Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy

R-1 Program Element (Number/Name)

Appropriation/Budget Activity
1319: Research, Development, Test & Evaluation, Navy I BA 5: System

m PE (

PE 0604610N I Lightweight Torpedo Development

Date: February 2015

Development & Demonstration (SDD)

,												
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	237.898	26.098	35.280	33.738	-	33.738	16.701	14.757	13.926	14.211	Continuing	Continuing
2234: Lightweight Hybrid Torpedo	237.898	26.098	25.280	33.738	-	33.738	16.701	14.757	13.926	14.211	Continuing	Continuing
9999: Congressional Adds	0.000	-	10.000	-	-	-	-	-	-	-	-	10.000

### 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 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, 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 Maritime Patrol Aircraft (MPA) with the HAAWC.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	26.444	25.280	18.668	-	18.668
Current President's Budget	26.098	35.280	33.738	-	33.738
Total Adjustments	-0.346	10.000	15.070	-	15.070
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	10.000			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-	-			
SBIR/STTR Transfer	-0.346	-			
<ul> <li>Program Adjustments</li> </ul>	-	-	-2.600	-	-2.600
Rate/Misc Adjustments	-	-	17.670	-	17.670

PE 0604610N: Lightweight Torpedo Development Navy

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	
1319: Research, Development, Test & Evaluation, Navy I BA 5: System	PE 0604610N / Lightweight Torpedo Development	
Development & Demonstration (SDD)		

Congressional Add Details (\$ in Millions, and Includes General Reductions)	FY 2014	FY 2015	
Project: 9999: Congressional Adds			
Congressional Add: LWT SBIR (Cong)	-	10.000	
Congressional Add Subtotals for Project: 9999	-	10.000	
Congressional Add Totals for all Projects	-	10.000	

### **Change Summary Explanation**

The FY 2016 funding request was reduced by \$3.066 million to account for the availability of prior year execution balances. Miscellaneous adjustment increase will fund FY16 HAAWC development contract.

Schedule: MK 54 MOD 1 Production Readiness Review (PRR) start date change is due to the addition of additional requirements and schedule delays in completion of the MK 54 MOD 1 qualification testing. Change in estimated completion of MK 54 MOD 1 Developmental Testing (DT) from Q1FY17 to Q3FY17. Change in the start of the MK 54 MOD 1 Operational Testing (OT) is due to change in completion of the MK 54 MOD 1 DT. Change in HAAWC Design/ Development/Qualification and PRR are due to contractor identified delays in concept development.

PE 0604610N: Lightweight Torpedo Development

Navy

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Exhibit R-2A, RDT&E Project Ju	Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy													
Appropriation/Budget Activity 1319 / 5		_	am Elemen ON / Lightw ent	•	Project (Number/Name) 2234 I Lightweight Hybrid Torpedo									
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost		
2234: Lightweight Hybrid Torpedo	237.898	26.098	25.280	33.738	-	33.738	16.701	14.757	13.926	14.211	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 MK54 Mod 0 achieved in 2004. IOC of MK 54 equipped VLA MK 54 achieved in 2010.

FY 2014 achievement of Block Upgrade (BUG) IOC

FY 2015 HAAWC Contract delivery of 6 engineering units

FY 2015 HAAWC Contract delivery of 14 EDM units

FY 2017 achievement of HAAWC IOC

FY 2021 achievement of MK 54 Mod 1 IOC

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2016	FY 2016	FY 2016
		FY 2014	FY 2015	Base	oco	Total
Title: MK54 Pre-Planned Product Improvement		26.098	25.280	33.738	-	33.738
A	Articles:	-	14	-	-	-
Description: MK54 P3I includes the MK54 VLA integration and HAAWC programs.						
FY 2014 Accomplishments:						
Continued development of hardware/software improvements for P3I program.						
Continued development of MK54 high altitude launch capability from MPA (HAAWC).						
Completed MK54 MOD 1 qualification testing.						
FY 2015 Plans:						
Conduct MK54 MOD 1 Production Readiness Review (PRR).						
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.						
Start MK54 Mod 1 Developmental Testing (DT).						
FY 2016 Base Plans:						
Continue development of hardware/software improvements for P3I program.						

PE 0604610N: Lightweight Torpedo Development

Navy

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
· · · · · · · · · · · · · · · · · · ·	` ` `	,	umber/Name) htweight Hybrid Torpedo

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue development of MK 54 high altitude launch capability from MPA (HAAWC). Conduct HAAWC DT. Continue MK54 MOD 1 DT.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	26.098	25.280	33.738	-	33.738

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

			FY 2016	FY 2016	FY 2016					Cost To	
<u>Line Item</u>	FY 2014	FY 2015	Base	OCO	<u>Total</u>	FY 2017	FY 2018	FY 2019	FY 2020	Complete 1	Total Cost
WPN/3215: MK54 Torpedo Mods	122.098	64.155	113.219	-	113.219	132.428	140.341	147.441	152.630	Continuing (	Continuing

### 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 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.

Navy

System engineering technical review.

Earned value management reviews.

PE 0604610N: Lightweight Torpedo Development

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy

Appropriation/Budget Activity R-1 Program Element (Number/Name) Project (Number/Name)

1319 / 5 PE 0604610N / Lightweight Torpedo 2234 / Lightweight Hybrid Torpedo

Development

Product Developme	roduct Development (\$ in Millions)			FY 2014		FY 2	2015	FY 2 Ba	2016 ise		2016 CO	FY 2016 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	Total Cost	Target Value of Contract
Hardware Development - PRIOR YEAR	WR	NUWC : Newport/ Keyport	43.837	2.219	Oct 2013	1.584	Oct 2014	-		-		-	Continuing	Continuing	Continuin
Hardware Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	-		-		1.025	Nov 2015	-		1.025	-	1.025	-
Hardware Development - MK 54 MOD 1	SS/FP	Progeny Systems : Not Specified	24.394	-		-		-		-		-	-	24.394	-
Hardware Development - HAAWC	WR	NSWCCD : Carderock, MD	0.050	-		-		-		-		-	-	0.050	-
Hardware Development - HAAWC	C/CPAF	Boeing : St. Louis, MO	49.961	9.851	Apr 2014	6.369	Apr 2015	21.267	Dec 2015	-		21.267	Continuing	Continuing	Continuing
Hardware Development - HAAWC	WR	NSWCDD : Dahlgren, VA	0.000	-		0.400	Oct 2014	-		-		-	-	0.400	-
Hardware Development - INSENSITIVE MUNITIONS	C/BA	NUWC : Newport	0.000	-		-		0.210	Dec 2015	-		0.210	-	0.210	-
Hardware Development - INSENSITIVE MUNITIONS	WR	NSWC : Indian Head, MD	0.000	-		-		0.240	Dec 2015	-		0.240	-	0.240	-
Hardware Development - PRIOR YEAR	WR	NSWC : Indian Head, MD	3.140	0.990	Oct 2013	0.900	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Software Development - PRIOR YEAR	WR	NUWC : Newport/ Keyport	19.355	0.375	Oct 2013	0.059	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Software Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	-		-		0.010	Oct 2015	-		0.010	-	0.010	-
Software Development - MK 54 MOD 1	C/CPFF	MIT : Boston, MA	0.300	0.045	Oct 2013	0.328	Oct 2014	0.337	Jan 2016	-		0.337	-	1.010	-
Software Development - MK 54 MOD 1	C/BA	ARL/PSU : Philadephia, PA	0.000	-		0.201	Oct 2014	0.207	Jan 2016	-		0.207	-	0.408	-
Systems Engineering - VLA	SS/FP	Lockheed Martin: VLA: Akron, OH	7.606	-		-		-		-		-	-	7.606	-
Systems Engineering - HAAWC	WR	NSWC PMA 290 : Paxtuxent, MD	6.082	1.250	Oct 2013	0.750	Oct 2014	0.500	Oct 2015	-		0.500	Continuing	Continuing	Continuing

PE 0604610N: Lightweight Torpedo Development Navy

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604610N / Lightweight Torpedo

Development

Project (Number/Name)

2234 I Lightweight Hybrid Torpedo

Date: February 2015

Product Developmer	roduct Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		2016 CO	FY 2016 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	Total Cost	Target Value of Contract
Systems Engineering - HAAWC	WR	NAWCWD : China Lake	3.706	1.400	Oct 2013	-	Oct 2014	0.500	Oct 2015	-		0.500	-	5.606	-
Systems Enginnering - HAAWC	C/CPFF	John Hopkins University : Baltimore, MD	0.050	-		-		-		-		-	-	0.050	-
Systems Engineering	SS/FP	SPA Inc. : Not Specified	0.640	-		-		-		-		-	-	0.640	-
Systems Engineering	WR	Naval Operational Logistics Support Center (NOLSC) : Not Specified	0.025	-		-		-		-		-	-	0.025	-
System Test & Evaluation - HAAWC	WR	NUWC : Newport/ Keyport	20.111	0.770	Oct 2013	0.350	Oct 2014	0.350	Nov 2015	-		0.350	Continuing	Continuing	Continuin
		Subtotal	179.257	16.900		10.941		24.646		-		24.646	-	-	-

### Remarks

Increase in Product Development funds FY16 HAAWC development contract.

Support (\$ in Million	Support (\$ in Millions)			FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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	Total Cost	Target Value of Contract
Hardware Development	WR	NUWC : Newport/ Keyport	1.669	1.053	Oct 2013	1.167	Oct 2014	0.458	Oct 2015	-		0.458	-	4.347	-
Program Management Support	WR	NUWC : Newport/ Keyport	3.391	1.466	Oct 2013	1.362	Oct 2014	1.362	Oct 2015	-		1.362	-	7.581	-
Program Management Support	C/BA	ARL/PSU : Philadephia, PA	0.441	-		-		-		-		-	-	0.441	-
Program Management Support	Various	NAVSEA : Not Specified	0.106	0.062	Oct 2013	-		-		-		-	-	0.168	-
Systems Engineering	WR	NUWC : Newport/ Keyport	0.120	-		-		-		-		-	-	0.120	-

PE 0604610N: Lightweight Torpedo Development Navy

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy

Appropriation/Budget Activity R-1 P

1319 / 5

R-1 Program Element (Number/Name)
PE 0604610N / Lightweight Torpedo
Development

Project (Number/Name)
2234 / Lightweight Hybrid Torpedo

Support (\$ in Millions)		s)		FY 2	2014	FY 2	2015	FY 2 Ba	2016 ise	FY 2	2016 CO	FY 2016 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	Total Cost	Target Value of Contract
System Test and Evaluation	WR	NUWC : Newport/ Keyport	23.077	2.405	Oct 2013	1.614	Oct 2014	1.444	Oct 2015	-		1.444	Continuing	Continuing	Continuing
		Subtotal	28.804	4.986		4.143		3.264		-		3.264	-	-	-

Test and Evaluation (	\$ in Milli	ons)		FY 2	2014	FY 2	2015		2016 ise	FY 2	2016 CO	FY 2016 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	Total Cost	Target Value of Contract
Systems Engineering - MK 54 MOD 1	WR	NSWC : Carderock	0.090	-	Oct 2013	0.694	Oct 2014	0.475	Oct 2015	-		0.475	-	1.259	-
System Test and Evaluation - PRIOR YEAR	WR	NUWC : Newport/ Keyport	22.087	3.053	Oct 2013	7.437	Oct 2014	-		-		-	Continuing	Continuing	Continuing
System Test and Evalution - MK 54 MOD 1	WR	NUWC : Keyport	0.000	-		-		1.097	Oct 2015	-		1.097	-	1.097	-
System Test and Evaluation - MK 54 MOD 1	WR	NUWC : Newport	0.000	-		-		1.561	Oct 2015	-		1.561	-	1.561	-
System Test and Evaluation - MK 54 MOD 1	WR	NSWC : Indian Head, MD	0.015	-	Oct 2013	0.758	Oct 2014	0.570	Oct 2015	-		0.570	-	1.343	-
System Test and Evaluation - MK 54 MOD 1	C/CPIF	ARL/PSU : Philadephia, PA	0.068	-		-		-		-		-	-	0.068	-
System Test and Evaluation - MK 54 MOD 1	TBD	Aberdeen Test Center : Aberdeen, MD	0.000	-	Oct 2013	0.318	Oct 2014	0.413	Oct 2015	-		0.413	-	0.731	-
System Test and Evaluation - MK 54 MOD 1	WR	OPTEVFOR : Not Specified	0.000	-		-		0.750	Oct 2015	-		0.750	-	0.750	-
System Test and Evaluation - PRIOR YEAR	WR	OPTEVFOR : Not Specified	2.640	0.500	Oct 2013	0.350	Oct 2014	-		-		-	Continuing	Continuing	Continuing
System Test and Evaluation - HAAWC	WR	OPTEVFOR : Not Specified	0.000	-		-		0.250	Nov 2015	-		0.250	-	0.250	-
System Test and Evaluation - HAAWC	WR	NSWC : Dalgren, VA	0.000	-		-		0.091	Oct 2015	-		0.091	-	0.091	-

PE 0604610N: Lightweight Torpedo Development Navy

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy

**TBD** 

R-1 Program Element (Number/Name)

5.385

Project (Number/Name)

5.385

1319 / 5

Appropriation/Budget Activity

PE 0604610N / Lightweight Torpedo Development

2234 I Lightweight Hybrid Torpedo

Date: February 2015

1.278

Test and Evaluation	(\$ in Milli	ons)		FY 2	2014	FY	2015		2016 ise	FY 2	2016 CO	FY 2016 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	Total Cost	Target Value of Contract
System Test and Evaluation - HAAWC	WR	NUWC : Keyport	0.000	-		-		0.152	Oct 2015	-		0.152	-	0.152	-
System Test and Evaluation - WEAPON TRANSPORT	WR	NUWC : Keyport	0.000	-		-		0.026	Oct 2015	-		0.026	-	0.026	-
System Test and	TPD	NAVSEA : Not	1 270											1 270	

9.557

#### Remarks

Evaluation

Decrease in FY16 T&E funding due to reduced number of MK 54 Mod 1 Developmental Test (DT) events.

Subtotal

Specified

1.278

26.178

3.553

Management Service	es (\$ in M	lillions)		FY 2	2014	FY 2	2015		2016 ise		2016 CO	FY 2016 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	Total Cost	Target Value of Contract
Travel	WR	NAVSEA : Not Specified	0.379	0.026	Oct 2013	0.027	Oct 2014	0.027	Oct 2015	-		0.027	Continuing	Continuing	Continuing
Program Management Support	Various	Alion Science : Not Specified	2.694	0.462	Oct 2013	0.462	Oct 2014	0.416	Oct 2015	-		0.416	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	ARL/PSU : Philadephia, PA	0.267	0.171	Oct 2013	0.150	Oct 2014	-	Oct 2015	-		-	-	0.588	-
Program Management Support	Various	NAVSEA : Not Specified	0.093	-		-		-		-		-	-	0.093	-
Acquisition Workforce Fund	Various	Various : Various	0.226	-		-		-		-		-	-	0.226	-
		Subtotal	3.659	0.659		0.639		0.443		-		0.443	-	-	-
			Prior Years	FY	2014	FY	2015		2016 ise		2016 CO	FY 2016 Total	Cost To	Total Cost	Target Value of Contract
		Project Cost Totals	237.898	26.098		25.280		33.738		-		33.738	-	-	-

PE 0604610N: Lightweight Torpedo Development Navy

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		·	JNCLASSIFIED							
Exhibit R-3, RDT&E Project Cost Analys	sis: PB 2016 Navy					Date	February	2015		
Appropriation/Budget Activity 1319 / 5			R-1 Program EI PE 0604610N / Development	l <b>ement (Number/N</b> Lightweight Torped	lame) Pro	Project (Number/Name) 2234 / Lightweight Hybrid Torpedo				
	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

PE 0604610N: Lightweight Torpedo Development Navy

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Development	Date: February 2015	chibit R-4, RDT&E Schedule Profile: PB 2016 Navy
1   2   3   4   1   2   3	PE 0604610N / Lightweight Torpedo 2234 / Lightweight Hybrid Torpedo	
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:  BUG/CAT IOC: Schedule Detail  APB 5:  HAAWC Design/Development/Qualification:  HAAWC Production Readiness Review (PRR):  HAAWC DT:  HAAWC OT:		
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:  BUG/CAT IOC: Schedule Detail  APB 5:  HAAWC Design/Development/Qualification:  HAAWC Production Readiness Review (PRR):  HAAWC DT:  HAAWC OT:	+ 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	
Developmental Testing (DT) to MK54 MOD 1:  Tech Insertion 1 (TI-1) /New Array OT to MK54 MOD 1:  BUG/CAT IOC: Schedule Detail  APB 5:  HAAWC Design/Development/Qualification:  HAAWC Production Readiness Review (PRR):  HAAWC DT:  HAAWC OT:		Tech Insertion 1 (TI-1) /New Array Production
MK54 MOD 1:  BUG/CAT IOC: Schedule Detail  APB 5:  HAAWC Design/Development/Qualification:  HAAWC Production Readiness Review (PRR):  HAAWC DT:  HAAWC OT:		
APB 5:  HAAWC Design/Development/Qualification:  HAAWC Production Readiness Review (PRR):  HAAWC DT:  HAAWC OT:		
HAAWC Design/Development/Qualification: HAAWC Production Readiness Review (PRR): HAAWC DT: HAAWC OT:		BUG/CAT IOC: Schedule Detail
HAAWC Production Readiness Review (PRR): HAAWC DT: HAAWC OT:		APB 5:
(PRR): HAAWC DT: HAAWC OT:		HAAWC Design/Development/Qualification:
HAAWC OT:		
		HAAWC DT:
HAAWC IOC:		HAAWC OT:
		HAAWC IOC:
		HAAWC IOC:

PE 0604610N: Lightweight Torpedo Development Navy

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
, , ,	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	- 3 (	umber/Name) ntweight Hybrid Torpedo

# Schedule Details

	Sta	art	En	d
Events by Sub Project	Quarter	Year	Quarter	Year
Proj 2234				
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:	3	2015	3	2017
Tech Insertion 1 (TI-1) /New Array OT to MK54 MOD 1:	4	2017	2	2020
BUG/CAT IOC: Schedule Detail	2	2014	2	2014
APB 5:	1	2014	2	2020
HAAWC Design/Development/Qualification:	3	2015	3	2015
HAAWC Production Readiness Review (PRR):	4	2016	4	2016
HAAWC DT:	3	2016	4	2016
HAAWC OT:	2	2017	3	2017
HAAWC IOC:	4	2017	4	2017

Exhibit R-2A, RDT&E Project Ju	stification	: PB 2016 N	Navy							Date: Feb	ruary 2015	
Appropriation/Budget Activity 1319 / 5		_	10N I Lightv	nt (Number) veight Torpe	•	Project (Number/Name) 9999 / Congressional Adds						
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9999: Congressional Adds	-	-	10.000	-	-	-	-	-	-	-	-	10.000
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)	FY 2014	FY 2015
Congressional Add: LWT SBIR (Cong)	_	10.000
FY 2014 Accomplishments: N/A		
FY 2015 Plans: Develop producability improvements, COTS modernization, and test equipment upgrades		
Congressional Adds Subtotals	_	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.

PE 0604610N: Lightweight Torpedo Development Navy

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 5	PE 0604610N I Lightweight Torpedo	9999 I Congressional Adds
	Development	

Product Developme	nt (\$ in Mi	illions)		FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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	0.000	-		2.300	Apr 2015	-		-		-	-	2.300	-
Hardware Development	TBD	Progeny : Not Specified	0.000	-		7.700	Jul 2016	-		-		-	-	7.700	-
		Subtotal	0.000	-		10.000		-		-		-	-	10.000	-
										· · · · · · · · · · · · · · · · · · ·					
			Prior					FY 2	2016	FY 2	2016	FY 2016	Cost To	Total	Target Value of

	Prior Years	FY 2	2014	FY 2	2015	FY 20 Bas	FY 2016 OCO	FY 2016 Total	Cost To	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		10.000		-	-	-	-	10.000	-

Remarks

PE 0604610N: Lightweight Torpedo Development Navy

Exhibit R-4, RDT&E Schedule Profile: PB	2016 Nav	/y																				Dat	te: Fe	ebru	ary	201	5	
Appropriation/Budget Activity 1319 / 5								PE (	0604	_	n Ele N / L		•	•			•			,	•	(Number/Name) Congressional Adds						
		FY 2014				FY	2015	15 FY			2016		FY 20		2017		FY 20		2018			FY	FY 2019			FY 202		20
	1	1 2	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
Proj 9999												,																
Producability Improvement, COTS Modernization, Test Equipment Upgrad	Э																											

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy			Date: February 2015
1319 / 5	3	- , (	umber/Name) ngressional Adds

# Schedule Details

	St	art	E	nd
Events by Sub Project	Quarter	Year	Quarter	Year
Proj 9999				
Producability Improvement, COTS Modernization, Test Equipment Upgrade	3	2015	4	2016