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 5: *System Development & Demonstration (SDD)*						R-1 Program Element (Number/Name) PE 0604574N *I Navy Tactical Computer Resources*						

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	10.996	4.745	4.642	3.692	-	3.692	4.192	4.210	4.163	4.247	Continuing	Continuing
3360: *Common Processing System (CPS)*	3.521	1.658	1.599	1.445	-	1.445	1.478	1.508	1.541	1.572	Continuing	Continuing
3361: *Common Display System (CDS)*	7.475	3.087	3.043	2.247	-	2.247	2.714	2.702	2.622	2.675	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Common Processing System (CPS) and Common Display System (CDS) programs support developing technology insertions in a competitively sourced environment. CPS & CDS provide technical replacements for obsolete display and processing equipment (such as AN/UYQ-70) for multiple warfare systems aboard Surface Combatants and Large Deck class ships.

CPS provides computer processing and memory, data storage and extraction, and Input/Output (I/O) interface to support hosting Navy combat system software applications and computing resources. These upgrades support AEGIS Modernization, AEGIS new construction, AEGIS Ashore, Ship Self Defense System (SSDS) MK2, Surface Electronic Warfare Improvement Program (SEWIP), and other Navy programs. Funding provides for technical management and Engineering Change Proposals (ECP) development for the common baseline. Procurement and development funds provided by user programs to support program unique requirements.

CDS provides operator display consoles with a common human machine interface to support the Combat System operations. These upgrades support AEGIS modernization, AEGIS new construction, AEGIS Ashore, DDG-1000, Ship Self Defense System (SSDS) MK 2, Gun Weapon System (GWS), and SEWIP. Funding provides for technical management and Engineering Change Proposals (ECP) development for the common baseline. Procurement and development funds provided by user programs to support program unique requirements.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	4.817	4.642	4.022	-	4.022
Current President's Budget	4.745	4.642	3.692	-	3.692
Total Adjustments	-0.072	0.000	-0.330	-	-0.330
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.073	0.000			
• Program Adjustments	0.000	0.000	-0.330	-	-0.330

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 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604574N *I Navy Tactical Computer Resources*

• Rate/Misc Adjustments	0.001	0.000	0.000	-	0.000

Change Summary Explanation

FY 2018 decrease for SBIR reduction and rate adjustment

FY 2020 decreased by $.330 million to account for the availability of prior year execution balances.

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

Appropriation/Budget Activity 1319 I 5				R-1 Program Element (Number/Name) PE 0604574N I Navy Tactical Computer Resources				Project (Number/Name) 3360 I Common Processing System (CPS)			

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
3360: Common Processing System (CPS)	3.521	1.658	1.599	1.445	-	1.445	1.478	1.508	1.541	1.572	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Common Processing System (CPS) program supports developing open architecture computer processing hardware and storage technology in a competitively sourced environment. CPS provides technical replacements for obsolete processing equipment (such as AN/UYQ-70) for multiple warfare systems aboard Surface Combatants and Large Deck class ships. CPS provides computer processing and memory, data storage and extraction, and Input/Output (I/O) interface to support hosting Navy combat system software applications and computing resources. These upgrades support AEGIS Modernization, AEGIS new construction, Ship Self Defense System (SSDS) MK2, Surface Electronic Warfare Improvement Program (SEWIP), and other Navy programs. Funding provides for technical management and Engineering Change Proposals (ECP) development for the common baseline. Procurement and development funds provided by user programs to support program unique requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Common Processing System (CPS)	1.658	1.599	1.445	0.000	1.445
Articles:	-	-	-	-	-

FY 2019 Plans:
Continue system engineering support of CPS TI-16 development efforts required to support various Combat and Weapon System Configurations. Support Engineering Analysis of issues identified within field configuration TI-12 to develop resolution plan to improve reliability, readiness, or reduce operating costs. Support System Engineering efforts required to achieve Program Readiness Review (PRR) for TI-20 milestone in 4th quarter.

FY 2020 Base Plans:
Continue system engineering support of CPS TI-16 development efforts required to support various Combat and Weapon System Configurations. Support Engineering Analysis of issues identified within field configuration TI-12 to develop resolution plan to improve reliability, readiness, or reduce operating costs.

FY 2020 OCO Plans:
N/A

FY 2019 to FY 2020 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 *I* 5	**R-1 Program Element (Number/Name)** PE 0604574N *I Navy Tactical Computer Resources*	**Project (Number/Name)** 3360 *I Common Processing System (CPS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Decrease due to reduction in planned efforts to identify and resolve TI issues within configuration under development and fielded.					
Accomplishments/Planned Programs Subtotals	1.658	1.599	1.445	0.000	1.445

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 CPS TI-16: Award build to Print Indefinite Delivery Indefinite Quantity (IDIQ) production contract for FY18-FY21.

E. Performance Metrics
 Major Milestones:
 CPS TI-20 In Process Review No. 2 first quarter FY18.
 CDP TI-20 Preliminary Design Review third quarter FY18.
 CPS TI-20 Production Readiness Review fourth quarter FY19.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy													Date: March 2019
Appropriation/Budget Activity 1319 / 5							**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*					**Project (Number/Name)** 3360 / *Common Processing System (CPS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering	WR	NSWC : PHD	0.010	0.240	Oct 2017	0.147	Oct 2018	0.152	Oct 2019	-		0.152	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Dahlgren	2.144	0.758	Nov 2017	0.785	Nov 2018	0.709	Oct 2019	-		0.709	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	TBD : TBD	1.229	0.605	Dec 2017	0.607	Oct 2018	0.000	Oct 2019	-		0.000	0.000	0.000	2.441	-
		Subtotal	3.383	1.603		1.539		0.861		-		0.861	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Services	Various	Various : Various	0.138	0.055	Oct 2017	0.060	Oct 2018	0.584	Oct 2019	-		0.584	Continuing	Continuing	Continuing
		Subtotal	0.138	0.055		0.060		0.584		-		0.584	Continuing	Continuing	N/A

	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	3.521	1.658	1.599	1.445	-	1.445	Continuing	Continuing	N/A

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2020 Navy		**Date:** March 2019
Appropriation/Budget Activity 1319 **I** 5	**R-1 Program Element (Number/Name)** PE 0604574N **I** *Navy Tactical Computer Resources*	**Project (Number/Name)** 3360 **I** *Common Processing System (CPS)*

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604574N / Navy Tactical Computer Resources	Project (Number/Name) 3360 / Common Processing System (CPS)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3360				
CPS TI 20 In Progress Review (IPR) No. 2 (Completed)	1	2018	1	2018
CPS TI 20 PDR (Completed)	3	2018	3	2018
CPS TI 20 PRR	4	2019	4	2019

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

Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604574N / Navy Tactical Computer Resources						Project (Number/Name) 3361 / Common Display System (CDS)		

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
3361: Common Display System (CDS)	7.475	3.087	3.043	2.247	-	2.247	2.714	2.702	2.622	2.675	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Common Display System (CDS) programs support developing technology insertions in a competitively sourced environment. CDS provide technical replacements for obsolete display and processing equipment (such as AN/UYQ-70) for multiple warfare systems aboard Surface Combatants and Large Deck class ships. CDS provides operator display consoles with a common human machine interface to support the Combat System operations. These upgrades support AEGIS modernization, AEGIS new construction, AEGIS Ashore, DDG-1000, Ship Self Defense System (SSDS) MK 2, Gun Weapon System (GWS), and SEWIP. Funding provides for technical management and Engineering Change Proposals (ECP) development for the common baseline. Procurement and development funds provided by user programs to support program unique requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Common Display System (CDS)	3.087	3.043	2.247	0.000	2.247
Articles:	-	-	-	-	-

FY 2019 Plans:
Continue system engineering support of CDS TI-12 / TI-16 development efforts required to support various Combat and Weapon System Configurations. Support Engineering Analysis of issues identified within field configuration TI-12 to develop resolution plan to improve reliability, readiness, or reduce operating costs. Support System Engineering efforts required to achieve Program Readiness Review (PRR) for TI-20 milestone in 4th quarter.

FY 2020 Base Plans:
Continue system engineering support of CDS TI-12 / TI-16 development efforts required to support various Combat and Weapon System Configurations. Support Engineering Analysis of issues identified within field configuration TI-12 to develop resolution plan to improve reliability, readiness, or reduce operating costs.

FY 2020 OCO Plans:
N/A

FY 2019 to FY 2020 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019	
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / Navy Tactical Computer Resources	**Project (Number/Name)** 3361 / Common Display System (CDS)	

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Decrease due to reduction in planned efforts to identify and resolve TI issues within configuration under development and fielded.					
Accomplishments/Planned Programs Subtotals	3.087	3.043	2.247	0.000	2.247

C. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

D. Acquisition Strategy
 Contracts:
 CDS TI-16: Award build to Print IDIQ production contract for FY18-FY21.

E. Performance Metrics
 Major Milestones:
 CDS TI-20 In Process Review No. 2 first quarter FY18.
 CDS TI-20 Preliminary Design Review third quarter FY18.
 CDS TI-20 Production Readiness Review fourth quarter FY19.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3361 / *Common Display System (CDS)*

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
Systems Engineering	WR	NSWC : PHD	0.318	0.212	Dec 2017	0.215	Dec 2018	0.187	Dec 2019	-		0.187	Continuing	Continuing	Continuing
Systems Engineeing	WR	NSWC : Dahlgren	4.793	1.785	Oct 2017	1.585	Oct 2018	1.008	Oct 2019	-		1.008	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	General Dynamics : Fairfax, VA	0.615	0.455	Oct 2017	0.445	Oct 2018	0.462	Oct 2019	-		0.462	0.000	1.977	-
Systems Engineering	C/CPIF	DRS Technologies : Gaithersburg, MD	0.675	0.500	Oct 2017	0.455	Dec 2018	0.462	Dec 2019	-		0.462	0.000	2.092	-
Systems Engineering	C/CPIF	TBD : TBD	0.797	0.027	Dec 2017	0.243	Oct 2018	0.128	Oct 2019	-		0.128	0.000	1.195	-
Subtotal			7.198	2.979		2.943		2.247		-		2.247	Continuing	Continuing	N/A

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 Services	Various	Various : Various	0.277	0.108	Dec 2017	0.100	Oct 2018	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			0.277	0.108		0.100		0.000		-		0.000	Continuing	Continuing	N/A

	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	7.475	3.087	3.043	2.247	-	2.247	Continuing	Continuing	N/A

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2020 Navy		**Date:** March 2019
Appropriation/Budget Activity 1319 *I* 5	**R-1 Program Element (Number/Name)** PE 0604574N *I Navy Tactical Computer Resources*	**Project (Number/Name)** 3361 *I Common Display System (CDS)*

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		**Date:** March 2019
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / Navy Tactical Computer Resources	**Project (Number/Name)** 3361 / Common Display System (CDS)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3361				
CDS TI 20 IPR No. 2 (Completed)	1	2018	1	2018
CDS TI 20 Preliminary Design Review (Completed)	3	2018	3	2018
CDS TI 20 Production Readiness Review	4	2019	4	2019