Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*							
COST ($ in Millions)	**FY 2009 Actual**	**FY 2010 Estimate**	**FY 2011 Base Estimate**	**FY 2011 OCO Estimate**	**FY 2011 Total Estimate**	**FY 2012 Estimate**	**FY 2013 Estimate**	**FY 2014 Estimate**	**FY 2015 Estimate**	**Cost To Complete**	**Total Cost**
Total Program Element	5.743	9.662	6.452	0.000	6.452	6.522	6.616	6.760	6.867	Continuing	Continuing
2467: *UAV Conops*	5.743	5.955	4.791	0.000	4.791	4.837	4.896	5.002	5.071	Continuing	Continuing
2910: *Joint Tech Center/System Integ Lab*	0.000	1.715	1.661	0.000	1.661	1.685	1.720	1.758	1.796	Continuing	Continuing
9999: *Congressional Adds*	0.000	1.992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.992

A. Mission Description and Budget Item Justification

This PE funds efforts to develop Concept of Operations (CONOPS) in support of the Navy's overall UAS strategy that integrate UASs into the Chief of Naval Operations (CNO)/Navy Vision of Sea Power 21 (Sea Shield, Sea Strike, Sea Basing, and FORCEnet). Also funds Navy's contribution supporting the Joint Technology Center / System Integration Laboratory (JTC/SIL) providing experimentation for UAV technology assessment, insertion, demonstration, transfer, as well as simulation and exercise support.

In FY09 and prior, JTC/SIL is funded under PE 0305204N.

B. Program Change Summary ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	4.243	7.713	0.000	0.000	0.000
Current President's Budget	5.743	9.662	6.452	0.000	6.452
Total Adjustments	1.500	1.949	6.452	0.000	6.452
• Congressional General Reductions		-0.040			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.011			
• Congressional Adds		2.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	1.500	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Program Adjustments	0.000	0.000	6.452	0.000	6.452

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy	DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603261N: *Tactical Airborne Reconnaissance*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2009	FY 2010
Project: 9999: *Congressional Adds*		
Congressional Add: *Precision Engagement Technologies for Unmanned Systems*	0.000	1.992
Congressional Add Subtotals for Project: 9999	0.000	1.992
Congressional Add Totals for all Projects	0.000	1.992

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2467: *UAV Conops*	5.743	5.955	4.791	0.000	4.791	4.837	4.896	5.002	5.071	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Naval Unmanned Aircraft Systems (UAS) Strategy employs a family of UASs to perform tactical, persistent and - penetrating Intelligence, Surveillance, and Reconnaissance (ISR) in support of Naval and Joint missions from forward bases/platforms and naval ships.

UAV CONOPS - In support of the Navy's overall Unmanned Aerial System (UAS) strategy, this program develops Concept of Operations (CONOPS) that integrate UASs into the Chief of Naval Operations (CNO) Navy Vision of Sea Power 21 (Sea Shield, Sea Strike, Sea Basing, and FORCEnet). By providing fleet input based on current operations with UASs in a simulated combat environment, this CONOPS development investment is the foundation of how the Carrier Strike Group (CSG) and the Expeditionary Strike Group (ESG) will operate a combined Manned and Unmanned Naval Air Force. Specifically:
- Provides studies and demonstrations in support of the Naval UAS Family of Systems (FoS) CONOPS development.
- Horizontally integrates across the Naval UAS FoS for the Naval Aviatioin Enterprise through interoperability and common system solutions.
- Develops the Naval UAS FoS Architecture to support integration into USN battle space dominance operations and network centric warfare.
- Provides Naval support for development of Standards across DOD UASs and NATO, emphasizing standardization and interoperability.
- Conducts CONOPS studies, demonstrations, and exercises for Vehicle Control, Targeting, and weapons, sensor, and payload employment.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Studies and Demonstrations	2.100	0.664	0.885	0.000	0.885
Studies and demonstrations to develop CONOPS for manned-unmanned integration of UAS and aircraft systems. Build a UAS simulation environment for Modeling and Simulation and a repository of common UAS components in representative battlespace architectures. Design, manufacture, and integrate two Software Reprogrammable Payload - Lite units for the MQ-8 Firescout UAV.					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Developed Demonstration plans in coordination with Naval Sea Systems Command. Developed Memorandum of Agreement. Demonstrated the MQ-8 UAV Automatic Identification System on USS McInerney. *FY 2010 Plans:* Continue Studies and Demonstrations to further develop CONOPS for manned-unmanned integration of UAS and aircraft systems. Build a UAS simulation environment for Modeling and Simulation and a repository of common UAS components in representative battlespace architectures. *FY 2011 Base Plans:* Continue FY10 efforts and support the maintenance and continued development of the UAS simulation environment.					
Shipboard CONOPS Conduct studies, demonstrations, and exercises for data relay, comm relay, targeting, vehicle control, and weapons, sensor, and payload employment. *FY 2009 Accomplishments:* Developed Navy Interoperability profiles for UAS and common system development approach. *FY 2010 Plans:* Continue studies, demonstrations, and exercises for data relay, comm relay, targeting, vehicle control, and weapons, sensor, and payload employment. *FY 2011 Base Plans:* Continue FY10 efforts.	1.245	1.310	0.500	0.000	0.500
Engineering and Program Support	1.027	0.915	0.943	0.000	0.943

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Provide government engineering support, program office travel, and contract support services for OSD UAS task force and other services on common UAS solutions. *FY 2009 Accomplishments:* Providee Navy inputs to OSD UAS task force UAS common architecture. Led and managed subgroups for architecture and payload. *FY 2010 Plans:* Provide government engineering support, program office travel, and contract support services for OSD UAS task force and other services on common UAS solutions. *FY 2011 Base Plans:* Continue FY10 efforts.					
NATO STANAG and Interoperability Conduct CONOPS studies for interoperability and development of standards across UASs and NATO emphazing standardization and interoperability. Continue to develop Unmanned System Interoperability profiles and Navy implementation conventions Naval UAS FoS Architecture. *FY 2009 Accomplishments:* Developed Navy inputs for Unmanned Systems Interoperability Profile and follow-on revisions. Unmanned Systems Interoperability Profile (USIP) accepted into DoD Information Technology Standards and Profile Registry (DISR) and standardized processes used by UAS programs. Supported NATO STANAG Interoperability revisions, configuration management and provide leadership for standards development and generation of STANAG products.	1.371	1.158	1.163	0.000	1.163

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: Continue CONOPS studies for interoperability and development of standards across UASs and NATO emphazing standardization and interoperability. Continue to develop Unmanned System Interoperability profiles and Navy implementation conventions Naval UAS FoS Architecture. *FY 2011 Base Plans:* Continue FY10 efforts.					
Architecture Support /Common Ground Station Develop a Joint Service revision and configuration management of UAS interoperability profiles and Joint Common Ground Station Architecture and related government engineering support. *FY 2010 Plans:* Support the revision and configuration management of interoperability profiles and efforts to support development of a common ground station architecture. *FY 2011 Base Plans:* Continue FY10 efforts.	0.000	1.908	1.300	0.000	1.300
Accomplishments/Planned Programs Subtotals	5.743	5.955	4.791	0.000	4.791

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The program office will leverage existing Government facilities (e.g., Joint Technology Center/System Integration Laboratory (JTC/SIL)) and Naval UAS Program of Record assets (as available) to develop and demonstrate Naval UAS CONOPS. Government engineering support will be used for Modeling and Simulation (M&S) efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603261N: *Tactical Airborne Reconnaissance*	**PROJECT** 2467: *UAV Conops*

E. Performance Metrics

UAS operations and interoperability for systems delivered to the warfighter are continually improved upon increasing the level of integration, standardization and effective employment in maritime battle space dominance.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*

Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/FPI	AAI Hunt Valley, MD	2.800	0.000		0.000		0.000		0.000	0.000	2.800	2.800
Ship Integration	Various/ Various	Various Various	5.462	0.768	Nov 2009	0.782	Nov 2010	0.000		0.782	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD Pax River, MD	1.760	0.282	Nov 2009	0.290	Nov 2010	0.000		0.290	Continuing	Continuing	Continuing
		Subtotal	10.022	1.050		1.072		0.000		1.072			

Remarks

Primary Hardware Development contract type is SS/FPIF.

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various/ Various	Various Various	12.500	0.432	Feb 2010	0.433	Dec 2010	0.000		0.433	Continuing	Continuing	Continuing
Software Development	MIPR	JTC/SIL Redstone Arsenal, AL	2.250	1.908	Feb 2010	1.300	Feb 2011	0.000		1.300	Continuing	Continuing	Continuing
Studies & Analysis	WR	NAWCWD China Lake, CA	1.738	0.347	Dec 2009	0.351	Dec 2010	0.000		0.351	Continuing	Continuing	Continuing
Studies & Analysis	WR	NAWCAD	1.589	0.994	Dec 2009	0.403	Dec 2010	0.000		0.403	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Pax River, MD											
		Subtotal	18.077	3.681		2.487		0.000		2.487			

Remarks

Test and Evaluation ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability	WR	NAWCWD China Lake, CA	1.965	0.217	Dec 2009	0.220	Dec 2010	0.000		0.220	Continuing	Continuing	Continuing
		Subtotal	1.965	0.217		0.220		0.000		0.220			

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	Various/ Various	Various Various	3.997	0.614	Dec 2009	0.625	Dec 2010	0.000		0.625	Continuing	Continuing	Continuing
Program Management Support	Various/ Various	Various Various	1.735	0.358	Dec 2009	0.367	Dec 2010	0.000		0.367	Continuing	Continuing	Continuing
Travel	WR	NAVAIR HQ Pax River, MD	0.364	0.035	Oct 2009	0.020	Oct 2010	0.000		0.020	Continuing	Continuing	Continuing
		Subtotal	6.096	1.007		1.012		0.000		1.012			

Remarks

Travel contract type is TO.

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	36.160	5.955		4.791		0.000		4.791			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2467: *UAV Conops*

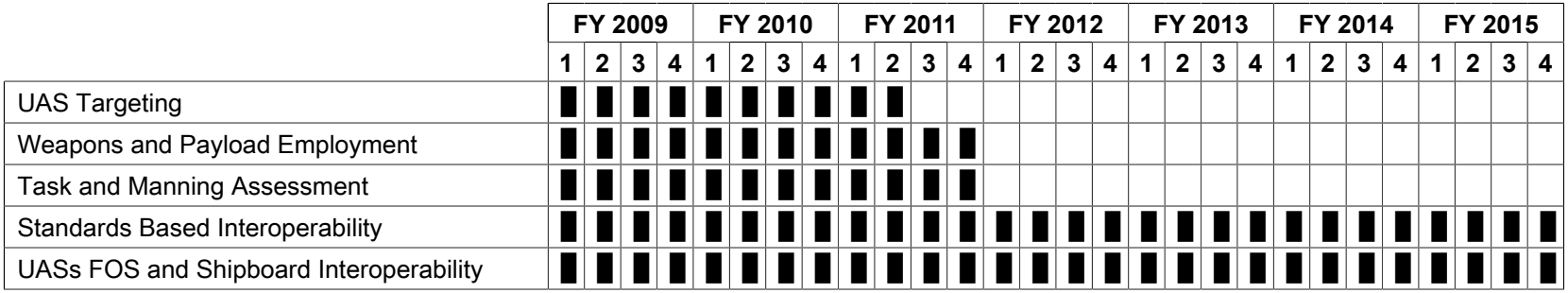

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603261N: *Tactical Airborne Reconnaissance*	**PROJECT** 2467: *UAV Conops*

Schedule Details

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
UAS Targeting	1	2009	2	2011
Weapons and Payload Employment	1	2009	4	2011
Task and Manning Assessment	1	2009	4	2011
Standards Based Interoperability	1	2009	4	2015
UASs FOS and Shipboard Interoperability	1	2009	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2910: *Joint Tech Center/System Integ Lab*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
2910: *Joint Tech Center/System Integ Lab*	0.000	1.715	1.661	0.000	1.661	1.685	1.720	1.758	1.796	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY09 and prior, JTC/SIL is funded under PE 0305204N.

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 Reconnaissance (C4ISR) optimization. The cornerstone of JTC/SIL's diverse tool set is the Multiple 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 (RQ-4), Hunter, and RQ-7 Shadow (MCTUAS) 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

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2910: *Joint Tech Center/System Integ Lab*

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 MQ-8 Ground Control Station (GCS). Interim training capabilities for the Tactical Exploitation System (TES) are currently employed in the joint exercises.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MUSE Development	0.000	0.843	0.779	0.000	0.779
The Multiple Unified Simulation Environment (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. *FY 2010 Plans:* Provides for the continued development of the VTUAV model, a Common Trainer for current platforms, C4ISR simulation to support 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, upgrade of National Space Assets Enhancements, C4I Enhancements, and initial Fixed Target Damage simulation. *FY 2011 Base Plans:* Continues those efforts ongoing but not yet completed from FY10.					
Engineering and Maintenance	0.000	0.500	0.500	0.000	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2910: *Joint Tech Center/System Integ Lab*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Maintenance, Licenses and Equipment Purchases to include 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. *FY 2010 Plans:* Provides for the continued maintenance and required equipment purchases and upgrades to support the MUSE. *FY 2011 Base Plans:* Continues the maintenance and upkeep of the MUSE facility.					
Program Management 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 2010 Plans:* Provides for the continued Laboratory Sustainment with government management and overhead support services, architecture development and equipment purchases. *FY 2011 Base Plans:* Continues Laboratory Sustainment with government management and overhead support services, architecture development and equipment purchases.	0.000	0.372	0.382	0.000	0.382
Accomplishments/Planned Programs Subtotals	0.000	1.715	1.661	0.000	1.661

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2910: *Joint Tech Center/System Integ Lab*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Established for the DoD family of UAVs as a center of technical excellence for tactical, medium altitude endurance and future UAVs to provide a cost-effective testbed for UAV technology assessment, insertion, demonstration, and transfer. JTC/SIL technical experts serve as facilitators of action for PEOs and UAV PMs as well as the respective users and prime contractors.

E. Performance Metrics

Improve the assessment of military utility, Tactics, Techniques and Procedures (TTPs) and C4ISR optimization through realistic training of command and battle staffs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2910: *Joint Tech Center/System Integ Lab*

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	MIPR	JTC/SIL Redstine Arsenal, AL	0.000	1.343	Feb 2010	1.279	Feb 2011	0.000		1.279	Continuing	Continuing	Continuing
		Subtotal	0.000	1.343		1.279		0.000		1.279			

Remarks

FY09 and prior JTC/SIL is funded under PE 0305204N.

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	MIPR	JTC/SIL Redstone Arsenal, AL	0.000	0.372	Nov 2009	0.382	Nov 2010	0.000		0.382	Continuing	Continuing	Continuing
		Subtotal	0.000	0.372		0.382		0.000		0.382			

Remarks

FY09 and prior JTC/SIL is funded under PE 0305204N.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2910: *Joint Tech Center/System Integ Lab*	

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.715		1.661		0.000		1.661			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 2910: *Joint Tech Center/System Integ Lab*

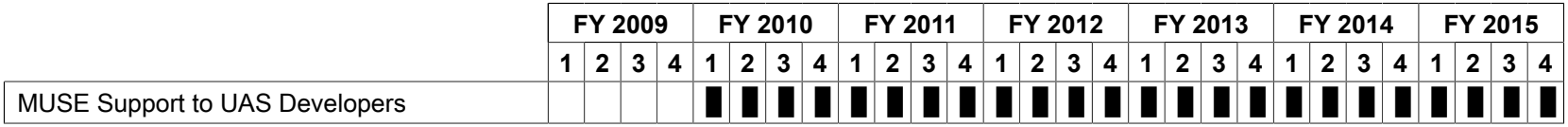

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603261N: *Tactical Airborne Reconnaissance*	**PROJECT** 2910: *Joint Tech Center/System Integ Lab*

Schedule Details

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
MUSE Support to UAS Developers	1	2010	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 9999: *Congressional Adds*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	1.992	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.992
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Add. Support development of the Precision Engagement Technologies Required for Unmanned Systems (PETRUS). The intent of PETRUS is to develop and implement the technologies required to compress the timeline associated with Finding, Fixing, Tracking, Targeting, Engaging and Assessing targets of interest.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010
Congressional Add: Precision Engagement Technologies for Unmanned Systems *FY 2010 Plans:* Develop, integrate, and demonstrate the necessary enabling technologies that will permit compression of the find and fix timeline. These technologies include: georegistration (high fidelity coordinates), sensor advancement, target tracking and targeting algorithms, system miniaturization and micro-munitions integration.	0.000	1.992
Congressional Adds Subtotals	0.000	1.992

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603261N: *Tactical Airborne Reconnaissance*	PROJECT 9999: *Congressional Adds*

E. Performance Metrics

Not required for Congressional Adds.