Analysis.														
Development Support														
Software Development														
Training Development														
Integrated Logistics Support														
Configuration Management														
Technical Data														
GFE														
Award Fees														
Subtotal Support			0.000	0.000		0.000		0.000		0.000				
Remarks:														

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# UNCLASSIFIED

## CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2005</b>				
APPROPRIATION/BUDGET ACTIVITY <b>RD&amp;E, N / BA-4</b>			PROGRAM ELEMENT PE0603721N / Environmental Protection			PROJECT NUMBER AND NAME 9204 / Marine Mammal Research								
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	Misc. Govt Labs/Misc Contr	9.112					4.536		4.576				
Developmental Test & Evaluation														
Developmental Test & Evaluation														
Process Control Engineering														
Developmental Test & Evaluation														
Developmental Test & Evaluation														
Developmental Test & Evaluation														
Developmental Test & Evaluation														
Operational Test & Evaluation														
Live Fire Test & Evaluation														
Test Assets														
Tooling														
GFE														
Award Fees														
Subtotal T&E			9.112	0.000		0.000		4.536		4.576				
Remarks:														
Contractor Engineering Support														
Government Engineering Support														
Program Management Support														
Travel														
Labor (Research Personnel)														
SBIR Assessment														
Subtotal Management			0.000	0.000		0.000		0.000		0.000				
Remarks:														
Total Cost			9.112	0.000		0.000		4.536		4.576				
Remarks:														

R-1 SHOPPING LIST - Line No. 62

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R4, Schedule Profile																				DATE: February 2005									
APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME												
RDT&E, N / BA-4					PE0603721N / Environmental Protection												9204 / Marine Mammal Research												
Fiscal Year	2004				2005				2006				2007				2008				2009								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Marine Mammal Location, Abundance, and Movement																													
Criteria and Thresholds, Physiology and Behavior, and Effects of Sound																													
Mitigation Methodologies: Monitoring, New Technology, and Risk Assessmen																													
Acoustic Source Propagation																													

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Exhibit R-4, Schedule Profile