CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **February 2002**			
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, BA4**					R-1 ITEM NOMENCLATURE Environmental Protection / PE0603721N					
COST ($ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Total PE Cost		**71.486**	**47.692**	**44.206**	**44.085**	**42.321**	**35.109**	**33.759**	**Cont**	**Cont**
Shipboard Waste Mgmt / S0401		**46.399**	**31.559**	**28.798**	**28.403**	**26.536**	**19.150**	**17.527**	**Cont**	**Cont**
Env Compliance / W2210		**4.744**	**4.571**	**4.890**	**4.962**	**5.157**	**5.231**	**5.317**	**Cont**	**Cont**
Aviation Depot Maint Tech / W2623*		**1.941**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**5.869**
Pollution Abatement / Y0817		**8.697**	**9.580**	**10.518**	**10.720**	**10.628**	**10.728**	**10.915**	**Cont**	**Cont**
Asbestos Removal / Y2402*		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**9.704**
Resource Recovery Tech Center / Y2403*		**1.982**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**20.428**
Depleted Uranian Stabilization / Y2837*		**7.723**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**7.927**
Navy Environmental Compliance Ops / H9046*		**0.000**	**1.982**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**1.982**

A. (U) Mission Description and Budget Item Justification: This program develops processes, prototype 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 U.S. statutes and international agreements. Projects support the Navy's compliance with: OPNAVINST 5090.1B CH-2 of 9 September 1999 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 S0401 supports RDT&E efforts that allow Navy ships and submarines to comply with existing and emerging laws, regulations, and policies in four major areas: ozone depleting substances, liquid wastes, solid wastes, and hazardous and other wastes. Project W2210 and Project Y0817 support and validate development of technologies to enable Navy facilities to comply with environmental laws, regulations, and policies in a cost-effective manner.
* Projects W2623, Y2402, Y2403, Y2837 and H9046 are Congressional adds.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, BA4**	R-1 ITEM NOMENCLATURE Environmental Protection / PE 0603721

B. (U) Program Change Summary:

	FY 2001	FY 2002	FY 2003
FY 2002 President's Budget:	73.506	46.116	0.000
(U) Appropriated Value:	62.194	48.117	0.000
(U) Adjustments to FY 2002/2003 Appropriated Value/FY 2002 President's Budget:	9.652	-0.425	0.000
FY 2003 OSD/OMB Budget Submit:	71.846	47.692	44.206

(U) Funding:
FY2001 Adjustments: (+$2.000M) for Aviation Depot; (+2.000M) for Resource Preservation; (+$8.000M) Depleted Uranium Stabilization; (-$0.936M) for BTRs; (-$0.822M) SBIR redcution; .7% pro rata reduction
(-$.520M); Government-wide recission (-$0.161M); and other adjustments (+$.091M).
FY2002 Adjustments: (-$0.425M) Sec 8123: Management.

(U) Schedule: Not applicable.
(U) Technical: Not applicable.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2002**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA4**	PROGRAM ELEMENT NAME AND NUMBER **Environmental Protection / PE0603721N**				PROJECT NAME AND NUMBER Shipboard Waste Management / S0401					
COST ($ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Shipboard Waste Management / S0401		**46.399**	**31.559**	**28.798**	**28.403**	**26.536**	**19.150**	**17.527**	**Cont**	**Cont**
RDT&E Articles Qty										
Oily Waste Polishing System - Engineering Development Models		**1-$0.4M**								
Non-Oily Waste Polishing System - Engineering Development Models		**1-$1M**		**1-$0.6M**		**1-$2.0M**				
Non-CFC Refrigerant Replacement Kits - Engineering Development Models										
Liquid Waste Thermal Destruction - Engineering Development Models										
Shipboard Pollution Prevention - Test Articles						**2-$0.8M**		**2-$0.4M**		
Solid Waste - Engineering Development Models		**1-$2M**	**1-$2M**							
Underwater Hull Cleaning - Engineering Development Models		**1-$0.7M**		**1-$0.9M**						

A. (U) Mission Description and Budget Item Justification

1. (U) FY 2001 ACCOMPLISHMENTS:

(U) ($6.000M) Ozone Depleting Substances - Completed development and qualification of backfit modifications for remaining surface ship 250-ton CFC-114 air-conditioning plant designs. Continued development of shipboard alternative (non-vapor-compression) cooling concepts. Continued evaluation of non-ozone depleting substance (non-ODS) fire protection concepts and systems for future surface combatants.

(U) ($25.599M) Integrated Liquid Wastes - 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: continued development of 10-gpm Oil/Water Separator (OWS-10) Polisher, continued development of 50-gpm Oil/Water Separator (OWS-50) Polisher, and continued development of 5-gpm Oil/Water Separator (OWS-5) Polisher; continued development of advanced Oil Content Monitor (OCM); continued development of Engineering Development Model (EDM) non-oily wastewater treatment system; and continued develoment of advanced thermal destruction system for concentrated ship liquid wastes. Continued development of design fixes for compensated fuel ballast systems.

(U) ($5.400M) Solid Wastes - Continued development of management processes and systems for plastics for submarine application: completed transition of SSBN-726 Class submarine design solution; initiated planning for SSN-21 Class submarine modification and at-sea evaluation; and continued investigation of onboard storage techniques and locations for SSN-774 Class submarines. Continued development of advanced thermal destruction system for processing shipboard solid wastes.

(U) ($9.400M) Hazardous and Other Major Ship Wastes - Continued shipboard hazardous materials substitution and elimination process and continued test and evaluation of pollution-prevention equipment aboard ship. Continued quality assurance testing on reformulated commercial paints. Continued development of oil spill response capabilities: continued development of Recovered Oil Logistics System; continued oil spill risk assessment program for major Navy ports; initiated development of portable oil incinerator system; and initiated development of oil spill program Geographical Information System (GIS). Continued development of marine mammals ship database tracking system: initiated demonstration. Continued development and testing of new low-copper underwater hull antifouling coatings. Continued development of underwater hull cleaning system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Shipboard Waste Management / S0401

2. (U) FY 2002 PLAN:

(U) ($3.100M) Ozone Depleting Substances - Complete Integrated Logistics Support (ILS) documentation for CFC-114 air-conditioning plant designs. Continue development of shipboard alternative (non-vapor-compression) cooling concepts. Continue evaluation of non-ozone depleting substance (non-ODS) fire protection concepts and systems for future surface combatants.

(U) ($11.859M) Integrated Liquid Wastes - 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: complete development of 10-gpm Oil/Water Separator (OWS-10) Polisher and continue ILS documentation, complete development of 50-gpm Oil/Water Separator (OWS-50) Polisher and continue ILS documentation, and complete development of 5-gpm Oil/Water Separator (OWS-5) Polisher and continue ILS documentation; complete development of advanced Oil Content Monitor (OCM); continue development of Engineering Development Model (EDM) non-oily wastewater treatment system; and complete development of advanced thermal destruction system for concentrated ship liquid wastes. Complete development of design fixes for compensated fuel ballast systems.

(U) ($8.000M) Solid Wastes - Continue development of management processes and systems for plastics for submarine application: initiate SSN-21 Class submarine at-sea evaluation; and continue investigation of onboard storage techniques and locations for SSN-774 Class submarines. Continue development of advanced thermal destruction system for processing shipboard solid wastes.

(U) ($8.600M) Hazardous and Other Major Ship Wastes - Continue shipboard hazardous materials substitution and elimination process and continue test and evaluation of pollution-prevention equipment aboard ship. Continue quality assurance testing on reformulated commercial paints. Complete development of oil spill response capabilities: complete development of Recovered Oil Logistics System; complete oil spill risk assessment program for major Navy ports; complete development of portable oil incinerator system; complete development of oil spill program Geographical Information System (GIS). Continue development of marine mammals ship database tracking system: continue demonstration. Continue development and testing of new low-copper underwater hull antifouling coatings. Continue development of underwater hull cleaning system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Shipboard Waste Management / S0401

3. (U) FY 2003 PLAN:

(U) ($3.591) Ozone Depleting Substances - Continue development of shipboard alternative (non-vapor-compression) cooling concepts. Complete evaluation of non-ozone depleting substance (non-ODS) fire protection concepts and systems for future surface combatants.

(U) ($10.407) Integrated Liquid Wastes - 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: complete 10-gpm Oil/Waste Separator (OWS-10) Polisher ILS documentation, complete 50-gpm Oil/Water Separator (OWS-50) Polisher ILS documentation, and complete development of 5-gpm Oil/Water Separator (OWS-5) Polisher ILS documentation; continue development of Engineering Development Model (EDM) non-oily wastewater treatment system.

(U) ($6.500) Solid Wastes - Continue development of advanced thermal destruction system for processing shipboard solid wastes. Complete development of management processes and systems for plastics for submarine application: complete transition of SSN-21 Class and SSN-774 Class submarine design solutions.

(U) ($8.300) Hazardous and Other Major Ship Wastes - Continue shipboard hazardous materials substitution and elimination process and continue test and evaluation of pollution-prevention equipment aboard ship. Complete quality assurance testing on reformulated commercial paints. Initiate development of Environmental Information Management System (EIMS). Continue development of marine mammals ship database tracking system: continue demonstration. Continue development and testing of new low-copper underwater hull antifouling coatings. Continue development of underwater hull cleaning system.

B. (U) Other Program Funding Summary: 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/R3162)
(U) Readiness, Training, and Environmental Quality/Logistics and Environmental Quality (PE 62233N)
(U) Environmental Quality and Logistics Advanced Technology/Environmental Requirements Advanced Technology (PE 63712N/R2206)

C. (U) Acquisition Strategy: (U) RDT&E Contracts are Competitive Procurements.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Shipboard Waste Management / S0401

D. (U) Schedule Profile:

FY01

Ozone Depleting Substance
Complete Development of Remaining 250-Ton A/C Modification Kits

Integrated Liquid Wastes

Shipboard Solid Wastes
Completed SSBN-726 Class Submarine Plastics Waste Solution
Initiated SSN-21 Class Submarine Plastics Waste Solution Design

Hazardous & Other Major Ship Wastes
Initiate Development of Oil Spill Portable Oil Incinerator
Initiate Development of Oil Spill Geographic Information System
Initiate Marine Mammals Tracking Database Demonstration

FY02

Ozone Depleting Substance
Complete ILS Documentation for CFC-114 A/C Plant Backfit Designs

Integrated Liquid Wastes
Complete Development of OWS-10 Oily Waste Polisher
Complete Development of OWS-50 Oily Waste Polisher
Complete Development of OWS-5 Oily Waste Polisher
Complete Development of Advanced Oil Content Monitor
Complete Development of Design Fixes for Compensated Fuel Ballast Systems

Shipboard Solid Wastes
Initiate SSN-21 Class Submarine Plastics Waste At-Sea Evaluation

Hazardous & Other Major Ship Wastes
Complete Development of Oil Spill Response Capabilities

FY03

Ozone Depleting Substance
Complete non-ODS fire protection systems

Integrated Liquid Wastes
Complete Development of OWS-10 Oily Waste Polisher ILS
Complete Development of OWS-50 Oily Waste Polisher ILS
Complete Development of OWS-5 Oily Waste Polisher ILS

Shipboard Solid Wastes
Complete Development of Submarine Plastics Waste Solutions

Hazardous & Other Major Ship Wastes
Complete Testing of Reformulated Commercial Paints
Initiate Development of Environmental Information Management System

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 1)										DATE: **February 2002**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA4**		PROGRAM ELEMENT **Environmental Protection / PE0603721N**				PROJECT NAME AND NUMBER Shipboard Waste Management / S0401						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	Westinghouse Machinery Tech Div, Pitts, PA	14.580	0.000	N/A	0.000	N/A			N/A	14.580	14.580
Primary Hardware Development	C/CPFF	Geo-Centers, Inc., Boston, MA	13.750	6.500	12/00	3.000	12/01	2.000	01/03	Cont	Cont	N/A
Primary Hardware Development	SS/CPFF	York International Corp York, PA	2.700	0.000	N/A	0.000	N/A			N/A	2.700	2.700
Primary Hardware Development	SS/CPFF	York International Corp York, PA	8.350	2.500	02/01	1.000	01/02			10.150	25.000	25.000
Primary Hardware Development	SS/CPFF	Northern Research & Engineering Corp, Waburn, MA	1.200	0.000	N/A	0.000	N/A			N/A	1.200	1.200
Primary Hardware Development	C/CPFF	M. Rosenblatt & Son New York, NY	9.363	1.000	01/01	0.500	01/02	1.000	01/03	Cont	Cont	N/A
Ancillary Hardware Development	Various	Misc. Contracts	15.110	1.274	N/A		N/A	1.500	Var	N/A	N/A	N/A
Systems Engineering	C/CPFF	John J. McMullen &	3.587	0.600	12/00	0.300	12/01	0.600	12/02	Cont	Cont	N/A
Subtotal Product Development			68.640	11.874		4.800		5.100		Cont	Cont	N/A
Remarks: (1) Hardware Development and Systems Engineering Tasks use CPFF Delivery Order Contracts for Continuing Development of Pollution Abatement Hardware and Ship Systems Engineering Analysis												
Software Development	Various	Misc. Contracts	0.000	0.000		0.000				0.000	0.000	0.000
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks: Not Applicable.												

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 2) | DATE: **February 2002**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, N** | PROGRAM ELEMENT: **Environmental Protection / PE0603721N** | PROJECT NAME AND NUMBER: Shipboard Waste Management / S0401

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC Carderock Div, Bethesda, MD	86.324	18.200	N/A	18.000	N/A	12.000		Cont	Cont	N/A
Developmental Test & Evaluation	WR	Naval Research Lab Wash, DC	19.082	3.000	N/A	3.000	N/A	2.200		Cont	Cont	N/A
Developmental Test & Evaluation	WR	SPAWARSYSCEN San Diego, CA	3.310	3.000	N/A	1.500	N/A	2.000		Cont	Cont	N/A
Process Control Engineering	C/CPFF	GSA/BAH Arlington, Va	0.000	3.020	N/A	2.473	12/01	4.000		Cont	Cont	N/A
Developmental Test & Evaluation	WR	Misc. Govt Labs	21.332	0.700	N/A	0.200	N/A	0.500		Cont	Cont	N/A
Developmental Test & Evaluation	C/CPFF	Geo-Centers, Inc. Boston, MA	9.151	1.500	12/00	1.500	12/01	1.000	01/03	Cont	Cont	N/A
Developmental Test & Evaluation	C/CPFF	York International Corp, York , PA	12.000	0.000	N/A	0.000	N/A			0.000	12.000	12.000
Developmental Test & Evaluation	C/CPFF	Misc. Contracts	7.440	5.055	Var	0.036	Var	1.948	Var	Cont	Cont	N/A
Subtotal T&E			158.639	34.475		26.709		23.648		0.000	Cont	N/A
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel				0.050		0.050		0.050			Cont	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.050		0.050		0.050		0.000	Cont	
Remarks: Not applicable.												
Total Cost			227.349	46.399		31.559		28.798		Cont	Cont	Cont
Remarks:												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2002**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA4**	PROGRAM ELEMENT NAME AND NUMBER **Environmental Protection / PE0603721N**				PROJECT NAME AND NUMBER Environmental Compliance / W2210					
COST ($ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Environmental Compliance / W2210		**4.744**	**4.571**	**4.890**	**4.962**	**5.157**	**5.231**	**5.317**	**Cont**	**Cont**
RDT&E Articles Qty										

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 effectiveness. Naval aviation pollution prevention efforts were previously supported by Project Y0817, Pollution Abatement Ashore. This project will support that part of project Y0817 that addressed aviation pollution prevention technologies as well as additional operational and shipboard aviation requirements previously unsupported. Specific regulatory requirements include Executive Orders 12856 (Pollution Prevention) and 12873 (Recycling & Waste Prevention), the Clean Air Act (CAA) and associated National Emission Standards for Hazardous Air Pollutants (NESHAPs) and National Ambient Air Quality Standards (NAAQS), the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), as well as Occupational,Safety and Health Administration (OSHA) standards.

1. (U) FY 2001 ACCOMPLISHMENTS:

(U) ($2.782M) Continued to research, develop, and test alternatives to aircraft manufacturing, finishing, repair and maintenance processes that use toxic heavy metals, hazardous air pollutants (HAPs), and volatile organic compounds (VOCs). Continued to formulate and certify newly developed aircraft coatings. Continued technology research development, demonstrations/validations of alternatives to chromium and cadmium electroplating processes. Continued to develop and validate source reduction in aircraft wash. Continued to develop and demonstrate alternative propulsion system technologies that minimize the use and generation of hazardous materials in operations, manufacturing and repair processes. Initiated development of low engine emissions technology. Completed development of non-chromated paint primers, non-HAP sealants, mobile paint stripping technology, non-HAPs pre-paint cleaner.

(U) ($0.290M) Continued to provide scientific and technical expertise for continued aviation pollution prevention technology development, demonstration and validation.
(U) ($0.535M) Continued to develop and demonstrate low-VOC, non-chromated adhesive bonding primers and aluminum-manganese as a cadmium replacement.
(U) ($0.445M) Completed development and demonstration of conversion coatings alternatives.
(U) ($0.280M) Continued development and demonstration of alternative ordnance materials and processes.
(U) ($0.412M) Continued development and demonstration of environmentally compatible Aircraft Launch and Recovery Equipment (ALRE) lubricants and certify processes that reduce their emission to the sea.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Environmental Compliance / W2210

2. (U) FY 2002 PLAN:

(U) ($2.060M) Continue to research, develop, and test alternatives to aircraft manufacturing, finishing, repair and maintenance processes that use toxic heavy metals, hazardous air pollutants (HAPs), and volatile organic compounds (VOCs). Continue to formulate and certify newly developed aircraft coatings. Continue technology research development, demonstrations/validations of alternatives to chromium and cadmium electroplating processes. Continue to develop and validate source reduction in aircraft wash. Continue to develop and demonstrate alternative propulsion system technologies that minimize the use and generation of hazardous materials in operations, manufacturing and repair processes. Continue development of low engine emissions technology. Initiate testing of non-chrome anodize coatings. Initiate flight evaluations of high velocity oxy fuel (HVOF) coatings and non-chrome anodize coating. Initiate evaluations of environmentally compliant Sol-Gel materials. Initiate development of a low emissions combustor technology. Complete evaluation of zero VOC exterior aircraft coating. Complete development of aluminum-maganese coatings as cadmium plating replacements.

(U) ($0.331M) Continue to provide scientific and technical expertise for continued aviation pollution prevention technology development, demonstration and validation: initiate flight evaluation of a non-chrome anodizing technology.
(U) ($0.426M) Initiate evaluation of low-VOC bonding, peteroleum distilate (PD) solvent alternatives.
(U) ($0.426M) Initiate flight evaluations of conversion coating alternatives, aluminum manganese (Al/Mn) coatings.
(U) ($0.950M) Continue development and demonstration of alternative weapons and ordnance materials and processes.
(U) ($0.378M) Continue development and demonstration of environmentally acceptable ALRE technologies.

3. (U) FY 2003 PLAN:

(U) ($3.140M) Continue to research, develop, and test alternatives to aircraft manufacturing, finishing, repair and maintenance processes that use toxic heavy metals, hazardous air pollutants (HAPs) , and volatile organic compounds (VOCs). Continue to formulate and certify newly developed aircraft coatings. Continue technology research development, demonstrations/validations of alternatives to chromium and cadmium electroplating processes. Continue to develop and validate source reduction in aircraft wash. Continue to develop and demonstrate alternative propulsion system technologies that minimize the use and generation of hazardous materials in operations, manufacturing and repair processes. Complete testing of non-chrome anodize coatings. Initiate development of low engine noise technologies. Complete development of low engine emissions combustor technology. Continue flight evaluations of HVOF coatings.

(U) ($0.350M) Continue to provide technical expertise for continued flight evaluations of aviation pollution prevention technologies. Complete flight testing of a non-chrome anodizing technology.
(U) ($0.450M) Complete evaluation of low VOC bonding, petroleum distilate (PD) solvent alternatives.
(U) ($0.450M) Complete flight evaluation of conversion coating alternatives, aluminum manganese (Al/Mn) coatings
(U) ($0.100M) Continue to develop and demonstrate alternative weapons and ordnance materials and processes.
(U) ($0.400M) Complete development and demonstration of environmentally acceptable ALRE technologies.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Environmental Compliance / W2210

B. (U) Other Program Funding Summary: Not applicable.

(U) RELATED RDT&E:
PE 0602233N (Readiness/Training/Environmental Quality)
PE 0603716D (Strategic Environmental R&D Program)
PE 0603851D (Environmental Security Technology Certification Program)
PE 0603721N (Environmental Quality & Logistics Advanced Technology)

C. (U) 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.

D. (U) Schedule Profile:

FY01

Engineering Milestones
Complete Development Conv Coating Alternatives
Complete Development Non-Chromated Primers
Complete Development Non-HAP Sealants
Complete Development Mobile Paint Stripping Technology
Complete Evaluation Non-HAPs Prepaint Cleaner
Initiate Development Low Engine Emissions Technology

FY02

Engineering Milestones
Complete Development Al/Mn Coatings
Comp Eval Zero VOC Topcoat
Init Flight Eval Conv Coatings
Init Eval Low VOC Bonding
Init Eval PD Solvent Alt
Init Test Non-Chrome Anodized Coatings
Init Flight Eval Al/MnCoatings
Init Flight Eval HVOF Coatings
Init Eval Compliant Sol-Gel Mat
Init Dev Low Emiss Combustor
Init Flight Eval Non-Chrome Anodize

FY03

Engineering Milestones
Comp Flight Eval of Conv Coat Alts
Comp Test Non-Chrome Anodize
Comp Eval Low VOC Bonding
Comp Flight Eval HVOF Coatings
Comp Flight Eval Non-Chrome Anodize
Comp Flight Eval Al/Mn Coatings
Init Dev Low Engine Noise Tech
Comp dev/dem ALRE tech
Cont Dev Low Emission Engine Tech

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 1) | DATE: **February 2002**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Environmental Compliance /W2210

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	WX	Various		1.990		1.773		1.853		Cont	Cont	
	WX	NAWC-Pax		2.742		2.783		3.020		Cont	Cont	
Subtotal Product Development			0.000	4.732		4.556		4.873		Cont	Cont	
Remarks:												
Software Development												
Training Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
GFE												
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks: Not Applicable.												

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 2)										DATE: **February 2002**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N**		PROGRAM ELEMENT **Environmental Protection / PE0603721N**			PROJECT NAME AND NUMBER Environmental Compliance /W2210							
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												N/A
Operational Test & Evaluation												N/A
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		N/A
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	WX	NAWC Pax		0.012		0.015		0.017		Cont	Cont	Cont
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.012		0.015		0.017		0.000	Cont	
Remarks: Not applicable.												
Total Cost				4.744		4.571		4.890		Cont	Cont	Cont
Remarks:												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **February 2002**			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA4**	PROGRAM ELEMENT NAME AND NUMBER **Environmental Protection / PE0603721N**				PROJECT NAME AND NUMBER Pollution Abatement / Y0817					
COST ($ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Pollution Abatement / Y0817		**8.697**	**9.580**	**10.518**	**10.720**	**10.628**	**10.728**	**10.915**	**Cont**	**Cont**
RDT&E Articles Qty										

A. (U) Mission Description and Budget Item Justification: 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&E Requirements of January 2001. Project investment is made in six thrust areas identified for FY02. Thrust areas have changes from FY01 to better align the tasks with technical area needs resulting from shoreside requirements.

(U) SHIP MAINTENANCE/REPAIR/DEACTIVATION

(U) Thus far, tasks in this thrust area have addressed environmental requirements originating at Naval shipyards. As the Navy pursues a strategy to reduce ship maintenance costs by shifting work to Ship Intermediate Maintenance Activities (SIMAs), new requirements are emerging as these processes and resulting hazardous waste streams become more decentralized. SIMAs will require technologies that are cost-effective when operated less frequently and with lower throughput. Future SIMA tasks will be selected based on compliance and pollution prevention studies being conducted on the Naval Station Mayport SIMA as part of the Navy Environmental Leadership Program (NELP) during FY 1999.

(U) ORDNANCE TESTING/MANUFACTURE/DISPOSAL

(U) Current tasks in this thrust address specific compliance-driven environmental requirements of Navy ordnance activities. With respect to disposal, the thrust addresses requirements for disposal of quantities typical of testing and manufacturing operations, not of the much larger quantities associated with demilitarization. Future tasks will shift much of the investment in this area to pollution prevention requirements, particularly where they also reduce compliance impacts and costs. These tasks will be identified as part of an ordnance environmental requirements study being conducted in partnership with the Navy's Ordnance Environmental Specialty Office (OESO) during FY 1999.

(U) INDUSTRIAL OPERATIONS AND MAINTENANCE

(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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement /Y0817

(U) INSTALLATION RESTORATION

(U) Tasks in this thrust address requirements to reduce air and water emissions (Clean Air Act (CAA), Clean Water Act (CWA)), hazardous waste (Resource Conservation & Recovery Act (RCRA)) generation, and cost of environmental compliance for non-industrial operations occurring at Naval activities. In addition, tasks evaluate alternative restoration technologies for the over 1000 Navy sites requiring cleanup and restoration under Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA). The alternative restoration tasks are selected and linked to the urgent requirements of specific restoration projects in partnership with the Navy's Alternative Restoration Technology Team (ARTT). It is expected that one area requiring new investment is technologies to reduce the long-term operation and monitoring costs of installation restoration projects. This thrust will be renamed in FY02 to focus solely on Installation Restoration issues for soil and groundwater. Efforts addressing contaminated sediments were realigned in FY02 under a separate thrust. Tasks addressing emissions detection and monitoring of air and water contaminants were addressed under a separate thrust in FY02.

(U) HAZARDOUS WASTE MINIMIZATION

(U) Prior tasks have shown that the Navy neither has the funding required to acquire a new government-owned hazardous waste treatment system nor a large enough hazardous waste stream to make a new contractor-owned treatment systems profitable. Tasks address requirements to upgrade capabilities of Navy-owned Industrial Waste Treatment Plants (IWTPs) and/or to pre-treat Navy-generated wastes prior to being discharged to Publicly-Owned Wastewater Treatment Systems (POWTS). Tasks in this thrust address requirements to reduce air and water emissions (Clean Air Act (CAA), Clean Water Act (CWA)), hazardous waste (RCRA) generation, and cost of environmental compliance for non-industrial operations occurring at Naval activities. This thrust area was completed in FY01. Efforts addressing requirements for pollution prevention and recycling of hazardous wastes will be addressed under the Industrial Operations and Maintenance thrust.

(U) COASTAL CONTAMINATION AND CONTAMINATED SEDIMENTS

(U) This thrust area was created in FY02, providing specific focus to some of the requirements addressed formerly under non-industrial operations thrust area. 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 marine environmental risk assessment.

(U) EMISSIONS DETECTION AND MONITORING

(U) This thrust area was created in FY02. Tasks under this thrust will address legal and policy requirements for monitoring and detection of wastewater discharges and air emissions. 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 & Recovery Act (RCRA), Toxic Substance Control Act(TSCA), State, and local regulations and reduce costs for environmental sampling analysis. In addition, Navy operational air pollution modeling capability will be developed and including hardware, software, system administration processes, and guidelines. On-going task for Real-Time Monitoring of Copper effluent was realigned under this thrust.

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EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER	
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement /Y0817	

1. (U) FY2001 ACCOMPLISHMENTS:

(U) ($2.105M) Ship Maintenance/Repair/Deactivation - Completed development of Air Emission Reduction from Shipyard Cutting and Arc-Gouging Operations. Continued development of Automated Paint Application with Overspray Capture and Treatment. Continued evaluation of Advanced Oil Spill Response Equipment. Continued development of techniques for Real-Time Monitoring of Copper Effluents from dry-dock operations. Initiated development of Coating Removal from Delicate Substrates on Navy vessels.

(U) ($1.677M) Ordnance Testing/Manufacture/Disposal - Continued development of Exhaust Scrubber for Static Testing of Small Rocket Motors: complete fabrication of phase 2 prototype. Continued development of Confined Burn Facility to Replace Open Burning of Ordnance and Energetics.

(U) ($2.067M) Other Industrial Operations - Completed validation of In-Line Monitoring and Diversion of Aqueous Film-Forming Foam (AFFF) Discharges. Continued task to address requirements for Reduced Air Emissions from Diesel Engines. Initiate task to address shoreside requirements for aircraft maintenance facilities needed to support the Integrated Maintenance Concept (IMC). Initiated Oil Spill Prevention Ashore effort. Initiated Catalysts for Advanced Oxidation Processes (AOP) for paint stripping wastewater. Initiated Environmental Assessment for Ground Support Equipment (GSE).

(U) ($1.968M) Non-Industrial Operations - Completed organics upgrade of Benthic Flux Sampling Device. Completed development of subsurface contaminant transport and Dense Non-Aqueous Phase Liquid (DNAPL) sensor system. Complete development of software tool for Determining Remediation Timeframes Associated with Monitored Natural Attenuation. Continued development of Methods to Assess Subsurface Contaminant Migration from Coastal Landfills. Continued Toxicity Identification Evaluations (TIE) for identifying Contaminants fo Concern (CoCs) in Contaminated Sediments. Initiated study of Fate/Effect of Underwater Unexploded Ordnance (UXO).

(U) ($0.880M) Hazardous Waste Minimization/Recycling/Disposal - Completed development of Shoreside Collection and Treatment System for Compensated Fuel Tank Ballast Water. Completed demonstration of Recycle/Recovery and Chromium Wastewaters discharged to Navy-Owned Industrial Waste Treatment Plants (IWTPs).

2. (U) FY2002 PLAN:

(U) ($2.309M) Ship Maintenance/Repair/Pierside - Complete development of Automated Paint Application with Overspray Capture and Treatment. Complete development of Air Emission Reduction from Shipyard Cutting and Arc-Gouging Operations. Complete development and demonstration of Collection and Treatment of Compwater. Complete evaluation of Advanced Oil Spill Response Equipment. Initiate tasks addressing painting operations at Ship Intermediate Maintenance Activity (SIMA) requirements identified during compliance and pollution prevention studies conducted on Naval Station Mayport (SIMA) as part of Navy Environmental Leadership Program (NELP).

(U) ($1.822M) Ordnance Testing/Manufacture/Disposal - Complete testing of pilot Exhaust Scrubber for Static Testing of Small Rocket Motors. Continue development of Confined Burn Facility (CBF): complete design of 80lb CBF pilot facility. Initiate tasks for treatment of ammonium perchlorate (AP) wastewaters. Initiate effort for Green Energetic Processing.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER	
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement /Y0817	

(U) ($2.308M) Industrial Operations and Maintenance - Complete demonstration of Reduced Air Emissions from Diesel Engines. Complete field demonstration of Biological Detoxification of Oily Sludges. Continue evaluation of Catalysts for Advanced Oxidation Processes (AOP). Conduct field demonstrations for noise reduction of FETC. Initiate tasks for Pollution Prevention (P2) of shoreside industrial operations that address high cost and Notice of Violation (NOV) issues.

(U) ($0.876M) Installation Restoration - Complete demonstration of electrokinetic destruction of chlorinated solvents. Develop protocol for assessing potential risks to amphibians at Navy sites. Initiate tasks for improving and optimizing remediation strategies and to reduce long-term operation and monitoring costs of installation restoration projects.

(U) ($1.499M) Coastal Contamination and Contaminated Sediments - Complete demonstration of Biogeochemical Fingerprinting for sediment management. Continue development of Methods to Assess Subsurface Contaminant Migration from Coastal Landfills. Continue evaluations fo Fate/Effect of Underwater Unexploded Ordnance (UXO). Initiate task to assess degradation of ordnance compounds in sediments. Initiate site-specific validation methodologies for in-place sediment management.

(U) ($0.766M) Emissions Detection and Monitoring - Complete demonstration of Real-Time Monitoring of Copper Effluents from dry-dock operations. Complete validation of portable Leak Detections system for Fuel Farms. Complete demonstration of air modeling capability using south coast air basin as case study. Initiate improved monitoring for stormwater assessment.

3. (U) FY2003 PLAN:

(U) ($1.945M) Ship Maintenance/Repair/Pierside Support - Complete demonstration of Coating Removal from Delicate Substrates. Continue SIMA tasks for improved painting operations. Initiate task for capture of Hydraulic Fluid released during Propeller Maintenance.

(U) ($1.906M) Ordnance Testing/Manufacture Disposal - Continue development of Exhaust Scrubber for Static Testing of Small Rocket Motors. Continue development of Confined Burn Facility (CBF) to Replace Open Burning of Ordnance and Energetics: complete construction of 80lb CBF facility. Continue ammonium perchlorate (AP) Wastewater Treatment. Continue Green Energetic Processing.

(U) ($2.643M) Industrial Operations and Maintenance - Conduct demonstrations at IMC test facility. Complete demonstration of Catalysts for Advanced Oxidation Processes (AOP). Continue tasks for P2 of shoreside industrial operations that address high cost and NOV issues.

(U) ($1.013M) Installation Restoration - Complete development of in-situ sensor for MTBE. Complete and continue demonstrations efforts for reduced remediation and long-term monitoring costs selected by ARTT.

(U) ($1.759M) Coastal Contamination and Contaminated Sediments - Complete development of Methods to Assess Subsurface Contaminant Migration from Coastal Landfills. Complete assessment of degradation products for ordnance compounds in sediments. Continue site-specific validation methodologies for in-place sediment management. Continue evaluations of Fate/Effect of Underwater UXO.

(U) ($1.252M) Emissions Detection and Monitoring - Conduct case study simulations using Navy air modeling capability. Continue improved monitoring for stormwater assessment. Initiate evaluation of low cost sensors using molecular imprinting. Initiate development of Real-Time Monitoring of Hydrocarbon Effluents.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement /Y0817

B. (U) Other Program Funding Summary: This project transitions technologies from PE0603712N, Environmental Quality, Logistics Advanced Technology Demonstrations Program, and PE0603716D, the Strategic Environmental Research and Development Program (SERDP). Whenever possible, funding is leveraged by transitioning technologies to PE 0603851D, the Environmental Security Technology Certification Program (ESTCP), for certification and by providing funding for Navy participation in ESTCP projects that could address Navy requirements. Within this program element, the project looks for fund leveraging opportunities with Project S0401 and W2210. Execution of this project is coordinated with related Army and Air Force programs by the Tri-Service Environmental Quality R&D Strategic Plan developed under the leadership of the Joint Engineers Management Panel (JEMP). Additional coordination occurs between the Army, Navy, and Air Force centers for environmental excellence.

(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 final certification and by providing funding for Navy participation in ESTCP projects. Execution of this project is coordinated with related Army and Air Force programs by the Tri-Service Environmental Quality R&D Strategic Plan developed under the leadership of the Joint Engineers Management Panel (JEMP).

(U) PE 0602233N, Readiness, Training, and Environmental Quality Technology Development
(U) PE 0603712N, Environmental Quality, Logistics Advanced Technology Demonstrations
(U) PE 0603716D, Strategic Environmental Research & Development Program (SERDP)
(U) PE 0603851D, Environmental Security Technology Certification Program (ESTCP)

C. (U) Acquisition Strategy: 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **February 2002**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA4**	PROGRAM ELEMENT NAME AND NUMBER **Environmental Protection / PE0603721N**	PROJECT NAME AND NUMBER Pollution Abatement /Y0817

D. (U) Schedule Profile:

FY01

Ship Maintenance/Repair/Pierside Support
Comp Dev Air Emission Reduction from Shpyd Cutting & Arc-Grouging Operations
Init Dev Coating Removal from Delicate Substrates

Ordnance Testing/Manufacture/Disposal
Comp Prototype Exhaust Scrubber for Static Testing of Small Rocket Motors

Industrial Operations Maintenance
Comp Validation In-Line Monitoring & Diversion of Problem Contam in Discharges
Comp JETC Emissions Reduction Sub-Scale Tests
Init Tasks for Aircraft Facilities Integrated Maintenance Concept (IMC)
Init Oil Spill Prevention Ashore Effort

Non-Industrial Operations
Comp Subsurface Contam Transport & DNAPL Sensor System
Comp Organic Upgrade for Benthic Flux Sampling Device
Comp Dev of Software Tool for Estimating Remediation Timeframes (ARTT project)
Init Fate/Effects of Underwater UXO
Init Dem/Val Effort for IR - ARTT selected

Hazardous Waste Minimization/Recycling/Disposal
Comp Dev of Collection & Treatment Sys for Compensated Fuel Ballast Water
Comp Val of Chromium Removal/Recovery for Wastewaters
Init Dev of Catalytic Adv Oxid Processes for Organics Destruction

FY02

Ship Maintenance/Repair/Pierside Support
Comp Dev Automated Paint Application with Overspray Caputure and Treatment
Comp Dev/Dem Advanced Oil Spill Equipment
Init Tasks for Improved Paint Operation at SIMAs

Ordnance Testing/Manufacture/Disposal
Comp Design 80lb Confined Burn Pilot System
Init Ammonium Perchlorate Wastewater Treatment
Init Energetic Green Processing

Industrial Operations Maintenance
Comp Biodetoxification of Oily Sludges
Comp Reduced Air Emission from Diesel Engines
Comp JETC Small and Intermediate Scale-Tests
Init Task for P2 Shoreside Industrial Operations

Installation Restoration
Comp Dev of Risk Assessment Protocol for Amphibians (ARTT project)
Comp Val of Electrokinetic Destruction of Chlorinated Solvents (ARTT project)
Init Dem/Val Effort for IR - ART selected

Coastal Contamination and Contaminated Sediments
Comp Val of Sediment Mgmt Using Biogeochemical Fingerprinting
Comp Val of Toxicity Identification Evaluation (TIE) Method for Sediments
Init Ordnance Degradation Studies

Emissions Detection and Monitoring
Comp Dev Real-Time Monitoring of Copper Effluents from Drydocks
Comp Val of Air Pollution Modeling

FY03

Ship Maintenance/Repair/Pierside Support
Comp Dev Coating Removal from Delicate Substrates

Ordnance Testing/Manufacture/Disposal
Comp Construction of 80lb CBF and Init Test/Eval

Industrial Operations Maintenance
Comp Dev of Catalytic Advanced Oxidtion Process for Wastewaters
Demo at IMC Test Facility

Installation Restoration
Comp Val of In-situ MTBE Sensor
Init Dem/Val Effort for IR - ARTT selected

Coastal Contamination and Contaminated Sediments
Comp Dev Coastal Contaminent Migration Monitoring
Comp Assess of Ordnance Degradation of Sediments

Emissions Detection and Monitoring
Conduct Case Study Analysis for Navy Air Pollution Modeling
Init Low Cost Sensors Using Molecular Imprinting

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 1)

DATE: **February 2002**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement / Y0817

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ship Maintenance/Repair/&Pierside Support	WR/PO	NSWC/CD	8.013	1.828	10/00	1.824	11/01	1.241	varies	Cont	Cont	N/A
Ship Maintenance/Repair&Pierside Support	WR/PO	NFESC	4.386	0.450	05/01	0.485	11/01	0.704	varies	Cont	Cont	N/A
Ordnance Testing/Manufact/Disp	WR/PO	NSWC/IH	12.688	1.818	10/00	1.822	11/01	1.906	varies	Cont	Cont	N/A
Industrial Operations and Maintenance	WR/PO	NFESC	12.613	1.347	10/00	1.974	12/01	2.382	varies	Cont	Cont	N/A
Industrial Operations and Maintenance	WR/PO	SSC/SD	6.951	0.625	10/00	0.334	12/01	0.261	varies	Cont	Cont	N/A
Non-Industrial Operations	WR/PO	SSC/SD	12.410	1.117	10/00	0.000	12/01	0.000	varies	Cont	Cont	N/A
Non-Industrial Operations	WR/PO	NFESC	6.510	0.705	08/01	0.000	12/01	0.000	varies	Cont	Cont	N/A
Haz Waste Min/Recycle/Disp	WR/PO	NFESC	7.255	0.625	10/00	0.000	12/01	0.000	varies	Cont	Cont	N/A
Haz Waste Min/Recycle/Disp	WR/PO	NRL	2.248	0.182	10/00	0.000	11/01	0.000	varies	Cont	Cont	N/A
Installation Restoration	WR/PO	NFESC				0.876		1.013				
Coastal Contaminants/Contaminated Sed	WR/PO	SSC/SD				1.014		1.160				
Coastal Contaminants/Contaminated Sed	WR/PO	NFESC				0.485		0.599				
Emissions Detection/Monitoring	WR/PO	SSC/SD				0.516		0.705				
Emissions Detection/Monitoring	WR/PO	NFESC				0.250		0.547				
Subtotal Product Development			73.074	8.697		9.580		10.518				

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.

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

Remarks: Included in Product Development costs.

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 2)										DATE: **February 2002**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N**		PROGRAM ELEMENT **Environmental Protection / PE0603721N**			PROJECT NAME AND NUMBER Pollution Abatement / Y0817							
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Operational Test & Evaluation												
Subtotal T&E			0.000	0.000		0.000		0.000		0.000		
Remarks: Included in Product Development costs.												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks: Not applicable.												
Total Cost			73.074	8.697		9.580		10.518		Cont	Cont	Cont
Remarks:												