CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION						DATE February 2008	
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**			R-1 ITEM NOMENCLATURE **0603721N/ENVIRONMENTAL PROTECTION**				
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	27.530	20.618	19.632	20.309	20.740	21.155	21.586
0401 / Shipboard Waste Mgmt	6.863	6.438	6.826	6.891	7.328	7.487	7.655
0817 / Pollution Abatement	8.895	8.745	8.423	9.015	8.960	9.129	9.303
9204 / Marine Mammal Research	6.247	4.243	4.383	4.403	4.452	4.539	4.628
9999 / Congressional Add	5.525	1.192	0.000	0.000	0.000	0.000	0.000

A. MISSION DESCRIPTION:

(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 laws, regulations, Executive Orders, policies and international agreements. Projects support the Navy's compliance with: OPNAVINST 5090.1B CH-4 and other DoD and 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 enable Navy ships and submarines to comply with laws, regulations, and policies in four major areas: ozone depleting substances, liquid wastes, solid wastes, and hazardous and other wastes. Project 2210 supports RDT&E that enables Navy compliance with environmental 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 supports RDT&E to develop and validate technologies to enable Navy facilities to comply with environmental laws, regulations, and policies in a cost-effective manner. Project 9204 supports RDT&E to develop planning and monitoring tools for minimizing Fleet contacts with and potential harrassment of protected marine animals in response to Federal laws and regulations and public scrutiny.

(U) In FY07, the requirements and funding of Project 2210 are combined with Project 0817.

(U) Project 9999 is comprised of Congressional adds.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2, RDT&E BUDGET ITEM JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**		R-1 ITEM NOMENCLATURE **0603721N/ENVIRONMENTAL PROTECTION**	

B. PROGRAM CHANGE SUMMARY:

Funding:	FY 2007	FY 2008	FY 2009
FY2008 President's Budget:	25.972	19.850	20.297
FY2009 President's Budget	27.530	20.618	19.632
Total Adjustments	1.558	0.768	-0.665
Summary of Adjustments			
Undistributed General Reductions	-0.014	-0.432	-0.620
Execution Realignment	2.000		
SBIR	-0.428		
Navy Working Capital Fund Rate Adjustment			-0.045
Congressional Adds		1.200	
Subtotal	1.558	0.768	-0.665

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**				PROJECT NUMBER AND NAME **0401/Shipboard Waste Mgmt**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	6.863	6.438	6.826	6.891	7.328	7.487	7.655
RDT&E Articles Qty	0	0	0	0	0	0	0

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 considered environmentally susceptible, where special prohibitions on ship discharges and operations are imposed. Navy vessels must comply with applicable environmental legal requirements while maintaining 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, systems, and data 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., hull antifouling and access to environmental data for planning Fleet operations and exercises.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **0401/Shipboard Waste Mgmt**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Technical Authority	0.000	1.985	2.892
RDT&E Articles Quantity	0	0	0

FY 08: (U) Develop environmental equipment/system requirements documentation, design criteria and guidance, specifications and standards, and certification protocols, and perform test and evaluation, to facilitate execution of technical authority for legacy and new-design ship and submarine environmental capabilities.

FY 09: (U) Continue developing environmental equipment/system requirements documentation, design criteria and guidance, specifications and standards, and certification protocols, and perform test and evaluation, to facilitate execution of technical authority for legacy and new-design ship and submarine environmental capabilities.

	FY 2007	FY 2008	FY 2009
Integrated Liquid Wastes	5.100	2.795	2.401
RDT&E Articles Quantity	0	0	0

FY 07: (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 and evaluation of MPCD treatment systems, technologies, and procedures. Continue evaluation of commercial non-oily wastewater treatment systems.

FY 08: (U) Continue support, at a reduced pace of work from that of FY07 and prior years, of rulemaking process with Environmental Protection Agency (EPA) in development of Uniform National Discharge Standards (UNDS) for liquid waste discharges from Naval vessels; continue discharge analyses and setting of Marine Pollution Control Devices (MPCD) performance standards, at the same reduced pace of work from that of FY07 and prior years.

Continue development of MPCD treatment systems, technologies and procedures.

Continue evaluation of commercial non-oily wastewater systems.

FY 09: (U) Continue support, at a reduced pace of work from that of FY07 and prior years, of rulemaking process with Environmental Protection Agency (EPA) in development of Uniform National Discharge Standards (UNDS) for liquid waste discharges from Naval vessels; continue discharge analyses and setting of Marine Pollution Control Devices (MPCD) performance standards, at the same reduced pace of work from that of FY07 and prior years.

Continue development of MPCD treatment systems, technologies and procedures.

Continue evaluation of commercial non-oily wastewater systems.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **0401/Shipboard Waste Mgmt**	

Hazardous and Other Major Ship Wastes	1.763	1.658	1.533
RDT&E Articles Quantity	0	0	0

FY 07: (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).

FY 08: (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.

FY 09: (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.

C. OTHER PROGRAM FUNDING SUMMARY:

(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 0601153N / 3162)

(U) Related RDT&E: (U) Readiness, Training, and Environmental Quality/Logistics and Environmental Quality (PE 0602233N)

D. ACQUISITION STRATEGY:

(U) RDT&E Contracts are Competitive Procurements.

E. MAJOR PERFORMERS:

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS										DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**		PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**					PROJECT NUMBER AND NAME **0401/Shipboard Waste Mgmt**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Ancillary Hardware Development	Various	Misc. Contracts	18.849	0.300	TBD	0.200	TBD	0.200	TBD	0.000	19.549	0.000
Primary Hardware Development	C/CPFF	Oceaneering	1.000	0.000	TBD	0.000	TBD	0.000	TBD	0.000	1.000	0.000
Systems Engineering	C/CPFF	John J. McMullen & Son	4.487	0.000	TBD	0.000	TBD	0.000	TBD	0.000	4.487	0.000
Subtotal Product Development			**24.336**	**0.300**		**0.200**		**0.200**		**0.000**	**25.036**	**0.000**
Remarks:												
Software Development	WR	SPAWARS, Charleston, SC	10.838	0.000	VAR	0.000		0.000		0.000	10.838	0.000
Subtotal Support Costs			**10.838**	**0.000**		**0.000**		**0.000**		**0.000**	**10.838**	**0.000**
Remarks:												
Developmental Test & Evaluation	WR	NSWCCD, Bethesda, MD	151.884	3.900	VAR	3.880	VAR	4.540	VAR	CONT	CONT	0.000
Developmental Test & Evaluation	WR	NRL,Wash,DC	29.182	0.400	VAR	0.400	VAR	0.300	VAR	CONT	CONT	0.000
Developmental Test & Evaluation	WR	SPAWARSYSCEN,SD,CA	11.370	0.200	VAR	0.300	VAR	0.200	VAR	CONT	CONT	0.000
Developmental Test & Evaluation	WR	Misc. Govt Labs	22.832	0.000	VAR	0.000	VAR	0.000	VAR	CONT	CONT	0.000
Developmental Test & Evaluation	C/CPFF	SAIC, San Diego, CA	15.251	0.319	TBD	0.500	TBD	0.550	TBD	CONT	CONT	0.000
Developmental Test & Evaluation	C/CPFF	Misc. Contracts	12.523	0.124	TBD	0.158	TBD	0.216	TBD	CONT	CONT	0.000
Process Control Engineering	C/CPFF	M. Rosenblatt & Sons	3.000	1.500	DEC-06	0.880	TBD	0.700	TBD	0.000	6.080	0.000
Developmental Test & Evaluation	C/CPFF	ONR, Arlington, VA	0.400	0.000	TBD	0.000	TBD	0.000	TBD	0.000	0.400	0.000
Developmental Test & Evaluation	WR	Naval Postgraduate School	1.800	0.000	VAR	0.000	VAR	0.000	VAR	0.000	1.800	0.000
Process Control Engineering	MIPR	EPA, Hdqtrs	0.740	0.100	TBD	0.100	TBD	0.100	TBD	0.000	1.040	0.000
Subtotal Test and Evaluation			**248.982**	**6.543**		**6.218**		**6.606**		**CONT**	**CONT**	**0.000**
Remarks:												
Travel			0.250	0.020	NOV-06	0.020	TBD	0.020	TBD	0.000	0.310	0.000
SBIR Assessment			0.078	0.000	TBD	0.000	TBD	0.000	TBD	0.000	0.078	0.000
Subtotal Management Services			**0.328**	**0.020**		**0.020**		**0.020**		**0.000**	**0.388**	**0.000**
Remarks:												
Total Cost			**284.484**	**6.863**		**6.438**		**6.826**		**CONT**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **0401/Shipboard Waste Mgmt**

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Ozone Depleting Substances																												
Lubrication and Engineering Problems for HFC-236fa Air-Conditioning Plants																												
Integrated Liquid Wastes																												
Uniform National Discharge Standards (UNDS) Rulemaking																												
Develop & Evaluate Marine Pollution Control Device Systems & Technologies																												
Oil Pollution Abatement (OPA) System Improvements																												
Evaluate Commercial Non-Oily Wastewater Treatment Systems																												
Solid Wastes																												
Evaluate Commercial Thermal Destruction Systems																												
Hazardous and Other Major Ship Wastes																												
Hazardous Materials and Pollution Prevention																												
Low/No-Copper Hull Antifouling Coatings																												
Underwater Hull Cleaning System																												
Environmental Information Management System (EIMS)																												
Technical Authority																												

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**			PROJECT NUMBER AND NAME **0401/Shipboard Waste Mgmt**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Ozone Depleting Substances							
Lubrication and Engineering Problems for HFC-236fa Air-Conditioning Plants							
Integrated Liquid Wastes							
Uniform National Discharge Standards (UNDS) Rulemaking	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Develop & Evaluate Marine Pollution Control Device Systems & Technologies	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Oil Pollution Abatement (OPA) System Improvements							
Evaluate Commercial Non-Oily Wastewater Treatment Systems	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Solid Wastes							
Evaluate Commercial Thermal Destruction Systems							
Hazardous and Other Major Ship Wastes							
Hazardous Materials and Pollution Prevention	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Low/No-Copper Hull Antifouling Coatings	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4		
Underwater Hull Cleaning System							
Environmental Information Management System (EIMS)							
Technical Authority		Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**				PROJECT NUMBER AND NAME **0817/Pollution Abatement**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	8.895	8.745	8.423	9.015	8.960	9.129	9.303
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Inherent to the realization of the vision outlined in Sea Power 21 are certain environmental consequences that will, to a lesser or greater degree, impact on the Navy's ability to fully achieve the strategy outlined in the Navy Capability Pillars (NCP) SEA SHIELD, SEA STRIKE, SEA BASING and FORCEnet and the supporting initiatives of SEA WARRIOR, SEA TRIAL and SEA ENTERPRISE. Readiness and training are primary considerations for determining whether any fighting force is at its peak proficiency. The ability to train our forces in a realistic environment is paramount. Today's reality requires training and operating within environmental constraints (national and international laws and agreements), and searching for alternatives to comply with and alleviate those constraints. Moreover, as we develop new systems and technologies in support of Sea Power 21, the Navy must anticipate potential environmental regulations which, while not currently an issue, could in the future adversely impact our ability to project and sustain our forces at home and abroad.

This program identifies pervasive Navy shoreside environmental requirements and develops and validates information, new processes, and technologies that address requirements that pose significant impact on Naval shore activities in complying with environmental laws, regulations, orders, and policies. The goal of the program is to maximize opportunities for significant cost savings while minimizing personnel liabilities, operational costs, and regulatory oversight and preserving or enhancing the ability of Naval shore activities to accomplish their required missions and functions in support of the Navy's transformational strategy. Program investments supports 4 of 5 Environmental Enabling Capabilities (EEC-2 though 5) that are required to meet the objectives of Sea Power 21.

(U) EEC-2 MAXIMIZE TRAINING AND TESTING RANGE REQUIREMENTS WITHIN ENVIRONMENTAL CONSTRAINTS

(U) This capability addresses environmental impacts and restrictions at Navy land and sea ranges, including munitions testing and manufacturing, to ensure Navy ranges are available to conduct required training and testing operations for the Fleet. Investments in EEC-2 provide validated knowledge, models, and processes to mitigate environmental impacts, restrictions, and costs at Navy training and test ranges to maximize the availability and utilization of the ranges. The results support operational readiness by providing the tools and technologies necessary for sustaining and managing Navy land and sea ranges related to UXO and munitions, encroachment, air quality, airborne noise, water quality, and wetlands. Capabilities gained include the ability to assess and determine the risks from underwater UXO, the evaluation and prioritization ordnance contaminated sites for evaluation in environmental programs, and the implementation of range specific best management practices by evaluating and modeling available process, procedures, and technologies.

(U) EEC-3 PLATFORM MAINTENANCE AND REPAIR WITH MINIMAL ENVIRONMENTAL FOOTPRINT

(U) This capability focuses on minimizing or eliminating environmental impact related to Navy and Marine Corps weapon system O, I, and D level repair and maintenance operations. Investments in EEC-3 provide valid knowledge, models, process, and technologies to minimize regulated emissions, discharges and hazardous material usage during the repair and maintenance of ships, submarines, and surface/sub-surface vehicles and aircraft and air vehicles. The program supports Fleet operational readiness and Navy acquisition communities by investing in information to understand emerging environmental requirements and to develop innovative processes and technologies that result in savings while reducing the fleet environmental constraints related to platform maintenance. Capabilities and benefits gained include, but are not limited to, the reduction in the usage of heavy metals used in metal finishing (chromium and cadmium), reduced hazardous air pollutant (HAP) emissions, and the development of best management practices and tools to minimize the use of hazardous materials and the generation of hazardous wastes associated with maintaining and repairing ships, submarines and aircraft and unmanned vehicles. Results of program investments will be leveraged across weapon system and platform acquisition to ensure continued reduction in lifecycle costs and long-term environmental compliance burdens to the Fleet.

(U) EEC-4. SUPPORT SHORE READINESS WITHIN ENVIRONMENTAL CONSTRAINTS

(U) Naval shore establishment requires the capability to operate and maintain facilities and provide waterfront and airfield services to the fleet while complying with applicable environmental regulations and minimizing environmental impacts and costs. The program invests in knowledge and innovative processes and technologies that minimize infrastructure and operational costs, regulated emissions, while minimizing discharges and hazardous material usage from ship (waterfront) and aviation operations. Capabilities and benefits gained under EEC-4 include reduced costs associated with wastewater treatment, elimination/reduction in the use of HAPs/ODS/VOCs and the associated reporting requirements, reduced hazardous waste and disposal costs, and improved storm water management.

((U) EEC-5. COST-EFFECTIVE MANAGEMENT OF ENVIRONMENTAL REGULATORY REQUIREMENTS

(U) The environmental compliance regulations require base managers to permit, monitor and report on many processes associated with weapon system and platform operations. Naval shore environmental managers require the capability to efficiently and cost effectively manage these compliance requirements. Under EEC-5, the program invests in improved data collection, methods, and models to assess environmental impacts and ecological risk assessments of Naval operations on harbors, US waterways, and surrounding communities. Benefits include gaining standardized technical environmental management improvements/techniques related to source control, assessment, and monitoring. EEC-5 also provides validated knowledge, models, processes and technologies to improve environmental monitoring and reporting, and to reduce the cost of compliance with regulations applicable to coastal contamination and contaminated sediments.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **0817/Pollution Abatement**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Maximize Training & Testing Requirements Within Environmetal Constrain	2.456	1.729	1.743
RDT&E Articles Quantity	0	0	0

FY07: (U) Continue providing validated knowledge, models, and processes to mitigate environmental impacts, restrictions, and costs at Navy training and test range to maximize the availability and utilization of the ranges. Continuing efforts include analysis of the effects of underwater UXO in order to give the Navy the ability to assess and determine the risks from underwater UXO, analysis on the long term disposition of underwater cables, and the development of range residue management tools to ensure the continued operation of Navy testing and training ranges. Increased efforts on the SWTR Seafloor Cable Baseline Assessment will continue sampling in order to finish establishing a baseline condition from which any adverse effects associated with seafloor ranges, in particular, seafloor communication cables can be determined. Continue developing direct push and point-and-detect sensor systems for perchlorate.

FY08: (U) Environmental Effects of Abandoned Equipment in Underwater Ranges. Alleviate regulatory restrictions and facilitate range operations by providing a database on the potential effects from expendable (non-munitions) equipment. Continued efforts on the Seafloor Cable Baseline Assessment will continue sampling in order to finish establishing a baseline condition from which any adverse effects associated with seafloor ranges, in particular, seafloor communication cables can be determined. Continue providing validated knowledge, models, and process to mitigate environmental impacts, restrictions, and costs at Navy training and test range to maximize the availability and utilization of the ranges. Continuing efforts will address energetic emission for open burn/open detonation permitting, evaluate underwater blow-in-place detonation mitigation techniques, and the evaluation of the environmental effects of abandoned equipment in Navy ocean ranges. Continue developing direct push and point-and-detect sensor systems for perchlorate.

FY09: (U) Conclusion of efforts on the SWTR Seafloor Cable Baseline Assessment will allow decision makers to determine a long term monitoring strategy for the underwater range. Continue providing validated knowledge, models, and processes to mitigate environmental impacts, restrictions, and costs at Navy training and test range to maximize the availability and utilization of the ranges.

	FY 2007	FY 2008	FY 2009
Aviation Maintenance	4.015	2.342	1.846
RDT&E Articles Quantity	0	0	0

FY 07: (U) Continue providing new systems and processes to minimize regulated emissions, discharges and hazardous material usage resulting from the repair and maintenance of ships, submarines, and aircraft. Development of dry dock best management practices and decision selection tool assisting naval shipyards, stations and bases in meeting the copper discharge standards will conclude. Alternative solvents demonstrations for ship maintenance operations and identification of alternatives for NAVSEA targeted chemicals will continue. The development of hazardous material allocation information for ship maintenance will continue. Additional tasks will be initiated that address Fleet maintenance operations with the overall objectives of reducing the cost of compliance and mission increasing readiness. Beginning in FY07 the requirements under Project 2210 requirements were rebaselined to Project 0817, Pollution Abatement Ashore. These projects support development and implementation of technologies, which will

lead to environmentally safe naval aviation operations and support; compliance with international, federal, state, and local regulation and policies; reduction of increasing compliance costs and personal liability; and enhancement of naval aviation mission readiness and effectiveness. Continuing efforts include investigations into removal coating materials and the use of alternative coatings and plating materials to reduce the amount of hazardous materials used during the repair and maintenance of aircraft. Additional tasks will be initiated that address aircraft maintenance operations with the overall objectives of reducing the cost of compliance and mission increasing readiness. Efforts will also include investigating options to control emissions from tactical vehicle engines such as Jet Air Start Units (JASUs) that provide the compressed air to start jet engines. A new initiative will begin to develop, demonstrate, and transition cost-effective deactivation, demilitarization and disposal (3D) methods for legacy aircraft platforms, engines, and components. Another effort will develop and evaluate materials or processes for repair of powder coatings that will reduce or eliminate the air emissions associated with the current method and reduce labor cost.

FY 08: (U) Continue providing new systems and processes to minimize regulated emissions, discharges and hazardous material usage resulting from the repair and maintenance of ships, submarines, and aircraft. Continued development of hazardous material allocation information for ship maintenance. Additional tasks will be initiated that address Fleet maintenance operations with the overall objectives of reducing the cost of compliance and mission increasing readiness. Continue effort on developing, demonstrating, and transitioning cost-effective deactivation, demilitarization and disposal (3D) methods for legacy aircraft platforms, engines, and components. Validate Shipboard Mobile Surface Cleaning Technology. Validation of a mobile technology for critical cleaning of shipboard non-skid and shore-side surfaces. Continue to develop and evaluate materials or processes for repair of powder coatings that will reduce or eliminate the air emissions associated with the current method and reduce labor cost. Additional tasks will be initiated that address Fleet maintenance operations with the overall objectives of reducing the cost of compliance and mission increasing readiness.

FY09: (U) Continue providing new systems and processes to minimize regulated emissions, discharges and hazardous material usage resulting from the repair and maintenance of ships, submarines, and aircraft. New initiative to demonstrate and validate to what extent a Cold Galvanized Coating Systems for Repair Applications repair technology can be successfully utilized in the Fleet to eliminate red rusting of HSS components.

	FY 2007	FY 2008	FY 2009
Support Shore Readiness Within Environmental Constraints	1.576	2.869	3.229
RDT&E Articles Quantity	0	0	0

FY07: (U) Continue providing new systems and processes to minimize regulated emissions, discharges and hazardous material usage resulting specifically from waterfront support, aviation support, and other base operations. Continue selected demonstrations of alternative solvents for industrial operations. Continue demonstration of NoFoam system for fire fighting pumper trucks. Continue the development of a wastewater treatment system to collect and treat the waste stream for vertical launch missile tubes. Initiate effort to determine strategy for use of compliant diesel engines. Continue investigating improved biofouling control and preventative maintenance planning for permanent oil containment boom systems.

FY08: (U) Integrating effort related to Shipboard Acid Waste Treatment Technology. This pier-side reclamation system separates heavy metal and marine fouling sludge to allow ship waste water to meet local sanitary sewer discharge limits. Validate a Shipboard Mobile Surface Cleaning Technology. Validation of a mobile surface cleaning technology

for critical cleaning of shipboard non-skid and shoreside surfaces to remove contaminants, mitigate pollution from weather deck and stormwater runoff and reduce associated manpower and waste management burden.

Continue providing new systems and processes to minimize regulated emissions, discharges and hazardous material usage resulting specifically from waterfront support, aviation support, and other base operations. Realign the program to focus on addressing the fleets high priority needs and investment in processes related to waterfront or aviation support.

FY09: (U) Continue providing new systems and processes to minimize regulated emissions, discharges and hazardous material usage resulting specifically from waterfront support and aviation support operations.

	FY 2007	FY 2008	FY 2009
Costal Contamination and Contaminated Sediments	0.848	1.805	1.605
RDT&E Articles Quantity	0	0	0

FY 07: (U) Continue providing validated knowledge, models, processes and systems to improve environmental monitoring and reporting, and reduce the cost of compliance with regulations applicable to coastal contamination and contaminated sediments. Continue developing containment and monitoring strategies for contaminated sediments. Develop an integrated software system that will allow for more exact location/identification of UXO in sediments, thereby eliminating excess costs of investigating/remediating non-UXO metal anomalies and further reduce safety risks to workers conducting the removals and long-term safety to subsequent users. Ultimately, this will improve the decision-making strategy for prioritizing locations for cleanup both cost effectively and safely. Efficiencies related to aligning the program to the priorities of SEAPOWER 21 and focusing on addressing the fleets high priority needs have resulted in cost saving starting in FY07 and investments in assessment and risk based management of contaminated sediments not associated with range sustainability is concluded in FY07.

FY08: (U) Disinfection Byproducts Users Guide. The Potable Water Quality Management Guidance Document which provides Navy drinking water program managers with the direction and information for meeting compliance goals contained in the new disinfection byproducts rules. Continue providing validated knowledge, models, processes and system to improve environmental monitoring and reporting, and to reduce the cost of compliance with regulations applicable to coastal contamination and contaminated sediments. Continue effort to establish guidelines & limitations for the Use of Biodiesel with Ground Tactical Vehicles. Maximize the use of biodiesel fuels in tactical vehicles and equipment. Demonstrate the practical application of Compound Specific Isotope Analysis (CSIA) associated with Monitored Natural Attenuation (MNA) to provide practical guidelines associated with its use and interpretation. Continue evaluating pollutant source tracking technologies. Sediment Transport Users Guide. A practical user□s guide that provides Remedial Project Managers (RPM) with practical guidance on evaluating sediment transport at contaminated sediment sites to achieve successful, cost effective remedial decisions.

FY09: (U) Continue providing validated knowledge, models, processes and systems to improve environmental monitoring and reporting, and to reduce the cost of compliance with regulations applicable to coastal contamination and contaminated sediments

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **0817/Pollution Abatement**

C. OTHER PROGRAM FUNDING SUMMARY:

(U) P-1 Procurement Line Item No. & Name. Not Applicable.

(U) C-1 MILCON Project No. & Name. Not Applicable.

(U) RELATED RDT&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 finalcertification 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 programsthrough direct coordination and active participation in the Joint Group for Pollution Prevention (JG-PP).

(U) PE 0602233N, Readiness, Training, and Environmental Quality Technology Development

(U) PE 0603716D, Strategic Environmental Research & Development Program (SERDP)

(U) PE 0603851D, Environmental Security Technology Certification Program (ESTCP)

D. ACQUISITION STRATEGY:

(U) This project is categorized as Non-ACAT (Non Acquisition). 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) or directly through the base operating budget. 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) Fleet end user; 2) Funding sponsor for the Navy end user; 3) Other stakeholders with cognizance over the Navy process or operation being changed, 4) Cognizant environmental federal, state, and local regulators; and 5) The private or government organization that will produce the product.

E. MAJOR PERFORMERS:

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**		PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**					PROJECT NUMBER AND NAME **0817/Pollution Abatement**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
EEC 2	WR/PO	NFESC	2.708	1.888	VAR	0.569	VAR	0.579	VAR	CONT	CONT	0.000
EEC 2	WR/PO	SSC/SD	0.779	0.568	VAR	1.160	VAR	1.164	VAR	CONT	CONT	0.000
EEC 2	WR/PO	NSWC/IH	15.666	0.000	VAR	0.000	VAR	0.000	VAR	CONT	CONT	0.000
EEC 3	WR/PO	NFESC	12.255	1.724	VAR	0.450	VAR	0.425	VAR	CONT	CONT	0.000
EEC 3	WR/PO	NSWC/CD	6.477	0.797	VAR	0.520	VAR	0.681	VAR	CONT	CONT	0.000
EEC 3	WR/PO	NAWC PAX	1.665	1.494	VAR	1.372	VAR	0.740	VAR	CONT	CONT	0.000
EEC 4	WR/PO	NFESC	19.086	1.476	VAR	2.235	VAR	1.720	VAR	CONT	CONT	0.000
EEC 4	WR/PO	SSC/SD	0.000	0.100	VAR	0.634	VAR	0.729	VAR	CONT	CONT	0.000
EEC 5	WR/PO	NFESC	3.538	0.624	VAR	0.479	VAR	0.455	VAR	CONT	CONT	0.000
EEC 5	WR/PO	SSC/SD	3.474	0.224	VAR	0.650	VAR	0.575	VAR	CONT	CONT	0.000
EEC 4	WR/PO	NSWC/CD	0.000	0.000	VAR	0.000	VAR	0.780	VAR	0.000	0.780	0.000
EEC 5	WR/PO	NSWC/CD	0.000	0.000	VAR	0.211	VAR	0.225	VAR	0.000	0.436	0.000
EEC 5	WR/PO	NAWC PAX	0.000	0.000	VAR	0.465	VAR	0.350	VAR	0.000	0.815	0.000
Subtotal Product Development			**65.648**	**8.895**		**8.745**		**8.423**		**0.000**	**CONT**	**0.000**
Remarks:												
Total Cost			**65.648**	**8.895**		**8.745**		**8.423**		**0.000**	**CONT**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **0817/Pollution Abatement**

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EEC 2: Maximiize training and Testing Requirements within Environmental Constraints																												
EEC 3: Platform Repair and Maintenance with Minimal Environmental Impact																												
EEC 4: Support Shore Readiness within Environmenal Constraints																												
EEC 5: Coast Effective Management of Environmental Regulatory Requirements																												

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**			PROJECT NUMBER AND NAME **0817/Pollution Abatement**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
EEC 2: Maximiize training and Testing Requirements within Environmental Constrain	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
EEC 3: Platform Repair and Maintenance with Minimal Environmental Impact	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
EEC 4: Support Shore Readiness within Environmenal Constraints	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
EEC 5: Coast Effective Management of Environmental Regulatory Requirements	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**				PROJECT NUMBER AND NAME **9204/Marine Mammal Research**		
COST (In Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	6.247	4.243	4.383	4.403	4.452	4.539	4.628
RDT&E Articles Qty	0	0	0	0	0	0	0

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) The Navy has been and will continue to be subject to litigation with regard to the potential injuring and killing of marine animals by the use of intense underwater sound. Since Fleet operation and training areas coincide with known or probable marine mammal habitats, migration routes, or breeding areas, the possibility exists that such incidents are likely to continue in the future. The increasing public interest and pressure has resulted in escalating Fleet costs. For example, Fleet and SYSCOM development activities have been interrupted, modified, or altogether cancelled and environmental regulations have, among other things, required new ship construction shock trials to obtain Federal permits and conduct extensive environmental planning that can take several years to complete. The incorporation of mitigation measures in Fleet training operations to minimize the potential adverse effects on protected marine animals can significantly reduce the realism of these operations. In addition, the testing, evaluation, and deployment of new sonar detection and monitoring systems that use active acoustics are under severe public scrutiny for their potential adverse effects on whales and other marine animals. Navy needs scientific evidence to substantiate its claims of limited or inconsequential adverse effects to marine life from operations.

(U) This program primarily focuses on the development of planning and monitoring tools to aid the Fleet in minimizing contact with and the potential harassment of protected marine animals during operations, exercises, training, and undersea surveillance and weapons testing. These new capabilities will encompass historical and newly acquired data and analytical models that together can predict marine animal habitats (where they are likely to be) and their natural and expected behavior (diving patterns, prey localization, calling activity, etc.).

(U) Accurate and timely monitoring and predicting the movement of whales and other protected marine animals plus an enhanced knowledge of how marine animals may react to Fleet activities (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 will reduce the likelihood of litigation related to actual or anticipated compliance problems with protected animals.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **9204/Marine Mammal Research**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
Marine Mammal Location, Abundance and Movement	2.068	1.500	1.670
RDT&E Articles Quantity	0	0	0

FY 07: (U) Continue investigations in marine mammal location, abundance, and movement through habitat investigations; predictive models; marine mammal database; and data analysis, protocols and surveys.

FY08: (U) Continue investigations in marine mammal location, abundance, and movement through habitat investigations; predictive models; marine mammal database; and data analysis, protocols and surveys.

FY09: (U) Continue investigations in marine mammal location, abundance, and movement through habitat investigations; predictive models; marine mammal database; and data analysis, protocols and surveys.

	FY 2007	FY 2008	FY 2009
Criteria and Thresholds, Physiology and Behavior, and Effects of Sound	2.091	1.158	1.200
RDT&E Articles Quantity	0	0	0

FY 07: (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.

FY08: (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.

FY09: (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.

	FY 2007	FY 2008	FY 2009
Mitigation Methodologies: Monitoring, New Technology, and Risk Assess	1.938	1.500	1.400
RDT&E Articles Quantity	0	0	0

FY 07: (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.

FY08: (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.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **9204/Marine Mammal Research**

FY09: (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.

	FY 2007	FY 2008	FY 2009
Acoustic Source Propagation	0.150	0.085	0.113
RDT&E Articles Quantity	0	0	0

FY 07: (U) Continue investigation of acoustic source propagation through 3-D modeling of multiple acoustic sources.

FY08: (U) Continue investigation of acoustic source propagation through 3-D modeling of multiple acoustic sources.

FY09: (U) Continue investigation of acoustic source propagation through 3-D modeling of multiple acoustic sources.

C. OTHER PROGRAM FUNDING SUMMARY:

(U) Related RDT&E: Office of Naval Research (PE 0601153N / PE 0602435N / PE 0602782N / PE 0603235N)

(U) Related RDT&E: Strategic Environmental Research & Development Program (SERDP)

(U) Related RDT&E: National Oceanographic Partnership Program (NOPP)

D. ACQUISITION STRATEGY:

(U) RDT&E Contracts are Competitive Procurements.

E. MAJOR PERFORMERS:

CLASSIFICATION:	UNCLASSIFIED											
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS									DATE February 2008			
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**		PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**					PROJECT NUMBER AND NAME **9204/Marine Mammal Research**					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2007 Cost ($000)	FY 2007 Award Date	FY 2008 Cost ($000)	FY 2008 Award Date	FY 2009 Cost ($000)	FY 2009 Award Date	Cost to Complete ($000)	Total Cost ($000)	Target Value of Contract
Subtotal Management Services			**0.000**	**0.000**		**0.000**		**0.000**		**0.000**	**0.000**	**0.000**
Remarks:												
Developmental Test & Evaluation	WX	NUWC	0.450	1.007	VAR	0.400	VAR	0.400	VAR	0.000	2.257	0.000
Developmental Test & Evaluation	WX	NPGS, Monterey, CA	0.450	0.475	VAR	0.400	VAR	0.400	VAR	0.000	1.725	0.000
Developmental Test & Evaluation	MIPR	NOAA, Fish Science Center	0.490	0.050	TBD	0.500	TBD	0.500	TBD	0.000	1.540	0.000
Developmental Test & Evaluation	CPFF	Misc Contracts	0.213	0.000	TBD	0.236	TBD	0.285	TBD	0.000	0.734	0.000
Developmental Test & Evaluation	CPFF	Scripps Institute	1.942	2.060	TBD	1.000	TBD	1.000	TBD	0.000	6.002	0.000
Developmental Test & Evaluation	CPFF	U of Wash, APL	0.200	0.250	TBD	0.200	TBD	0.200	TBD	0.000	0.850	0.000
Developmental Test & Evaluation	CPFF	Duke Univ.	0.425	0.000	TBD	0.400	TBD	0.400	TBD	0.000	1.225	0.000
Developmental Test & Evaluation	CPFF	Oregon State Univ.	0.175	0.270	TBD	0.200	TBD	0.200	TBD	0.000	0.845	0.000
Developmental Test & Evaluation	CPFF	University of Maryland	0.000	0.680	TBD	0.000		0.000		0.000	0.680	0.000
Developmental Test & Evaluation	CPFF	Woods Hole Oceanographic Inst	0.000	0.000	TBD	0.907	TBD	0.998	TBD	0.000	1.905	0.000
Developmental Test & Evaluation	WX	SPAWARSYSCEN SD CA	0.000	0.250	VAR	0.000		0.000		0.000	0.250	0.000
Developmental Test & Evaluation	WX	NSWCCD Bethesda	0.000	0.050	VAR	0.000		0.000		0.000	0.050	0.000
Developmental Test & Evaluation	WX	NRL	0.000	0.140	VAR	0.000		0.000		0.000	0.140	0.000
Developmental Test & Evaluation	WX	NATO URC	0.000	0.015	VAR	0.000		0.000		0.000	0.015	0.000
Developmental Test & Evaluation	CPFF	Marine Acoustics, Inc.	0.000	1.000	TBD	0.000		0.000		0.000	1.000	0.000
Subtotal Test & Evaluation			**4.345**	**6.247**		**4.243**		**4.383**		**0.000**	**19.218**	**0.000**
Remarks:												
Total Cost			**4.345**	**6.247**		**4.243**		**4.383**		**0.000**	**19.218**	**0.000**

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **9204/Marine Mammal Research**

Fiscal Year	2007				2008				2009				2010				2011				2012				2013			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Marine Mammal Location, Abundance, and Movement																												
Criteria and Thresholds, Physiology and Behavior, and Effects of Sound																												
Mitigation Methodologies: Monitoring, New Technology, and Risk Assessment																												
Acoustic Source Propagation																												

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-4a, SCHEDULE DETAIL					DATE February 2008		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**			PROJECT NUMBER AND NAME **9204/Marine Mammal Research**			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Marine Mammal Location, Abundance, and Movement	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Criteria and Thresholds, Physiology and Behavior, and Effects of Sound	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Mitigation Methodologies: Monitoring, New Technology, and Risk Assessment	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4
Acoustic Source Propagation	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **9999/Congressional Add**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
9204C Integrated Marine Mammal Monitoring & Protection	1.637	0.000	0.000
RDT&E Articles Quantity	0	0	0

(U) This Congressional Add is a continuation of Congressional Add Project 9204. This effort involves the development and testing of an Integrated Marine Mammal Monitoring and Protection System (IMAPS), which integrates an Active/Passive Sonar System with the Mitigation Management and Control Module (MMCM). The active/passive acoustic system will act as the primary detection method, while the MMCM will act to optimize the functional settings of the active/passive system to maximize the probability of detection of marine mammals for the given operation. This system will be evaluated for its ability to track gray whales and other marine mammals of special interest to the Navy

	FY 2007	FY 2008	FY 2009
9536C Pugent Sound Anoxia Research	1.943	1.192	0.000
RDT&E Articles Quantity	0	0	0

(U) FY 2007 - This Congressional Add is a continuation of Congressional Add Project 9536. This effort will involve the monitoring of the oxygen content of the water in Hood Canal and streams throughout the watershed and will increase understanding of the long-term effects of low-oxygen levels on sealife. The monitoring information will be used to develop a mathematical model of Hood Canal. The model will be used to evaluate the effect of different potential sources of input to Hood Canal that might account for an existing anoxic condition.

(U) FY 2008 - Continued FY 07 effort.

CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)			DATE February 2008
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603721N/ENVIRONMENTAL PROTECTION**	PROJECT NUMBER AND NAME **9999/Congressional Add**	

	FY 2007	FY 2008	FY 2009
9A10N Marine Mammal Budget Plus-Up	1.945	0.000	0.000
RDT&E Articles Quantity	0	0	0

(U) This Congressional Add is to the Project 9204 Budget. This effort involves: (1) The integration of several technologies in large-scale ocean experiments designed to observe, measure and analyze the effect of mid-frequency sonar type signals on the behavior of marine mammals. Several variables have to be considered, such as an initial understanding of "normal" behavior in different ocean environments and in different marine mammal habitat conditions. Behavior encompasses such things as feeding, breeding, nursing migration, calling etc. (2) Applying the most advanced finite element (analytical) computer modeling techniques to simulate the effect of various types of sonar signals on marine mammal physiology, organs, tissue etc. This is the only method available to investigate and determine the potential of physical damage to marine mammals from intense sound that does not require destructive testing on real animals, which is prohibited. The initial task in this effort involves translating all the dissected small marine mammal body parts into physical variables such as: density, shear modulus, elasticity etc. The ultimate goal in this rigorous process is to convert normal scaling from electronic scans (MRI, MRA cat scan etc) into these required physical variables that will be used in the analytical models. (3) Testing the feasibility of using the Navy's complex undersea training ranges to detect, classify, track and monitor marine animals that are within the range. An initial determination as to what animals are likely to "call" and under what circumstances must first be addressed. The ultimate goal is to use existing range sensors to measure any "abnormal" marine mammal behavior and relate it to any man-made influence such as commercial shipping, oil and gas exploration, Navy sonar activity etc. (4) Determining the habitat of several threatened species of marine mammals by correlating physical ocean conditions with the expectation of the development of a food source or other conditions which will attract marine mammals and change the average normal population densities. (5) The continued development of instrumentation to uniquely study the natural behavior of beaked whales, that seem to be most vulnerable to Navy sonar type signals. Deployment of these instruments along with the use of other ancillary ocean data collection devices to first determine the natural behavior of these whales and then to observe, measure and analyze changes to this normal behavior because of some outside influence such as shipping, underwater sound, distant undersea explosives etc.