Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy											Date: March 2019	
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 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
Total Program Element	63.745	20.848	24.663	42.315	-	42.315	66.056	60.571	43.067	40.761	Continuing	Continuing
3379: *Common Control System*	63.745	20.848	24.663	42.315	-	42.315	66.056	60.571	43.067	40.761	Continuing	Continuing

Note

The Common Control System (CCS) was budgeted in PE 06404404N prior to FY16.

A. Mission Description and Budget Item Justification

Common Control System (CCS) budget profile changes are due to program realignment to support CCS development and integration in support of MQ-25 Stingray, MQ-8 Fire Scout and follow on UxS platforms.

This PU funds the Unmanned Systems (UxSs) CCS. The primary mission of CCS is to provide common control across the Navy's UxSs portfolio to add scalable and adaptable warfighting capability, implement robust cybersecurity attributes, leverage existing government owned products, eliminate redundant software development efforts, consolidate product support, encourage innovation, improve cost control and enable rapid integration of UxS capabilities across Aviation, Surface, Sub-Surface, and Ground domains.

CCS is a ship/shore/airborne/expeditionary based common control system that provides Vehicle Management (VM) and Mission Management/Mission Planning (MM/MP) capabilities for Naval Group 1 through 5 Unmanned Air Vehicles (UAVs) as well as other domain UxSs. VM is the software that allows the operator to control the UxS. MM/MP is the software that allows the operator to create mission plans and control the UxS's sensors and payloads. CCS software is based on the Society of Automotive Engineers (SAE) Unmanned Control Segment (UCS) architecture which is a service oriented open architecture that is modular and scalable to meet evolving Service requirements and is also supportive of safety/airworthiness certification and cybersecurity certification and accreditation.

This program defines, develops, and delivers CCS capability that enables the flexibility for Ground Control Systems (GCS) that could be ship, shore, airborne, or expeditionary based to operate multiple and dissimilar Naval UxSs. CCS includes a common framework, user interface, and common components that will also be integrated and tested with legacy platform components. CCS is being developed with an open and modular business model with robust cybersecurity implementation and will be provided as Government Furnished Equipment (GFE) to UxS contractors as required.

The CCS acquisition approach provides increasing capability through incremental development for UxS platforms as follows:

Increment I delivered initial unmanned vehicle management (VM) functionality for MQ-25 Stingray in FY 2018, which included flight maneuvering and stationing, situational awareness, and health & performance status monitoring, hosted on legacy platform hardware. CCS VM functionality was delivered to MQ-8 Fire Scout in 1Q FY 2019 with another delivery scheduled for 3Q FY 2019.

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
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*

Increment II builds upon CCS Increment I software delivery, adding discrete common MM/MP capabilities as well as maturing VM capabilities. These MM/MP capabilities include route planning, aerial refueling, sensor and payload control, and data processing and dissemination. CCS Increment II software will be hosted on legacy platform hardware. Increment II adds robust cybersecurity controls, key systems safety attributes and core program infrastructure, to include a system integration lab and software support activity (SSA). Additional efforts include developing and executing plans for integration of common CCS VM services already developed under this program into other UxS cross-domain platforms' control stations to reduce department-level Total Ownership Costs for unmanned Ground Control Systems.

Increment III provides common hardware for hosting CCS. CCS Increment III software will be developed and delivered with additional capabilities to include cross-domain capabilities and control of multiple dissimilar UxS for further enterprise-level Total Ownership Cost savings.

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.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	39.736	41.212	40.446	-	40.446
Current President's Budget	20.848	24.663	42.315	-	42.315
Total Adjustments	-18.888	-16.549	1.869	-	1.869
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-16.549			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.088	0.000			
• Program Adjustments	0.000	0.000	1.908	-	1.908
• Rate/Misc Adjustments	0.000	0.000	-0.039	-	-0.039
• Congressional Directed Reductions Adjustments	-17.800	-	-	-	-

Change Summary Explanation

FY 2018 and FY 2019 program adjustments delayed and descoped Increment II software requirements and development which resulted in a re-phase of Increment II deliveries across the FYDP.

FY 2020 increase in funding supports CCS Increment II and III efforts.

Schedule Changes:
Added Milestone B 1Q 2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
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*

Changed CCS Increment I Software Development to extend to 3Q 2019
Changed CCS Delivery to MQ-8 from 2Q 2019 to 3Q 2019 to align with platform schedule
Changed CCS Increment II Software Development start to 3Q 2019 and extended to 4Q 2024
Changed CCS V2.0 Release from 2Q 2020 to 2Q 2021
Changed CCS V2.1 Release from 1Q 2021 to 4Q 2022
Changed CCS V2.2 Release from 1Q 2022 to 4Q 2023
Changed CCS V2.3 Release from 1Q 2023 to 3Q 2024
Changed CCS DT&E/OT Support from 1Q 2020 to 4Q 2019
Changed CCS Increment III Risk Reduction start 2Q 2020 and extended to 2Q 2023.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy											Date: March 2019	
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 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
3379: *Common Control System*	63.745	20.848	24.663	42.315	-	42.315	66.056	60.571	43.067	40.761	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Common Control System (CCS) budget profile changes are due to program realignment to support CCS development and integration in support of MQ-25 Stingray, MQ-8 Fire Scout and follow on UxS platforms.

This PE funds the Unmanned Systems (UxSs) CCS. The primary mission of CCS is to provide common control across the Navy's UxSs portfolio to add scalable and adaptable warfighting capability, implement robust cybersecurity attributes, leverage existing government owned products, eliminate redundant software development efforts, consolidate product support, encourage innovation, improve cost control and enable rapid integration of UxS capabilities across Aviation, Surface, Sub-Surface, and Ground domains.

CCS is a ship/shore/airborne/expeditionary based common control system that provides Vehicle Management (VM) and Mission Management/Mission Planning (MM/MP) capabilities for Naval Group 1 through 5 Unmanned Air Vehicles (UAVs) as well as other domain UxSs. VM is the software that allows the operator to control the UxS. MM/MP is the software that allows the operator to create mission plans and control the UxS's sensors and payloads. CCS software is based on the Society of Automotive Engineers (SAE) Unmanned Control Segment (UCS) architecture which is a service oriented open architecture that is modular and scalable to meet evolving Service requirements and is also supportive of safety/airworthiness certification and cybersecurity certification and accreditation.

This program defines, develops, and delivers CCS capability that enables the flexibility for Ground Control Systems (GCS) that could be ship, shore, airborne, or expeditionary based to operate multiple and dissimilar Naval UxSs. CCS includes a common framework, user interface, and common components that will also be integrated and tested with legacy platform components. CCS is being developed with an open and modular business model with robust cybersecurity implementation and will be provided as Government Furnished Equipment (GFE) to UxS contractors as required.

The CCS acquisition approach provides increasing capability through incremental development for UxS platforms as follows:

Increment I delivered initial unmanned vehicle management (VM) functionality for MQ-25 Stingray in FY 2018, which included flight maneuvering and stationing, situational awareness, and health & performance status monitoring, hosted on legacy platform hardware. CCS VM functionality was delivered to MQ-8 Fire Scout in 1Q FY 2019 with another delivery scheduled for 3Q FY 2019.

Increment II builds upon CCS Increment I software delivery, adding discrete common MM/MP capabilities as well as maturing VM capabilities. These MM/MP capabilities include route planning, aerial refueling, sensor and payload control, and data processing and dissemination. CCS Increment II software will be hosted on legacy platform hardware. Increment II adds robust cybersecurity controls, key systems safety attributes and core program infrastructure, to include a system integration lab and

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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*

software support activity (SSA). Additional efforts include developing and executing plans for integration of common CCS VM services already developed under this program into other UxS cross-domain platforms' control stations to reduce department-level Total Ownership Costs for unmanned Ground Control Systems.

Increment III provides common hardware for hosting CCS. CCS Increment III software will be developed and delivered with additional capabilities to include cross-domain capabilities and control of multiple dissimilar UxS for further enterprise-level Total Ownership Cost savings.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Increment I	9.781	3.013	0.000	0.000	0.000
Articles:	-	-	-	-	-
Description: Common Control System (CCS) Increment 1 provides Unmanned System (UxS) Vehicle Management (VM) hosted on legacy platform hardware required to support UxSs control system development, integration and test. Initial platforms include MQ-25 Stingray and MQ-8 Fire Scout. ***FY 2019 Plans:*** Development of CCS VM capability under Increment I will be completed. Correction of deficiencies, software delivery, and platform integration and test support will continue in FY 2019. ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** There is no funding in FY 2020 for Increment I as work completes in FY 2019. Maintenance of the VM capabilities as well as correction of deficiencies will be accomplished by the software support activity (SSA) which is captured under the Increment II work described below.					
Title: Increment II	11.067	21.650	40.446	0.000	40.446
Articles:	-	-	-	-	-
Description: CCS Increment II develops common MM/MP capabilities and updates and matures VM capabilities, integrating these capabilities into the core CCS software baseline delivered under Increment I in support of Naval UxSs. CCS Increment II is the future common control system software that provides maximum commonality for affordable transition to MQ-25 Stingray, MQ-8 Fire Scout, and other UxS to reduce enterprise Total Ownership Cost for UxS Ground Control Systems. Increment II also incorporates cyber security measures,					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
key systems safety attributes, and core program infrastructure to include system integration lab and software support activities. ***FY 2019 Plans:*** CCS Increment II will begin initial software development incorporating results of requirements and architecture development efforts. Target platforms include: MQ-25 Stingray, MQ-8 Fire Scout and MQ-4 Triton but may be expanded to other UxS platforms. Increment II plans to develop and integrate cybersecurity software modules into the CCS software baseline. SSA efforts will continue, including support infrastructure for systems engineering, development, integration, test, correction of deficiencies, quality assurance, and cyber security compliance. Integration and test support for CCS platforms will continue. Advanced development and risk reduction efforts support future UxS integration and establishment of formal CCS software test capabilities. ***FY 2020 Base Plans:*** Development of common CCS mission management/mission planning capabilities continue. The SSA will continue to provide integrated software baselines to supported UxS platforms, correct identified deficiencies, ensure cyber security compliance, and support engineering/test/evaluation activities. CCS Increment II continues software common service development including the continued refinement of incremental common service releases for MQ-25 Stingray and MQ-8 Fire Scout which will support other future UxS platforms transitioning to CCS. Integration and test support for CCS platforms will continue. Advanced development and risk reduction efforts support future UxS integration and establishment of formal CCS software test capabilities. Follow-on efforts for SETA and SSA-Software Integration will initiate in FY 2020 to ensure there are no gaps in software support. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** Funding increases from FY 2019 to FY 2020 covers work associated with adding a second contract action for further MM/MP common software service development.					
Title: Increment III	0.000	0.000	1.869	0.000	1.869
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Description: Increment III provides common hardware for hosting CCS. CCS Increment III software will be developed and delivered with additional capabilities to include cross-domain capabilities and control of multiple dissimilar UxS for further enterprise-level Total Ownership Cost savings. ***FY 2019 Plans:*** N/A ***FY 2020 Base Plans:*** Increment III efforts begin with studies and analyses. The studies/analyses includes identification of the overarching requirements, initiation of a draft Concept of Operations, potential hardware solutions, impacts to user training, and potential acquisition strategies. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** Funding increases from FY2019 to FY2020 introduces funding to initiate studies and analyses associated with CCS Increment III.					
Accomplishments/Planned Programs Subtotals	20.848	24.663	42.315	0.000	42.315

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• OPN/4250: *Common Control System*	0.000	0.594	0.792	-	0.792	1.188	1.484	11.787	12.023	Continuing	Continuing

Remarks

D. Acquisition Strategy

Program Executive Office Unmanned Aviation and Weapon Systems (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 PEO(U&W) UAS platforms to eliminate redundant efforts, encourage innovation and improve cost control of unmanned aviation. As directed by 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. The CCS acquisition approach provides increasing UxS capability through incremental development for UxS platforms as follows: Increment I provided common Vehicle Management (VM) capability to MQ-25 Stingray and

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
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*

MQ-8 Fire Scout which can also support other UxSs. Increment II develops common MM/MP capabilities and updates and matures VM capabilities, integrating these capabilities into the core CCS software baseline delivered under Increment I in support of Naval UxSs. Increment III provides common hardware for hosting CCS. CCS Increment III software will be developed and delivered with additional capabilities to include cross-domain capabilities and control of multiple dissimilar UxS for further enterprise-level Total Ownership Cost savings. CCS was provided to the MQ-25 Stingray air vehicle prime as Government-Furnished Equipment (GFE) in FY 2018 and was also provided for transition to MQ-8 Fire Scout starting in FY2019. CCS will also be provided to additional follow-on UxS platforms to further reduce enterprise Total Ownership Cost for Ground Control Systems. CCS leverages existing government-owned products and will employ competitive procurement vehicles. ASN (RDA) designated CCS Increment II as an ACAT II program on December 1, 2017.

PEO(U&W) issued ADM 5000 Ser PEO(U&W)/18-119 dated September 11, 2018 approving the CCS Increment II Acquisition Strategy. PEO(U&W) issued ADM 5000 Ser PEO(U&W)/18-157 dated October 5, 2018 approving the CCS acquisition documentation tailoring and entry criteria for Increment II Milestone B.

E. Performance Metrics

CCS uses a Service-Oriented Architecture based on the Society of Automotive Engineers (SAE) Unmanned Control Segment (UCS) architecture. CCS provided analyses and documentation that supported the development of common requirements. CCS also inherits the applicable requirements of each supported UxS platform's CDD through the respective specification trees. CCS must therefore also support the Key Performance Parameters, Key System Attributes, Measures of Suitability/ Effectiveness, Concepts of Operations, etc., and concepts of operations flowed down from each supported platform.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy		Date: March 2019
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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development (Increment I)	C/CPFF	Raytheon : Dulles, VA	31.946	9.781	Dec 2017	2.095	Jan 2019	0.000		-		0.000	0.000	43.822	43.822
Primary Software Development - Software Services (Increment II)	C/CPFF	TBD : TBD	0.000	0.000	May 2018	5.831	Feb 2019	16.023	Nov 2019	-		16.023	Continuing	Continuing	Continuing
Studies & Analysis (Increment III)	TBD	TBD : TBD	0.000	0.000		0.000		1.869	Jan 2020	-		1.869	Continuing	Continuing	Continuing
Advanced Development	WR	NAWC-WD : China Lake, CA	3.975	1.379	Nov 2017	1.925	Nov 2018	1.500	Nov 2019	-		1.500	Continuing	Continuing	Continuing
Software Cyber Modeling	C/CPFF	JHU APL : Baltimore, MD	2.000	0.000		0.000		2.100	Jan 2020	-		2.100	Continuing	Continuing	Continuing
Architecture Development	C/CPFF	SEI : Hanscom, MA	1.205	0.150	Nov 2017	0.000		0.000		-		0.000	0.000	1.355	1.355
Architecture Development	C/CPFF	NRL : Washington, DC	2.330	0.000		0.000		0.000		-		0.000	0.000	2.330	2.330
Architecture Development	Various	Various : Various	3.605	0.000	Feb 2018	0.000	Nov 2018	0.000	Nov 2019	-		0.000	0.000	3.605	3.605
SSA - Software Integration	C/CPFF	Raytheon : Dulles, VA	0.000	1.500	Feb 2018	5.628	Nov 2018	7.660	Nov 2019	-		7.660	Continuing	Continuing	Continuing
		Subtotal	45.061	12.810		15.479		29.152		-		29.152	Continuing	Continuing	N/A

Remarks

The FY 2020 Primary Software Development - Software Services (Increment II) contracts support the development of software services that will be incorporated into CCS. Separate competitive contracts for these software services will be awarded and incrementally funded. The performing activity and location are currently TBD because of the competitive contracting strategy. These contracting activities begin in FY 2019 and continue in to FY 2020. This contract activity increases due to multiple incrementally funded design, development, and integration efforts which include CCS Increment II v2.0 (originally started in FY 2019 and which continues throughout FY 2020), and the start in FY 2020 of CCS Increment II v2.1 analysis, design, and development efforts.

The FY 2020 SSA-Software Integration contract activity continues incremental funding for the SSA software integration contract efforts awarded via a competitive FY 2018 contract award. A follow-on SSA-Software Integration effort will initiate in FY 2020 to ensure there are no gaps in software support in FY 2021 and out. FY 2020 SSA - Software Integration supports integration efforts due to the development of additional Increment II common services supporting multiple platforms.

The FY 2020 Primary Software Development - Software Services (Increment III) accounts for Pre-Millstone A studies and analysis activities.

The FY20 Software Cyber Modeling reinstates previously deferred completion of the Integrated Cyber Model effort for cybersecurity protections.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
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*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC-AD : Pax River, MD	7.459	3.268	Nov 2017	3.713	Nov 2018	8.678	Nov 2019	-		8.678	Continuing	Continuing	Continuing
Lead Systems Engineering and Integration	WR	NAWC-WD : Pt Mugu, CA	2.995	0.000		0.000		0.000		-		0.000	0.000	2.995	2.995
Systems Engineering	C/CPFF	Engility : Pax River, MD	0.756	0.000		0.000		0.000		-		0.000	0.000	0.756	0.756
Systems Engineering Integration Test	C/CPFF	Booz Allen : Pax River, MD	2.714	0.000		0.000		0.000		-		0.000	0.000	2.714	2.714
Systems Engineering Study	C/CPFF	CNA : Alexandria, VA	0.800	0.000		0.000		0.000		-		0.000	0.000	0.800	0.800
Systems Engineering	Various	Various : Various	1.666	0.000		0.000		0.000		-		0.000	0.000	1.666	1.666
Systems Engineering Technical Agent	C/CPFF	DCS Corporation : Alexandria, VA	0.535	3.400	Feb 2018	2.905	Nov 2018	2.690	Nov 2019	-		2.690	Continuing	Continuing	Continuing
		Subtotal	16.925	6.668		6.618		11.368		-		11.368	Continuing	Continuing	N/A

Remarks

FY 2020 activities continue the development of the CCS architecture and requirements for future mission management/mission planning contract actions and supports the development of an increased number of CCS Increment II and Increment III common services. A follow-on Systems Engineering Technical Agent effort will initiate in FY 2020 to ensure no gaps in architecture and requirements development in FY 2021 and out.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DT&E/OT	WR	NAWC-AD : Pax River, MD	0.309	0.833	Nov 2017	1.966	Nov 2018	1.190	Nov 2019	-		1.190	Continuing	Continuing	Continuing
DT&E	WR	NAWC-WD : Pt Mugu, CA	0.730	0.000		0.000		0.000		-		0.000	0.000	0.730	0.730
		Subtotal	1.039	0.833		1.966		1.190		-		1.190	Continuing	Continuing	N/A

Remarks

FY 2020 Test and Evaluation efforts support DT/OT events for the integration and test of CCS Increment I and Increment II software for MQ-8 Fire Scout and MQ-25 Stingray.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy		Date: March 2019
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 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	WR	NAWC-AD : Pax River, MD	0.670	0.334	Nov 2017	0.308	Nov 2018	0.410	Nov 2019	-		0.410	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Ausley Associates : Lexington Park, MD	0.050	0.203	Nov 2017	0.292	Nov 2018	0.195	Nov 2019	-		0.195	Continuing	Continuing	Continuing
		Subtotal	0.720	0.537		0.600		0.605		-		0.605	Continuing	Continuing	N/A

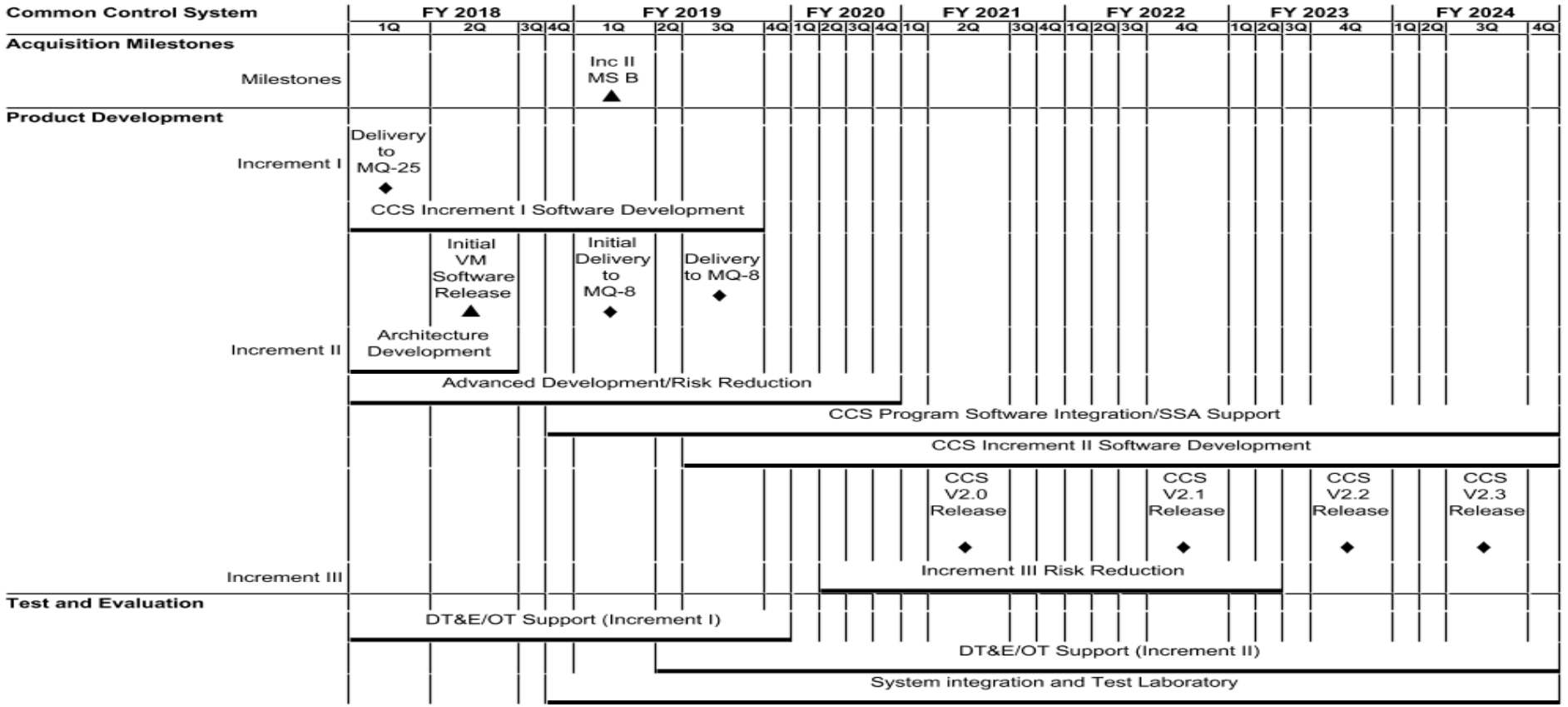
Remarks

Contractor support supporting multiple platforms in FY 2019 and FY 2020.

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	63.745	20.848		24.663		42.315		-		42.315	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
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*



2020PB - 0305205N - 3379

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
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: Milestones: Inc II Milestone B	1	2019	1	2019
Product Development: Increment I: Delivery to MQ-25	1	2018	1	2018
Product Development: Increment I: CCS Increment I Software Development	1	2018	3	2019
Product Development: Increment I: CCS Increment I Initial VM Software Release	2	2018	2	2018
Product Development: Increment I: Initial Delivery to MQ-8	1	2019	1	2019
Product Development: Increment I: Delivery to MQ-8	3	2019	3	2019
Product Development: Increment II: Architecture Development	1	2018	2	2018
Product Development: Increment II: Advanced Development/Risk Reduction	1	2018	4	2020
Product Development: Increment II: CCS Program Software Integration/SSA Support	4	2018	4	2024
Product Development: Increment II: CCS Increment II Software Development	3	2019	4	2024
Product Development: Increment II: CCS V2.0 Release	2	2021	2	2021
Product Development: Increment II: CCS V2.1 Release	4	2022	4	2022
Product Development: Increment II: CCS V2.2 Release	4	2023	4	2023
Product Development: Increment II: CCS V2.3 Release	3	2024	3	2024
Product Development: Increment III: Increment III Risk Reduction	2	2020	2	2023
Test and Evaluation: DT&E/OT Support (Increment I)	1	2018	4	2019
Test and Evaluation: DT&E/OT Support (Increment II)	2	2019	4	2024
Test and Evaluation: System Integration and Test Laboratory	4	2018	4	2024