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**Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy** **Date:** March 2014

<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 0604610N / <i>Lightweight Torpedo Development</i>
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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	200.995	45.906	26.444	25.280	-	25.280	18.668	15.970	13.634	14.017	Continuing	Continuing
2234: <i>Lightweight Hybrid Torpedo</i>	200.995	36.903	26.444	25.280	-	25.280	18.668	15.970	13.634	14.017	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	9.003	-	-	-	-	-	-	-	-	-	9.003

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

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

The Lightweight Torpedo (LWT) program designs, integrates and tests the LWT, MK54. LWT provides performance improvements in shallow water, counter-measure environments. The Engineering Development Model (EDM) contract has delivered twenty-one EDM units to support the in-water test program. The EDM contract for the MK54 Mod 1 was awarded to Progeny Systems Corporation in September 2008. The High Altitude Anti-Submarine Warfare Weapon Capability (HAAWC) development and Low Rate Initial Production (LRIP) contract was awarded to Boeing on April 2013. Initial Operating Capability (IOC) of the MK 54 Mod 0 was achieved in 2004. IOC of the MK 54 equipped VLA was achieved in 2010.

Budget supports Pre-Planned Product Improvement (P3I) program using an incremental developmental acquisition approach combining hardware and Advanced Processor Build (APB) software upgrades to enable rapid fielding of improvements to the fleet. The P3I program will focus on common LWT and Heavyweight Torpedo (HWT) hardware and software architecture enhancements that will provide re-architecture, broadband array improvements, Block Upgrade (BUG), and APB software improvements. Future APB software builds will utilize the common torpedo software to deliver software and tactics to both the MK 48 Advanced Capability (ADCAP) and MK 54 LWT. The P3I program will also support development of enhanced weapon delivery methods, including the high altitude launch of the MK 54 from Maritime Patrol Aircraft (MPA) with the HAAWC.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	49.818	26.444	29.999	-	29.999
Current President's Budget	45.906	26.444	25.280	-	25.280
Total Adjustments	-3.912	-	-4.719	-	-4.719
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.745	-			
• Rate/Misc Adjustments	0.001	-	-4.719	-	-4.719

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• Congressional General Reductions Adjustments	-5.168	-	-	-	-
• Congressional Directed Reductions Adjustments	-8.000	-	-	-	-
• Congressional Add Adjustments	10.000	-	-	-	-

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 9999: *Congressional Adds*

Congressional Add: *LWT SBIR (Cong)*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2013	FY 2014
	9.003	-
	9.003	-
	9.003	-

**Change Summary Explanation**

Technical: FY13 funding reductions are due to the HAAWC Contract Delay (\$8.0M); Sequestration/Rescission of (\$5.168); and SBIR (\$.745M).

In FY15, funding reductions reflect a reduction for contracted services, underexecution, and working capital fund rate adjustments.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604610N / <i>Lightweight Torpedo Development</i>				<b>Project (Number/Name)</b> 2234 / <i>Lightweight Hybrid Torpedo</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
2234: <i>Lightweight Hybrid Torpedo</i>	200.995	36.903	26.444	25.280	-	25.280	18.668	15.970	13.634	14.017	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**

The program designs, integrates and tests the LWT, MK54. The LWT provides performance improvements in shallow water, counter-measure environments. The EDM contract was awarded to Raytheon Systems Company in June 1996. IOC of the MK54 Mod 0 achieved in 2004. IOC of MK 54 equipped VLA MK 54 achieved in 2010.

- FY 2013 delivery includes 24 MK54 Mod 1 POM units
- FY 2014 achievement of BUG IOC
- FY 2015 HAAWC Contract delivery of 6 Engineering units
- FY 2015 HAAWC Contract delivery of 14 POM units
- FY 2017 achievement of HAAWC IOC
- FY 2020 achievement of MK 54 Mod 1 IOC

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

		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b>	MK54 Pre-Planned Product Improvement			
<b>Articles:</b>		36.903	26.444	25.280
		24.000	7.000	14.000
<b>Description:</b>	MK54 P3I includes the MK54 VLA integration and HAAWC programs.			
<b>FY 2013 Accomplishments:</b>	Developed of hardware/software improvements for P3I program. Developed of MK54 high altitude launch capability from MPA (HAAWC). Conducted block upgrade operational testing. Conducted environmental qualification testing of hardware improvements (112 element array) on MK54 MOD 1.			
<b>FY 2014 Plans:</b>	Continue development of hardware/software improvements for P3I program. Continue development of MK54 high altitude launch capability from MPA (HAAWC). Awarded HAAWC development contract and conduct MS B review. Complete MK54 MOD 1 qualification testing. Conduct MK54 MOD 1 Production Readiness Review (PRR).			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604610N / <i>Lightweight Torpedo Development</i>	<b>Project (Number/Name)</b> 2234 / <i>Lightweight Hybrid Torpedo</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2013	FY 2014	FY 2015
Intiate MK54 Mod 1 developmental testing.			
<b><i>FY 2015 Plans:</i></b> Continue development of hardware/software improvements for P3I program. Continue development of MK54 high altitude launch capability from MPA (HAAWC). Conduct first HAAWC flight tests. Continue MK54 MOD 1 development testing.			
<b>Accomplishments/Planned Programs Subtotals</b>	36.903	26.444	25.280

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

<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• WPN/3215: <i>MK54 Torpedo</i>	71.585	122.098	98.928	-	98.928	152.706	153.017	165.111	166.903	Continuing	Continuing
<i>Mods, MK54 Torpedo</i>											
<i>Mods, MK54 Torpedo Mods</i>											

**Remarks**

**D. Acquisition Strategy**

The EDM contract held by Raytheon Systems Company supports an incremental upgrade strategy to counter evolving threats. The award of EDM contracts among qualified producers includes both hardware and software upgrades. The contract was awarded as a cost-plus-award fee in June 1996, and was converted to ccst-plus-incentive fee in December 1998. Sole source production contract awarded in FY 2004 for MK48 ADCAPS MODS/CBASS and MK54 LWT. The MK54 LWT kit fixed-price-incentive (firm target) procurement contract was awarded in September 2011 to Raytheon Systems Company. The MK 54 Mod 1 cost-plus-fixed-fee development contract was awarded to Progeny in September 2008.

**E. Performance Metrics**

Milestone reviews.  
System engineering technical review.  
Earned value management reviews.

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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: <i>Congressional Adds</i>	-	9.003	-	-	-	-	-	-	-	-	-	9.003
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
<b><i>Congressional Add:</i></b> LWT SBIR (Cong)	9.003	-
<b><i>FY 2013 Accomplishments:</i></b> Procure MK54 Mod 1 common test sets, perform pre-production efforts, and middleware enhancements.		
<b><i>FY 2014 Plans:</i></b> N/A		
<b>Congressional Adds Subtotals</b>	9.003	-

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

N/A

**Remarks**

**D. Acquisition Strategy**

Congressional add.

**E. Performance Metrics**

Congressional add.