

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					R-1 ITEM NOMENCLATURE 0305204N Tactical Unmanned Aerial Vehicles			
COST (\$ in Millions)	FY 2002	FY 2003*	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Total PE Cost	73.152	254.796	56.521	10.605	10.986	11.141	191.332	281.526
A2478 Tactical Control System	18.173	16.675	36.711	8.954	9.337	9.496	9.655	9.819
A2768 Fire Scout Vertical Takeoff & Landing UAV	47.751	38.631	4.000				180.000	270.000
A2910 Joint Technology Center/Sys Integ Lab	2.286	1.649	1.651	1.651	1.649	1.645	1.677	1.707
A3061 Global Hawk Maritime Demo System\1		189.350						
A4012 Pioneer Improvement Program		6.832	14.159					
A9113 VTOL UAV MPR Study	4.942							
A9155 NBC Payload		1.659						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for the development of Tactical Unmanned Aerial Vehicle systems that provide warfighters with dedicated day/night Aerial Reconnaissance, Surveillance and Target Acquisition (RSTA) capabilities; and, intelligence, communications/data dissemination; electronic warfare; weather data collection to support combat operations; minefield detection; and nuclear/biological/chemical reconnaissance in limited adverse weather capabilities.</p> <p>Tactical Control System (TCS): TCS provides interoperability for command and control of the present and future Tactical and Medium Altitude Endurance (MAE) UAVs and their payloads utilized for RSTA and combat assessment. TCS provides connectivity to designated C4I systems and will interface with Navy Global Hawk Maritime Demonstration (GHMD) system, the Broad Area Maritime Surveillance (BAMS) High Altitude Endurance (HAE) UAV system, the Marine Corps Pioneer, and the Navy Predator from both afloat and ashore. TCS is being developed in concert with the development of UAV concept of operations (CONOPS) so as to ensure system functionality within operational requirements.</p> <p>Vertical Takeoff and Landing UAV (VTUAV): VTUAV (also referred to as the Fire Scout VTUAV) provides real-time and non-real-time intelligence, surveillance and reconnaissance data to tactical users, including Line-of-sight tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay), without the use of manned aircraft or reliance on limited joint theater or national assets. The Fire Scout VTUAV will be used by the Fleet for experimentation, demonstrations, concept of operations development, and air wing training. The Fire Scout VTUAV air vehicle is designed for modular mission payloads, autonomous vertical launch and recovery, autonomous waypoint navigation, command override capability, and can operate from any/all air capable ships as well as confined area land bases. Interoperability is achieved through the Tactical Control System (TCS) software in the ground control station, and through the use of the Tactical Common Data Link. The FY 2004 program completes shipboard testing and integration.</p> <p>\1 Global Hawk Maritime Demonstration System budgeted in Program Element 0305205N, High Altitude Endurance UAV, in FY 2004 and out.</p> <p>* Includes the following Congressional adds: \$7.1M for Tactical Control System (\$4.1 million for JOTBS and \$3.0 million for TCS sensor data receipt from multiple UAVs), \$1 million for the Multiple Link Antenna System ACTD, \$1.7 million for Nuclear, Biological and Chemical UAV payloads, and \$14 million for Global Hawk BAMS, less Congressional undistributed reductions. \$1.0 million added for Miniaturized High Definition Camera is appropriately funded as a Science and Technology effort, and has been reclassified accordingly.</p>								

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<p>JTC/SIL: The Joint Technology Center/System Integration Laboratory provides experimentation for UAV technology assessment, insertion, demonstration, transfer, as well as simulation and exercise support.</p> <p>Global Hawk Maritime Demonstration (GHMD) System: The Secretary of the Navy directed acquisition of a Global Hawk Maritime Demonstration (GHMD) System to develop the Concept of Operations (CONOPS), tactics, techniques and procedures (TTPs) in support of maritime reconnaissance and strike support mission areas. The GHMD system will also serve as an enduring unmanned test bed that can be used to demonstrate advanced payloads, alternate sensors, autonomous decision aides, and command, control and communications systems for incorporation into future naval warfighting systems and cultural building for U.S. Navy (USN) High Altitude Endurance (HAE) Unmanned Aerial Vehicles (UAVs). The GHMD System will be designed to demonstrate CONOPS for a long-dwell, all weather, day/night, wide area maritime intelligence, surveillance and reconnaissance (ISR) and include communication/interfaces with other theater systems required to support Carrier Battle Group Commanders, Fleet Commanders, as well as joint tactical war fighters at various levels. The GHMD System will be a fully autonomous, high altitude, long endurance UAV that is directly responsive to theater tasking and designed to operate in low-to-moderate defensive threat environments. The GHMD System will consist of two RQ-4A Unmanned Aerial Vehicles (UAVs), an AN/MSQ-131 Ground segment which includes the mission control element (MCE) and the launch and recovery element (LRE); and radar, electro-optical/infrared (EO/IR), and Signals Intelligence (SIGINT) sensors optimized for the maritime environment. The USN will leverage the U.S. Air Force (USAF) low rate initial production (LRIP) and engineering and manufacturing ground station, communication suite, payload, sensor and data dissemination in support of the maritime surveillance requirements. This project continues in FY 2004-2009 in PE 0305205N, High Altitude Endurance UAV.</p> <p>Pioneer Product Improvement Program (PIP): The Pioneer UAV provides near real-time intelligence, reconnaissance, and surveillance, including video imagery for artillery , Naval Gunfire Support and battle damage assessment over land and sea for the Marine Corps. First deployed as a land-based system in 1986, Pioneer is configured to operate on LPD-4 class ships. The last Pioneer systems were procured in the Weapons Procurement, Navy appropriation and delivered in the early 1990's. The Pioneer PIP is a spiral development effort that will provide the upgrades necessary to ensure the long-term viability of Pioneer for the Marine Corps. The Pioneer PIP will develop Payloads, Ground Control Station upgrades, Launch and Recovery System Upgrades (including mobility enhancements), Tactical Data Link upgrades (including TCS), and Air Vehicle Upgrades (including auxiliary fuel, engine, and electrical power).</p> <p>VTOL UAV MPR Study: Vertical Take-off and Landing UAV Maritime Patrol and Reconnaissance Study is a Congressional add for the study of air vehicle configurations and sensor availability, mix and requirements to support long-dwell ISR missions in a maritime environment.</p> <p>Nuclear, Biological, Chemical (NBC) Payload: The NBC Payload is for a Miniature Detection Devices as part of the Naval UAV Payload effort to be used only for the continuation of an industry based research program for light weight low power Nuclear, Chemical and Biological (NBC) sensors and isotope identification techniques.</p>		

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A2478 Tactical Control System			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A2478 Tactical Control System	18.173	16.675	36.711	8.954	9.337	9.496	9.655	9.819
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: *Includes the following Congressional adds: In FY 2003: \$7.1M for Tactical Control System (\$4.1 million for JOTBS and \$3.0 million for TCS sensor data receipt from multiple UAVs) and \$1.0M for the Multiple Link Antenna System ACTD, less Congressional undistributed reductions; in FY 2002: \$2.0 million for JOTBS, less Congressional undistributed reductions. The Tactical Control System (TCS) provides interoperability and commonality for mission planning, command and control, and C41 interfaces for Tactical and Medium Altitude Endurance (MAE) Unmanned Aerial Vehicles (UAVs) including the Army Shadow 200 Tactical UAV, the Navy/Marine Corps Fire Scout Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV), Marine Pioneer UAV, Air Force Predator MAE UAV and the Broad Area Maritime Surveillance UAV. TCS will also provide a Level Five capability with the Navy Global Hawk. TCS provides a full range of scaleable UAV capabilities from passive receipt of air vehicle and payload data to full air vehicle and payload command and control. TCS offers the war fighter a common core operating environment to simultaneously receive, process, and disseminate UAV data from two or more different UAV types for reconnaissance, surveillance, and combat assessment. TCS provides UAV command, control and processing from Ground Vehicles, Ships, and Fixed Locations. Beginning in FY04, TCS will focus development on a command and control capability for High Altitude Endurance (HAE) Air Vehicles aboard CVN/LHA/LHD and Tactical Support Centers (TSCs). In addition, this effort will investigate sharing processing assets with the Joint Service Imagery Processing System - Navy (JSIPS-N) Tactical Input Segment (TIS) component. TCS supports seamless integration into existing Service C4I architectures and interfaces with other manned and unmanned reconnaissance platforms and intelligence systems to provide information superiority through cross-cueing. TCS maximizes the use of commercial and government off-the shelf hardware and software whenever possible. TCS software is interoperable and is compliant with the OASD(C3I) Joint Technical Architecture (JTA) and Distributed Common Ground System (DCGS) standards.								

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(U) B. Accomplishments/Planned Program				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	15.685	8.075	36.711	8.954
RDT&E Articles Quantity				
Continued TCS Block II development in FY2003, including validation and flight-testing of the Fire Scout VTUAV payload functions and TCDL command and control, adds PIONEER, and initiates development of TCS Block III for GHMD and BAMS UAV. Complete TCS Block II development in FY2004, and obtain flight clearance to control dissimilar vehicles from a single ground station running TCS software. Ground and flight-testing included. Completes design of multi-vehicle UAV control. Continued development of TCS Block III includes GHMD integration aboard CV/CVN and the P-3 Tactical Support Center. FY 2005 effort completes TCS Block III and upgrades the Marine Corps and Joint Forces Command Ground Stations to be able to receive GHMD Level 2 sensor data.				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	0.500	1.500		
RDT&E Articles Quantity				
Continued General Test Support for Multiple Link Antenna System/Multi-function Self-Aligned Gate Array Technology (MLAS/MSAG) Advanced Concept Technology Demonstration (ACTD), including testing of tile technology and overall MLAS system at contractor and government facilities. Also includes test support at field and contractor facilities.				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost	1.988	4.100		
RDT&E Articles Quantity				
Develop for Joint Forces Command the capability to fly multiple dissimilar UAVs by initiating JOTBS enhancements.				

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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"></th> <th style="text-align: right;">FY 2002</th> <th style="text-align: right;">FY 2003</th> <th style="text-align: right;">FY 2004</th> <th style="text-align: right;">FY 2005</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2003 President's Budget:</td> <td style="text-align: right;">17.641</td> <td style="text-align: right;">9.067</td> <td style="text-align: right;">9.202</td> <td style="text-align: right;">9.360</td> </tr> <tr> <td>Current BES/President's Budget:</td> <td style="text-align: right;">18.173</td> <td style="text-align: right;">16.675</td> <td style="text-align: right;">36.711</td> <td style="text-align: right;">8.954</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">0.532</td> <td style="text-align: right; border-top: 1px solid black;">7.608</td> <td style="text-align: right; border-top: 1px solid black;">27.509</td> <td style="text-align: right; border-top: 1px solid black;">-0.406</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Economic Assumptions</td> <td style="text-align: right;">-0.049</td> <td style="text-align: right;">-0.391</td> <td style="text-align: right;">-0.959</td> <td style="text-align: right;">-0.167</td> </tr> <tr> <td>Congressional Increases</td> <td></td> <td style="text-align: right;">8.100</td> <td></td> <td></td> </tr> <tr> <td>Other Navy/ OSD Adjustments</td> <td style="text-align: right;">0.614</td> <td></td> <td style="text-align: right;">28.468</td> <td style="text-align: right;">-0.239</td> </tr> <tr> <td>Congressional Undistributed Reductions</td> <td style="text-align: right;">-0.033</td> <td style="text-align: right;">-0.101</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">0.532</td> <td style="text-align: right; border-top: 1px solid black;">7.608</td> <td style="text-align: right; border-top: 1px solid black;">27.509</td> <td style="text-align: right; border-top: 1px solid black;">-0.406</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule: Not applicable</p> <p style="margin-top: 20px;">(U) Technical: Not applicable</p> <p style="margin-top: 20px;">(U) D. OTHER PROGRAM FUNDING SUMMARY: Not applicable</p> <p style="margin-top: 20px;">(U) E. ACQUISITION STRATEGY:</p> <p style="margin-top: 10px;">These acquisitions will be made by modifying the competitively awarded TCS contract, which Raytheon won in 2000; as well as, through the TCS Basic Order Agreement with Raytheon, both of which are cost plus contracts. TCS development and testing will be accomplished via a Government/Industry team.</p>						FY 2002	FY 2003	FY 2004	FY 2005	(U) Funding:					FY 2003 President's Budget:	17.641	9.067	9.202	9.360	Current BES/President's Budget:	18.173	16.675	36.711	8.954	Total Adjustments	0.532	7.608	27.509	-0.406	Summary of Adjustments					Economic Assumptions	-0.049	-0.391	-0.959	-0.167	Congressional Increases		8.100			Other Navy/ OSD Adjustments	0.614		28.468	-0.239	Congressional Undistributed Reductions	-0.033	-0.101			Subtotal	0.532	7.608	27.509	-0.406
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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A2478 Tactical Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPAF	Raytheon, Falls Church, VA	51.380	10.474	11/02	26.937	11/03	5.912	11/04	Continuing	Continuing	
Ancillary Hardware Development	WX	Various	5.761							Continuing	Continuing	
Systems Engineering	WX	NAWCAD, Pax River, MD	2.321							Continuing	Continuing	
Systems Engineering	WX	NSWC-Dahlgren, Va	4.634							Continuing	Continuing	
Training	WX	NSWC-IH, Indian Head, MD	5.584							Continuing	Continuing	
Award Fees	C/CPAF	Raytheon, Falls Church,VA	2.341	2.182	06/03	5.148	06/04	0.709	06/05	Continuing	Continuing	
Subtotal Product Development			72.021	12.656		32.085		6.621		Continuing	Continuing	
Remarks:												
Software Development	MIPR	JTC/SIL, Redstone, AL	3.800									
Integrated Logistics Support	WX	Various	1.460			0.170	11/03	0.200	11/04	Continuing	Continuing	
Technical Data	WX	NAWCAD, Pax River MD/Other	2.755			0.128	11/03	0.128	11/04	Continuing	Continuing	
Contractor Engineering Support	C/FFP	Various	0.100	0.181	03/03	1.829	12/03	0.510	12/04	Continuing	Continuing	
Government Engineering Support	WX	NAWCAD, Pax River, MD	0.300	2.268	11/02	1.138	11/03	0.680	11/04	Continuing	Continuing	
Subtotal Support			8.415	2.449		3.265		1.518		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)									DATE: February 2003			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDTE, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A2478 Tactical Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR	JITC, FT Huachuca, AZ	0.990			0.500	11/03	0.350	11/04	Continuing	Continuing	
Developmental Test & Evaluation	WX	CIRPAS, Monterey, CA	2.051			0.281	11/03	0.170	11/04	Continuing	Continuing	
Operational Test & Evaluation	WX, MIPR	Various	1.480							Continuing	Continuing	
Test Assets	WX	NSWC-Dahlgren, VA	1.000	1.500	12/02					Continuing	Continuing	
Subtotal T&E			5.521	1.500		0.781		0.520		Continuing	Continuing	
Remarks:												
Program Management Support	WX	Various	1.450		11/02	0.405	11/03	0.255	11/04	Continuing	Continuing	
Travel	WX	Various	1.422	0.070	11/02	0.175	11/03	0.040	11/04	Continuing	Continuing	
Subtotal Management			2.872	0.070		0.580		0.295		Continuing	Continuing	
Remarks:												
Total Cost			88.829	16.675		36.711		8.954		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 8 of 43)

EXHIBIT R4, Schedule Profile																							DATE: February 2003									
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Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																																
FDR: Fire Scout																																
PDRs: JOTBS, Sensors & PIP																																
CDRs: JOTBS, Sensors & PIP																																
Block 1 Development																																
Block 2 Development																																
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PIP																																
JOTBS																																
Sensor Modification																																
Block 3 Development																																
TCS Multi-Platform Upgrades																																
Test & Evaluation Milestones																																
Block 1 DT																																
DT/OT: PIP																																
Flight Test: GHMD																																

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Exhibit R-4a, Schedule Detail						Date: February 2003		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
RDT&E BA-7	0305204N	Tactical Unmanned Aerial Vehicles			A2478 Tactical Control System			
Schedule Profile	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Acquisition Milestones								
FDR: Fire Scout		1Q						
PDRs: JOTBS, Sensors & PIP		3Q						
CDRs: JOTBS, Sensors & PIP			1Q					
Block 1 Development (Shadow TUAV functionality)	1Q							
Block 2 Development (VTUAV/Predator/Pioneer functionality)	1Q-4Q	1Q-4Q	1Q-4Q					
Fire Scout	1Q-4Q	1Q-4Q						
PIP		2Q-4Q	1Q-4Q					
JOTBS		2Q-4Q	1Q-4Q					
Sensor Modification		2Q-4Q	1Q-4Q					
Block 3 Development		3Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q			
TCS Multi-Platform Upgrades					3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Test & Evaluation Milestones								
Block 1 DT	1Q							
DT/OT: PIP			2Q-4Q					
Flight Test: GHMD				3Q-4Q	1Q-2Q			

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COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A2768 Fire Scout Vertical Take-off & Landing UAV	47.751	38.631	4.000	0.000	0.000	0.000	180.000	270.000
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Fire Scout Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) provides real-time and non-real-time intelligence, surveillance and reconnaissance data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline Fire Scout VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). In FY02 the Fire Scout VTUAV program was restructured to focus on technology development and demonstration. Production was concluded with the completion of Low-Rate Initial Production (LRIP) 1 and FY03 LRIP 2 funding was reallocated to complete the Engineering and Manufacturing Development (EMD) phase. Completion of the EMD phase (Less Operational Evaluation , ship integration and test) will provide a robust Fire Scout VTUAV for fleet use in experimentation, demonstrations, concept of operations development, and air wing training. The Fire Scout VTUAV was designed for launches and recovers vertically and can operate from any/all air capable ships as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery (afloat and ashore), autonomous waypoint navigation with command override capability, a heavy fuel engine and the ability to incorporate modular mission payloads. Interoperability is designed to be achieved through the use of the Tactical Control System (TCS) software in the ground control station, and the use of the Tactical Common Data Link (TCDL). The data from the Fire Scout VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence system, architecture and protocols.</p> <p>The Navy recognized that completion of the Fire Scout VTUAV EMD program and LRIP 1 system will provide benefits in several specific areas. These include: maturation of the TCS software; productionization of the TCDL; development of an advanced electro-optical/infrared/laser designator-rangefinder payload; and risk reduction for follow-on Naval UAV programs. As of December 2002, Fire Scout VTUAV had completed 35 months of a planned 42-month EMD program. Fabrication of a Developmental Test System is complete and flight-testing is underway. Fabrication of the LRIP 1 system is underway and will be completed in FY03. The FY 2004 program completes shipboard testing and integration.</p>								

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV																	
(U) B. Accomplishments/Planned Program																			
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	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost	37.989	35.216	2.500	0.000															
RDT&E Articles Quantity																			
Continue Engineering and Manufacturing Development of the Fire Scout VTUAV system. FY04 funds complete the effort.																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">5.865</td><td style="text-align: center;">0.207</td><td style="text-align: center;">0.000</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	5.865	0.207	0.000	0.000	RDT&E Articles Quantity				
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Accomplishments/Effort/Subtotal Cost	5.865	0.207	0.000	0.000															
RDT&E Articles Quantity																			
ILS, technical data, and training system development.																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 25%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td style="text-align: center;">2.135</td><td style="text-align: center;">1.558</td><td style="text-align: center;">0.750</td><td style="text-align: center;">0.000</td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost	2.135	1.558	0.750	0.000	RDT&E Articles Quantity				
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Accomplishments/Effort/Subtotal Cost	2.135	1.558	0.750	0.000															
RDT&E Articles Quantity																			
Developmental testing of the Fire Scout VTUAV system.																			

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV																	
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2002	FY 2003	FY 2004	FY 2005
(U) Funding:				
FY 2003 President's Budget:	47.795	43.602	0.000	0.000
Current BES/President's Budget:	47.751	38.631	4.000	0.000
Total Adjustments	-0.044	-4.971	4.000	0.000
Summary of Adjustments				
Other Navy/OSD Adjustments		-4.000	4.000	
Congressional Undistributed Reductions		-0.247		
Economic Assumptions	-0.132	-0.724		
Congressional Rescissions	-0.102			
Reprogrammings	0.190			
Subtotal	-0.044	-4.971	4.000	

(U) Schedule: Not applicable

(U) Technical: Not applicable

(U) D. OTHER PROGRAM FUNDING SUMMARY: Not applicable

(U) E. ACQUISITION STRATEGY:

Upon completion of EMD shipboard integration and testing, the Fire Scout VTUAV system will be moved to the Naval Strike and Air Warfare Center (NSAWC) for continued air wing training, Concept of Operations development, and demonstrations and experimentation at NAS Fallon, NV.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A2768 Vertical Take-off Landing UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIFAF	NGC-Ryan, San Diego, CA	111.668	34.716	11/02	2.500	11/03				148.884	144.168
Ship Integration	PD	NAVSEA, Arlington, VA	3.466							Continuing	Continuing	
Ship Integration	WX	NSWC, Indian Head, MD	0.153							Continuing	Continuing	
Award Fees	C/CPIFAF	NGC-Ryan, San Diego, CA	4.456	0.500	04/03						4.956	4.956
Subtotal Product Development			119.743	35.216		2.500		0.000		Continuing	Continuing	157.459
Remarks:												
Integrated Logistics Support	WX	NAWC-AD, Lakehurst, NJ	1.379							Continuing	Continuing	
Integrated Logistics Support	WX	NAWC-AD, Pax River, MD	2.012	0.107	01/03					Continuing	Continuing	
Technical Data	WX	NSWC, Crane, IN	0.900							Continuing	Continuing	
Integrated Logistics Support	WX	NSWC, Indian Head,	4.025	0.100	01/03					Continuing	Continuing	
Subtotal Support			8.316	0.207		0.000		0.000		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWC-AD, Pax River, MD	3.112	1.558	11/02	0.750	11/03			Continuing	Continuing	
Operational Test & Evaluation	WX	Various	1.691							Continuing	Continuing	
Operational Test & Evaluation	WX	China Lake, CA	0.780							Continuing	Continuing	
Subtotal T&E			5.583	1.558		0.750		0.000		Continuing	Continuing	
Remarks:												
Program Management Support	C/FFP	Various	7.372	0.170	12/02	0.170	12/03			Continuing	Continuing	
Government Engineering Support	WX	NAWC-AD, Pax River, MD	7.388	1.400	11/02	0.560	11/03			Continuing	Continuing	
Travel	WX	Various	0.387	0.080	11/02	0.020	11/03			Continuing	Continuing	
Subtotal Management			15.147	1.650		0.750		0.000		Continuing	Continuing	
Remarks:												
Total Cost			148.789	38.631		4.000		0.000		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 16 of 43)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A2910 JTC/SIL	2.286	1.649	1.651	1.651	1.649	1.645	1.677	1.707
RDT&E Articles Qty								
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) was established in 1994 as a center of technical excellence to support all UAV programs within the services. The mission has subsequently expanded to include Service-specific and Joint ISR programs throughout DoD. The JTC/SIL provides a Government test bed for rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and C4I optimization.</p> <p>The Services and Warfighting Commanders have a requirement for the capability to train with a system that provides a real-time simulation environment containing multiple intelligence systems that can be integrated with larger force-on force simulations. The MUSE creates a realistic operational environment which supports the ability to assess military utility, architecture and CONOPS development, Tactics, Techniques, and Procedures (TTP) development and refinement, conduct emerging concepts experimentation, and C4I optimization within warfighting exercises and experiments. It is the only simulation system used by the CINCs and Joint Services to support command and battle staff ISR training; there is no alternative available to satisfy those requirements.</p> <p>The MUSE also creates a realistic operational environment that supports an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises; and C4I optimization.</p> <p>MUSE is currently in use within all services and unified commands simulating PREDATOR, GLOBAL HAWK, HUNTER, Tactical, and PIONEER UAVs, National and commercial satellite collectors, P-3, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4I systems to support execution of critical imagery processes. For those assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. Distributed training environments, virtually linking participants from various locations worldwide, are routinely supported within the MUSE architecture.</p> <p>Additionally, the JTC/SIL supports a range of materiel developers, integrating prototypes and trainers into the C4I and training environments of supported units. The Tactical Unmanned Aerial Vehicle (TUAV) ground station developed by the JTC/SIL includes an embedded MUSE trainer.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2910 Joint Technology Center/System Integration Lab																	
(U) B. Accomplishments/Planned Program																			
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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2910 Joint Technology Center/System Integration Lab		

(U) C. PROGRAM CHANGE SUMMARY:

	FY 2002	FY 2003	FY 2004	FY 2005
(U) Funding:				
FY 2003 President's Budget:	2.300	1.690	1.691	1.688
Current BES/President's Budget:	2.286	1.649	1.651	1.651
Total Adjustments	-0.014	-0.041	-0.040	-0.037
Summary of Adjustments				
Congressional Undistributed Reduction	-0.029	-0.010		
Economic Assumptions	-0.006	-0.031	-0.038	-0.036
Other Navy/OSD Adjustments	0.021		-0.002	-0.001
Subtotal	-0.014	-0.041	-0.040	-0.037

(U) Schedule: Not applicable

(U) Technical: Not applicable

(U) D. OTHER PROGRAM FUNDING SUMMARY: Not applicable

(U) E. ACQUISITION STRATEGY: Not applicable

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Exhibit R-3 Cost Analysis (page 1)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	Redstone Arsenal, AL	1.033	0.823	11/02	0.822	11/03	0.820	11/04	Continuing	Continuing	
Award Fees												
Subtotal Product Development			1.033	0.823		0.822		0.820		Continuing	Continuing	
Remarks:												
Development Support	MIPR	Redstone Arsenal, AL	0.900	0.500	11/02	0.500	11/03	0.500	11/04	Continuing	Continuing	
Subtotal Support			0.900	0.500		0.500		0.500		Continuing	Continuing	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A2910 Joint Technology Center/Systems Integration Lab						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contracting Engineering Support	MIPR	Redstone Arsenal, AL	0.353	0.326	11/02	0.329	11/03	0.331	11/04	Continuing	Continuing	
Subtotal Management			0.353	0.326		0.329		0.331		0.000	1.339	
Remarks:												
Total Cost			2.286	1.649		1.651		1.651		Continuing	Continuing	
Remarks:												

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A3061 Global Hawk Maritime Demonstration System			
COST (\$ in Millions)	FY 2002	FY 2003*	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A3061 Global Hawk Maritime Demonstration System		189.350						
RDT&E Articles Qty		2						
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Project Unit continues in FY2004-FY2009 in PE 0305205N, High Altitude Endurance Unmanned Aerial Vehicles.</p> <p>* Includes Congressional add of \$14 million for Global Hawk BAMS, less Congressional undistributed reductions.</p> <p>The Navy has identified the need for a long-range and long-dwell UAV capable of providing maritime/land ISR, standoff strike support, and SIGINT collection. The Air Force GLOBAL HAWK can be used in this capacity with the development of a maritime payload. The Navy will utilize the existing Air Force contract to procure a system for experimentation and developmental assets outfitted with maritime mission oriented sensors.</p> <p>The Secretary of the Navy directed acquisition of a Global Hawk Maritime Demonstration (GHMD) System to develop the Concept of Operations (CONOPS), tactics, techniques and procedures (TTPs) in support of maritime reconnaissance and strike support mission areas. The GHMD system will also serve as an enduring unmanned test bed that can be used to demonstrate advanced payloads, alternate sensors, autonomous decision aides, and command, control and communications systems for incorporation into future naval warfighting systems and cultural building for U.S. Navy (USN) High Altitude Endurance (HAE) Unmanned Aerial Vehicles (UAVs).</p> <p>The GHMD System will be designed to demonstrate CONOPS for a long-dwell, all weather, day/night, wide area maritime intelligence, surveillance and reconnaissance (ISR) and include communication/interfaces with other theater systems required to support Carrier Battle Group Commanders, Fleet Commanders, as well as joint tactical war fighters at various levels. The GHMD System will be a fully autonomous, high altitude, long endurance UAV that is directly responsive to theater tasking and designed to operate in low-to-moderate defensive threat environments. The GHMD System will consist of two RQ-4A Unmanned Aerial Vehicles (UAVs), an AN/MSQ-131 Ground segment which includes the mission control element (MCE) and the launch and recovery element (LRE); and radar, electro-optical/infrared (EO/IR), and Signals Intelligence (SIGINT) sensors optimized for the maritime environment. The USN will leverage the U.S. Air Force (USAF) low rate initial production (LRIP) and engineering and manufacturing ground station, communication suite, payload, sensor and data dissemination in support of the maritime surveillance requirements.</p> <p>The FY 2003 program initiates the development and acquisition of air vehicles, launch and recovery elements (LRE) , mission control element (MCE), payload test assets, and associated support equipment. Initiate integration of maritime mode in ISS payloads, sensors, SIGINT and communications capabilities.</p>								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A3061 Global Hawk Maritime Demonstration System		
(U) B. Accomplishments/Planned Program				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		143.300		
RDT&E Articles Quantity		2		
FY 2003: Initiate development and acquisition of air vehicles, launch and recovery elements (LRE) , mission control element (MCE), payload test assets, and associated support equipment. Initiate integration of maritime mode in ISS payloads, sensors, SIGINT and communications capabilities.				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		20.000		
RDT&E Articles Quantity				
Initiate platform integration of the Tactical Control System (TCS) and the GHMD System, including air vehicle/system integration and validation efforts, government and contractor support.				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		8.665		
RDT&E Articles Quantity				
Initiate government and contractor engineering support, including, systems engineering, system certification, program management, logistics analysis, planning for test & evaluation of maritime payloads, JITC/Interoperability certification, test facility infrastructure preparation, and C4I study, including assessment of the contractor's compliance with security requirements.				
	FY 02	FY 03	FY 04	FY 05
Accomplishments/Effort/Subtotal Cost		3.385		
RDT&E Articles Quantity				
Government and Contractor Support. Program Management Support.				

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Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 23 of 43)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A3061 Global Hawk Maritime Demonstration System																	
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<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 30%;"></th><th style="width: 15%;">FY 02</th><th style="width: 15%;">FY 03</th><th style="width: 15%;">FY 04</th><th style="width: 15%;">FY 05</th></tr></thead><tbody><tr><td>Accomplishments/Effort/Subtotal Cost</td><td></td><td style="text-align: center;">7.000</td><td></td><td></td></tr><tr><td>RDT&E Articles Quantity</td><td></td><td></td><td></td><td></td></tr></tbody></table> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;">This funding is to develop manufacturing and producibility enhancements for the Global Hawk program. Efforts include procurement of tooling and special test equipment, development and integration of an open system architecture, and manufacturing process improvements.</div>						FY 02	FY 03	FY 04	FY 05	Accomplishments/Effort/Subtotal Cost		7.000			RDT&E Articles Quantity				
	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		7.000																	
RDT&E Articles Quantity																			
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	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		7.000																	
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Accomplishments/Effort/Subtotal Cost																			
RDT&E Articles Quantity																			

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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">(U) Funding:</th> <th style="text-align: right; width: 10%;">FY 2002</th> <th style="text-align: right; width: 10%;">FY 2003</th> <th style="text-align: right; width: 10%;">FY 2004*</th> <th style="text-align: right; width: 10%;">FY 2005*</th> </tr> </thead> <tbody> <tr> <td>FY 2003 President's Budget:</td> <td></td> <td style="text-align: right;">152.000</td> <td></td> <td></td> </tr> <tr> <td>Current BES/President's Budget:</td> <td></td> <td style="text-align: right;">189.350</td> <td></td> <td></td> </tr> <tr> <td>Total Adjustments</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">37.350</td> <td></td> <td></td> </tr> <tr> <td colspan="5" style="padding-top: 20px;">Summary of Adjustments</td> </tr> <tr> <td>Other Navy/OSD Adjustments</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Congressional Undistributed Reductions</td> <td></td> <td style="text-align: right;">-1.504</td> <td></td> <td></td> </tr> <tr> <td>Economic Assumptions</td> <td></td> <td style="text-align: right;">-3.446</td> <td></td> <td></td> </tr> <tr> <td>Congressional Increases</td> <td></td> <td style="text-align: right;">42.300</td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td></td> <td style="text-align: right; border-top: 1px solid black;">37.350</td> <td></td> <td></td> </tr> </tbody> </table> <p style="margin-top: 20px;">* Global Hawk Demonstration budgeted in PE#0305205N, High Altitude Endurance UAV, in FY 2004-2009.</p> <p style="margin-top: 40px;">(U) Schedule: Not applicable</p> <p style="margin-top: 40px;">(U) Technical: Not applicable</p>					(U) Funding:	FY 2002	FY 2003	FY 2004*	FY 2005*	FY 2003 President's Budget:		152.000			Current BES/President's Budget:		189.350			Total Adjustments		37.350			Summary of Adjustments					Other Navy/OSD Adjustments					Congressional Undistributed Reductions		-1.504			Economic Assumptions		-3.446			Congressional Increases		42.300			Subtotal		37.350		
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles		PROJECT NUMBER AND NAME A3061 Global Hawk Maritime Demo System																															
<p>(U) D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Line Item No. & Name</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2002</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2003</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2004</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2005</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2006</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2007</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2008</th> <th style="text-align: center; border-bottom: 1px solid black;">FY 2009</th> </tr> </thead> <tbody> <tr> <td>0305205N High Altitude Endurance UAV</td> <td></td> <td></td> <td style="text-align: right;">76.358</td> <td style="text-align: right;">57.316</td> <td style="text-align: right;">53.409</td> <td style="text-align: right;">54.256</td> <td style="text-align: right;">48.155</td> <td style="text-align: right;">47.707</td> </tr> <tr> <td>APN BLI:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) E. ACQUISITION STRATEGY: The Navy GHMD program is an experimentation and demonstration effort and not a formal acquisition program. Development of the GHMD System will leverage the USAF LRIP fixed-price incentive contract for purchase of the baseline Global Hawk system and EMD cost-plus incentive fee contract for the NRE to develop the maritime sensor suite. Integration studies and payload evaluation and development will be performed throughout FY03.</p> <p>(U) F. MAJOR PERFORMERS: Not applicable</p>									Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	0305205N High Altitude Endurance UAV			76.358	57.316	53.409	54.256	48.155	47.707	APN BLI:								
Line Item No. & Name	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009																											
0305205N High Altitude Endurance UAV			76.358	57.316	53.409	54.256	48.155	47.707																											
APN BLI:																																			

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A3061 Global Hawk Maritime Demonstration System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	MIPR	WPAFB, OH		146.800	01/03					Continuing	Continuing	
Software	C/CPAF	Raytheon, VA		12.000	01/03					Continuing	Continuing	
TSC Integration/C4I	WX	SPAWAR, San Diego, CA		4.250	01/03					Continuing	Continuing	
TSC Infrastructure	CP	NGRAY, San Diego, CA		5.000	03/03					Continuing	Continuing	
Ship Integration	WX	NAVSEA		4.750	03/03					Continuing	Continuing	
										Continuing	Continuing	
Subtotal Product Development			0.000	172.800		0.000		0.000		Continuing	Continuing	
Integrated Logistics Support	WX	Various		3.400	01/03					Continuing	Continuing	
Government Engineering Support	WX	NAWC-AD, Pax River, MD		7.179	11/02					Continuing	Continuing	
Studies & Analysis (AOA)	MIPR	MITRE		1.300	01/03					Continuing	Continuing	
Government Engineering Support	WX	NAWC-WD, China Lake, CA		0.536	11/02					Continuing	Continuing	
Subtotal Support			0.000	12.415		0.000		0.000		Continuing	Continuing	

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 27 of 43)

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A3061 Global Hawk Maritime Demonstration System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WX	Various		0.750	02/03					Continuing	Continuing	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.750		0.000		0.000		Continuing	Continuing	
											0.000	
Contract Engineering Support	C/FFP	Various		0.535	03/03					Continuing	Continuing	
Program Management Support	WX	NAWCAD, Pax River, MD		2.600	02/03					Continuing	Continuing	
Travel	WX	NAWCAD, Pax River, MD		0.250	01/03					Continuing	Continuing	
											0.000	
											0.000	
Subtotal Management			0.000	3.385		0.000		0.000		Continuing	Continuing	
Total Cost			0.000	189.350		0.000		0.000		Continuing	Continuing	
Remarks: FY 03 Funding executed under project unit A9284												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 28 of 43)

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EXHIBIT R4, Schedule Profile																								DATE: February 2003																			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7								PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles								PROJECT NUMBER AND NAME A3061 Global Hawk Maritime Demonstration System																											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009														
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4															
Program Milestones					Award SRR	△	△	IBR		△	Design Review		△	TRR	△	TRR					△					△	TRR																
System HW Procurement						<div></div>																																					
Maritime Radar System Integration						<div></div>																																					
Maritime Sensor Integration						<div></div>																																					
Maritime Payload Integration and Test														<div></div>																													
Alternate Payload Integ/Test (Enduring Test Bed)																	<div>Robust SIGINT</div>												<div>LINK-16</div>				<div>COMM</div>										
Shipboard Integration																																											
TCS Integration																																											
Deliveries																																											
Air Vehicle 1																																											
Air Vehicle 2																																											
LRE																																											
MCE																																											
Test & Demonstration Milestones																																											
AV 1																																											
AV 2																																											

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 30 of 43)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A4012 Pioneer PIP			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A4012 Pioneer PIP		6.832	14.159	0.000	0.000	0.000	0.000	0.000
RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Pioneer Unmanned Aerial Vehicle (UAV) provides near real time reconnaissance, surveillance, target acquisition, combat assessment and battlefield management within LOS of a Ground Control Station (GCS) in limited weather, both day and night. Deployments around the world have supported numerous joint military operations and contingencies including Bosnia Herzegovina, Somalia, the Adriatic, Persian Gulf operations, DESERT SHIELD and DESERT STORM. The Navy ceased Pioneer UAV operations in FY02 leaving a minimum detachment at VC-6 for test and contingency support. The Marines will continue support of Pioneer with two operational squadrons and training squadrons under the Pioneer Improvement Program.</p> <p>The Pioneer Product Improvement Program (PIP) addresses the critical issues facing the Pioneer system, including mobility, obsolescence, reliability, and interoperability, while improving performance by utilizing current technology and NDI components. The mobility enhancements consist of a HMMWV-mounted GCS, downsized launcher, and a UAV transport trailer. The GCS will utilize the TCS modified for Pioneer control and the TCDL. The air vehicles will be upgraded for greater endurance, along with an electrical power management system upgrade. An improved EO/IR payload will be selected, procured, and integrated into the air vehicle.</p>								

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	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		3.332	11.559																
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	FY 02	FY 03	FY 04	FY 05															
Accomplishments/Effort/Subtotal Cost		3.500	2.600																
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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2003																													
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A4012 Pioneer PIP																														
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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2003				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A4012 Pioneer PIP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	PUI, Hunt Valley, MD		2.228	03/03	8.988	11/03				11.216	
Software Development	TBD	Raytheon, Falls Church, VA		3.500	03/03	2.400	11/03				5.900	
Subtotal Product Development			0.000	5.728		11.388		0.000			17.116	
Remarks:												
Government Engineering Support	WX	NAWCAD, Pax River, MD		1.084	01/03	0.851	12/03				1.935	
Integrated Logistics Support	WX	NAWCAD, Pax River, MD				0.900	10/03				0.900	
Subtotal Support			0.000	1.084		1.751		0.000			2.835	
Remarks:												

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A4012 Pioneer PIP						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Development&Operational Testing	WX	NAWCAD, Pax River, MD				1.000	12/03				1.000	
Subtotal T&E			0.000	0.000		1.000		0.000		0.000	1.000	
Remarks:												
Travel	WX	NAWCAD, Pax River, MD		0.020	01/03	0.020	12/03				0.040	
Subtotal Management			0.000	0.020		0.020		0.000			0.040	
Remarks:												
Total Cost			0.000	6.832		14.159		0.000		Continuing	Continuing	
Remarks: FY03 Funding executed under project unit A9284.												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, Page 36 of 43)

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EXHIBIT R4, Schedule Profile																								DATE:											
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N / BA-7												0305204N Tactical Unmanned Aerial Vehicles												A4012 Pioneer PIP											
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009						
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4							
Acquisition Milestones																																			
Rapid Deployment Capability																																			
PDR																																			
CDR																																			
MS C																																			
IOC																																			
Spiral 1 TCS Development																																			
Spiral 1 Ground System Design																																			
Spiral 1 H/W Lab Test																																			
Spiral 1 R&D GCS																																			
Spiral 1 Air Vehicle Study																																			
Spiral 2 Design																																			
Spiral 2 Fabrication																																			
Test & Evaluation Milestones																																			
Spiral 1 DT																																			
Spiral 2 DT																																			
Spiral 2 OT																																			

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* Not required for Budget Activities 1, 2, 3, and 6

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 38 of 43)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2003	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A9155 NBC Payload			
COST (\$ in Millions)	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A9155 NBC Payload		1.659						
RDT&E Articles Qty								
A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Congressional add of \$1.7 million, less Congressional undistributed reductions, only for Miniature Detection Devices as part of the Naval UAV Payload effort to be used only for the continuation of an industry based research program for light weight low power Nuclear, Chemical and Biological (NBC) sensors and isotope identification techniques.								

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EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2003																
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APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A9155 NBC Payload						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	Constellation Tech, FL		1.459	03/03					Continuing	Continuing	
Ancillary Hardware Development											0.000	
Aircraft Integration											0.000	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	1.459		0.000		0.000		Continuing	Continuing	
Remarks:												
Development Support											0.000	
Software Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2003		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A9155 NBC Payload						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WX	NAWCAD, Pax River, MD		0.200	02/03					Continuing	Continuing	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.200		0.000		0.000		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Total Cost			0.000	1.659		0.000		0.000		Continuing	Continuing	
Remarks:												

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Exhibit R-3, Project Cost Analysis
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