CLASSIFICATION:

UNCLASSIFIED

					DATE:	
					Februar	y 2006
			R-1 ITEM NOMEN	CLATURE		
BA-7			0305204N Tactical	Unmanned Aerial	Vehicles	
FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
76.943	115.173	115.950	40.510	11.647	11.862	12.471
13.286	10.762	9.156	9.453	8.932	9.094	9.326
59.096	74.215	105.124	29.347	0.971	0.989	1.328
1.590	1.634	1.670	1.710	1.744	1.779	1.817
	3.862					
2.971						
	24.700					
	76.943 13.286 59.096 1.590	FY 2005 FY 2006 76.943 115.173 13.286 10.762 59.096 74.215 1.590 1.634 3.862	BA-7 FY 2005 FY 2006 FY 2007 76.943 115.173 115.950 13.286 10.762 9.156 59.096 74.215 105.124 1.590 1.634 1.670 3.862 2.971	BA-7 0305204N Tactical FY 2005 FY 2006 FY 2007 FY 2008 76.943 115.173 115.950 40.510 13.286 10.762 9.156 9.453 59.096 74.215 105.124 29.347 1.590 1.634 1.670 1.710 3.862 2.971	R-1 ITEM NOMENCLATURE 0305204N Tactical Unmanned Aerial FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 76.943 115.173 115.950 40.510 11.647 13.286 10.762 9.156 9.453 8.932 59.096 74.215 105.124 29.347 0.971 1.590 1.634 1.670 1.710 1.744 3.862	BA-7 0305204N Tactical Unmanned Aerial Vehicles FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 76.943 115.173 115.950 40.510 11.647 11.862 13.286 10.762 9.156 9.453 8.932 9.094 59.096 74.215 105.124 29.347 0.971 0.989 1.590 1.634 1.670 1.710 1.744 1.779 3.862 2.971 2.971 2.971 2.971

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: These programs provide for the development of Tactical Unmanned Aerial Vehicle (TUAV) systems that provide warfighters with dedicated day/night aerial Intelligence, Surveillance, Reconnaissance, and Target Acquisition (ISR&TA) capabilities; and communications/data dissemination; electronic warfare; weather data collection to support combat operations; minefield detection; and nuclear/biological/chemical reconnaissance in limited adverse weather.

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 ISR&TA and combat assessment. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station (GCS), implementation of NATO (North Atlantic Treaty Organization) Standardization Agreement (STANAG) 4586, and through the use of the Tactical Common Data Link (TCDL). TCS provides connectivity to designated Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems for the Navy Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). TCS and VTUAV will implement NATO STANAG 4586 compliance, and weaponization and plug-and-play functionality. TCS will also be evaluated for future Naval UAVs.

Vertical Takeoff and Landing Tactical 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 without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation and battle management (including communications relay). The VTUAV launches and recovers vertically, and can operate from air capable ships, as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, and autonomous waypoint navigation with command override capability. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, and through the use of the Tactical Common Data Link (TCDL). The data from the VTUAV will be provided through standard DoD C4ISR system architectures and protocols.

R-1 SHOPPING LIST - Item No.

202

UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification
(Exhibit R-2, page 1 of 43)

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE:
		February 2006
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0305204N Tactical Unmanne	ed Aerial Vehicles

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.

USMC Vertical Unmanned Aerial Vehicle (VUAV): The USMC VUAV will provide the Marine Corps a Tier III UAV supporting Marine Expeditionary Force (MEF) and Joint Task Force (JTF) level commanders with the required speed and survivability to support USMC Expeditionary Maneuver Warfare (EMW) operations. The system will build on Navy VTUAV and Coast Guard Eagle Eye technology. Pre-Milestone A activities will be conducted.

Advance Airship Flying Laboratory: FY 2005 Congressional Add - Initial capability studies for development of a modernized naval airship featuring contemporary composited, digital flight controls, vectored thrust and remote piloted capabilities that can provide immediate utility for missions requiring heavy lift (logistics and/or sensor suites), long endurance (measured in days vs. hours), and persistent broad-area Intelligence, Surveillance, and Reconnaissance (ISR).

Congressional Adds.

Joint Operational Test Bed System (JOTBS)

JOTBS is an experimental, ground-based control system that is designed to fly, operate and receive data from all the services and individual UAVs from a single interface.

Fire Scout RQ-8B (MQ-8B)

The Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) was designed to provide 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 VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). The VTUAV launches and recovers vertically and can operate from all air capable ships as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, and the ability to incorporate Electro-Optical/Infrared/Laser Designator-Laser Range Finder modular mission payload. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, through implementation of NATO Standardization Agreement (STANAG) 4586 and through the use of the Tactical Common Data Link (TCDL). The data from the VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence Surveillance, and Reconnaissance (C4ISR) system architectures and protocols.

Center for Coastline Security Technology

Office of Naval Research (ONR) is working with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along United States Coastlines.

Advanced Airship Flying Laboratory Phase II

Capability studies for development of a modernized naval airship featuring contemporary composited, digital flight controls, vectored thrust and remote piloted capabilities that can provide immediate utility for missions requiring heavy lift (logistics and/or sensor suites), long endurance (measured in days vs. hours), and persistent broad-area Intelligence, Surveillance, and Reconnaissance (ISR).

R-1 SHOPPING LIST - 202

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 2 of 43)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0305204N Tactical	0305204N Tactical Unmanned Aerial Vehicles 2478 Tactical Control System						
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2478 Tactical Control System		13.286	10.762	9.156	9.453	8.932	9.094	9.326
RDT&E Articles Qty - Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Tactical Control System (TCS) is developing a standards based system that provides interoperability and commonality for Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) interfaces, and command and control of Navy Unmanned Aerial Vehicles (UAVs), including the Navy Vertical Takeoff and Landing (VTOL) Tactical UAV (VTUAV). Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, NATO STANAG-4586 compliance and through the use of the Tactical Common Data Link (TCDL). TCS and VTUAV will implement NATO STANAG 4586 and plug-and-play functionality. TCS will also be evaluated for future Naval UAVs.

TCS provides a full range of scaleable Unmanned Air System (UAS) 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 different UAS types for reconnaissance, surveillance, and combat assessment.

TCS provides UAS command, control and processing from land and sea based ground control stations. TCS development continues to meet the updated VTUAV Operational Requirements Document (ORD) and add key technologies that will be used by UAS.

TCS maximizes the use of contractor and government off-the shelf hardware and software whenever possible. TCS software is interoperable, and is compliant with the OSD Command and Control, Communications. Intelligence (C3I) Joint Technical Architecture (JTA), and Distributed Common Ground System (DCGS) standards.

Includes FY 2005 Congressional add of \$4.5M for the Joint Operational Test Bed System (JOTBS), less \$.121M Congressional undistributed reductions. The FY 2006 Congressional add of \$3.0M for JOTBS is shown in project 9999.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica	DATE:					
•				February 2006		
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUM	BER AND NAME	PROJECT NUMBER AND I	NAME	•	
DT&E, N /BA-7	0305204N Tactical Unmanne	ed Aerial Vehicles	2478 Tactical Control Syste	stem		
. Accomplishments/Planned Program						
		FY 05	FY 06	FY 07		
Accomplishments/Effort/Subtotal Cost		5.840	7.390	5.968		
RDT&E Articles Quantity						
Continue TCS integration with VTUAV development	•			, 0		
4586 compliance. Continue TCS Command	·	uters, Intelligence, Surv	veillance, and Reconnaissance (C	4ISR) interface testing f	or VIUAV required C4ISR	
systems. Complete multi-vehicle UAS contro	through FY2008.					
		FY 05	FY 06	FY 07		
Accomplishments/Effort/Subtotal Cost		4.379				
RDT&E Articles Quantity						

JOTBS enhancements and support of UAV experimentation.

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	3.067	3.372	3.188
RDT&E Articles Quantity			

Continue government engineering support, contractor support, program support, and travel for the TCS program.

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justification				February 2006
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		2478 Tactical Control System	
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 05	FY 06	FY 07	
Previous President's Budget:	13.293	10.902		
Current BES/President's Budget:	13.286	10.762		
Total Adjustments	-0.007	-0.140		
Summary of Adjustments				
Congressional Reductions				
Congressional Recissions				
Congressional Undistributed Redu		-0.097		
Congressional Increases	0.003	0.040	0.040	
Economic Assumptions		-0.043	0.046	
Miscellaneous Subtotal	-0.007	-0.140	0.046	
Schedule:				
Schedule changes support an integration b	etween VTUAV and Littoral Combat Ship.			
Concade changes support an integration s	etween violity and Etteral Compationip.			
Technical:				
Not applicable				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E I	Project Justification		DATE:	
·	•			February 2006
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	-
RDT&E, N /	BA-7	0305204N Tactical Unmanned Aerial Vehicles	2478 Tactical Control System	
D. OTHER PROGRAM	M FUNDING SUMMARY:			
Not Applicable				
E. ACQUISITION STRA	TEGY:			
These acquisitions of which are cost-pl	have been made by modifying t lus contracts. TCS developmer	he competitively awarded TCS contract (awarded to Raytheon in to and testing will be accomplished via a Government/Industry tea	2000), as well as through the TCS Basic Order Agree am.	ement with Raytheon, both

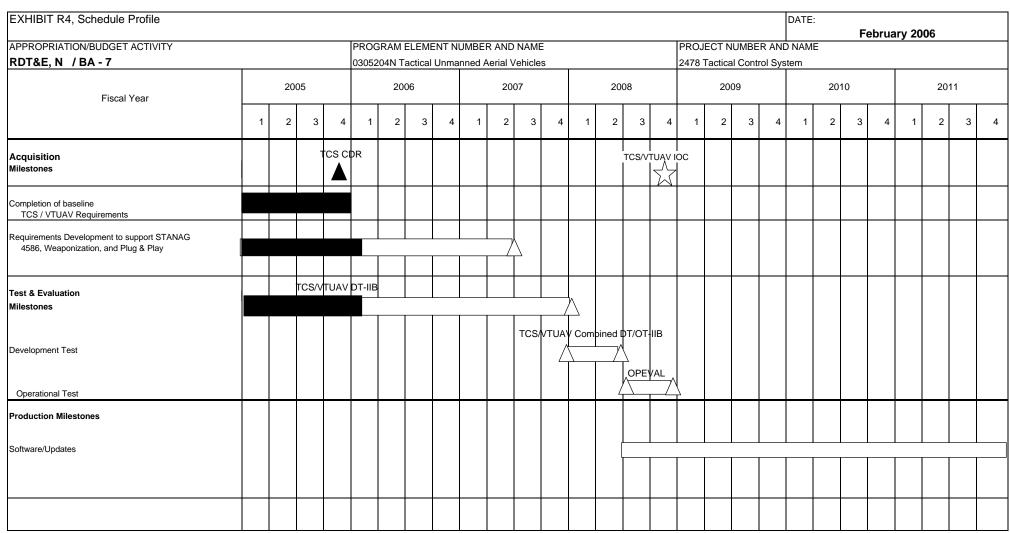
CLASSIFICATION:

Meth & Ty Primary Hardware Development C/CF	htract Performing hod Activity & Location PAF Raytheon, F	PROGRAM E 0305204N Tar alls Church, VA		FY 05 Cost	F A	Y 05 ward ate 11/04 06/05	PROJECT N 2478 Tactica FY 06 Cost 6.93 0.42	FY 06 Award Date				Total	Target Value of Contract
RDT&E, N / BA-7 Cost Categories Cont Meth & Tyl Primary Hardware Development C/CF	hod Activity & Location PAF Raytheon, F	0305204N Tad	ctical Unman Total PY s Cost	FY 05 Cost	4.970	Y 05 ward ate 11/04	FY 06 Cost	FY 06 Award Date	FY 07 Cost 5.1	Award Date 93 11/06	Complete 13.401	Cost 105.819	of Contract
Cost Categories Cont Meth & Ty Primary Hardware Development C/CF	hod Activity & Location PAF Raytheon, F	alls Church, VA	Total PY s Cost 75.32	FY 05 Cost	4.970	Y 05 ward ate 11/04	FY 06 Cost 6.93	FY 06 Award Date 4 12/05	FY 07 Cost 5.1	Award Date 93 11/06	Complete 13.401	Cost 105.819	of Contract
Meth & Tyl Primary Hardware Development C/CF	hod Activity & Location PAF Raytheon, F		PY s Cost 75.32	Cost	4.970	ward ate 11/04	Cost 6.93	Award Date 4 12/05	Cost 5.1	Award Date 93 11/06	Complete 13.401	Cost 105.819	of Contract
& Tyl Primary Hardware Development C/CF	ype Location PAF Raytheon, F		Cost 75.32	Cost	4.970 D	ate 11/04	Cost 6.93	Date 12/05	Cost 5.1	Date 93 11/06	Complete 13.401	Cost 105.819	of Contract
Primary Hardware Development C/CF	PAF Raytheon, F		75.32	21	4.970	11/04	6.93	4 12/05	5.1	93 11/06	13.401	105.819	
									0.7	43 00/07	1.000	10.024	
												0.000	
												0.000	
												0.000	
												0.000	
				+			1				+	0.000	
												0.000	
	1											0.000	
												0.000	
Subtotal Product Development			82.32	26	5.810		7.36	0	5.9	38	15.009	116.443	
												0.000	
												0.000	
												0.000	
												0.000	
				_			1					0.000	
												0.000 0.000	
												0.000	
Subtotal Support			0.00	00	0.000		0.00	0	0.0	00	0.000	0.000	
Remarks:													

CLASSIFICATION:

											DATE:				
Exhibit R-3 Cost Analysis (pag	e 2)												February 200)6	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM E							MBER AND I					
RDT&E, N / BA-7			0305204N Ta		nanne	d Aerial Veh		2478		Control Syste	em				
Cost Categories	Contract	Performing		Total			FY 05			FY 06		FY 07			
	Method	Activity &		PY s		FY 05	Award	FY 06		Award	FY 07	Award	Cost to	Total	Target Value
	& Type	Location		Cost		Cost	Date	Cost		Date	Cost	Date	Complete	Cost	of Contract
Developmental Test & Evaluation	WX	Various			1.140	0.03			0.030	02/06	0.030	11/06	Continuing		
Test Assets	WX	USJFCOM, N	orfolk, VA	•	6.078	4.37	9 01/05				+			10.457	
											+			0.000	
														0.000	
											+			0.000	
														0.000	
Subtotal T&E					7.218	4.40	9		0.030		0.030		Continuing		
Contractor Engineering Support	Various	Various			0.100	0.6	0 12/04		0.625	12/05	0.64	12/06	Continuing	Continuing	
Government Engineering Support	WX	NAWCAD, Pax	River, MD		4.083	1.30	8 12/04		1.322	10/05	1.190	11/06	Continuing	Continuing	
Government Engineering Support	WX	SPAWAR, San	Diego, CA		0.050	0.0	0 11/04		0.096	01/06	0.097	11/06	Continuing	Continuing	
Program Management Support	Various	Various			2.631	1.00	6 11/04		1.314	02/06	1.24	11/06	Continuing	Continuing	
Travel	то	NAVAIR-HQ, P	ax River, MD		1.489	0.03	3 11/04		0.015	10/05	0.016	11/06	Continuing		
														0.000	
Subtotal Management					8.353	3.00	7		3.372		3.188	3	Continuing	Continuing	
Remarks:															
Total Cost				9	7.897	13.28	6		10.762		9.156	6	Continuing	Continuing	
Remarks:															

CLASSIFICATION:



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:				
						February 2006			
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMI	ENT			PROJECT NUMBI				
RDT&E, N /BA-7	0305204N Tactical	Unmanned Aerial \	/ehicles		2478 Tactical Control System				
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
TCS Critical Design Review (CDR)	4Q								
TCS/VTUAV Initial Operating Capability (IOC)				4Q					
Completion of baseline TCS / VTUAV Requirements	1Q-4Q								
Requirements Development to support STANAG	10.10	10.10	10.00						
4586, Weaponization, and Plug & Play	1Q-4Q	1Q-4Q	1Q-2Q						
TCS/VTUAV DT-IIB	1Q-4Q	1Q-4Q	1Q-4Q						
TCS/VTUAV Combined DT/OT-IIB				1Q-2Q					
TCS/VTUAV OT-IIB OPEVAL				3Q-4Q					
Software/Updates				3Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	O NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0305204N Tactica	Unmanned Aerial						
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2768 VTUAV		59.096	74.215	105.124	29.347	0.971	0.989	1.328
RDT&E Articles Qty		2	5 *					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) (also referred to as the Fire Scout VTUAV) was designed to provide 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 VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). The VTUAV launches and recovers vertically and can operate from all air capable ships as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, and the ability to incorporate Electro-Optical/Infrared/Laser Designator-Laser Range Finder modular mission payload. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, through implementation of NATO Standardization Agreement (STANAG) 4586 and through the use of the Tactical Common Data Link (TCDL). The data from the VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence Surveillance, and Reconnaissance (C4ISR) system architectures and protocols. The program complies with FY06 Defense legislation and resultant DoD policy concerning Tactical Common Data Links.

A VTUAV system is comprised of three air vehicles, three electro-optical/infrared/laser designator-rangefinder payloads, two Ground Control Stations (with TCS and TCDL integrated for interoperability), one UAV Common Automatic Recovery System (UCARS) for automatic take-off and landings, and associated spares and support equipment.

A program to continue development of the VTUAV to meet the Littoral Combat Ship (LCS) mission requirements was initiated in FY04. Engineering and Manufacturing Development (EMD) is continuing in FY07 and will include design activities for system upgrades, and TCS integration. Procurement of two EMD MQ-8B Air Vehicles was initiated in FY04, two additional EMD MQ-8B Air Vehicles initiated in FY05, and five EMD MQ-8B Air Vehicles will be initiated in FY06.

The Air Vehicle was redesignated from RQ-8B to MQ-8B on 24 June 2005 per letter from HQ USAF/XPPE.

The VTUAV system is scheduled for a 1st quarter FY07 Milestone C LRIP decision.

The U.S. Army has selected the MQ-8B as their Class IV UAV for the Future Combat System (FCS). Coordination with the U.S. Army FCS Program is on-going to investigate the potential cost savings for both programs where system commonalities and common logistics support can be identified.

* Two of the five articles initiated in FY06 are funded by a Congressional plus-up, and identified in Project 9999 of this exhibit.

R-1 SHOPPING LIST -202

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 11 of 43)

CLASSIFICATION:

		DATE:	
			February 2006
PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	AME	
0305204N Tactical Unmanned Aerial Vehicles	2768 VTUAV		

B. Accomplishments/Planned Program

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	46.233	56.715	89.994
RDT&E Articles Quantity	2	5 *	

Continue incremental procurement and integration of EMD MQ-8B Air Vehicles to support the Engineering and Manufacturing Development (EMD) program. Continue to completion EMD of the VTUAV system. Continue combined developmental and operational testing.

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	2.900	4.600	7.670
RDT&E Articles Quantity			

Continue ILS, technical data, and training system development. Procurement of trainers and spares to support OPEVAL.

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1.196	2.500	3.093
RDT&E Articles Quantity			

Complete developmental testing of the VTUAV system. Continue combined developmental and operational testing TECHEVAL and planning for OPEVAL.

^{*} Two of the five articles initiated in FY06 are funded by a Congressional plus-up, and identified in Project 9999 of this exhibit.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	tion		DATE:	
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	February 2006	
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	2768 VTUAV	WIL	
DIGE, N / BA-7	0305204N Tactical Offmatified Aerial Vehicles	2768 VIUAV		
. Accomplishments/Planned Program (Cont.)				
	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost	8.767	10.400	4.367	
RDT&E Articles Quantity	6.707	10.400	4.307	
TO TOE THURSDO Quartity				

R-1 SHOPPING LIST - 202

UNCLASSIFIED

CLASSIFICATION:

XHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2006
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER ANI	O NAME	
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		2768 VTUAV		
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY05	FY 06	FY 07		
Previous President's Budget:	59.129	77.601	53.172		
Current BES/President's Budget:	59.096	74.215	105.124		
Total Adjustments	-0.033	-3.386	51.952		
Summary of Adjustments					
Congressional Reductions					
Congressional Rescissions					
Congressional Undistributed Reductions	-0.045	-0.805			
Congressional Increases					
Economic Assumptions		-0.351	0.539		
Other Adjustments			52.600		
Miscellaneous Adjustments	0.012	-2.230	<u>-1.187</u>		
Subtotal	-0.033	-3.386	51.952		

Schedule change due to revision of optimum phasing of milestones and reviews. Procurement of two VTUAV EMD MQ-8B air vehicles in 3Q, FY05. Procurement of three VTUAV EMD MQ-8B air vehicles planned for 2Q, FY06. Two additional EMD MQ-8B articles are being initiated in FY06, funded by a Congressional plus-up, and identified in Project 9999 of this exhibit. Milestone C is planned for 1Q, FY 07. Combined DT/OT planned for 4Q, FY07-2Q, FY08. OPEVAL planned for 2Q-4Q, FY08. IOC planned for 4Q, FY08. Full Rate Production (FRP) planned for 1Q, FY09.

Technical:

Not applicable

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification][DATE:			
								Februar	y 2006	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEI	R AND NAME		BER AND NA	ME					
RDT&E, N / BA-7	0305204N Tactic	al Unmanned A	Aerial Vehicles		2768 VTUAV					
D. OTHER PROGRAM FUNDING SUMMARY:	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To <u>Complete</u>	Total <u>Cost</u>	
Line Item No. & Name	1 1 2000	1 1 2000	1 1 2007	1 1 2000	11 2003	1 1 2010	112011	Complete	<u>0031</u>	
APN: 044300 VTUAV			37.570	64.501	104.866	100.383	94.133	972.244	1,373.697	
APN Initial Spares: 060510 VTUAV			7.426	7.821	26.308	8.425	3.421	144.058	197.459	

E. ACQUISITION STRATEGY:

Continue with the VTUAV EMD program. Design and development of an improved system initiated in FY04 to support the Littoral Combat Ship Program. Nine EMD MQ-8B Air Vehicles will be procured. A Milestone C LRIP decision is scheduled for 1Q, FY07. A FRP and IOC will follow completion of OPEVAL.

CLASSIFICATION:

									DATE:				
Exhibit R-3 Cost Analysis (pag	ge 1)										February 200)6	
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM EL				PROJECT NU		NAME				
RDT&E, N / BA-7			0305204N Tac		ed Aerial Vehicl		2768 VTUAV						
Cost Categories		Performing		Total		FY 05		FY 06		FY 07			
	Method	Activity &			FY 05 Cost	Award	FY 06	Award Date		Award		Total	Target Value of Contract
B: II I B I .	& Type	Location		Cost		Date	Cost			Date	•		
Primary Hardware Development	C/CPFF	NGC, San Die	ego, CA	181.501	46.233	06/05	56.715	02/06	89.994	11/06	92.463	466.906	
												0.000	
												0.000	
	-											0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Product Development				181.501	46.233		56.715	5	89.994		92.463	466.906	
Integrated Logistics Support	WX	Various		8.723	2.900	11/04	4.600	12/05	7.670	11/06	Continuing	Continuing	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
												0.000	
Subtotal Support				8.723	2.900		4.600)	7.670		Continuing	Continuing	
Remarks:													
·				P-1 SHOD	PING LIST -	202							

CLASSIFICATION:

											DATE:					
Exhibit R-3 Cost Analysis (pag	e 2)													February 200	06	
APPROPRIATION/BUDGET ACTIVI	TY		PROGRAM EL	EMENT				PROJECT	NUN	MBER AND N	NAME					
RDT&E, N / BA-7			0305204N Tac		ed Aerial Ve			2768 VTU								
Cost Categories	Contract	Performing		Total			FY 05			FY 06		FY 0				
	Method	Activity &		PY s	FY 05		Award	FY 06		Award	FY 07	Awai			Total	Target Value
	& Type	Location		Cost	Cost		Date	Cost		Date	Cost	Date			Cost	of Contract
Developmental Test & Evaluation	WX	Various		1.69	1.	196	11/04	2.	500	12/05	3.0	93 ′	11/06	Continuing		
															0.000	
															0.000	
								<u> </u>							0.000	
															0.000	
															0.000	
Subtotal T&E				1.69	1 1	.196		2.	.500		3.0	093		Continuing	Continuing	
Government Engineering Support	wx	Various		12.22) 4	.150	11/04	5.	.550	12/05	2.	134	11/06	Continuing	Continuing	
Program Management Support	Various	Various		8.27	2 4	.567	11/04	4.	.800	12/05	2.	183	11/06	Continuing	Continuing	
Travel		NAVAIR, Pax Ri	ver, MD	0.51	7 0	.050	11/04	0.	.050	10/05	0.0	050	11/06	Continuing	Continuing	
															0.000	
															0.000	
															0.000	
Subtotal Management				21.00	9 8	.767		10.	.400		4.3	367		Continuing	Continuing	
Remarks:																
Total Cost				212.92	1 59	.096		74.	.215		105.	124		Continuing	Continuing	
Remarks:																

CLASSIFICATION:

UNCLASSIFIED

KHIBIT R4, Schedule Pr																					DATE		ı	Febru	ary 20	006		
PROPRIATION/BUDGET A DT&E, N / BA -7	CTIVITY						ELEME Tactica										PROJ 2768			R AN	D NAM	1E						
Fiscal Year		20	05		2006					200	07			20	80		2009					20	010			20	11	
	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				IBR					мѕс							IOC	Decision											
		V CDR		MS CD	R																							
VTUAV EMD MQ-8B	MSSR	R													7													
Block Upgrade Planning																												
Test & Evaluation	Li	ab Test		Gnd		8B DT-I		nt Test			C	Combin	 ed DT/0	DT-IIB	OT-IIB	OPEVA	V L											
oduction Milestones EMD MQ-8B Air Vehicles LRIP MQ-8B Air Vehicles		Vehic	MQ-8 es Cor Qty of 2	ntract -	Vehi	Contr	ntract - 3 2-8B Air act - Qt 1g. Plus	y of 2 -up)	es Air Veh	iclas		I RIP	Air V	ehicles														
FRP MQ-8B Air Vehicles								Contra (API	ct - Qty I funde	of 4 d)		Cont (A	ract - C PN fund	ty of 7 ded)														
Deliveries							E		SHO	MD-3/4		EMD-		EMD-	4	1 1	RIP I		۷	2	LRII						Just	:::·

CLASSIFICATION:

UNCLASSIFIED

Exhibit R-4a, Schedule Detail					DATE:				
	 					February 2006	<u> </u>		
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEN			PROJECT NUMBER AND NAME					
RDT&E, N / BA-7	0305204N Taction	cal Unmanned Aer	ial Vehicles	2768 VTUAV					
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Acquisition Milestones									
VTUAV EMD (MQ-8B)	1Q-4Q	1Q-4Q	1Q-4Q	1Q-2Q					
Mission System System Requirements Review (MS SRR)	1Q								
Air Vehicle Critical Design Review (AV CDR)	2Q								
Mission System Preliminary Design Review (MS PDR)	2Q								
Mission System Critical Design Review (MS CDR)	4Q								
Integrated Baseline Review (IBR)	4Q								
Milestone C			1Q						
Initial Operating Capability (IOC)				4Q					
Block Upgrade Planning				2Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q		
Full Rate Production (FRP)					1Q				
Test & Evaluation Milestones									
DT IIB	1Q-4Q	1Q-4Q	1Q-4Q						
Combined DT/OT IIB			4Q	1Q-2Q					
OPEVAL				2Q-4Q					
Production Milestones									
2 EMD MQ-8B Air Vehicles	3Q								
3 EMD MQ-8B Air Vehicles	300	2Q							
2 EMD MQ-8B Air Vehicles (Congressional Plus-Up)		3Q							
3 LRIP I MQ-8B Air Vehicles (APN funded)		JQ	1Q						
5 LRIP II MQ-8B Air Vehicles (APN funded)			100	1Q					
3 LIVIE II ING-OD AII VEIIIGES (AFIVIUIIGEU)				102					
Delivery									
Air Vehicles EMD		4Q	2Q,4Q	_					
Air Vehicles EMD (Congressional Plus-Up)				2Q	10.00.15	10.00			
Air Vehicles LRIP (APN funded)				4Q	1Q-2Q, 4Q	1Q-3Q			
				+	<u> </u>				

Exhibit R-2, RDTEN Budget Item Justification

UNCLASSIFIED
R-1 SHOPPING LIST - 202

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AND	NAME		PROJECT NUMBE	R AND NAME		
RDT&E, N / BA-7	0305204N Tactical	Unmanned Aerial	Vehicles	logy Center/System	s Integration Lab			
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
2910 Joint Technology Center/Sys Integ Lab		1.590	1.634	1.670	1.710	1.744	1.779	1.817
RDT&E Articles Qty - Not Applicable				•				

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a center of technical excellence to support all Unmanned Air Vehicle (UAV) programs within the services. The mission includes Service-specific and Joint Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance (C4ISR) programs throughout DoD. The JTC/SIL provides a Government test bed for rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaisance (C4ISR) optimization. The cornerstone of its diverse tool set is the Mulitiple Unified Simulation Environment (MUSE), which is the Department's simulation/training system of choice for ISR systems, sensors, and platforms.

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 C4ISR optimization within warfighting exercises and experiments.

It is the only simulation system used by the Combat Commanders and Joint Services to support command and battle staff C4ISR training; there is no alternative available to satisfy those requirements.

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 C4ISR optimization.

MUSE is currently in use within all services and unified commands simulating Predator, Global Hawk, Hunter, Shadow 200, 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 C4ISR 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. The MUSE is also used as a mission rehearsal tool for current on going military combat operations.

Additionally, the JTC/SIL supports a range of materiel developers, integrating prototypes and trainers into the C4ISR and training environments of supported units. The Tactical UAV (TUAV) ground station developed by the JTC/SIL includes an embedded MUSE trainer, and is planned to be incorporated into the VTUAV Ground Control Station (GCS). Interim training capabilities for the Tactical Exploitation System (TES) are currently employed in the joint exercises.

R-1 SHOPPING LIST - 202

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 20 of 43)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N	IAME
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	2910 Joint Technology Cent	er/Systems Integration Lab

B. Accomplishments/Planned Program

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.270	0.339	0.340
RDT&E Articles Quantity			

Laboratory Sustainment includes government management, contracts administration, cost accounting, configuration management, administrative support of the lab, MUSE architecture development, property management/accountability, and procurement of equipment.

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.820	0.795	0.830
RDT&E Articles Quantity			

MUSE Development - Initial development of VTUAV model, continued Common Trainer for current platforms, continue to provide C4ISR simulation support to major exercises and demonstrations, complete integration of Tactical Exploitation of National Capabilities (TENCAP) simulation into PC-based MUSE, complete development of virtual Signals Intelligence (SIGINT) platform, continue development of Laser Designator capability, continue upgrade for National Space Assets Enhancements, continue C4I Enhancements, continue initial Fixed Target Damage simulation.

	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	0.500	0.500	0.500
RDT&E Articles Quantity			

Maintenance, Licenses and Equipment Purchases includes the day-to-day maintenance of lab equipment, license maintenance and license renewals from vendors for individual pieces of equipment, purchases of equipment to support the MUSE, and purchases to upgrade the MUSE capability.

R-1 SHOPPING LIST - 202

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 21 of 43)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER ANI	February 2006
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		2910 Joint Technology C	enter/Systems Integration Lab
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 05	FY 06	FY 07	
Previous President's Budget:	1.591	1.659	1.662	
Current BES/President's Budget:	1.590	1.634	1.670	
Total Adjustments	-0.001	-0.025	0.008	
Summary of Adjustments Congressional Reductions Congressional Rescissions Congressional Undistributed Reduction	os -0.001	-0.017		
Congressional Increases Economic Assumptions Miscellaneous Adjustments		-0.008	0.008	
Subtotal	-0.001	-0.025	0.008	
Schedule:				
Not Applicable				
Technical:				
Not Applicable				
	D. A. OLI ODDINIO LIGIT.			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification		DATE:	
				February 2006
APPROPRIATION/BUDGET		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /	BA-7	0305204N Tactical Unmanned Aerial Vehicles	2910 Joint Technology Center/Systems Integrati	on Lab
D. OTHER PROGRAI	M FUNDING SUMMARY:			
Not Applicable				
E. ACQUISITION STRA	TEGY:			
Not Applicable				

CLASSIFICATION:

										DATE:						
Exhibit R-3 Cost Analysis (pag	ge 1)									February 2006						
APPROPRIATION/BUDGET ACTIV	ITY		PROGRAM EI	LEMENT				PROJECT N	JMBER AND	NAME		-				
RDT&E, N / BA-7			0305204N Tad		nanne	ed Aerial Vehic		2910 Joint Te	echnology Cen	nter/Systems Inte						
Cost Categories		Performing		Total			FY 05		FY 06		FY 07					
	Method	Activity &		PY s		FY 05	Award	FY 06	Award	FY 07	Award		Total	Target Value		
	& Type	Location		Cost		Cost	Date	Cost	Date	Cost	Date	Complete	Cost	of Contract		
Primary Hardware Development	MIPR	Redstone Ars	enal, AL		2.678	0.82	0 11/04	0.795	03/06	0.830	11/06	Continuing	Continuing			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
Subtotal Product Development					2.678	0.82	0	0.79	5	0.830)	Continuing				
Development Support	MIPR	Redstone Arser	nal, AL		1.900	0.50	0 11/04	0.500	03/06	0.500	11/06	Continuing	Continuing			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
													0.000			
Subtotal Support					1.900	0.50	0	0.500)	0.500		Continuing				
Remarks:																
	_			D 1 C	ЦОГ	DING LIST	202									

CLASSIFICATION:

										DATE:				1
Exhibit R-3 Cost Ana	alvsis (nage 3	2)								DATE.		February 200	16	
APPROPRIATION/BUD	GFT ACTIVITY	<u>'</u>		PROGRAM E	I EMENT			PROJECT NU	IMBER AND	NAME		1 Columny 200	, o	
RDT&E, N /	BA-7				ctical Unmanne	d Aerial Vehicl	es			ter/Systems Inte	egration Lab			
Cost Categories	Co M	ontract ethod Type	Performing Activity & Location		Total PY s	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
		71-										,	0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
													0.000	
Subtotal T&E					0.000	0.000		0.000		0.000)		0.000	
Government Engineering S	Support MI	IPR	Redstone Arse	nal, AL	0.990	0.270	11/04	0.339	03/06	0.340	11/06	Continuing	Continuing	
													0.000	
													0.000	
													0.000	
													0.000	
								1					0.000	
Subtotal Management					0.990	0.270		0.339		0.340)	Continuing	Continuing	
Remarks:														
Total Cost					5.568	1.590		1.634		1.670)	Continuing	Continuing	
Remarks:														

CLASSIFICATION:

Acquisition Milestones Test & Evaluation Milestones Provide MUSE support	EXHIBIT R4, Schedule																					DATE		F	ebrua	ıry 20	006		
Fiscal Year 2005 2006 2007 2008 2009 2010 2		T ACTIVI	TY																										
Fiscal Year 1 2 3 4 1 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 1 3 4 1 2 3	KUIGE, N / BA - /					03052	204N I	actical	Unma	innea i	Aeriai v	/enicie	es					2910	Joint I	ecnnoi	logy C	enter/s	System	is integ	gration	Lab			
Acquisition Milestones Feat & Evaluation Milestones Out A developers	Fiscal Year		20	05	ı		20	06			20	07	ı		20	80	ı		20	09	Π		20	110			20	11	Π
Test & Evaluation Milostones Provide MUSE support to UAV developers		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
Provide MUSE support to UAV developers	Acquisition Milestones																												
Provide MUSE support to UAV developers																													
Provide MUSE support to UAV developers																													
Provide MUSE support to UAV developers																													
Provide MUSE support to UAV developers																													
to UAV developers	Test & Evaluation Milestones																												
to UAV developers																													
to UAV developers																													
	Provide MUSE support to UAV developers																												
																					., -						,		

R-1 SHOUNCUSASSIFIED

(Exhibit R-2, page 26 of 43)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:	February 20				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM E	EMENT		PROJECT NU	IMBER AND N	AMF	00			
RDT&E, N / BA-7			Aerial Vehicles		chnology Center/Systems Integration Lab					
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011			
Concado Fromo	1 1 2000	1 1 2000	1 1 2001	1 1 2000	1 1 2000	1 1 2010	1 1 2011			
MUSE support to UAV developers	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q			

R-1 SHOPPING LIST - 202 UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 27 of 43)

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBE	ER AND NAME		
RDT&E, N / BA-7	0305204N Tactica	l Unmanned Aerial	Vehicles		3135 USMC VUAV	/		
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
3135 USMC VUAV			3.862					
RDT&E Articles Qty - Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The USMC Vertical Unmanned Aerial Vehicle (VUAV) will provide the Marine Corps a Tier III UAV supporting Marine Expeditionary Force (MEF) and Joint Task Force (JTF) level commanders with the required speed and survivability to support USMC Expeditionary Maneuver Warfare (EMW) operations. The system will build on Navy Vertical Takeoff and Landing Tactical UAV (VTUAV) and Coast Guard Eagle Eye technology. FY06 funds will support an Analysis of Alternatives (AoA) for a subsequent acquisition program.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	ion		DATE:
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	February 2006
DT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	3135 USMC VUAV	
B. Accomplishments/Planned Program			
	FY 05	FY 06	FY 07
Accomplishments/Effort/Subtotal Cost	1100	3.862	1107
RDT&E Articles Quantity			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:
·				February 2006
PPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND	NAME
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		3135 USMC VUAV	
C. PROGRAM CHANGE SUMMARY:				
Funding:	FY 05	FY 06	6 FY 07	
Previous President's Budget:	0.000	9.187		
Current BES/President's Budget:	0.000	3.862		
Total Adjustments	0.000	-5.325		
Summary of Adjustments				
Congressional Reductions		-5.187		
Congressional Rescissions		0.101		
Congressional Undistributed Reductions		-0.096		
Congressional Increases		0.000		
Economic Assumptions		-0.042		
Miscellaneous Adjustments			-7.994	
Subtotal	0	-5.325	-7.994	
Schedule:				
Current schedule reflects new Analysis of Alte	natives (AoA). Due to program restructuring, othe	activities i	dentified in PR06 submit we	ure eliminated
Current scriedule reflects new Analysis of Alter	matives (AOA). Due to program restructuring, other	activities it	dentined in 1 boo submit we	ne eminiated.
Technical:				
Not Applicable				
	D 4 OLIOPPINO LIGT O			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification		DATE:	
				February 2006
APPROPRIATION/BUDGE		PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /	BA-7	0305204N Tactical Unmanned Aerial Vehicles	3135 USMC VUAV	
D. OTHER PROGR	AM FUNDING SUMMARY:			
Not Applicable				
E. ACQUISITION STR	RATEGY:			
Conduct a follow-	on Analysis of Alternatives (AoA) f	for the current Marine Corps Pioneer UAV.		

CLASSIFICATION:

ntract Per		0305204N Tac				IDRO IECT NI	IMPED AND	NAME		February 200	6	
ntract Per	erforming	0305204N Tac				R-3 Cost Analysis (page 1) PRIATION/BUDGET ACTIVITY PROGRAM ELEMENT PROJECT NUMB						
thod Act	erforming		0305204N Tactical Unmanned Aerial Vehicles				JMREK AND I	NAIVIE				
thod Act	erforming			d Aerial Vehicle		3135 USMC						
thod Act			Total		FY 05		FY 06		FY 07			
ype Loc	clivity &		PY s	FY 05	Award	FY 06	Award	FY 07	Award		Total	Target Value
	ocation		Cost	Cost	Date	Cost	Date	Cost	Date	Complete		of Contract
							-				0.000	
							1					
							1					
							1					
			0.000	0.000		0.00	O	0.000		0.000	0.000	
о тві	BD.					3 600	04/06				3 600	
, ,,,,,						0.00	0.,00					
			0.000	0.000		3.60)	0.000				
) TE	D TBD	TBD	D TBD	D TBD	D TBD	D TBD 3.600 0.000 0.000 3.600	0 TBD 3.600 04/06	D TBD 3.600 04/06 3.600 04/06 3.600 0.000 3.600 0.000	D TBD 3.600 04/06	D TBD 3.600 04/06	D TBD 3.600 04/06 3.600 0.000

CLASSIFICATION:

								DATE:				
Exhibit R-3 Cost Analysis (pag	je 2)									February 200	06	
APPROPRIATION/BUDGET ACTIV	ITY	PROGRAM	ELEMENT			PROJECT NU	IMBER AND	NAME				
RDT&E, N / BA-7		0305204N T	actical Unmanne	ed Aerial Veh		3135 USMC \						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 05 Cost	FY 05 Award Date	FY 06	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
	и туре	Location	COSt	0031	Date	COST	Date	Cost	Date	Complete	0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
											0.000	
Subtotal T&E			0.000	0.0	00	0.000		0.0	00		0.000	
	ı		_	_		I	Г	ı			1	
Government Engineering Support	WX	NAWCAD, Pax River, MD				0.130	02/06				0.130	
Program Management Support	TBD	TBD				0.132	02/06				0.132	
											0.000	
											0.000	
									+		0.000	
Subtotal Management			0.000	0.00	00	0.262		0.0	00	0.000		
Remarks:												
Total Cost			0.000	0.0	00	3.862		0.0	00	0.000	3.862	
Remarks:												

CLASSIFICATION:

EXHIBIT R4, Schedule F	Profile																				DATE	<u>:</u>						
APPROPRIATION/BUDGET	ACTIVI	TY			PROG												PROJ				D NAM	1E	F	ebrua	iry 20	06		
RDT&E, N / BA - 7					03052	204N T	actical	Unma	inned A	\erial \	/ehicle	s					3135	USMC	VUAV		1							
Fiscal Year		20	05			20	06			20	07			200	08			20	09			20	10			20	11	
	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						\triangle	Ao	Α																				
Test & Evaluation Milestones																												
																							Budg		_			

R-1 SHOUNGUSASSIFIED

(Exhibit R-2, page 34 of 43)

CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE:		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM EI	_EMENT		PROJECT NU	JMBER AND N	February 20 AME	06
Schedule Profile	FY 2005	FY 2006	FY 2007		FY 2009	FY 2010	FY 2011
Analysis of Alternatives		2Q-4Q	1Q				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification	n						DATE:	
•							Februa	ry 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER ANI	O NAME		PROJECT NUMBE	ER AND NAME		
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles 9650 Advanced Airship Flying Laborate						ntory	
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9650 Advanced Airship Flying Lab								
RDT&E Articles Qty - Not Applicable								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add of \$3.0M, less \$.029M Congressional undistributed reductions. The Navy needs efficient airborne platforms for the development and test of transformational airborne sensors and platforms. Airships boast very low cost-per-hour operation and can economically support those portions of flight-testing that concentrate on sensor performance (vice platform integration).

Develop an airship-based platform for affordable testing of transformational airborne sensors in a stable, vibration-free, laboratory-like environment. Conduct initial capability studies for development of a modernized naval airship featuring contemporary composites, digital flight controls, vectored thrust and remote piloted capabilities that can provide immediate utility for missions requiring heavy lift (logistics and/or sensor suites), long endurance (measured in days vs. hours), and persistent broad-area Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems.

The FY 2006 Congressional add for Advanced Airship Flying Laboratory Phase II is reflected in project 9999.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justifica				DATE:	Falaminami, 2000		
					February 2006		
ROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBE	R AND NAME	PROJECT NUMBER AND N	IAME			
T&E, N /BA-7	0305204N Tactical Unmanned	Aerial Vehicles	9650 Advanced Airship Flying Laboratory				
Assessment Colonia and December 1							
Accomplishments/Planned Program							
		FY 05	FY 06	FY 07			
Accomplishments/Effort/Subtotal Cost		2.650					
RDT&E Articles Quantity							
•					.		
Develop new technologies to advance moderr	n airships, such as digital automated fligl	ht controls, bow thru	sters, and heavy fuel engines.				
Develop new technologies to advance moderr	n airships, such as digital automated fligl						
	n airships, such as digital automated fligl	FY 05	sters, and heavy fuel engines.	FY 07			
Accomplishments/Effort/Subtotal Cost	n airships, such as digital automated fligl			FY 07			
	n airships, such as digital automated fligi	FY 05		FY 07			
Accomplishments/Effort/Subtotal Cost	n airships, such as digital automated fligh	FY 05		FY 07			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		FY 05		FY 07			
Accomplishments/Effort/Subtotal Cost		FY 05		FY 07			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		FY 05		FY 07			
Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		FY 05		FY 07			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	Falamana 2000
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER ANI	NAME	February 2006
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		9650 Advanced Airship F		
ROTAL, N / DA-1	03032041V Tactical Offinalified Aerial Verlicles		9000 Advanced Alisinp i	iying Laboratory	
C. PROGRAM CHANGE SUMMARY:					
Funding:	FY 05	FY 06	FY 07		
Previous President's Budget:	2.972	0.000	0.000		
Current BES/President's Budget:	2.971				
Total Adjustments	-0.001	0.000	0.000		
Summary of Adjustments Congressional Reductions					
Congressional Rescissions Congressional Undistributed Reductions Congressional Increases	-0.002				
Economic Assumptions	0.004				
Miscellaneous Adjustments Subtotal	0.001 -0.001	0.000	0.000		
Subitital	-0.001	0.000	0.000		
Schedule:					
Not applicable					
Technical:					
Not Applicable					
	D. A. GUIGODONIG LIGHT				

CLASSIFICATION:

EXHIBIT R-2a, RDT&E	Project Justification		- In	ATE:
EXHIBIT IX 2a, IXDTAL	r roject dustineation			February 2006
APPROPRIATION/BUDGET	ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAM	1E
RDT&E, N /	BA-7	0305204N Tactical Unmanned Aerial Vehicles	9650 Advanced Airship Flying L	
,		possesse in ruseissa erimainea rienai veneiss		
D. OTHER PROGRAI	M FUNDING SUMMARY:			
Not Applicable				
E. ACQUISITION STRA	ATEGY:			
Not Applicable				

CLASSIFICATION:

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE:	
							Februa	ry 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEM	ENT NUMBER AN	D NAME		PROJECT NUMBE	R AND NAME	•	
RDT&E, N / BA-7	0305204N Tactica	l Unmanned Aerial	Vehicles		9999, Congression	al Adds		
COST (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
9999 Congressional Adds			24.700					
RDT&E Articles Qty			2 *					

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Adds.

Joint Operational Test Bed System (JOTBS) (\$3.0M)

The Joint Operational Test Bed System is an experimental, ground-based control system that is designed to fly, operate and receive data from all the services; individual UAVs from a single interface.

Fire Scout RQ-8B (MQ-8B) (\$17.0M)

The Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) was designed to provide 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 VTUAV can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting and laser designation, and battle management (including communications relay). The VTUAV launches and recovers vertically and can operate from all air capable ships as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, and the ability to incorporate Electro-Optical/Infrared/Laser Designator-Laser Range Finder modular mission payload. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, through implementation of NATO Standardization Agreement (STANAG) 4586 and through the use of the Tactical Common Data Link (TCDL). The data from the VTUAV will be provided through standard DoD Command, Control, Communications, Computers and Intelligence Surveillance, and Reconnaissance (C4ISR) system architectures and protocols.

A program to continue development of the VTUAV to meet the Littoral Combat Ship (LCS) mission requirements was initiated in FY04. Engineering and Manufacturing Development (EMD) is continuing in FY07 and will include design activities for system upgrades, and TCS integration. Fabrication of the RQ-8A LRIP 1 system was completed in FY03. Procurement of two EMD MQ-8B Air Vehicles was initiated in FY04, two additional EMD MQ-8B Air Vehicles initiated in FY05, and five EMD MQ-8B Air Vehicles will be initiatied in FY06. Two of the five articles initiated in FY06 are funded by this Congressional plusup, and identified in this exhibit.

* These quantities are also reflected in project 2768 for display purposes. The total quantity in FY06 is 5 air vehicles.

Center for Coastline Security Technology (\$2.2M)

Congressional Add in RDTE,N for the Coastline Security Technology Initiative that is only for continuation of work with the Institute for Ocean and Systems Engineering to develop surface and airborne autonomous and remotely operated platform surveillance systems for deployment along US Coastlines.

Advanced Airship Flying Laboratory Phase II (\$2.5M)

Capability studies for development of a modernized naval airship featuring contemporary composited, digital flight controls, vectored thrust and remote piloted capabilities that can provide immediate utility for missions requiring heavy lift (logistics and/or sensor suites), long endurance (measured in days vs. hours), and persistent broad-area Intelligence, Surveillance, and Reconnaissance (ISR).

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justificat	ion		DATE: February 2006	
PROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND N		
T&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		, with	
Tae, N / BA-/	0305204N Tactical Offmanned Aerial Venicles	9999 Congressional Adds		
Accomplishments/Planned Program				
2478	FY 05	FY 06	FY 07	
Accomplishments/Effort/Subtotal Cost		3.000		
RDT&E Articles Quantity				
Joint Operational test bed systems. Continue	JOTBS enhancements and support of UAV experimentation	n.		
0700	EV 05	EV 00	EV 07	
2768 Accomplishments/Effort/Subtotal Cost	FY 05	FY 06	FY 07	
RDT&E Articles Quantity		17.000		
·	· · · · · · · · · · · · · · · · · · ·			
	ntal procurement, development, and integration of VTUAV	EMD MQ-8B Air Vehicles to suppo	rt the Engineering and Manufacturing	
Development (EMD) program. 9432	ntal procurement, development, and integration of VTUAV	FY 06	rt the Engineering and Manufacturing FY 07	
Development (EMD) program. 9432 Accomplishments/Effort/Subtotal Cost				
Development (EMD) program. 9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity		FY 06 2.200	FY 07	ce
Development (EMD) program. 9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with	FY 05	FY 06 2.200	FY 07	ce
9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with systems for deployment along US Coastlines.	FY 05	FY 06 2.200	FY 07	се
9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with systems for deployment along US Coastlines.	FY 05 h the Institute for Ocean and Systems Engineering to deve	FY 06 2.200 op surface and airborne autonomo	FY 07 us and remotely operated platform surveillan	ce
9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with systems for deployment along US Coastlines.	FY 05 h the Institute for Ocean and Systems Engineering to deve	FY 06 2.200 op surface and airborne autonomo	FY 07 us and remotely operated platform surveillan	се
9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with systems for deployment along US Coastlines. 9650 Accomplishments/Effort/Subtotal Cost	FY 05 h the Institute for Ocean and Systems Engineering to deve	FY 06 2.200 op surface and airborne autonomo	FY 07 us and remotely operated platform surveillan	се
9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with systems for deployment along US Coastlines. 9650 Accomplishments/Effort/Subtotal Cost	FY 05 h the Institute for Ocean and Systems Engineering to deve	FY 06 2.200 op surface and airborne autonomo	FY 07 us and remotely operated platform surveillan	се
9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with systems for deployment along US Coastlines. 9650 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 05 In the Institute for Ocean and Systems Engineering to deve	FY 06 2.200 op surface and airborne autonomo FY 06 2.500	FY 07 us and remotely operated platform surveillan FY 07	
9432 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Office of Naval Research (ONR) is working with systems for deployment along US Coastlines. 9650 Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity	FY 05 h the Institute for Ocean and Systems Engineering to deve FY 05 FY 05 Continue the development of new technologies to advance in	FY 06 2.200 op surface and airborne autonomo FY 06 2.500	FY 07 us and remotely operated platform surveillan FY 07	

R-1 SHOPPING LIST - 202

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification				DATE:	
					February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AN	D NAME	
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles		9999 Congressional Add	S	
C. PROGRAM CHANGE SUMMARY:					
Funding: Previous President's Budget: Current BES/President's Budget: Total Adjustments	FY05	FY 06 0.000 24.700 24.700			
Summary of Adjustments Congressional Reductions Congressional Rescissions Congressional Undistributed Reduction Congressional Increases Economic Assumptions Miscellaneous Adjustments Subtotal		24.700			
Schedule:	0.000	24.700	0.000		
Not applicable					
Technical: Not applicable					
	R-1 SHOPPING LIST - 2	00			

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:
			February 2006
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NA	AME
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	9999 Congressional Adds	
D. OTHER PROGRAM FUNDING SUMMARY:			
Not Applicable			
E. ACQUISITION STRATEGY:			
Not Applicable			
	D. 4. CHODDING LICT. 202		