Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305205N *I (U)UAS Integration and Interoperability*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	-	41.831	-	41.831	40.847	20.795	17.759	11.394	Continuing	Continuing
3379: *Common Control System*	0.000	-	-	41.831	-	41.831	40.847	20.795	17.759	11.394	Continuing	Continuing

A. Mission Description and Budget Item Justification

This PE funds the Unmanned System (UxS) Common Control System (CCS). The primary mission of CCS is to provide common control across the Navy's UxS portfolio to add warfighting capability, eliminate redundant software development efforts, encourage innovation and improve cost control of unmanned systems. CCS provides the primary control system software for the Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System.

This program will define, develop and deliver a CCS to operate respective Naval Unmanned Air System (UAS) systems to include a common framework, user interface, and common components that will be integrated and tested with unique or legacy platform required components. CCS is being developed by the government and the first software increment will be provided to the UCLASS air system Prime Contractors as Government Furnished Equipment (GFE) to support the UCLASS Early Operational Capability/Initial Operational Capability (EOC/IOC). CCS will leverage existing government owned products as well as competitive procurements to support UCLASS, and will transition Triton (MQ-4), Fire Scout (MQ-8), and other UxS platforms as funding and schedule permit.

The CCS will provide an open software architecture, based on the OSD Unmanned Control Segment (UCS) Architecture, that is agile and scalable to evolving Service requirements and is supportive of affordable safety/airworthiness certification and Information Assurance (IA) certification. CCS will provide UxS Primary Mission Control, Mission Planning, Dynamic Airspace, External Messaging and Communication, Sensor Product Payload (Processing, Exploitation and Dissemination (PED)), Support Services, Infrastructure/Governance and a Decoupled Presentation Layer.

CCS is responsible for conducting systems engineering, development, integration, system-level test, fielding and life cycle support. CCS is the shore/ship/portable based mission planning and execution software component planned for Navy Group two through five UAS's. CCS will maintain configuration control to include responsibility for future upgrades, sustainment, and transition of other UAS.

The CCS Integrated Product Team (IPT) will be the Lead Systems Integrator (LSI) and, as such, will maintain Configuration Management (CM) of all CCS components to include Commercial-off-the-Shelf (COTS) infrastructure, common services and applications, unique services and applications, and presentation layer software. This also includes CM of CCS specifications and interfaces as appropriate. The CCS program will also perform testing and qualification of CCS components prior to delivery back to the platform program office for final integration and testing.

The CCS was budgeted in PE 0604404N: Unman Carrier Launch A/B Surv & Strike (UCLASS) Sys prior to FY16.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0305205N *I (U)UAS Integration and Interoperability*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	41.831	-	41.831
Total Adjustments	-	-	41.831	-	41.831
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	42.300	-	42.300
• Rate/Misc Adjustments	-	-	-0.469	-	-0.469

Change Summary Explanation

The Common Control System (CCS) was budgeted in PE 0604404N: Unman Carrier Launch A/B Surv & Strike (UCLASS) Sys prior to FY16. CCS Increment I development began 3Q2013.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305205N / *(U)UAS Integration and Interoperability*	Project (Number/Name) 3379 / *Common Control System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3379: *Common Control System*	-	-	-	41.831	-	41.831	40.847	20.795	17.759	11.394	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This PE funds the Unmanned System (UxS) Common Control System (CCS). The primary mission of CCS is to provide common control across the Navy's UxS portfolio to add warfighting capability, eliminate redundant software development efforts, encourage innovation and improve cost control of unmanned systems. CCS provides the primary control system software for the Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System.

This program will define, develop and deliver a CCS to operate respective Naval Unmanned Air System (UAS) systems to include a common framework, user interface, and common components that will be integrated and tested with unique or legacy platform required components. CCS is being developed by the government and the first software increment will be provided to the UCLASS air system Prime Contractors as Government Furnished Equipment (GFE) to support the UCLASS Early Operational Capability/Initial Operational Capability (EOC/IOC). CCS will leverage existing government owned products as well as competitive procurements to support UCLASS, and will transition Triton (MQ-4), Fire Scout (MQ-8), and other UxS platforms as funding and schedule permit.

The CCS will provide an open software architecture, based on the OSD Unmanned Control Segment (UCS) Architecture, that is agile and scalable to evolving Service requirements and is supportive of affordable safety/airworthiness certification and Information Assurance (IA) certification. CCS will provide UxS Primary Mission Control, Mission Planning, Dynamic Airspace, External Messaging and Communication, Sensor Product Payload (Processing, Exploitation and Dissemination (PED)), Support Services, Infrastructure/Governance and a Decoupled Presentation Layer.

CCS is responsible for conducting systems engineering, development, integration, system-level test, fielding and life cycle support. CCS is the shore/ship/portable based mission planning and execution software component planned for Navy Group two through five UAS's. CCS will maintain configuration control to include responsibility for future upgrades, sustainment, and transition of other UAS.

The CCS Integrated Product Team (IPT) will be the Lead Systems Integrator (LSI) and, as such, will maintain Configuration Management (CM) of all CCS components to include Commercial-off-the-Shelf (COTS) infrastructure, common services and applications, unique services and applications, and presentation layer software. This also includes CM of CCS specifications and interfaces as appropriate. The CCS program will also perform testing and qualification of CCS components prior to delivery back to the platform program office for final integration and testing.

The Common Control System was budgeted in PE 0604404N: Unman Carrier Launch A/B Surv & Strike (UCLASS) Sys prior to FY16.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Increment I	-	-	34.331	-	34.331

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305205N / *(U)UAS Integration and Interoperability*	**Project (Number/Name)** 3379 / *Common Control System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
Description: Common Control System (CCS) Increment 1 provides Unmanned Aviation Vehicle Command and Control (UAVC2) and Mission Management/Planning capability required to support UCLASS Air System (AS) prime vendor development, integration and test. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** FY16 plans include continuation of CCS Increment 1 software development, integration and test in support of UCLASS AS prime development. Effort will support integration and test of the CCS Inc 1 software baseline into the UCLASS Control System hardware instantiations (CVN/Land based) and the AS vendor's unique software capabilities/services. Effort will additionally ensure that maximum commonality and applicablity is maintained for continued transition of other UAS. ***FY 2016 OCO Plans:*** N/A					
Title: Increment II	-	-	7.500	-	7.500
Articles:	-	-	-	-	-
Description: CCS Increment II aligns the CCS UCLASS baseline with Triton (MQ-4C) Integrated Flight Capability (IFC), Unmanned Aviation Vehicle Command and Control (UAVC2), and Mission Management/ Planning capabilities. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305205N / *(U)UAS Integration and Interoperability*	**Project (Number/Name)** 3379 / *Common Control System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY16 plans include requirements identification, definition, analysis, Triton Mission Control System (MCS) migration trade study, and development of MCS migration plans. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	-	41.831	-	41.831

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN/0604404N: *UCLASS*	115.275	403.008	134.708	-	134.708	326.387	509.504	727.924	842.455	Continuing	Continuing

Remarks

D. Acquisition Strategy

PEO(U&W) issued an Acquisition Decision Memorandum (ADM) 5000 Ser PEO(U&W)/11-093 dated July 1, 2011 to establish the Common Control System (CCS) to achieve Unmanned Aircraft System (UAS) common control across Program Executive Office Unmanned Aviation and Weapon Systems (PEO(U&W)) UAS platforms to eliminate redundant efforts, encourage innovation and improve cost control of unmanned aviation. In coordination with the ADM the program will define, develop and deliver a common control system to operate respective naval Unmanned Systems (UxS)s. This will include a common framework, a common user interface and common components that will be integrated and tested with unique components on emerging or legacy platforms. CCS is being developed initially for the Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) Acquisition Category (ACAT) 1D program and will be provided to the air vehicle prime as Government-Furnished Equipment (GFE) to support the UCLASS Early Operational Capability/Initial Operational Capability (EOC/IOC). The CCS acquisition approach defines increments for each UAS platform that transitions to CCS. CCS will leverage existing government-owned products as well as employ competitive procurement vehicles to support UCLASS and will transition Triton, Firescout, and other UxS platforms as funding and schedule permit.

E. Performance Metrics

CCS uses a Service-Oriented Architecture based on the OSD Unmanned Control Segment architecture. CCS does not have its own Capability Development Document (CDD) but inherits the common requirements from each supported platform's CDD through the respective specification trees. CCS must therefore support the Key Performance Parameters , Measures of Suitability/Effectiveness , Concepts of Operations , etc., flowed down from each supported platform.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305205N / *(U)UAS Integration and Interoperability*	**Project (Number/Name)** 3379 / *Common Control System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development	C/CPFF	TBD : TBD	0.000	-		-		17.200	Jan 2016	-		17.200	-	17.200	17.200
Primary Software Development	C/CPFF	Raytheon : Dulles, VA	0.000	-		-		5.750	Apr 2016	-		5.750	-	5.750	5.750
Secondary Software Development	WR	NAWC-WD : China Lake, CA	0.000	-		-		2.800	Nov 2015	-		2.800	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		25.750		-		25.750	-	-	-

Remarks

The FY16 Primary Software Development contract is listed as TBD for the performing activity and location because this effort will be competitively awarded in FY16.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC-AD : Pax River, MD	0.000	-		-		6.473	Nov 2015	-		6.473	Continuing	Continuing	Continuing
Lead Systems Engineering and Integration	WR	NAWC-WD : Pt Mugu, CA	0.000	-		-		5.800	Nov 2015	-		5.800	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		12.273		-		12.273	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DT&E	WR	NAWC-AD : Pax River, MD	0.000	-		-		1.180	Nov 2015	-		1.180	Continuing	Continuing	Continuing
DT&E	WR	NAWC-WD : Pt Mugu, CA	0.000	-		-		1.585	Nov 2015	-		1.585	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		2.765		-		2.765	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305205N / *(U)UAS Integration and Interoperability*	Project (Number/Name) 3379 / *Common Control System*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	WR	NAWC-AD : Pax River, MD	0.000	-		-		1.043	Nov 2015	-		1.043	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		1.043		-		1.043	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		41.831		-		41.831	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305205N / *(U)UAS Integration and Interoperability*	**Project (Number/Name)** 3379 / *Common Control System*

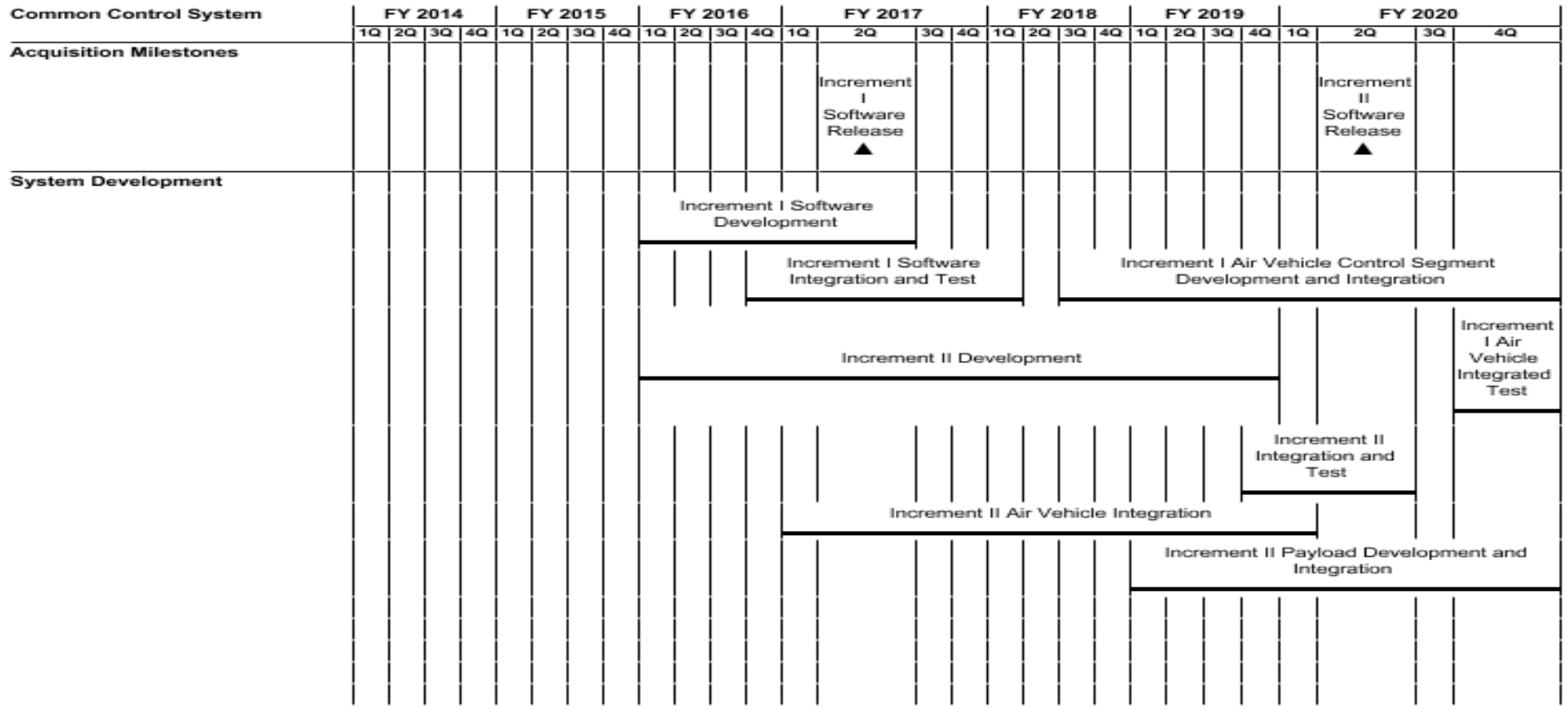

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305205N / *(U)UAS Integration and Interoperability*	**Project (Number/Name)** 3379 / *Common Control System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Common Control System				
Acquisition Milestones: Increment I Software Release	2	2017	2	2017
Acquisition Milestones: Increment II Software Release	2	2020	2	2020
System Development: Increment I Software Development	1	2016	2	2017
System Development: Increment I Software Integration and Test	4	2016	1	2018
System Development: Increment I Air Vehicle Control Segment Development and Integration	3	2018	4	2020
System Development: Increment I Air Vehicle Integrated Test	4	2020	4	2020
System Development: Increment II Development	1	2016	4	2019
System Development: Increment II Integration and Test	4	2019	2	2020
System Development: Increment II Air Vehicle Integration	1	2017	1	2020
System Development: Increment II Payload Development and Integration	1	2019	4	2020