EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7						R-1 ITEM NOMENCLATURE 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV)		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Total PE Cost	97.113	158.212	275.823	315.805	271.902	222.082	170.435	
3178 UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)	97.113	158.212	268.542	269.531	205.139	133.493	85.549	
3191 UCAS TECHNOLOGY MATURATION			7.281	46.274	66.763	88.589	84.886	

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) CV-DEMO: The 2005 Quadrennial Defense Review (QDR), published February 2006, the FY07 President's Budget and USD (AT&L), supported direction to restructure the J-UCAS program and fund a new Navy UCAS program in its place. The Navy was directed to demonstrate carrier operations of a Low Observable (LO) Unmanned Combat Air System. This direction forms the foundation of the Navy's UCAS demonstration (Navy UCAS-D) program.

The purpose of the Navy UCAS-D program is to conduct carrier demonstrations of an unmanned combat air system with Low Observable (LO) planform(s). The UCAS-D will be structured to match program resources to United States Navy (USN) objectives/constraints with the goals of identifying and maturing critical technologies and reducing the risk of carrier integration of a UCAS. The data developed will support a follow-on acquisition milestone decision.

The Navy UCAS-D is comprised of a LO planform Air Vehicle Segment and a Mission Control Segment (MCS). The Navy UCAS will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area (CCA). The scope of the Navy UCAS-D effort includes design, development, integration, and validation of an unmanned, LO planform Air Vehicle Segment and MCS in the landscaped and shipboard environments. Additional evaluations will be conducted to investigate MCS interfaces with shipboard systems such as primary flight control (PRI-FLY) displays, Landing Safety Officer (LSO) displays, and Carrier Air Traffic Control Center (CATCC) stations. System Development and Demonstration (SDD) funding is not covered, nor described in this exhibit.

(U) UCAS TECHNOLOGY MATURATION: The Navy Unmanned Combat Air System (N-UCAS) program is an Advanced Development effort. Part of the effort is the UCAS-D endeavor that is designed to conduct CV shipboard demonstration and risk reduction of CV based critical technologies. The Navy UCAS-D system includes an unmanned Low Observable (LO) planform Air Vehicle Segment and Mission Control Segment (MCS). The system will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area. The scope of the technology maturation efforts for N-UCAS includes modeling, simulation, and analysis and development of technologies to evolve required technologies to a Technology Readiness Level (TRL)-6. Technology areas include transformational communications, integrated propulsion, CV suitable material, LO sensor and apertures, sense and avoid functionality (all operating in a LO environment), autonomous operations (software algorithms and interfaces), and computer resource data storage and access systems.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	R-1 ITEM NOMENCLATURE 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV)

B. PROGRAM CHANGE SUMMARY

Funding:	FY 2007	FY 2008	FY 2009
Previous President's Budget:	99.622	161.665	273.617
Current President's Budget:	97.113	158.212	275.823
Total Adjustments	-2.509	-3.453	2.206

Summary of Adjustments			
Congressional Reductions			
Congressional Rescissions			
Congressional Undistributed Reductions	-2.509	-1.028	
Congressional Increases			
Economic Assumptions			-0.264
Miscellaneous Adjustments		-2.425	2.470
Subtotal	-2.509	-3.453	2.206

Schedule: The PB08 schedule profile for Project Unit 3178 was a Program Office Estimate developed at the time of RFP release. The PB09 schedule profile for Project Unit 3178 has been updated based on the awarded contract. Specifically, the aircraft development & integration has been adjusted based on the contracted effort. Land-based testing has been split into airworthiness testing and land based catapult & arresting testing as per the awarded contract. Likewise sea trial have been adjusted as per the contract. Additional detail has been added to the ship integration tasks. Specifically, shipboard display development & integration, along with air traffic control console integration tasks have been added to the schedule.

The schedule profile and detail were added for Project Unit 3191, UCAS Technology Maturation. The schedule has been adjusted based on funding profile changes starting in FY09 and continuing through FY13.

Technical:Not Applicable

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/P	PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3178 UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)	97.113	158.212	268.542	269.531	205.139	133.493	85.549	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy UCAS-D program is an Advanced Development effort, designed to conduct shipboard demonstration and risk reduction. The Navy UCAS-D system includes an unmanned LO planform Air Vehicle Segment and Mission Control Segment (MCS). The Navy UCAS-D system will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area. The scope of the Navy UCAS-D effort includes design, development, integration and validation of an unmanned, LO planform Air Vehicle Segment and MCS in the landbased and shipboard environments. Additional evaluations will be conducted to investigate MCS interfaces with shipboard systems such as primary flight control (PRI-FLY) displays, Landing Safety Officer (LSO) displays and Carrier Air Traffic Control Center (CATCC) stations. As a research and development demonstration effort, SDD funding is not covered or described in this exhibit.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Product Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	89.927	149.527	257.597
RDT&E Articles Qty			

The primary effort in the Navy UCAS-D program is design, development, integration and validation of hardware/software leading to a Carrier Demonstration of an unmanned, LO planform UCAS system no later than FY13. Effort includes: design, development, integration, and validation of the Navy UCAS-D system, integration of Government Furnished Equipment (GFE), and development of internal/external interface documents. In addition, design and development of hardware/software to support Automated Air Refueling (AAR) will be conducted. Shipboard evaluation of the Navy UCAS-D system includes integration of the UCAS-D system with shipboard systems such as PRI-FLY displays, LSO displays and CATCC stations. Shipboard research and development efforts include establishment and evaluation of launch/recovery envelopes.

Management	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	6.938	6.045	7.875
RDT&E Articles Qty			

Government engineering support, program office travel, government program management support, and contract support services.

Test and Evaluation Support	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost	.248	2.640	3.070
RDT&E Articles Qty			

Perform test and evaluation of Navy UCAS-D system. Efforts include detailed test and evaluation plan development, test site facility preparation, system integration, ground and flight test execution and reporting, and carrier at sea test planning.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/P	PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY:

In December 2005, the Department directed funding of the Navy Unmanned Combat Air System (Navy UCAS) Program. The primary goal is risk reduction for carrier integration and maturation of critical technologies, while developing the critical data necessary to support a potential follow on acquisition milestone decision. The Navy UCAS program will transition JUCAS technologies and designs developed under DARPA/USAF Other Transaction Agreements, toward the demonstration of a carrier based unmanned combat air system. The UCAS-D effort will focus on designing, developing, and evaluating the core capabilities which safely demonstrate carrier interoperability. Primary hardware development for the UCAS-D effort will be performed under a FAR-based, cost plus incentive fee-type contract competitively awarded to a single contractor.

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO DEV				PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Air Ship Integration	C/CPFF	Rockwell/AFRL		3.590	Jan 2007	1.010	Dec 2007	3.200	Dec 2008	2.000	9.800	9.800
Air Ship Integration	C/CPFF	ARINC ENGIN. SERV, LLC, ANNAPOLIS, MD		1.504	Nov 2006	1.600	Nov 2007	1.650	Nov 2008	4.928	9.682	9.682
Air Ship Integration	C/CPFF	Honeywell International Inc.		.684	Jan 2007	1.130	Jan 2008	.650	Dec 2008	3.540	6.004	6.004
Air Ship Integration	C/FFP	L-3 Communications Titan Corp		1.408	Mar 2007	3.626	Dec 2007	3.293	Dec 2008	1.232	9.559	9.559
Air Ship Integration	WX	NAWCAD, PATUXENT RIVER MD		3.892	Nov 2006	4.440	Jan 2008	4.465	Nov 2008	Continuing	Continuing	
Air Ship Integration	WX	SPAWARSYSCOM CHARLESTON SC		.513	Nov 2006	.623	Jan 2008	.555	Nov 2008	Continuing	Continuing	
Air Ship Integration	VARIOUS	VARIOUS		1.958	Jul 2007	2.921	Dec 2007	2.387	Dec 2008	7.366	14.632	14.632
Automated Aerial Refueling	MIPR	Air Force Research Lab, Dayton, OH		2.500	Oct 2006						2.500	2.500
Primary Hdw Development	OTA	MCDONNELL DOUGLAS , SAINT LOUIS, MO		20.711	Oct 2006						20.711	20.711
Primary Hdw Development	OTA	NORTHROP GRUMMAN CORP, SAN DIEGO, CA		29.763	Oct 2006						29.763	29.763
Primary Hdw Development	C/CPIF	NORTHROP GRUMMAN CORP, SAN DIEGO, CA		19.589	Aug 2007	129.012	Nov 2007	234.952	Nov 2008	729.679	1,114.070	1,114.070
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD		2.428	Nov 2006	3.000	Dec 2007	3.500	Nov 2008	Continuing	Conginuing	
Systems Eng	WX	NAWCWD, CHINA LAKE CA		1.102	Nov 2006	.900	Jan 2008	.617	Nov 2008	Continuing	Continuing	
Systems Eng	WX	SPAWARSYSCEN SAN DIEGO CA		.241	Dec 2006	.265	Dec 2007	.328	Dec 2008	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT				89.883		148.527		255.597		Continuing	Continuing	

Remarks:

SUPPORT												
Integrated Logistics Sup	WX	NAWCAD, PATUXENT RIVER MD		.044	Nov 2006	1.000	Dec 2007	2.000	Nov 2008	Continuing	Continuing	
SUBTOTAL SUPPORT				.044		1.000		2.000		Continuing	Continuing	

Remarks:

TEST & EVALUATION												
Dev Test & Eval	WX	NAWCAD, PATUXENT RIVER MD		.248	Nov 2006	2.640	Jan 2008	3.070	Nov 2008	Continuing	Continuing	
SUBTOTAL TEST & EVALUATION				.248		2.640		3.070		Continuing	Continuing	

Remarks:

MANAGEMENT												
Contractor Eng Sup	C-CPIF	ARINC ENGI SER, LLC, ANNAPOLIS, MD		.050	Nov 2006						.050	.050
Government Eng Sup	WX	NAWCAD, PATUXENT RIVER MD		3.000	Dec 2006	1.500	Nov 2007	2.650	Nov 2008	Continuing	Continuing	
Government Eng Sup	WX	NAWCWD, CHINA LAKE CA		.245	Dec 2006	.116	Nov 2007	.300	Nov 2008	Continuing	Continuing	
Program Mgmt Support	WX	NAWCAD, PATUXENT RIVER MD		1.563	Dec 2006	1.719	Nov 2007	2.100	Nov 2008	Continuing	Continuing	
Program Mgmt Support	WX	NAWCWD, CHINA LAKE CA		.245	Dec 2006	.269	Nov 2007	.272	Nov 2008	Continuing	Continuing	
Program Mgmt Sup - Contractor	C-CPIF	Bowhead Information Tech Services		1.835	Jul 2007	2.441	Dec 2007	2.553	Dec 2008		6.829	6.829
SUBTOTAL MANAGEMENT				6.938		6.045		7.875		Continuing	Continuing	

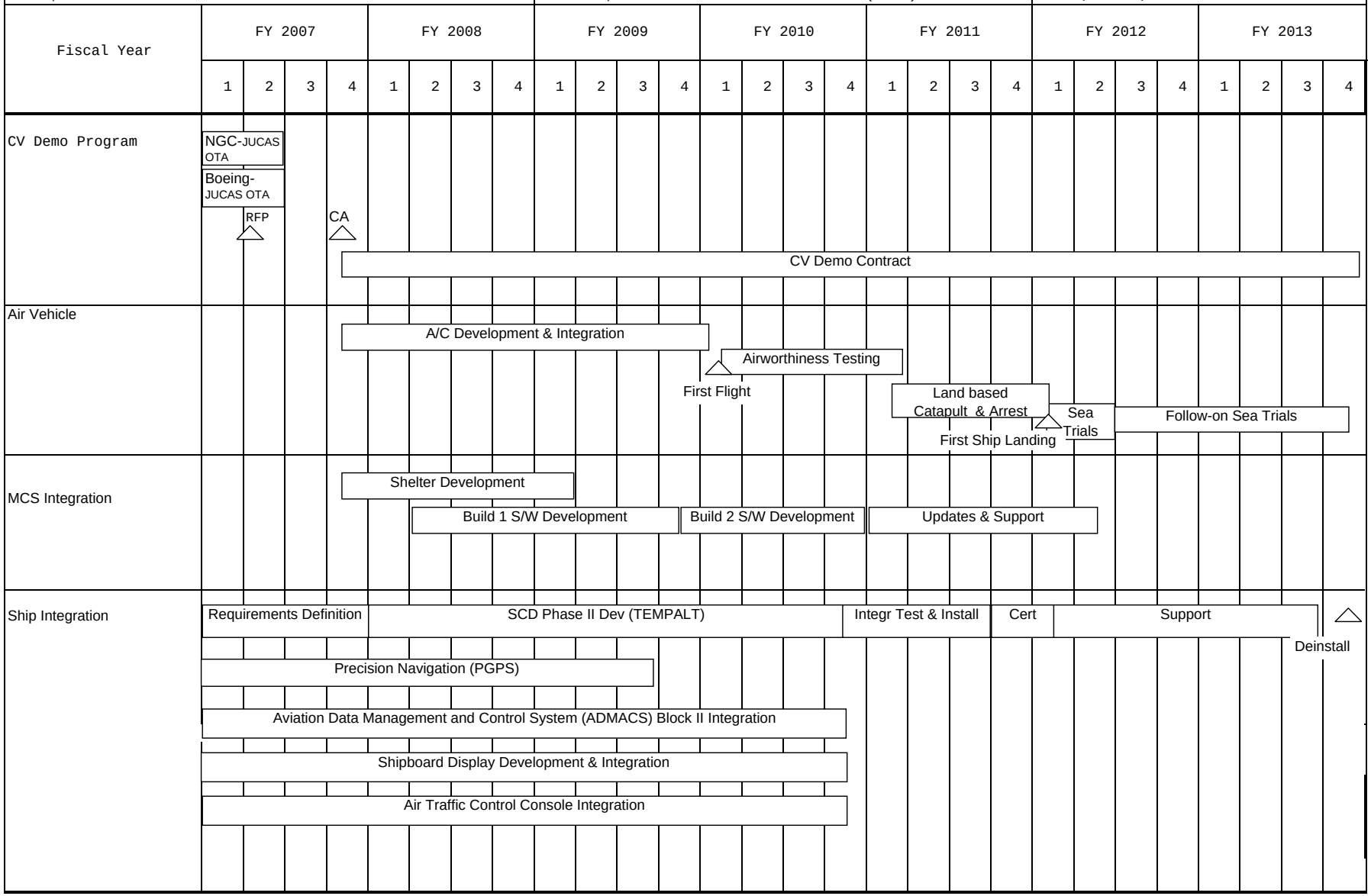
Remarks:

Total Cost				97.113		158.212		268.542		Continuing	Continuning	

EXHIBIT R4, Schedule Profile

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO	3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)



CLASSIFICATION:

Exhibit R-4a, Schedule Detail						DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO				PROJECT NUMBER AND NAME 3178, UNMANNED COMBAT AIR SYSTEM CV-DEMO (UCAS-D)			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Northrop Grumman- JUCAS OTA	1Q-2Q							
Boeing- JUCAS OTA	1Q-2Q							
UCAS CV Demonstration (UCAS-D) RFP Released	2Q							
CV Demo Contract Award	4Q							
CV Demo Contract	4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
A/C Development & Integration	4Q	1Q-4Q	1Q-4Q	1Q				
First Flight				1Q				
Airworthiness Testing				1Q- 4Q	1Q			
Land Based Catapult & Arresting Gear Testing					1Q- 4Q	1Q		
First Ship Landing						1Q		
Ship Based Testing						1Q-2Q		
Follow-on Sea Trials						3Q- 4Q	1Q-4Q	
MCS Shelter Development	4Q	1Q-4Q	1Q					
MCS Build 1 Software Development		2Q-4Q	1Q-4Q					
MCS Build 2 Softare Development			4Q	1Q-4Q				
Updates and Support					1Q - 4Q	1Q - 2Q		
Requirements Development/ SCD Phase II Dev (TEMPALT)/ Int test/Cert/CV Install/Support	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-3Q	
Deinstall							4Q	
Precision Navigation (PGPS)	1Q-4Q	1Q-4Q	1Q-3Q					
Aviation Data Management and Control System (ADMACS) Block II Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Shipboard Display Development & Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				
Air Traffic Control Console Integration	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q				

EXHIBIT R-2a, RDT&E Project Justification			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/P	PROJECT NUMBER AND NAME 3191, UCAS TECHNOLOGY MATURATION	

COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
3191 UCAS TECHNOLOGY MATURATION			7.281	46.274	66.763	88.589	84.886	
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy Unmanned Combat Air System (N-UCAS) program is an Advanced Development effort. Part of that effort is the UCAS-D endeavor that is designed to conduct CV shipboard demonstration and risk reduction of CV based critical technologies. The Navy UCAS-D system includes an unmanned Low Observable (LO) planform Air Vehicle Segment and Mission Control Segment (MCS). The Navy UCAS-D system will be designed for autonomous launch and recovery as well as operations in the Carrier Control Area. The scope of the technological maturation efforts for N-UCAS includes modeling, simulation, and analysis and development of technologies to evolve required technologies to a Technology Readiness Level (TRL)-6. Technology areas include transformational communications, integrated propulsion, CV suitable materials, LO sensors and apertures, sense and avoid functionality (all operating in a LO environment), autonomous operations (software algorithms and interfaces), and computer resource data storage and access systems. System Development and Demonstration (SDD) funding is not covered or described in this exhibit.

B. ACCOMPLISHMENTS / PLANNED PROGRAM:

Product Development	FY 2007	FY 2008	FY 2009
Accomplishments / Effort / Sub-total Cost			7.281
RDT&E Articles Qty			

A primary effort in the Navy Unmanned Combat Air System (UCAS) program is the identification and maturation of technologies required to support the demonstration of an unmanned, LO planform UCAS on an aircraft carrier. Technology maturation aligns with the Navy UCAS demonstration to evolve this capability to achieve the requirements outlined in the Joint Capabilities Enhancement Initial Capabilities Document. Modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs support the evaluation of alternatives needed to support a future milestone decision and subsequent entry into System Development and Demonstration (SDD).

C. OTHER PROGRAM FUNDING SUMMARY:

	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Complete	Total Cost
Not Applicable									

D. ACQUISITION STRATEGY:

In December 2005, the Department directed funding of the Navy Unmanned Combat Air System (Navy UCAS) Program. The primary goal of the Navy UCAS program is risk reduction of critical technologies needed to support a future milestone decision and subsequent entry into Systems Development and Demonstration (SDD). The Navy UCAS program will leverage technologies and efforts performed under the Defense Advanced Research Project Agency (DARPA) J-UCAS efforts in order to maintain consistent focus of those technologies and how they relate to the demonstration of a UCAS in a carrier environment. As part of this effort, individual contracts will be awarded either competitively or sole sourced in a firm fixed price or cost plus arrangement to evolve various technologies to meet the Technology Readiness Level (TRL)-6 to support the Advanced Development effort.

Exhibit R-3 Cost Analysis (page 1)									DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7		PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO DEV				PROJECT NUMBER AND NAME 3191, UCAS TECHNOLOGY MATURATION						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	TBD	TBD						3.613	Nov 2008	68.342	71.955	71.955
Systems Eng	WX	NAWCAD, PATUXENT RIVER MD						2.000	Nov 2008	Continuing	Continuing	
Systems Eng	VARIOUS	VARIOUS						1.551	Dec 2008		1.551	1.551
Systems Eng	WX	SPAWARSYSCEN SAN DIEGO CA						.117	Nov 2008	Continuing	Continuing	
SUBTOTAL PRODUCT DEVELOPMENT								7.281		Continuing	Continuing	

Remarks:

MANAGEMENT												
SUBTOTAL MANAGEMENT												

Remarks:

TEST & EVALUATION												
SUBTOTAL TEST & EVALUATION												

Remarks:

SUPPORT												
SUBTOTAL SUPPORT												

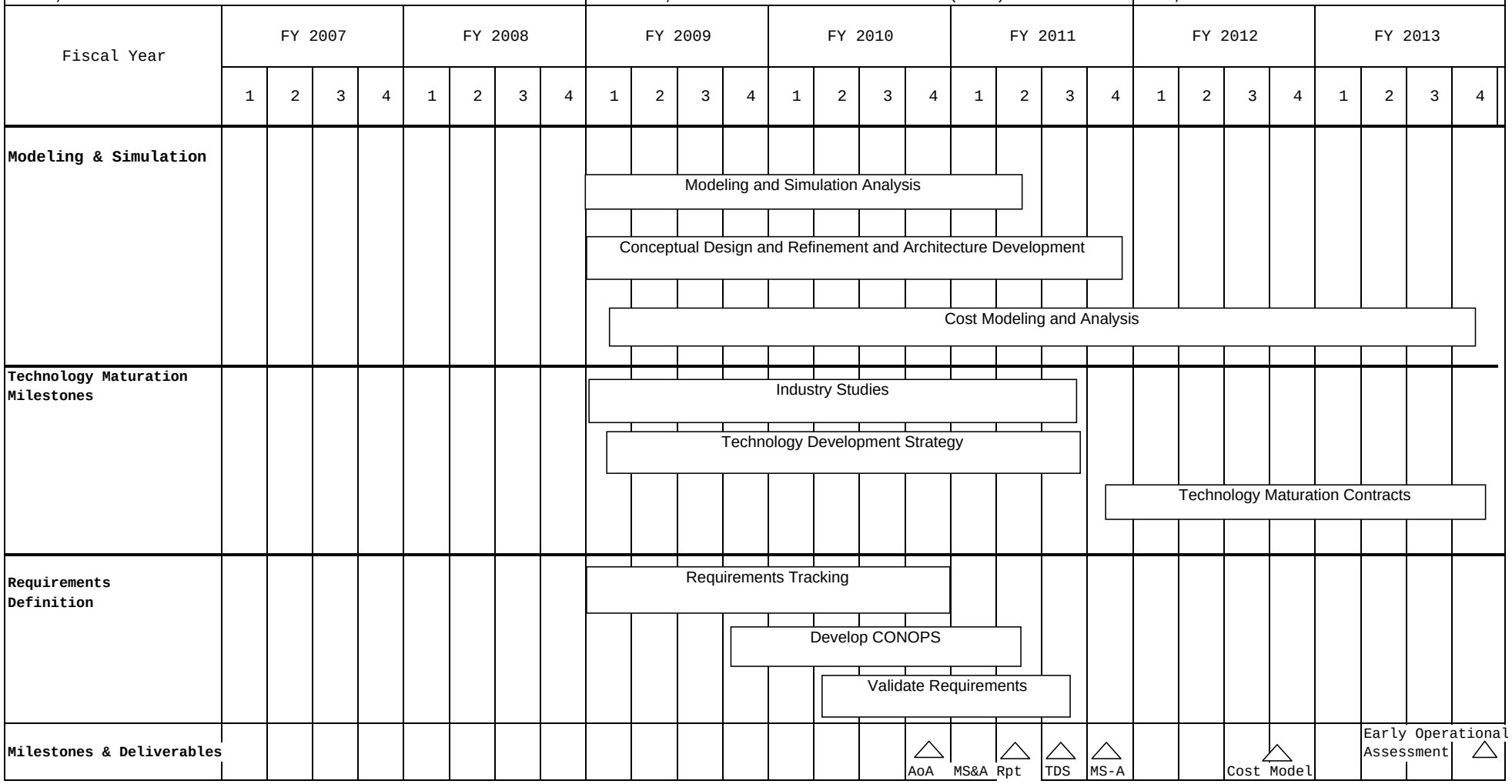
Remarks:

Total Cost								7.281		Continuing	Continuing	

CLASSIFICATION:

EXHIBIT R4, Schedule Profile | DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E,N / BA-7	0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO	3191, UCAS TECHNOLOGY MATURATION



CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E,N / BA-7	PROGRAM ELEMENT 0604402N, UNMANNED COMBAT AIR VEHICLE (UCAV) ADV CP/PROTO				PROJECT NUMBER AND NAME 3191, UCAS TECHNOLOGY MATURATION			
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	
Modeling and Simulation Analysis			1Q-4Q	1Q-4Q	1Q-2Q			
Conceptual Design, Refinement, & Architecture			1Q-4Q	1Q-4Q	1Q-4Q			
Cost Modeling and Analysis			1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q	
Industry Studies			1Q-4Q	1Q-4Q	1Q-3Q			
Technology Development Strategy			1Q-4Q	1Q-4Q	1Q-3Q			
Technology Maturation Contracts					4Q	1Q-4Q	1Q-4Q	
Requirements Tracking			1Q-4Q	1Q-4Q				
Develop Conops			4Q	1Q-4Q	1Q-2Q			
Validate Requirements				2Q-4Q	1Q-3Q			
Milestones & Deliverables:								
Analysis of Alternatives (AoA)				4Q				
Modeling Simulation & Analysis Report					2Q			
Technology Development Strategy (TDS)					3Q			
Milestone -A					4Q			
Cost Model						4Q		
Early Operational Assessment (EOA)							4Q	