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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2017 Navy **Date:** February 2016

<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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	263.996	39.664	43.738	20.178	-	20.178	19.497	48.719	76.045	95.363	Continuing	Continuing
2234: <i>Lightweight Hybrid Torpedo</i>	263.996	29.994	33.738	20.178	-	20.178	14.497	13.719	14.045	14.363	Continuing	Continuing
3418: <i>Advanced Anti-Submarine Lightweight Torpedo</i>	0.000	0.000	0.000	0.000	-	0.000	5.000	35.000	62.000	81.000	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	9.670	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.670

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

The Lightweight Torpedo (LWT) program designs, integrates and tests the LWT MK 54. The LWT development program provides performance improvements in shallow water and counter-measure environments. The Engineering Development Model (EDM) contract has delivered 21 MK 54 MOD 1 EDM units to support the in-water test program. The EDM contract for the MK 54 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, and APB software improvements. Future APB software builds will utilize the common torpedo software to deliver software and tactics to both the MK 54 LWT, and MK 48 Advanced Capability (ADCAP). The P3I program will also support development of enhanced weapon delivery methods, including the high altitude launch of the MK 54 from the P-8A Maritime Patrol Reconnaissance Aircraft (MPRA) with the HAAWC.

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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 0604610N / <i>Lightweight Torpedo Development</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Previous President's Budget	35.280	33.738	16.701	-	16.701
Current President's Budget	39.664	43.738	20.178	-	20.178
Total Adjustments	4.384	10.000	3.477	-	3.477
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	5.100	0.000			
• SBIR/STTR Transfer	-0.716	0.000			
• Program Adjustments	0.000	0.000	-1.840	-	-1.840
• Rate/Misc Adjustments	0.000	0.000	5.317	-	5.317

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

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

Congressional Add: *LWT SBIR (Cong)*

	<b>FY 2015</b>	<b>FY 2016</b>
	9.670	10.000
Congressional Add Subtotals for Project: 9999	9.670	10.000
Congressional Add Totals for all Projects	9.670	10.000

**Change Summary Explanation**

Decrease in Lightweight Torpedo Development by \$0.856M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

Funding: FY 17 program adjustments are due to a reduction for underexecution, increase in funding to continue to develop HAAWC, and for rate and inflation adjustments.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy										<b>Date:</b> February 2016		
<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 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
2234: <i>Lightweight Hybrid Torpedo</i>	263.996	29.994	33.738	20.178	-	20.178	14.497	13.719	14.045	14.363	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**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 MK 54 MOD 0 achieved in 2004. IOC of MK 54 equipped VLA achieved in 2010.

- FY 2014 achievement of Block Upgrade (BUG) IOC
- FY 2016 HAAWC Contract delivery of 6 engineering units
- FY 2016 HAAWC Contract delivery of 14 EDM units
- FY 2020 achievement of HAAWC IOC
- FY 2021 achievement of MK 54 MOD 1 IOC

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

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
<b>Title:</b> MK54 Pre-Planned Product Improvement	29.994	33.738	20.178	0.000	20.178
<b>Articles:</b>	20	-	-	-	-
<b>Description:</b> MK54 P3I includes the MK54 VLA integration and HAAWC programs.					
<b>FY 2015 Accomplishments:</b>					
Conducted MK 54 MOD 1 Production Readiness Review (PRR).					
Continued development of hardware/software improvements for P3I program.					
Continued development of MK 54 high altitude launch capability from MPA (HAAWC).					
<b>FY 2016 Plans:</b>					
Conduct MK 54 MOD 1 DT					
Continue development of hardware/software improvements for P3I program.					
Continue development of MK 54 high altitude launch capability from MPA (HAAWC).					
Conduct first HAAWC flight tests.					
<b>FY 2017 Base Plans:</b>					
Continue MK 54 MOD 1 DT					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy		<b>Date:</b> February 2016
<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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>
Continue HAAWC development. <i>FY 2017 OCO Plans:</i> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>	29.994	33.738	20.178	0.000	20.178

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• WPN/3215: <i>MK54 Torpedo Mods</i>	64.155	113.219	98.092	-	98.092	116.048	127.219	141.046	143.945	0.000	1,620.426

**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 cost-plus-incentive fee in December 1998. Sole source production contract awarded in FY 2004 for MK 48 ADCAPS MODS/CBASS and MK 54 LWT. The MK 54 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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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0604610N / <i>Lightweight Torpedo Development</i>				2234 / <i>Lightweight Hybrid Torpedo</i>							
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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
Hardware Development - PRIOR YEAR	WR	NUWC : Newport/ Keyport	46.056	1.584	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Hardware Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	0.000		1.025	Nov 2015	0.360	Oct 2016	-		0.360	0.000	1.385	-
Hardware Development - MK 54 MOD 1	SS/FP	Progeny Systems : Not Specified	24.394	0.000		0.000		0.000		-		0.000	0.000	24.394	-
Hardware Development - HAAWC	WR	NSWCCD : Carderock, MD	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	-
Hardware Development - HAAWC	C/CPAF	Boeing : St. Louis, MO	59.812	11.469	Apr 2015	21.267	Dec 2015	6.518	Oct 2016	-		6.518	Continuing	Continuing	Continuing
Hardware Development - HAAWC	WR	NSWCDD : Dahlgren, VA	0.000	0.400	Oct 2014	0.000		0.000		-		0.000	0.000	0.400	-
Hardware Development - INSENSITIVE MUNITIONS	C/BA	NUWC : Newport	0.000	0.000		0.210	Dec 2015	0.210	Oct 2016	-		0.210	0.000	0.420	-
Hardware Development - INSENSITIVE MUNITIONS	WR	NSWC : Indian Head, MD	0.000	0.000		0.240	Dec 2015	0.240	Oct 2016	-		0.240	0.000	0.480	-
Hardware Development - PRIOR YEAR	WR	NSWC : Indian Head, MD	4.130	0.900	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development - PRIOR YEAR	WR	NUWC : Newport/ Keyport	19.730	0.059	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	0.000		0.010	Oct 2015	0.000		-		0.000	0.000	0.010	-
Software Development - MK 54 MOD 1	C/CPFF	MIT : Boston, MA	0.345	0.328	Oct 2014	0.337	Jan 2016	0.348	Jan 2017	-		0.348	0.000	1.358	-
Software Development - MK 54 MOD 1	C/BA	ARL/PSU : Philadelphia, PA	0.000	0.201	Oct 2014	0.207	Jan 2016	0.213	Jan 2017	-		0.213	0.000	0.621	-
Systems Engineering - VLA	SS/FP	Lockheed Martin: VLA : Akron, OH	7.606	0.000		0.000		0.000		-		0.000	0.000	7.606	-
Systems Engineering - HAAWC	WR	NSWC PMA 290 : Paxtuxent, MD	7.332	0.750	Oct 2014	0.500	Oct 2015	1.000	Oct 2016	-		1.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy												Date: February 2016			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604610N / <i>Lightweight Torpedo Development</i>				Project (Number/Name) 2234 / <i>Lightweight Hybrid Torpedo</i>							
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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 - HAAWC	WR	NAWCWD : China Lake	5.106	0.000	Oct 2014	0.500	Oct 2015	1.000	Oct 2016	-		1.000	0.000	6.606	-
Systems Engineering - HAAWC	C/CPFF	John Hopkins University : Baltimore, MD	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	-
Systems Engineering	SS/FP	SPA Inc. : Not Specified	0.640	0.000		0.000		0.000		-		0.000	0.000	0.640	-
Systems Engineering	WR	Naval Operational Logistics Support Center (NOLSC) : Not Specified	0.025	0.000		0.000		0.000		-		0.000	0.000	0.025	-
System Test & Evaluation - HAAWC	WR	NUWC : Newport/ Keyport	20.881	0.350	Oct 2014	0.350	Nov 2015	0.350	Oct 2016	-		0.350	Continuing	Continuing	Continuing
<b>Subtotal</b>			196.157	16.041		24.646		10.239		-		10.239	-	-	-
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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
Hardware Development	WR	NUWC : Newport/ Keyport	2.722	1.167	Oct 2014	0.458	Oct 2015	1.000	Oct 2016	-		1.000	0.000	5.347	-
Program Management Support	WR	NUWC : Newport/ Keyport	4.857	1.362	Oct 2014	1.362	Oct 2015	1.362	Oct 2016	-		1.362	0.000	8.943	-
Program Management Support	C/BA	ARL/PSU : Philadelphia, PA	0.441	0.000		0.000		0.000		-		0.000	0.000	0.441	-
Program Management Support	Various	NAVSEA : Not Specified	0.168	0.000		0.000		0.000		-		0.000	0.000	0.168	-
Systems Engineering	WR	NUWC : Newport/ Keyport	0.120	0.000		0.000		0.000		-		0.000	0.000	0.120	-
System Test and Evaluation	WR	NUWC : Newport/ Keyport	25.482	1.614	Oct 2014	1.444	Oct 2015	1.753	Oct 2016	-		1.753	Continuing	Continuing	Continuing
<b>Subtotal</b>			33.790	4.143		3.264		4.115		-		4.115	-	-	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy** **Date:** February 2016

<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>Test and Evaluation (\$ in Millions)</b>				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 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			
Systems Engineering - MK 54 MOD 1	WR	NSWC : Carderock	0.090	0.694	Oct 2014	0.475	Oct 2015	0.000		-		0.000	0.000	1.259	-
System Test and Evaluation - PRIOR YEAR	WR	NUWC : Newport/ Keyport	25.140	7.051	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
System Test and Evaluation - MK 54 MOD 1	WR	NUWC : Keyport	0.000	0.000		1.097	Oct 2015	1.357	Oct 2016	-		1.357	0.000	2.454	-
System Test and Evaluation - MK 54 MOD 1	WR	NUWC : Newport	0.000	0.000		1.561	Oct 2015	2.501	Oct 2016	-		2.501	0.000	4.062	-
System Test and Evaluation - MK 54 MOD 1	WR	NSWC : Indian Head, MD	0.015	0.758	Oct 2014	0.570	Oct 2015	0.233	Oct 2016	-		0.233	0.000	1.576	-
System Test and Evaluation - MK 54 MOD 1	C/CPIF	ARL/PSU : Philadelphia, PA	0.068	0.000		0.000		0.000		-		0.000	0.000	0.068	-
System Test and Evaluation - MK 54 MOD 1	TBD	Aberdeen Test Center : Aberdeen, MD	0.000	0.318	Oct 2014	0.413	Oct 2015	0.000		-		0.000	0.000	0.731	-
System Test and Evaluation - MK 54 MOD 1	WR	OPTEVFOR : Not Specified	0.000	0.000		0.750	Oct 2015	0.250	Oct 2016	-		0.250	0.000	1.000	-
System Test and Evaluation - PRIOR YEAR	WR	OPTEVFOR : Not Specified	3.140	0.350	Oct 2014	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
System Test and Evaluation - HAAWC	WR	OPTEVFOR : Not Specified	0.000	0.000		0.250	Nov 2015	0.500	Oct 2016	-		0.500	0.000	0.750	-
System Test and Evaluation - HAAWC	WR	NSWC : Dalgren, VA	0.000	0.000		0.091	Oct 2015	0.000		-		0.000	0.000	0.091	-
System Test and Evaluation - HAAWC	WR	NUWC : Keyport	0.000	0.000		0.152	Oct 2015	0.466	Oct 2016	-		0.466	0.000	0.618	-
System Test and Evaluation - WEAPON TRANSPORT	WR	NUWC : Keyport	0.000	0.000		0.026	Oct 2015	0.027	Oct 2016	-		0.027	0.000	0.053	-
System Test and Evaluation	TBD	NAVSEA : Not Specified	1.278	0.000		0.000		0.000		-		0.000	0.000	1.278	-
<b>Subtotal</b>			29.731	9.171		5.385		5.334		-		5.334	-	-	-



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**Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy** **Date:** February 2016

<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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Proj 2234	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021					
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		
APB 5																														
Tech Insertion 1 (TI-1) / New Array Production Readiness Review (PRR) to MK54 MOD 1																														
Tech Insertion 1 (TI-1)/ New Array Developmental Testing (DT) to MK54 MOD 1																														
Tech Insertion 1 (TI-1) / New Array OT to MK54 MOD 1																														
Tech Insertion (TI-1)/ New Array IOC MK54 MOD 1																														
HAAWC Design/Development/Qualification																														
HAAWC Production Readiness Review (PRR)																														
HAAWC DT																														
HAAWC OT																														
HAAWC IOC																														

2017PB - 0604610N - 2234

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Navy		<b>Date:</b> February 2016
<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>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2234</b>				
APB 5:	1	2015	3	2021
Tech Insertion 1 (TI-1) / New Array Production Readiness Review (PRR) to MK54 MOD 1:	2	2015	2	2015
Tech Insertion 1 (TI-1)/ New Array Developmental Testing (DT) to MK54 MOD 1:	1	2016	1	2020
Tech Insertion 1 (TI-1) / New Array OT to MK54 MOD 1:	2	2020	2	2021
Tech Insertion (TI-1)/ New Array IOC MK54 MOD 1:	3	2021	3	2021
HAAWC Design/Development/Qualification:	1	2015	2	2019
HAAWC Production Readiness Review (PRR):	3	2019	3	2019
HAAWC DT:	1	2018	4	2019
HAAWC OT:	1	2020	2	2020
HAAWC IOC:	3	2020	3	2020

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy										<b>Date:</b> February 2016		
<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> 3418 / <i>Advanced Anti-Submarine Lightweight Torpedo</i>				
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3418: <i>Advanced Anti-Submarine Lightweight Torpedo</i>	0.000	0.000	0.000	0.000	-	0.000	5.000	35.000	62.000	81.000	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

Fund development of an advanced lightweight torpedo capable of prosecuting high-speed and high hull-strength adversary submarines.

**B. Accomplishments/Planned Programs (\$ in Millions)**

N/A

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

N/A

**Remarks**

**D. Acquisition Strategy**

The Acquisition Strategy will likely be similar to the MK48 Mod 8, which is a full and open competition contract award for the development of a new advanced Lightweight Torpedo.

**E. Performance Metrics**

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



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**Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy** **Date:** February 2016

<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> 3418 / <i>Advanced Anti-Submarine Lightweight Torpedo</i>
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<b>Proj 3418</b>	<b>FY 2015</b>				<b>FY 2016</b>				<b>FY 2017</b>				<b>FY 2018</b>				<b>FY 2019</b>				<b>FY 2020</b>				<b>FY 2021</b>							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
2017PB - 0604610N - 3418																																

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2017 Navy		<b>Date:</b> February 2016
<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> 3418 / <i>Advanced Anti-Submarine Lightweight Torpedo</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3418</b>				
Test Planning and Documentation (DT/OT/ALFT&E/FOT&E)	1	2017	4	2017
Follow on Development and Testing	1	2018	4	2021

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2017 Navy										<b>Date:</b> February 2016		
<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> 9999 / <i>Congressional Adds</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017 Base</b>	<b>FY 2017 OCO</b>	<b>FY 2017 Total</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
9999: <i>Congressional Adds</i>	0.000	9.670	10.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.670
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

Congressional add for Small Business Technology Insertion.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2015</b>	<b>FY 2016</b>
<b>Congressional Add:</b> LWT SBIR (Cong)	9.670	10.000
<b>FY 2015 Accomplishments:</b> Developed producability improvements, COTS modernization, and test equipment upgrades.		
<b>FY 2016 Plans:</b> Develop producability improvements, COTS modernization, and test equipment upgrades.		
<b>Congressional Adds Subtotals</b>	9.670	10.000

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

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



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2017 Navy</b>		<b>Date:</b> February 2016
<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> 9999 / <i>Congressional Adds</i>

FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
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

<b>Proj 9999</b>	
Producability Improvement, COTS Modernization, Test Equipment Upgrade	████████████████████

**UNCLASSIFIED**

<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2017 Navy</b>		<b>Date:</b> February 2016
<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> 9999 / <i>Congressional Adds</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 9999</b>				
Producability Improvement, COTS Modernization, Test Equipment Upgrade	3	2015	4	2016