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**Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / <i>Navy Tactical Computer Resources</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	15.741	4.460	3.692	3.853	-	3.853	4.397	4.282	4.238	4.322	Continuing	Continuing
3360: <i>Common Processing System (CPS)</i>	5.179	1.536	1.445	1.505	-	1.505	1.507	1.535	1.564	1.594	Continuing	Continuing
3361: <i>Common Display System (CDS)</i>	10.562	2.924	2.247	2.348	-	2.348	2.890	2.747	2.674	2.728	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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Previous President's Budget	4.642	3.692	4.192	-	4.192
Current President's Budget	4.460	3.692	3.853	-	3.853
Total Adjustments	-0.182	0.000	-0.339	-	-0.339
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.182	0.000			
• Program Adjustments	0.000	0.000	-0.365	-	-0.365

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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / <i>Navy Tactical Computer Resources</i>
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• Rate/Misc Adjustments	0.000	0.000	0.026	-	0.026
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**Change Summary Explanation**

The FY2019 funding request was reduced by \$0.182 million due to SBIR/STTR Transfer.

The FY 2021 funding request was reduced by \$0.339 million to account for the availability of prior year execution balances due to rephasing of funding to the right and NWCF adjustments.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy										<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources				<b>Project (Number/Name)</b> 3360 / Common Processing System (CPS)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3360: Common Processing System (CPS)	5.179	1.536	1.445	1.505	-	1.505	1.507	1.535	1.564	1.594	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)**

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<b>Title:</b> Common Processing System (CPS)	1.536	1.445	1.505	0.000	1.505
<b>Articles:</b>	-	-	-	-	-
<b>FY 2020 Plans:</b> Continue system engineering support of CPS TI-20 development efforts required to support various Combat and Weapon System Configurations. Support Engineering Analysis of issues identified within field configuration TI-16 and TI-20 to develop resolution plan to improve reliability, readiness, or reduce operating costs.					
<b>FY 2021 Base Plans:</b> Continue system engineering support of CPS TI-20 development efforts required to support various Combat and Weapon System Configurations. Support Engineering Analysis of issues identified within field configuration TI-16 and TI-20 to develop resolution plan to improve reliability, readiness, or reduce operating costs.					
<b>FY 2021 OCO Plans:</b> N/A					
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase from FY20 to FY21 is due to inflation.					
<b>Accomplishments/Planned Programs Subtotals</b>	1.536	1.445	1.505	0.000	1.505

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / <i>Navy Tactical Computer Resources</i>	<b>Project (Number/Name)</b> 3360 / <i>Common Processing System (CPS)</i>

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

CPS T120: Award build to Print Indefinite Delivery Indefinite Quantity (IDIQ) production contract for FY19-FY21.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy												Date: February 2020			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0604574N / Navy Tactical Computer Resources				3360 / Common Processing System (CPS)							
Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NSWC : PHD	0.250	0.147	Oct 2018	0.152	Oct 2019	0.163	Oct 2020	-		0.163	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Dahlgren	2.902	0.722	Nov 2018	0.709	Oct 2019	0.717	Oct 2020	-		0.717	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	TBD : TBD	1.834	0.607	Oct 2018	0.000	Oct 2019	0.000	Oct 2020	-		0.000	0.000	2.441	-
<b>Subtotal</b>			4.986	1.476		0.861		0.880		-		0.880	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Services	Various	Various : Various	0.193	0.060	Oct 2018	0.584	Oct 2019	0.625	Oct 2020	-		0.625	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.193	0.060		0.584		0.625		-		0.625	Continuing	Continuing	N/A
<b>Project Cost Totals</b>			5.179	1.536		1.445		1.505		-		1.505	Continuing	Continuing	N/A
<b>Remarks</b>															

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2021 Navy</b>		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources	<b>Project (Number/Name)</b> 3360 / Common Processing System (CPS)

Fiscal Year	RDT&E/N/BA-5																PE 0604574N / Navy Tactical Computer Resources																3360 / Common Processing System (CPS)															
	2019				2020				2021				2022				2023				2024				2025																							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																				
Common Processing System TI 16					Support Production Contract																																											
Common Processing System TI 20 (Notional)					TI-20 PRR				Support Production Contract																																							

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources	<b>Project (Number/Name)</b> 3360 / Common Processing System (CPS)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3360</b>				
CPS TI-20 Production Readiness Review	4	2019	4	2019

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Navy										<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources				<b>Project (Number/Name)</b> 3361 / Common Display System (CDS)			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3361: Common Display System (CDS)	10.562	2.924	2.247	2.348	-	2.348	2.890	2.747	2.674	2.728	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)**

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
<b>Title:</b> Common Display System (CDS)	2.924	2.247	2.348	0.000	2.348
<b>Articles:</b>	-	-	-	-	-
<b>FY 2020 Plans:</b> Continue system engineering support of CDS TI-20 development efforts required to support various Combat and Weapon System Configurations. Support Engineering Analysis of issues identified within field configuration TI-16 and TI-20 to develop resolution plan to improve reliability, readiness, or reduce operating costs.					
<b>FY 2021 Base Plans:</b> Continue system engineering support of CDS TI-20 development efforts required to support various Combat and Weapon System Configurations. Address Obsolescence's issues as they are identified within the CDS configurations. Support Engineering Analysis of issues identified within field configuration TI-16 and TI-20 to develop resolution plan to improve reliability, readiness, or reduce operating costs.					
<b>FY 2021 OCO Plans:</b> N/A					
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Change from FY20 to FY21 is due to increased requirements associated with Obsolescence Issues within the CDS configurations.					
<b>Accomplishments/Planned Programs Subtotals</b>	2.924	2.247	2.348	0.000	2.348

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy		Date: February 2020
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)

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

Contracts:  
CDS TI-20 - Award build to Print IDIQ production contract for FY19-FY21.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources	<b>Project (Number/Name)</b> 3361 / Common Display System (CDS)
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<b>Product Development (\$ in Millions)</b>				<b>FY 2019</b>		<b>FY 2020</b>		<b>FY 2021 Base</b>		<b>FY 2021 OCO</b>		<b>FY 2021 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Systems Engineering	WR	NSWC : PHD	0.530	0.215	Dec 2018	0.187	Dec 2019	0.198	Dec 2020	-		0.198	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Dahlgren	6.578	1.466	Oct 2018	1.008	Oct 2019	0.919	Oct 2020	-		0.919	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	General Dynamics : Fairfax, VA	1.070	0.445	Oct 2018	0.462	Oct 2019	0.528	Oct 2020	-		0.528	0.000	2.505	-
Systems Engineering	C/CPIF	DRS Technologies : Gaithersburg, MD	1.175	0.455	Dec 2018	0.462	Dec 2019	0.528	Dec 2020	-		0.528	0.000	2.620	-
Systems Engineering	C/CPIF	TBD : TBD	0.824	0.243	Oct 2018	0.128	Oct 2019	0.175	Oct 2020	-		0.175	0.000	1.370	-
<b>Subtotal</b>			10.177	2.824		2.247		2.348		-		2.348	Continuing	Continuing	N/A

<b>Management Services (\$ in Millions)</b>				<b>FY 2019</b>		<b>FY 2020</b>		<b>FY 2021 Base</b>		<b>FY 2021 OCO</b>		<b>FY 2021 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Services	Various	Various : Various	0.385	0.100	Oct 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.385	0.100		0.000		0.000		-		0.000	Continuing	Continuing	N/A

	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>		10.562	2.924	2.247	2.348	-	2.348	Continuing	Continuing	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2021 Navy</b>		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources	<b>Project (Number/Name)</b> 3361 / Common Display System (CDS)

Fiscal Year	RDT&E/BA-5																PE 0604574N / Navy Tactical Computer Resources																3361 / Common Display System (CDS)															
	2019				2020				2021				2022				2023				2024				2025																							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																				
Common Display System TI 16				Support Production Contract																																												
Common Display System TI 20  (Notional)				TI-20 PRR																																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Navy		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / <i>Navy Tactical Computer Resources</i>	<b>Project (Number/Name)</b> 3361 / <i>Common Display System (CDS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 3361</i></b>				
CDS TI 20 Production Readiness Review	4	2019	4	2019