Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205632N *I MK-48 ADCAP*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	206.635	35.115	10.080	25.952	-	25.952	30.876	29.431	51.922	81.073	Continuing	Continuing
0366: *MK 48 ADCAP*	191.221	25.949	10.080	25.952	-	25.952	30.876	29.431	51.922	81.073	Continuing	Continuing
9999: *Congressional Adds*	15.414	9.166	-	-	-	-	-	-	-	-	-	24.580

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

MK-48 ADCAP (Advanced Capability) Research, Development, Test and Evaluation (RDT&E) program executes incremental development of weapon performance improvements in three development product areas: (1) Common Broadband Advanced Sonar System (CBASS), (2) Advanced Processor Builds (APBs), and (3) torpedo technology insertion. The budget enables Acquisition Category (ACAT) III development to address Chief of Naval Operations (CNO) defined capability-based requirements and mission needs. This program is tied to development programs that leverage a joint United States/Australia Armaments Cooperative Project (ACP) to develop MK-48 ADCAP CBASS; and Future Naval Capability (FNC) technologies developed by the Office of Naval Research (ONR).

Countermeasure (CM) sophistication and availability on the open market directly affects ADCAP kill proficiency and its ability to counter rapidly evolving threats. The focus of the MK-48 ADCAP torpedo program from FY 2001 and out shifted from being primarily concentrated on software block upgrade efforts towards coordinated hardware upgrades, rapid Commercial-Off-the-Shelf (COTS) insertion, and APBs to rapidly upgrade the ADCAP to counter evolving threats and maintain robust performance. The CBASS program developed and fielded a broadband sonar capable of identifying CMs and discriminating them from the target. CBASS Phase I achieved IOC in FY 2006 and Phase II was achieved in 2013. The Commonwealth of Australia Royal Navy (RAN) is jointly participating to develop CBASS APB5 to improve shallow water performance and signed a Memorandum of Agreement (MOA) extension November 2009. The MOA extension expires Nov 2019.

The MK-48 ADCAP torpedo program focuses on two specific areas near term; torpedo APBs and hardware tech insertions. The CNO continues to stress shallow water (less than 600 feet) as a critical operating area to counter third world diesel electric submarines. Torpedo testing in shallow water has demonstrated that in-service ADCAP has less than full capability in this difficult environment. However, this 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. Development, implementation, and testing of these changes is being accomplished under the torpedo APB program. The APB program also leverages the RAN joint torpedo program and FNC technologies developed by the ONR in the areas of torpedo broadband signal processing, tactics processing, and alertment. The torpedo tech insertion program will leverage the MK-54 Lightweight Torpedo (LWT) algorithms. Further hardware investment involves development of Guidance & Control (G&C) replacement required to support production and development of automated test equipment replacement to improve comprehensive system testing of full up CBASS torpedoes.

The torpedo technology insertion program will provide for evolutionary torpedo improvements and upgrades (including the transition and testing of advanced technologies from the research and development community). This approach will incorporate developmental testing of the FNC transitioning technologies for ADCAP upgrades in the areas of torpedo sensors, weapon/platform connectivity, warhead lethality, speed and endurance. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy	Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205632N *I MK-48 ADCAP*

APB5 software upgrades are currently in process for MK-48 ADCAP torpedoes.

Both FNC technologies and MK-54 LWT developments will be transitioned into ADCAP through APBs and technology insertion packages. Priorities for APBs and technology insertion are: (1) improved torpedo effectiveness through advanced processing algorithms, (2) advanced counter-countermeasure capability, and (3) a new array to improve torpedo effectiveness.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	28.717	12.806	24.116	-	24.116
Current President's Budget	35.115	10.080	25.952	-	25.952
Total Adjustments	6.398	-2.726	1.836	-	1.836
• Congressional General Reductions	-	-0.026			
• Congressional Directed Reductions	-	-2.700			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.372	-			
• Rate/Misc Adjustments	-	-	1.836	-	1.836
• Congressional General Reductions Adjustments	-3.230	-	-	-	-
• Congressional Add Adjustments	10.000	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 9999: *Congressional Adds*		
Congressional Add: *Small Business Technology Insertion*	9.166	-
Congressional Add Subtotals for Project: 9999	9.166	-
Congressional Add Totals for all Projects	9.166	-

Change Summary Explanation

FY15 was reduced for contractor services and rephased due to delayed contract awards for the G&C Reconstitution and replacement Automated Test Equipment (ATE) in FY13. These reductions were offset by funding increases to accelerate technology development for APB5/6 and for offensive mining.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205632N / *MK-48 ADCAP*				Project (Number/Name) 0366 / *MK 48 ADCAP*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
0366: *MK 48 ADCAP*	191.221	25.949	10.080	25.952	-	25.952	30.876	29.431	51.922	81.073	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Completed Spiral 4 Operational Testing (OT) and achieved IOC in 3rd Qtr 2013

MK-48 ADCAP program executes incremental development of weapon performance improvements in two development product areas: (1) APBs, and (2) torpedo technology insertion. The budget enables ACAT III development to address CNO defined capability-based requirements and mission needs. This program is tied to development programs that leverage a joint United States/Australia ACP to develop MK-48 ADCAP; and FNC technologies being developed by the ONR.

APB software upgrades will improve torpedo performance in challenging water, countered environments through incorporation of new algorithms designed to address broadband, multiband, classifications and tactics processing changes. Hardware technology insertions will improve weapon availability through development of a G&C replacement and an ATE replacement.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TORPEDO APB	20.848	5.095	15.383
Articles:	-	-	-
FY 2013 Accomplishments: Continued APB 5 development. Continued development of ATE replacement.			
FY 2014 Plans: Continue APB 5 development. Complete development of ATE replacement			
FY 2015 Plans: Continue APB 5 development.			
Title: OPERATIONAL TEST SUPPORT	5.101	4.985	10.569
Articles:	-	-	-
FY 2013 Accomplishments: Conducted APB 5 developmental testing.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205632N / *MK-48 ADCAP*	**Project (Number/Name)** 0366 / *MK 48 ADCAP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue APB 5 developmental testing. ***FY 2015 Plans:*** Continue APB 5 developmental testing. Conduct HWT extended range demontration.			
Accomplishments/Planned Programs Subtotals	25.949	10.080	25.952

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• WPN/3225: *MK-48 Torpedo ADCAP Mods*	48.769	48.503	46.893	-	46.893	62.245	39.954	44.848	45.700	Continuing	Continuing

Remarks

D. Acquisition Strategy

Sole source production contract awarded in FY 2004 for MK-48 ADCAP MODS, MK-54 LWT, and CBASS kits, including RAN units. A full and competitive procurement for MK46 Mod 7 CBASS production kits was awarded in March 2011 with a FY 2010/2011 base year and four option years for FY 2012-2015.

E. Performance Metrics

Milestone reviews.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205632N / *MK-48 ADCAP*	**Project (Number/Name)** 0366 / *MK 48 ADCAP*

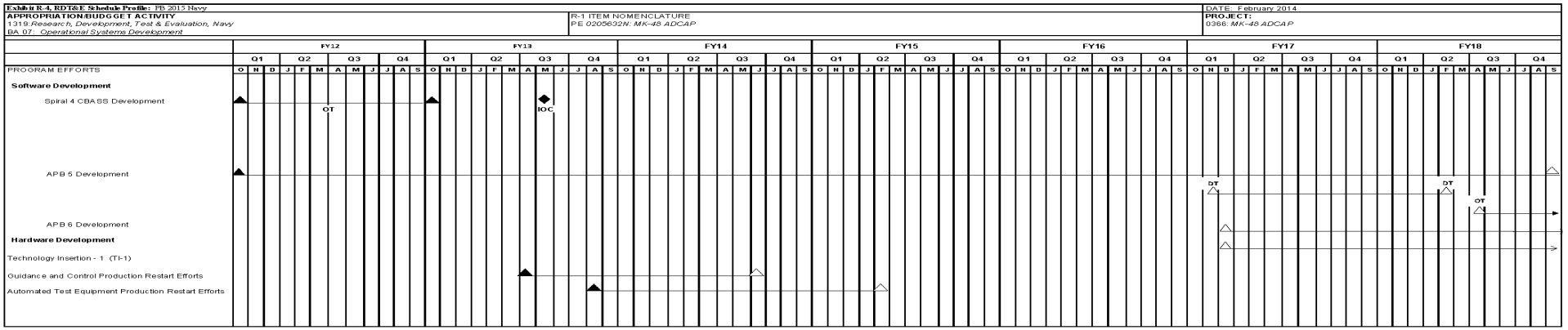

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205632N / *MK-48 ADCAP*				Project (Number/Name) 9999 / *Congressional Adds*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
9999: *Congressional Adds*	15.414	9.166	-	-	-	-	-	-	-	-	-	24.580
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Congressional add for Small Business Technology Insertion.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: Small Business Technology Insertion	9.166	-
FY 2013 Accomplishments: - Conducted 112 element array demo for the MK 48 heavyweight torpedo and HWT transmitter re-design efforts.		
FY 2014 Plans: - Continue 112 element array demo for the MK 48 heavyweight torpedo and HWT transmitter re-design efforts.		
Congressional Adds Subtotals	9.166	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Congressional adds

E. Performance Metrics

Congressional adds