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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Navy **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0205632N / MK-48 ADCAP
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	320.111	69.418	100.759	155.868	-	155.868	192.185	128.076	132.517	124.571	Continuing	Continuing
0366: <i>MK 48 ADCAP</i>	320.111	69.418	100.759	155.868	-	155.868	192.185	128.076	132.517	124.571	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Funding increased by \$55.109M from FY22 to FY23 for:

MK 48 MOD 8 (APB 6/TI-1) funding increased by \$17.980M from FY22 to FY23 to support:

- APB 6/TI-1 Material procurements by the contractor for Proof-of- Design (POD) and Proof-of-Manufacturing (POM) deliverables (\$0.435M)
- Software development and test and evaluation of APB 6 for implementation on MOD 7 and MOD 8 hardware. Fielding of this capability will occur on MOD 7 one year prior to MOD 8 (\$10.210M)
- Engineering test events for the TI-1 Improved Post Launch Communications System (IPLCS)(\$7.335M)

MK 48 general development funding increased by \$3.500M from FY22 to FY23 to establish a new Office of Naval Research (ONR) Future Naval Capability (FNC) program for Afterbody Upgrades supporting future MK 48 MOD 7, MOD 8, and MOD 9 upgrades.

MK 48 MOD 9 (APB 7/TI-2) funding increased by \$33.629M from FY22 to FY23 to fund:

- Additional funding for labor, material procurements, and testing resources required for significant increase in prototype development, land-based and in-water testing (\$33.629M)

A new cost category in support of the ONR Afterbody Upgrades FNC has been established with funding starting in FY23. The ONR Afterbody Upgrades FNC program starts in FY22 with program office funding contributions beginning in FY23. The ONR Afterbody Upgrades FNC will develop technologies to improve torpedo effectiveness that will transition to the MK 48 MOD 7, MOD 8, and MOD 9 upgrades.

The MK 48 ADCAP (Advanced Capability) Research, Development, Test and Evaluation (RDT&E) program executes incremental development of weapon performance improvements in two development product areas: (1) Advanced Processor Builds (APBs) (operational software), and (2) Torpedo Technology Insertions (TIs) (hardware). This Program Element (0205632N/0366) is tied to development programs that leverage a joint United States/Australia Armaments Cooperative Project (ACP) and develop MK 48 ADCAP technologies developed by the ONR and SCO.

The Torpedo APB development testing and implementation process is being utilized to address shallow water as a critical operating area to counter near-peer adversaries and third world diesel electric submarines. In-water testing, in conjunction with laboratory simulation efforts, has shown that significant performance improvements can be made by implementing changes to weapon tactics and software algorithms. The TAPB program also leverages the RAN joint torpedo program and technologies developed by ONR and SCO in the areas of torpedo broadband signal processing, tactics processing, and alertment.

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Torpedo Technology Insertions (TIs) will provide for significant torpedo hardware improvements and upgrades, including the transition and testing of advanced technologies from the R&D community. This approach will incorporate developmental testing of transitioning technologies from ONR and SCO for ADCAP upgrades in the areas of torpedo sensors, weapon propulsion, weapon/platform connectivity, and improved fusing. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.

The MK 48 MOD 8 (APB 6/TI-1) Heavyweight Torpedo (HWT) program is a significant upgrade to the MK 48 MOD 7 HWT which will consist of an operational software upgrade referred to as APB 6 and a hardware upgrade referred to as TI-1. TI-1 will include a Guidance and Control (G&C) section upgrade including a new Sonar Assembly (higher density array, transmitter, receiver), and an Improved Post Launch Communications System (IPLCS). IPLCS will replace the existing copper guidance wire with fiber optics. These improvements are needed for increased performance in the presence of advanced countermeasures, shallow water, low Doppler targets, Very Shallow Water (VSW), improve fuzing, and Anti Surface Warfare (ASuW). TI-1 will also include features from three ONR FNC programs.

The MK 48 MOD 9 (APB 7/TI-2) represents significant improvements to the MK 48 MOD 7 and MOD 8 heavyweight torpedo (HWT) including propulsion upgrades providing extended range and advance sensing capabilities against surface and subsurface targets. MK 48 MOD 8 (APB 6/TI-1) and MK 48 MOD 9 (APB 7/TI-2) provide two distinctly different capabilities and are operationally intended for different mission sets. These improvements consist of the APB 7 software upgrades and Technology Insertion 2 (TI-2) hardware upgrades, which provides advanced sensing, processing, and propulsion technologies developed under OSD SCO, and ONR FNC research and development programs.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	70.542	114.492	0.000	-	0.000
Current President's Budget	69.418	100.759	155.868	-	155.868
Total Adjustments	-1.124	-13.733	155.868	-	155.868
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-13.733			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.124	0.000			
• Program Adjustments	0.000	0.000	0.000	-	0.000
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000
• Adjustments to Budget Year	-	-	155.868	-	155.868

**Change Summary Explanation**

The FY22 budget was decreased by (-\$13.733M), as a result of a excess to need reduction for TI-2 (-\$11.025M) and APB 7 (-\$2.708M).

The FY 2023 funding request was adjusted by \$2.2M to account for the availability of prior year execution balances.

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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0205632N / MK-48 ADCAP	
<p>Funding increased by \$55.109M from FY22 to FY23 for: MK 48 MOD 8 (APB 6/TI-1) funding increased by \$17.980M from FY22 to FY23 to support:</p> <ul style="list-style-type: none"><li>- APB 6/TI-1 Material procurements by the contractor for Proof-of- Design (POD) and Proof-of-Manufacturing (POM) deliverables (\$0.435M)</li><li>- Software development and test and evaluation of APB 6 for implementation on MOD 7 and MOD 8 hardware. Fielding of this capability will occur on MOD 7 1 year prior to MOD 8 (\$10.210M)</li><li>- Engineering test events for the TI-1 Improved Post Launch Communications System (IPLCS)(\$7.335M)</li></ul> <p>MK 48 general development funding increased by \$3.500M from FY22 to FY23 to establish a new Office of Naval Research (ONR) Future Naval Capability (FNC) program for Afterbody Upgrades supporting future MK 48 MOD 7, MOD 8, and MOD 9 upgrades.</p> <p>MK 48 MOD 9 (APB 7/TI-2) funding increased by \$33.629M from FY22 to FY23 to fund:</p> <ul style="list-style-type: none"><li>- Additional funding for labor, material procurements, and testing resources required for significant increase in prototype development, land-based and in-water testing (\$33.629M)</li></ul> <p>---</p> <p>FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy										<b>Date:</b> April 2022		
<b>Appropriation/Budget Activity</b> 1319 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0205632N / MK-48 ADCAP				<b>Project (Number/Name)</b> 0366 / MK 48 ADCAP			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
0366: MK 48 ADCAP	320.111	69.418	100.759	155.868	-	155.868	192.185	128.076	132.517	124.571	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The MK 48 ADCAP (Advanced Capability) Research, Development, Test and Evaluation (RDT&E) program executes incremental development of weapon performance improvements in two development product areas: (1) Advanced Processor Builds (APBs) (operational software), and (2) Torpedo Technology Insertions (TIs) (hardware). This Program Element (0205632N/0366) is tied to development programs that leverage a joint United States/Australia Armaments Cooperative Project (ACP) and develop MK 48 ADCAP technologies developed by the ONR and SCO.

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

	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
<b>Title:</b> TORPEDO APB / TEST & EVALUATION	69.418	100.759	155.868	0.000	155.868
<b>Articles:</b>	-	-	-	-	-
<b>FY 2022 Plans:</b>					
Continue APB 6 - Software development.					
Continue TI-1 Hardware development.					
Continue APB 6 - Modeling & Simulation development.					
APB 6/TI-1 - Conduct Critical Design Review (CDR).					
TI-1 - Conduct Second TI-1 G&C Integrated Baseline Review (IBR).					
Continue APB 7 - Software prototype development.					
Continue TI-2 - Hardware prototype development.					
APB 7/TI-2 - Continue in-water prototype testing.					
<b>FY 2023 Base Plans:</b>					
Continue APB 6 - Software development.					
Continue TI-1 Hardware development.					
Continue APB 6 - Modeling & Simulation development.					
APB 6/TI-1 - Conduct Engineering testing of G&C section and IPLCS.					
TI-1 - IPLCS Proof Of Design Hardware (POD) delivery.					
Conduct in-water testing of TI-IPLCS POD hardware.					
Continue APB 7 - Software prototype development.					
Continue TI-2 - Hardware prototype development.					
APB 7/TI-2 - Conduct System Requirements Review (SRR).					
Continue APB 7 /TI-2 - In-water prototype testing.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Navy		<b>Date:</b> April 2022
<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0205632N / MK-48 ADCAP	<b>Project (Number/Name)</b> 0366 / MK 48 ADCAP

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Initiate Afterbody Upgrade development.  <b>FY 2023 OCO Plans:</b> N/A  <b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> Funding increased by \$55.109M from FY22 to FY23 for: MK 48 MOD 8 (APB 6/TI-1) funding increased by \$17.980M from FY22 to FY23 to support: - APB 6/TI-1 Material procurements by the contractor for Proof-of- Design (POD) and Proof-of-Manufacturing (POM) deliverables (\$0.435M) - Software development and test and evaluation of APB 6 for implementation on MOD 7 and MOD 8 hardware. Fielding of this capability will occur on MOD 7 1 year prior to MOD 8 (\$10.210M) - Engineering test events for the TI-1 Improved Post Launch Communications System (IPLCS)(\$7.335M)  MK 48 general development funding increased by \$3.500M from FY22 to FY23 to establish a new Office of Naval Research (ONR) Future Naval Capability (FNC) program for Afterbody Upgrades supporting future MK 48 MOD 7, MOD 8, and MOD 9 upgrades.  MK 48 MOD 9 (APB 7/TI-2) funding increased by \$33.629M from FY22 to FY23 to fund: - Additional funding for labor, material procurements, and testing resources required for significant increase in prototype development, land-based and in-water testing (\$33.629M)					
<b>Accomplishments/Planned Programs Subtotals</b>	69.418	100.759	155.868	0.000	155.868

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• WPN/3225: MK-48 Torpedo ADCAP Mods	55.699	27.987	18.502	-	18.502	19.862	61.631	62.181	63.152	0.000	1,613.319
• WPN/3117: MK-48 Torpedo	276.844	130.972	151.128	-	151.128	235.692	248.987	304.291	249.557	Continuing	Continuing
<b>Remarks</b>											

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<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0205632N / MK-48 ADCAP	<b>Project (Number/Name)</b> 0366 / MK 48 ADCAP

**D. Acquisition Strategy**

Continue to incrementally develop technology to pace the threats to be integrated into the production baseline. A competitive contract for TI-1 hardware development was awarded in FY 2019. The development contract includes LRIP options to procure kits to be used for OT. FRP hardware will be used to upgrade the entire inventory of MK4 8 MOD 7 to MOD 8.

The MK 48 MOD 9 (APB 7/TI-2) acquisition strategy is to fund the Penn State University Applied Research Laboratory to complete prototype builds and testing from the OSD SCO program and implement design refinements for industry builds. Competitive industry manufacturing contract awards are planned starting in FY23 for developmental and operational test units.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Navy** **Date:** April 2022

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<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Software Development - APB 5 / 5+	WR	NUWC NPT : Newport RI	50.610	1.401	Nov 2020	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development - APB 6	WR	NUWC NPT : Newport RI	53.021	18.456	Nov 2020	20.280	Nov 2021	24.657	Nov 2022	-		24.657	Continuing	Continuing	Continuing
Software Development - APB 6	WR	NUWC KPT : Keyport WA	0.000	0.505	Nov 2020	0.400	Nov 2021	0.438	Nov 2022	-		0.438	0.000	1.343	-
Software Development - APB 6	WR	ARL / PSU : State College PA	0.000	0.000		2.450	Nov 2021	2.680	Nov 2022	-		2.680	0.000	5.130	-
Hardware Development - TI-1	WR	NUWC NPT : Newport RI	31.376	0.919	Nov 2020	2.900	Nov 2021	2.750	Nov 2022	-		2.750	Continuing	Continuing	Continuing
Hardware Development - TI-1	C/CPIF	Progeny : Manassas, VA	30.151	12.427	Jan 2021	29.330	Jan 2022	29.765	Jan 2023	-		29.765	Continuing	Continuing	Continuing
Hardware Development - TI-1 IPLCS	C/CPFF	Harris Corp. : Melbourne, FL	11.011	5.124	Nov 2020	4.000	Nov 2021	4.375	Nov 2022	-		4.375	Continuing	Continuing	Continuing
Hardware Development - IM	WR	Indian Head : Indian Head, MD	2.536	0.340	Oct 2020	0.450	Nov 2021	0.450	Nov 2022	-		0.450	Continuing	Continuing	Continuing
Software Development - APB 7	C/CPFF	ARL / PSU : State College PA	0.000	0.000		2.840	Nov 2021	2.897	Nov 2022	-		2.897	0.000	5.737	-
Software Development - APB 7	WR	NUWC NPT : Newport RI	0.000	0.000	Dec 2020	1.962	Nov 2021	3.600	Nov 2022	-		3.600	0.000	5.562	-
Hardware Development - TI-2	C/CPFF	ARL / PSU : State College PA	0.000	8.584	Nov 2020	18.265	Dec 2021	34.974	Dec 2022	-		34.974	0.000	61.823	-
Hardware Development - TI-2	WR	NUWC NPT : Newport RI	0.000	1.170	Nov 2020	1.670	Nov 2021	13.073	Nov 2022	-		13.073	0.000	15.913	-
Hardware Development - TI-2	WR	NSWC, IH : Indian Head, MD	0.000	1.252	Nov 2020	0.507	Nov 2021	3.223	Nov 2022	-		3.223	0.000	4.982	-
Hardware Development - Afterbody Upgrades	WR	NUWC NPT : Newport RI	0.000	0.000		0.000		3.500	Nov 2022	-		3.500	0.000	3.500	-
<b>Subtotal</b>			178.705	50.178		85.054		126.382		-		126.382	Continuing	Continuing	N/A

**Remarks**

- Increased funding in FY23 for APB 6 to support increased software development with implementation on MOD 7 and MOD 8 hardware.
- Increased funding in FY23 for TI-1 to support increased material procurement requirements by the contractor in FY23.
- Increased funding in FY23 for IPCS is due to increased material procurement requirements by the contractor in FY23.

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<b>Product Development (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
- Increased funding in FY23 for APB 7 due to increased software algorithm development. - Increased funding in FY23 for TI-2 hardware development updates to OSD SCO prototype baseline, supporting transition to industry and the fleet. This includes system engineering, hardware/software prototype design updates, material procurements, with associated land-based and in-water prototype testing. - Increased funding in FY23 to support Afterbody Upgrades for the MK-48 MOD 7, MOD 8, and MOD 9.															

<b>Support (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development - APB 5/APB5+	WR	NUWC NPT : Newport RI	40.473	1.744	Nov 2020	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development - APB 6	WR	NUWC NPT : Newport RI	4.392	3.073	Nov 2020	4.200	Nov 2021	5.900	Nov 2022	-		5.900	Continuing	Continuing	Continuing
Software Development - APB 6	WR	NUWC KPT : Keyport WA	2.287	0.666	Nov 2020	3.210	Nov 2021	3.210	Nov 2022	-		3.210	Continuing	Continuing	Continuing
Software Development - APB 6	C/CPFF	ARL / PSU : State College PA	0.000	0.000		0.048	Dec 2021	0.048	Dec 2022	-		0.048	0.000	0.096	-
Hardware Development - TI-1 IPLCS	C/CPFF	ARL / PSU : State College PA	0.000	0.600	Nov 2020	0.600	Nov 2021	0.600	Nov 2022	-		0.600	0.000	1.800	-
<b>Subtotal</b>			47.152	6.083		8.058		9.758		-		9.758	Continuing	Continuing	N/A

**Remarks**  
-Increased funding in FY23 for APB 6 software development

<b>Test and Evaluation (\$ in Millions)</b>				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation - APB 5/5+	WR	NUWC NPT : Newport RI	30.641	4.429	Oct 2020	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Test & Evaluation - APB 5/5+	WR	NUWC KPT : Keyport WA	41.950	3.803	Oct 2020	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2021</b>		<b>FY 2022</b>		<b>FY 2023 Base</b>		<b>FY 2023 OCO</b>		<b>FY 2023 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</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>			
Test & Evaluation - APB 5/5+	WR	OPTEVFOR : Norfolk VA	13.341	0.364	Dec 2020	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Test & Evaluation - APB 6	WR	NUWC KPT : Keyport WA	0.000	1.373	Nov 2020	1.350	Nov 2021	2.840	Nov 2022	-		2.840	0.000	5.563	-
Test & Evaluation - APB 6	WR	NUWC NPT : Newport RI	0.000	1.984	Nov 2020	0.290	Nov 2021	2.495	Nov 2022	-		2.495	0.000	4.769	-
Test & Evaluation - APB 6	WR	OPTEVFOR : Norfolk VA	0.000	0.000		0.546	Dec 2021	0.700	Dec 2022	-		0.700	0.000	1.246	-
Test & Evaluation - TI-1	WR	NUWC NPT : Newport RI	0.000	0.000		0.715	Nov 2021	2.150	Nov 2022	-		2.150	0.000	2.865	-
Test & Evaluation - TI-1	WR	NUWC KPT : Keyport WA	0.000	0.143	Nov 2020	0.715	Nov 2021	6.390	Nov 2022	-		6.390	0.000	7.248	-
Test & Evaluation - TI-2	WR	NUWC KPT : Keyport WA	0.000	0.484	Nov 2020	3.440	Nov 2021	4.546	Nov 2022	-		4.546	0.000	8.470	-
<b>Subtotal</b>			85.932	12.580		7.056		19.121		-		19.121	Continuing	Continuing	N/A

**Remarks**  
 - Increased funding in FY23 for TI-1/APB 6 engineering tests and evaluation of the G&C section and IPLCS.  
 - Increased funding in FY23 for TI-2 to support MOD 9 Prototype in-water test events.

<b>Management Services (\$ in Millions)</b>				<b>FY 2021</b>		<b>FY 2022</b>		<b>FY 2023 Base</b>		<b>FY 2023 OCO</b>		<b>FY 2023 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</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>			
Program Management	C/CPFF	Serco : Mclean VA	6.873	0.542	Dec 2020	0.556	Nov 2021	0.571	Nov 2022	-		0.571	0.000	8.542	-
Travel	WR	NAVSEA : Washington DC	1.449	0.035	Dec 2020	0.035	Nov 2021	0.036	Nov 2022	-		0.036	0.000	1.555	-
<b>Subtotal</b>			8.322	0.577		0.591		0.607		-		0.607	0.000	10.097	N/A

<b>Project Cost Totals</b>	<b>Prior Years</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
	320.111	69.418	100.759	155.868	-	155.868	Continuing	Continuing	N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2023 Navy	<b>Date:</b> April 2022
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<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0205632N / MK-48 ADCAP	<b>Project (Number/Name)</b> 0366 / MK 48 ADCAP
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	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
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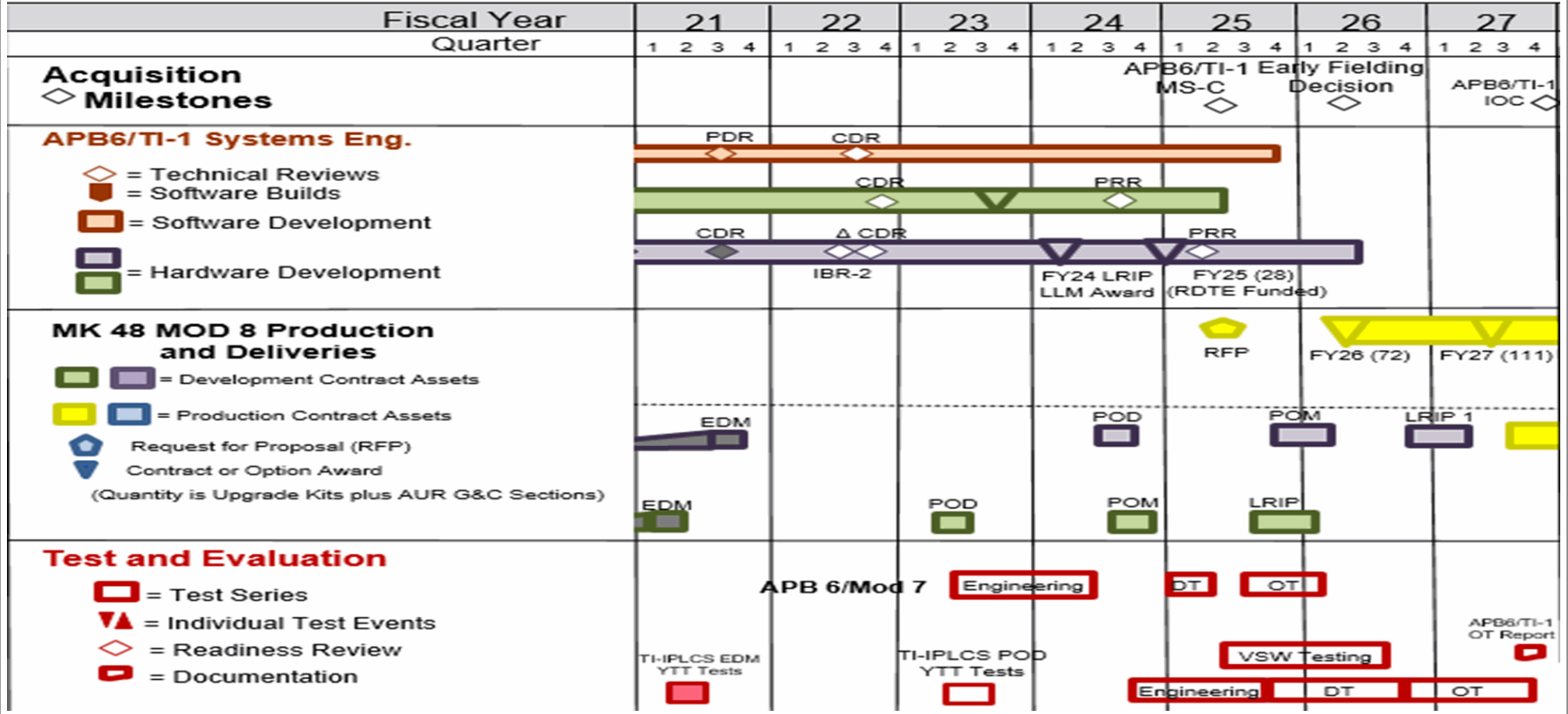
<u>Remarks</u>									
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Appropriation/Budget Activity  
1319 / 7

R-1 Program Element (Number/Name)  
PE 0205632N / MK-48 ADCAP

Project (Number/Name)  
0366 / MK 48 ADCAP

# MK 48 APB 6/TI-1 (MOD 8) Acquisition Schedule





**UNCLASSIFIED**

**Exhibit R-4A, RDT&E Schedule Details: PB 2023 Navy** **Date:** April 2022

<b>Appropriation/Budget Activity</b> 1319 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0205632N / MK-48 ADCAP	<b>Project (Number/Name)</b> 0366 / MK 48 ADCAP
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 0366</b>				
APB 6 Software / TI-1 Hardware Development: APB 6 Development	1	2018	2	2025
APB 6 Software / TI-1 Hardware Development: TI-1 Development	4	2019	2	2026
APB 6 Software / TI-1 Hardware Development: APB 6/TI-1 Developmental Test (DT)	3	2025	3	2026
APB 6 Software / TI-1 Hardware Development: APB 6/TI-1 Operational Test (OT)	3	2026	3	2027
APB 7 Software / TI-2 Hardware Development: APB 7 / TI-2 Prototype Testing and Demonstration	1	2021	4	2025
APB 7 Software / TI-2 Hardware Development: APB 7 Development	1	2023	4	2027
APB 7 Software / TI-2 Hardware Development: TI-2 Development	1	2023	4	2027