CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **June 2001**			
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, BA4**					R-1 ITEM NOMENCLATURE Environmental Protection / PE0603721N					
COST ($ in Millions)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Total PE Cost	**79.565**	**65.506**	**46.117**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Cont**	**Cont**
Shipboard Waste Mgmt / S0401	**52.764**	**48.038**	**31.840**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Cont**	**Cont**
Env Compliance / W2210	**4.180**	**4.768**	**4.612**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Cont**	**Cont**
Aviation Depot Maint Tech / W2623*	**1.951**	**1.982**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**5.869**
Pollution Abatement / Y0817	**8.783**	**8.736**	**9.665**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Cont**	**Cont**
Asbestos Removal / Y2402*	**3.962**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**9.704**
Resource Recovery Tech Center / Y2403*	**7.925**	**1.982**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**20.428**
	0.000	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.0**	**7.927**

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. The program also includes efforts to improve the Navy's response to salvage-related pollution incidents. 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, 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 and Y2837 are Congressional adds.

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, BA4**	R-1 ITEM NOMENCLATURE Environmental Protection / PE 0603721

B. (U) Program Change Summary:

	FY 2000	FY 2001	FY 2002
FY 2001 President's Budget:	82.999	62.194	45.181
Appropriated Value:	82.793	62.194	
Adjustments to FY 2000/2001 Appropriated Value			
FY 2001 President's Budget:	-3.228	3.312	0.936
FY 2002 PRES Budget Submit:	79.565	65.506	46.117

(U) Funding:

FY 2000 Decrease of $3.228M reflects SBIR transfer of -$0.634M; midyear adjustments of -$1.479M; BTRs of -$.747M; other adjustments -$2.037M; Congressional Rescission -$0.331M; and Congressional add of $2.000M for aviation depot maintenance.

FY 2001 Increase of $11.312M reflects Congressional add of $2.000M for aviation depot maintenance; Congressional add of $2.000M for resource preservation initiative and Congressional add of $2.0M for Resource Preservation Initiative; and other adjustments of -$0.615M.

FY 2002 Increase of $.935M reflects Environmental Quality Baseline Adjustments of +$1.418M.

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

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **June 2001**			
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Shipboard Waste Management / S0401	**52.764**	**48.111**	**31.840**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**Cont**	**Cont**
RDT&E Articles Qty										
Oily Waste Polishing System - Engineering Development Models	**1-$1M**	**1-$0.4M**								
Non-Oily Waste Polishing System - Engineering Development Models	**1-$1M**	**1-$1M**		**0.000**		**0.000**				
Non-CFC Refrigerant Replacement Kits - Engineering Development Models										
Liquid Waste Thermal Destruction - Engineering Development Models	**2-$3M**		**1-$2M**		**0.000**			**0.000**		
Shipboard Pollution Prevention - Test Articles						**0.000**		**0.000**		
Solid Waste - Engineering Development Models	**1-$2M**	**1-$2M**								
Underwater Hull Cleaning - Engineering Development Models		**1-$0.7M**		**0**						

A. (U) Mission Description and Budget Item Justification

1. (U) FY 2000 ACCOMPLISHMENTS:

(U) ($12.548M) Ozone Depleting Substances - Completed development of backfit modification kits for surface ship 125-ton & 150-ton CFC-114 air-conditioning plant designs. Completed development of backfit modification kits for surface ship 300-ton and 363-ton CFC-114 air-conditioning plant designs. Completed one-year at-sea ship test and evaluation of HFC-236fa backfit modifications in 200-ton CFC-114 air-conditioning plants. Continued 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-ODS fire protection concepts and systems for future surface combatants.

(U) ($24.016M) 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 Phase II, setting of Marine Pollution Control Device (MPCD) performance standards. Continued development of integrated liquid waste treatment system: continued development of 10 gal/min Oily Waste Polishing System (OWPS) OWS-10 Polisher, continued development of 50-gal/min OWPS OWS-50 Polisher, and initiated development of 5-gal/min combined OWPS OWS-5 Polisher for new-construction ships; continued development of Engineering Development Model (EDM) non-oily wastewater treatment systems; continued development of advanced Oil Content Monitor (OCM); completed test and evaluation of upgraded shipboard vortex sewage incinerator; and initiated development of advanced thermal destruction system for concentrated ship liquid wastes. Continued development of design fixes for compensated fuel ballast systems.

(U) ($7.200M) Solid Wastes - Continued development of management processes and systems for plastics for submarine application: converted SSN-688 Class submarine Temporary Alteration (TEMPALT) to a Ship Alteration (SHIPALT) and upgraded test submarines; performed TEMPALTs of prototype equipment aboard two SSBN-726 Class submarines and conducted at-sea test and evaluation; completed investigation of onboard storage techniques and locations for SSN-21 Class submarines; and initiated investigation of onboard storage techniques and locations for SSN-774 Class submarines. Initiated development of advanced thermal destruction system for processing shipboard solid wastes.

(U) ($9.000M) 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: completed development of oil and skimmer tracking system; continued development of Recovered Oil Logistics System; and initiated oil spill risk assessment program for major Navy ports. Continued development of marine mammals ship database tracking system. Initiated development and testing of new low-copper underwater hull antifouling coatings. Initiated development of underwater hull cleaning system.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
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 2001 PLAN:

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

(U) ($26.781M) Integrated Liquid Wastes - Continue support of rulemaking process with EPA in development of UNDS for liquid waste discharges from Navy vessels: continue Phase II, setting of MPCD performance standards. Continue development of integrated liquid waste treatment system: continue development of OWS-10 Polisher, continue development of OWS-50 Polisher, and continue developm OWS-5 Polisher; continue development of advanced OCM; continue development of EDM non-oily wastewater treatment system; and continue develoment of advanced thermal destruction system for concentrated ship liquid wastes. Continue development of design fixes for compensated fuel ballast systems.

(U) ($5.400M) Solid Wastes - Continue development of management processes and systems for plastics for submarine application: convert SSBN-726 Class submarine TEMPALT to SHIPALT and upgrade test submarines; perform TEMPALT of prototype equipment aboard two SSN-21 Class submarines and conduct at-sea test and 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) ($9.400M) 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. Continue development of oil spill response capabilities: continue development of Recovered Oil Logistics System; continue oil spill risk assessment program for major Navy ports; initiate development of portable oil incinerator system; and initiate development of oil spill program Geographical Information System (GIS). Continue development of marine mammals ship database tracking system: initiate demonstration. Continue development and testing of new low-copper underwater hull antifouling coatings. Continue development of underwater hull cleaning system.

(U) ($0.530M) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

3. (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-ODS fire protection concepts and systems for future surface combatants.

(U) ($12.140M) Integrated Liquid Wastes - Continue support of rulemaking process with EPA in development of UNDS for liquid waste discharges from Navy vessels: continue Phase II, setting of MPCD performance standards. Continue development of integrated liquid waste treatment system: complete development of OWS-10 Polisher and continue ILS documentation, complete development of OWS-50 Polisher and continue ILS documentation, and complete development of OWS-5 Polisher; complete development of advanced OCM; continue development of EDM non-oily wastewater treatment systems; and continue develoment of advanced thermal destruction system for concentrated ship liquid wastes. Continue development of design fixes for compensated fuel ballast systems.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Shipboard Waste Management / S0401

(U) ($8.000M) Solid Wastes - Complete development of management processes and systems for plastics for submarine application: convert SSN-21 Class submarine TEMPALT to SHIPALT and upgrade test submarines; and complete 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. Continued quality assurance testing on reformulated commercial paints. Continue development of oil spill response capabilities: complete oil spill risk assessment program for major Navy ports; continue development of Recovered Oil Logistics System; continue development of portable oil incinerator system; continue development of oil spill program GIS; initiate development of oil and skimmer efficiency improvements; and initiate development of wildlife mitigation techniques. 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: **June 2001**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA4**	PROGRAM ELEMENT NAME AND NUMBER **Environmental Protection / PE0603721N**	PROJECT NAME AND NUMBER Shipboard Waste Management / S0401

D. (U) Schedule Profile:

FY00

Ozone Depleting Substance
Complete Development 125-Ton & 150-Ton CFC-114 A/C Modification Kits
Complete Development 300-Ton & 363-Ton CFC-114 A/C Modification Kits
Complete Ship Test 200-Ton CFC-114 A/C Modification

Integrated Liquid Wastes
Initiate Development Future OWS-5 Polisher
Complete Upgraded Sewage Incinerator Test & Evaluation
Initiate Development Advanced Thermal Destruction System (Liquid Wastes)

Shipboard Solid Wastes
Convert SSN-688 Class TEMPALT to SHIPALT and Upgrade Test Submarines
Perform SSBN-726 Class Plastics Waste TEMPALT and Initiate Test & Evaluation
Initiate SSN-774 Class Plastics Waste Storage Investigations
Initiate Development Advanced Thermal Destruction System (Solid Wastes)

Hazardous & Other Major Ship Wastes
Complete Oil and Skimmer Tracking System
Initiate Oil Spill Risk Assessment Program for Navy Ports
Initiate Development New Underwater Hull Coatings
Initiate Development Underwater Hull Cleaning System

FY01

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

Integrated Liquid Wastes

Shipboard Solid Wastes
Convert SSBN-726 Class TEMPALT to SHIPALT and Upgrade Test Submarines
Perform SSN-21 Class Plastics Waste TEMPALT and Initiate Test & Evaluation

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

FY02

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

Integrated Liquid Wastes
Complete Development OWS-10 Polisher
Complete Development OWS-50 Polisher
Complete Development OWS-5 Polisher
Complete Development Advanced OCM

Shipboard Solid Wastes
Convert SSN-21 Class TEMPALT to SHIPALT and Upgrade Test Submarines
Complete SSN-774 Class Plastics Waste Storage Investigations

Hazardous & Other Major Ship Wastes
Complete Oil Spill Risk Assessment Program for Navy Ports
Initiate Oil and Skimmer Efficiency Improvements
Initiate Wildlife Mitigation Techniques

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 1)										DATE: **June 2001**		
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 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 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	0.000	N/A	N/A	14.580	14.580
Primary Hardware Development	C/CPFF	Geo-Centers, Inc., Boston, MA	13.750	4.000	12/99	6.500	12/00	3.000	12/01	Cont	Cont	N/A
Primary Hardware Development	SS/CPFF	York International Corp York, PA	2.700	0.000	N/A	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	3.000	02/00	2.500	02/01	1.000	01/02	10.150	Cont	Cont
Primary Hardware Development	SS/CPFF	Northern Research & Engineering Corp, Waburn, MA	1.200	0.000	N/A	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	0.830	01/00	1.000	01/01	0.500	01/02	Cont	Cont	N/A
Ancillary Hardware Development	Various	Misc. Contracts	15.110	5.000	N/A	1.274	N/A		N/A	N/A	N/A	N/A
Systems Engineering	C/CPFF	John J. McMullen &	3.587	0.600	12/99	0.600	12/00	0.300	12/01	Cont	Cont	N/A
Subtotal Product Development			68.640	13.430		11.874		4.800		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	0.070	0.000		0.000				0.000	Cont	N/A
Training Development											Cont	
Integrated Logistics Support											Cont	
Configuration Management											Cont	
Technical Data											Cont	
GFE											Cont	
Subtotal Support			0.070	0.000		0.000		0.000		0.000	Cont	
Remarks: Not Applicable.												

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 2)										DATE: **June 2001**		
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 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC Carderock Div, Bethesda, MD	86.324	20.779	N/A	22.400	N/A	18.000	N/A	Cont	Cont	N/A
Developmental Test & Evaluation	WR	Naval Research Lab Wash, DC	19.082	4.154	N/A	3.000	N/A	3.000	N/A	Cont	Cont	N/A
Developmental Test & Evaluation	WR	SPAWARSYSCEN San Diego, CA	3.310	1.686	N/A	1.500	N/A	1.500	N/A	Cont	Cont	N/A
Process Control Engineering	C/CPFF	GSA/BAH Arlington, Va	0.000	3.000	12/99	3.020	N/A	2.754	12/01	Cont	Cont	N/A
Developmental Test & Evaluation	WR	Misc. Govt Labs	21.332	0.680	N/A	0.700	N/A	0.200	N/A	Cont	Cont	N/A
Developmental Test & Evaluation	C/CPFF	Geo-Centers, Inc. Boston, MA	9.151	4.000	12/99	1.500	12/00	1.500	12/01	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	N/A	0.000	12.000	12.000
Developmental Test & Evaluation	C/CPFF	Misc. Contracts	7.440	4.985	Var	4.067	Var	0.036	Var	Cont	Cont	N/A
Subtotal T&E			158.639	39.284		36.187		26.990		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	52.764		48.111		31.840		Cont	Cont	Cont
Remarks:												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **June 2001**			
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Environmental Compliance / W2210	**4.180**	**4.768**	**4.612**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**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 2000 ACCOMPLISHMENTS:

(U) ($2.308M) Continued to research, develop, and test alternatives to aircraft 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 manufacturing and repair processes. Completed development and demonstration of the following technologies: waterborne topcoats, electrocoat/powdercoat, flashjet, non-HAPs paint purge solvents, non-HAPs chemical strippers, zinc/nickel plating as a cadmium replacement, tin-zinc plating as a cadmium replacement, CO2 retrofit of portable chlorofluorocarbon (CFC) fire extinguishers, reduction of halon 1301 release during maintenance and glass bead media recycling. Continued 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 VOCs, non-chromated adhesive bonding primers, and aluminum-manganese electroplating as a cadmium replacement.

(U) ($0.440M) Continued to develop and demonstrate conversion coatings alternatives.

(U) ($0.280M) Initiated development and demonstration of alternative ordnance materials and processes.

(U) ($0.327M) Initiated 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: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Environmental Compliance / W2210

2. (U) FY 2001 PLAN:

(U) ($2.798M) 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. Initiate development of low engine emissions technology. Complete development of non-chromated paint primers, non-HAP sealants, mobile paint stripping technology, non-HAPs pre-paint cleaner.

(U) ($0.290M) Continue to provide scientific and technical expertise for continued aviation pollution prevention technology development, demonstration and validation.
(U) ($0.535M) Continue to develop and demonstrate low-VOC, non-chromated adhesive bonding primers and aluminum-manganese as a cadmium replacement.
(U) ($0.445M) Complete development and demonstration of conversion coatings alternatives.
(U) ($0.280M) Continue development and demonstration of alternative ordnance materials and processes.
(U) ($0.412M) Continue development and demonstration of environmentally compatible Aircraft Launch and Recovery Equipment (ALRE) lubricants and certify processes that reduce their emission to the sea.
(U) ($0.008M) Portion of extramural program reserved for Small Business Innovation Research assessment in accordacne with 15 USC 638.

3. (U) FY 2002 PLAN:

(U) ($2.100M) 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.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
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:

FY00

Engineering Milestones
Complete Evaluation Waterborne Topcoats
Complete Evaluation Electrocoat & Powder Coat
Complete Development Flashjet
Complete Development Paint Purge Solvents
Complete Development Non-HAPs Chemical Strippers
Complete Development Zn-Ni Plating as Cd Replacement
Complete Development Sn-Zn Plating as Cd Replacement
Complete Evaluation CO2 Retrofit of Halon Extinguishers
Complete Evaluation Halon Releases During Bottle Maintenance
Initiate Development Alternative Ordnance Materials & Processes
Initiate Development Environmental Compatible ALRE Lubricants

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

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 1)								DATE: **June 2001**				
APPROPRIATION/BUDGET ACTIVITY **RDT&E, BA4**			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 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Systems Engineering	WX	Various		1.664		1.974		1.773		Cont	Cont	Cont
	WX	NAWC-Pax		2.506		2.782		2.823		Cont	Cont	Cont
Subtotal Product Development			0.000	4.170		4.756		4.596		Cont	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: **June 2001**	
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 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 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				0.010		0.012		0.015		Cont	Cont	Cont
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.010		0.012		0.015		0.000	Cont	
Remarks: Not applicable.												
Total Cost				4.180		4.768		4.611		Cont	Cont	Cont
Remarks:												

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: **June 2001**			
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 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Pollution Abatement / Y0817	**8.783**	**8.736**	**9.665**						**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 Strategic Plan of October 1994. The plan is being updated and upon Chief of Naval Operations approval it will govern future task selections. Project investment is made in five thrust areas:

(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 quan 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) OTHER INDUSTRIAL OPERATIONS

(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 regulations.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement /Y0817

(U) NON-INDUSTRIAL OPERATIONS

(U) Tasks in this thrust address requirements to reduce air and water emissions (CAA, CWA), hazardous waste (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 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.

(U) HAZARDOUS WASTE MINIMIZATION/RECYCLING/DISPOSAL

(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 now primarily 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

1. (U) FY 2000 ACCOMPLISHMENTS

(U) ($1.964M) Ship Maintenance/Repair/Deactivation - Continued development of Automated Paint Application with Overspray Capture and Treatment. Continued development of Air Emission Reduction from Shipyard Cutting and Arc-Gouging Operations. Initiated development of Advanced Oil Spill Equipment. Initiated development of techniques for Real-Time Monitoring of Copper Effluents from dry-dock operations.

(U) ($2.000M) Ordnance Testing/Manufacture/Disposal - Completed ordnance environmental requirements study conducted in partnership with Navy's Ordnance Environmental Specialty Office (OESO). Continued development of Exhaust Scrubber for Static Testing of Small Rocker Motors: initiated fabrication of phase 2 prototype. Continued development of Confined Burn Facility to Replace Open Burning of Ordnances and Energetics.

(U) ($1.647M) Other Industrial Operations - Completed development of model for Engine Test Cell Emissions Reduction: completed validation of approaches to reduce nitrous oxide, particle, and noise emissions. Completed development of In-Line Monitoring and Diversion of Problem Contaminants in Discharges to automatically detect and divert occasional wastewater discharges with treatment-resistant contaminants. Completed development and evaluation of T-56 Gas Path Wastewater Treatment using modified Closed-Loop Aircraft Washrack Wastewater System developed in FY98. Initiated task to address requirements for Reduced Air Emissions from Diesel Engines.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement /Y0817

(U) ($2.209M) Non-Industrial Operations - Completed development of QwikSed Marine Sediment Bioassays Using Bioluminescent Dinoflagellates. Completed development of Subsurface Contaminant Transport and DNAPL Sensor System. Completed development of Integrated Field Screening for Rapid Sediment Contaminant Characterization. Completed development of Pier-Side Oil Spill Detection System and conducted field demonstration in cooperation with ESTCP. Completed development of EnvironmentallySound Fire Fighting Training Facilities. Completed development of Reduced False Positive from Marine Sediment Bioassays. Continued development of Methods to Assess Subsurface Contaminant Migration from Coastal Landfills. Initiated two tasks, Toxicity Identification Evaluations (TIE) for Identifying Contaminants of Concern (CoCs) in Contaminated Sediments and Procedures for Determining Remediation Timeframes Associated with Monitored Natural Attenuation, to address requirements for reducing the long-term operation and monitoring costs of installation restoration projects.

(U) ($0.963M) Hazardous Waste Minimization/Recycling/Disposal- Completed development of Ozone Laundry Process for Recycling Contaminated Wipe Rags. Completed field demonstration of Cyanide Wastewater Treatment Technologies transitioned from Navy Exploratory Development (6.2) Program. Continued development of Shoreside Collection and Treatment System for Compensated Fuel Tank Ballast Water. Initiated tasks for development of Total Toxic Organic Reduction from Navy Industrial Waste Treatment Plants (IWTPs) using advanced oxidation processes. Initiated task for Recycle/Recovery of Chromium Wastewaters discharged to Navy-Owned IWTPs.

2. (U) FY2001 PLAN:

(U) ($2.105M) Ship Maintenance/Repair/Deactivation- Continue development of Automated Paint Application with Overspray Capture and Treatment. Continue development of Air Emission Reduction from Shipyard Cutting and Arc-Gouging Operations. Continue development of Advanced Oil Spill Equipment. Continue development of techniques for Real-Time Monitoring of Copper Effluents from dry-dock operations.

(U) ($1.677M) Ordnance Testing/Manufacture/Disposal - Continue development of Exhaust Scrubber for Static Testing of Small Rocket Motors: complete fabrication of phase 2 prototype. Continue development of Confined Burn Facility to Replace Open Burning of Ordnance and Energetics: initiate tasks to address requirements identified as part of ordnance environmental requirements study conducted in partnership with Navy's Ordnance Environmental Specialty Office (OESO) during FY99.

(U) ($2.067M) Other Industrial Operations - Conduct validation of In-Line Monitoring and Diversion of Problem Contaminants in Discharges to automatically detect and divert occasional wastewater discharges with treatment-resistant contaminants. Continue task to address requirements for Reduced Air Emissions from Diesel Engines. Initiate tasks to address air emissions reductions requirements identified as part of update of Navy Environmental Quality RDT&E Strategic Plan completed during FY99.

(U) ($1.968M) Non-Industrial Operations - Continue development of Methods to Assess Subsurface Contaminant Migration from Coastal Landfills. Continue tasks, Toxicity Identification Evaluations (TIE) for Identifying Contaminants of Concern (CoCs) in Contaminated Sediments and Procedures for Determining Remediation Timeframes Associated with Monitored Natural Attenuation, to reduce long-term operation and monitoring costs of installation restoration projects as identified by updated Navy Environmental Quality RDT&E Strategic Plan completed during FY99.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER
RDT&E, BA4	**Environmental Protection / PE0603721N**	Pollution Abatement /Y0817

(U) ($0.880M) Hazardous Waste Minimization/Recycling/Disposal- Continue development of Total Toxic Organic Reduction for Navy Industrial Waste Treatment Plants (IWTPs) using advanced oxidation processes. Continue development of Shoreside Collection and Treatment System for Compensated Fuel Tank Ballast Water. Continue task for Recycle/Recovery of Chromium Wastewaters discharged to Navy-Owned IWTPs.

(U) ($0.039M) Portion of extramiral program reserved fro Small Business Innovation Research assessment in accordance with 15 USC 638.

3. (U) FY2002 PLAN:

(U) ($2.324M) Ship Maintenance/Repair/Deactivation- Complete development of Automated Paint Application with Overspray Capture and Treatment. Complete development of Air Emission Reduction from Shipyard Cutting and Arc-Gouging Operations. Continue development of Advanced Oil Spill Equipment. Continue development of Real-Time Monitoring of Copper Effluents from dry-dock operations. Initiate tasks addressing 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) ($1.836M) Ordnance Testing/Manufacture/Disposal - Continue development of Exhaust Scrubber for Static Testing of Small Rocket Motors. Continue development of Confined Burn Facility to Replace Open Burning of Ordnance and Energetics: continue tasks to address requirements identified as part of ordnance environmental requirements study conducted partnership with Navy's Ordnance Environmental Specialty Office (OESO).

(U) ($2.322M) Other Industrial Operations - Continue task to address requirements for Reduced Air Emissions from Diesel Engines. Continue tasks to address air emissions reductions requirements identified as part of update of Navy Environmental Quality RDT&E Strategic Plan completed during FY99. Initiate tasks to address shoreside requirements for aircraft and aircraft facilities maintenance needed to support the integrated maintenance concept (IMC).

(U) ($2.324M) Non-Industrial Operations - Continue development of Methods to Assess Subsurface Contaminant Migration from Coastal Landfills. Continue tasks, Toxicity Identification Evaluations (TIE) for Identifying Contaminants of Concern (CoCs) in Contaminated Sediments and Procedures for Determining Remediation Timeframes Associated with Monitored Natural Attenuation, to reduce long-term operation and monitoring costs of installation restoration projects as identified by updated Navy Environmental Quality RDT&E Strategic Plan completed during FY99.

(U) ($0.859M) Hazardous Waste Minimization/Recycling/Disposal - Complete development of Shoreside Collection and Treatment System for Compensated Fuel Tank Ballast Water. Complete task for Recycle/Recovery of Chromium Wastewaters discharged to Navy-Owned IWTPs. Complete tasks for development of Total Toxic Organic Reduction from Navy Industrial Waste Treatment Plants (IWTPs) using advanced oxidation processes.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **June 2001**
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 developedunder 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 environmentalfederal, 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: **June 2001**
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:

FY00

Ship Maintenance/Repair/Deactivation
Init Dev Advanced Oil Spill Equipment
Init Dev Real-Time Monitoring of Copper Effluents from Drydocks

Ordnance Testing/Manufacture/Disposal
Comp Ord Env Rqmts Study
Init Prototype Exhaust Scrubber for Static Testing of Small Rocket Motors

Other Industrial Operations
Comp Jet Engine Test Cell Emissions Reduction
Comp Dev In-Line Monitoring & Diversion of Problem Contam in Discharges
Comp Dev T-56 Gas Path Wastewater Treatment
Init Reduced Air Emission from Diesel Engines

Non-Industrial Operations
Comp QwikSet Marine Sediment Bioassays using Bioluminescent Dinoflagellates
Comp Subsurface Contam Transport & DNAPL Sensor System
Comp Integ Field Screening for Rapid Sediment Contam Characterization
Comp Pier-Side Oil Spill Detection System
Init Reduction of Long-Term Operation & Monitoring Costs of Installation Restoration

Hazardous Waste Minimization/Recycling/Disposal
Comp Dev of Contaminated Rag Ozone Recycling Process
Comp Trans Cyanide Wastewater Treatment Tech from Navy Expl Dev Prog
Init Total Toxic Organic Reduction for Navy Industrial Waste Treatment Plants
Init Recycle/Recovery of Chromium Wastewaters

FY01

Ship Maintenance/Repair/Deactivation

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

Other Industrial Operations
Comp Validation In-Line Monitoring & Diversion of Problem Contam in Discharges
Init Air Emission Reductions Under Navy EQ RDT&E Strategic Plan

Non-Industrial Operations

Hazardous Waste Minimization/Recycling/Disposal

FY02

Ship Maintenance/Repair/Deactivation
Comp Dev Automated Paint Application with Overspray Capture and Treatment
Comp Dev Air Emission Reduction from Shpyd Cutting & Arc-Gouging Operations
Init SIMA Compliance & Pollution Prevention Studies Under NELP

Ordnance Testing/Manufacture/Disposal

Other Industrial Operations
Init Tasks for Shoreside Aircraft & Aircraft Facilities Integrated Maintenance Concept

Non-Industrial Operations

Hazardous Waste Minimization/Recycling/Disposal
Comp Dev of Collection & Treatment Sys for Compensated Fuel Ballast Water
Comp Total Toxic Organic Reduction for Navy Industrial Waste Treatment Plants
Comp Recycle/Recovery of Chromium Wastewaters

CLASSIFICATION:

EXHIBIT R-3, Cost Analysis (page 1)

DATE: **June 2001**

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 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Ship Maintenance/Repair/Deact	WR/PO	NSWC/CD	6.560	1.453	varies	1.828	varies	1.942	varies	Cont	Cont	N/A
Ship Maintenance/Repair/Deact	WR/PO	NFESC	3.880	0.506	varies	0.450	varies	0.485	varies	Cont	Cont	N/A
Ordnance Testing/Manufact/Disp	WR/PO	NSWC/IH	10.692	1.995	varies	1.818	varies	2.129	varies	Cont	Cont	N/A
Other Industrial Operations	WR/PO	NFESC	11.599	1.014	varies	1.386	varies	1.362	varies	Cont	Cont	N/A
Other Industrial Operations	WR/PO	SSC/SD	6.311	0.640	varies	0.625	varies	0.584	varies	Cont	Cont	N/A
Non-Industrial Operations	WR/PO	SSC/SD	10.975	1.435	varies	1.117	varies	1.275	varies	Cont	Cont	N/A
Non-Industrial Operations	WR/PO	NFESC	5.740	0.770	varies	0.705	varies	0.784	varies	Cont	Cont	N/A
Haz Waste Min/Recycle/Disp	WR/PO	NFESC	6.565	0.690	varies	0.625	varies	0.875	varies	Cont	Cont	N/A
Haz Waste Min/Recycle/Disp	WR/PO	NRL	1.968	0.280	varies	0.182	varies	0.229	varies	Cont	Cont	N/A
Subtotal Product Development			64.290	8.783		8.736		9.665				

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: **June 2001**				
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 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 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			64.290	8.783		8.736		9.665		Cont	Cont	Cont
Remarks:												