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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy										Date: May 2017		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604610N / Lightweight Torpedo Development							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	302.382	42.548	20.178	28.076	-	28.076	52.607	82.750	94.966	86.916	Continuing	Continuing
1412: HAAWC	0.000	0.000	0.000	8.516	-	8.516	4.088	7.097	0.000	0.000	0.000	19.701
2234: Lightweight Hybrid Torpedo	292.712	32.893	20.178	19.560	-	19.560	13.700	14.036	14.457	14.751	Continuing	Continuing
3418: Advanced Anti-Submarine Lightweight Torpedo	0.000	0.000	0.000	0.000	-	0.000	34.819	61.617	80.509	72.165	Continuing	Continuing
9999: Congressional Adds	9.670	9.655	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.325

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 Vertical Launch Anti-submarine Rocket (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. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	43.738	20.178	19.497	-	19.497
Current President's Budget	42.548	20.178	28.076	-	28.076
Total Adjustments	-1.190	0.000	8.579	-	8.579
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.190	0.000			
• Program Adjustments	0.000	0.000	8.321	-	8.321
• Rate/Misc Adjustments	0.000	0.000	0.258	-	0.258
Congressional Add Details (\$ in Millions, and Includes General Reductions)					
Project: 9999: Congressional Adds					
Congressional Add: LWT SBIR (Cong)					
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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy										Date: May 2017		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604610N / <i>Lightweight Torpedo Development</i>				Project (Number/Name) 1412 / HAAWC			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
1412: HAAWC	0.000	0.000	0.000	8.516	-	8.516	4.088	7.097	0.000	0.000	0.000	19.701
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The program will design, develop, and procure a High Altitude Anti-Submarine Warfare Weapon Capability (HAAWC) Air Launch Accessory (ALA) for the MK 54 Lightweight Torpedo (LWT). This capability will allow employment of the MK 54 outside the current fixed wing launch envelope. This includes the ability to employ the MK 54 LWT at high altitude, with stand-off ranges, and with the ability for precision guidance to the intended water entry point (WEP) without affecting the in-water operation of the LWT. This ALA is intended for employment with the Navy's latest Maritime Patrol and Reconnaissance Aircraft (MPRA), the P-8A Poseidon.												
FY 2020 achievement of HAAWC IOC												
HAAWC program was previously funded in FY 2016 - FY 2017 from Proj. 2234 Lightweight Hybrid Torpedo.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: High Altitude Anti-Submarine Warfare Weapon Capability (HAAWC) Development Articles:								0.000	0.000	8.516	0.000	8.516
								-	-	-	-	-
FY 2016 Accomplishments: HAAWC is funded in FY 2016 from Proj. 2234 Lightweight Hybrid Torpedo. FY 2017 Plans: HAAWC is funded in FY 2017 from Proj. 2234 Lightweight Hybrid Torpedo. FY 2018 Base Plans: Milestone C Review Low Rate Initial Production (LRIP) 1 Award Conduct System Verification Review (SVR) Conduct Physical Configuration Audit (PCA) Conduct Flight Readiness Review (FRR) FY 2018 OCO Plans: N/A												
Accomplishments/Planned Programs Subtotals								0.000	0.000	8.516	0.000	8.516

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C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy The Engineering and Manufacturing Development (EMD) contract held by Boeing Company supports an incremental approach to delivering full HAAWC capability, Air Launch Accessory (ALA) assets and equipment, as well as associated engineering services and support. The schedule for the completion of the EMD phase of the MK 54 HAAWC AUR development is closely linked to the P-8A Increment 2 design and integration schedule. The EMD contract was awarded in April 2013, with options for the procurement of LRIP units. The EMD contract type includes cost-plus-fixed-fee, cost-plus-incentive-fee, cost-fixed-price-incentive, and firm-fixed-price line items. A future full rate production fixed-price-incentive-fee contract will be evaluated for competitive award to a single contractor. Contract award would be in FY 2020, upon successfully meeting IOC requirements and conducting a Full Rate Production Decision Review.		
E. Performance Metrics Milestone reviews Program Management reviews System engineering technical review Earned value management reviews		

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy										Date: May 2017		
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>			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
2234: <i>Lightweight Hybrid Torpedo</i>	292.712	32.893	20.178	19.560	-	19.560	13.700	14.036	14.457	14.751	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 2023 achievement of MK 54 MOD 1 IOC												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: MK54 Pre-Planned Product Improvement Articles:								32.893	20.178	19.560	0.000	19.560
								-	-	-	-	-
Description: MK54 P3I includes the MK54 VLA integration and HAAWC programs. Starting in FY 2018, HAAWC will be funded in Proj. 1412.												
FY 2016 Accomplishments: Conducted MK 54 MOD 1 DT Continued development of hardware/software improvements for P3I program Conducted HAAWC Flight Tests #1 and #2 Conducted HAAWC System Critical Design Review (CDR) Conducted HAAWC Container Critical Design Review (CDR) Conducted MK54 MOD 1 LWT MS C review												
FY 2017 Plans: Continue MK 54 MOD 1 DT Continue MK 54 MOD 1 Software Development Conduct HAAWC Independent Logistics Assessment (ILA) Conduct HAAWC Production Readiness Review (PRR) HAAWC Contractor Test Flights completion Conduct HAAWC Qualification Test Readiness Review (TRR)												

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)											
		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total					
Delivery of all HAAWC Proof of Manufacture (POM) Hardware											
FY 2018 Base Plans: Continue MK 54 MOD 1 DT Continue MK 54 MOD 1 Software Development											
FY 2018 OCO Plans: N/A											
Accomplishments/Planned Programs Subtotals		32.893	20.178	19.560	0.000	19.560					
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
• WPN/3215: <i>MK54 Torpedo Mods</i>	113.219	98.092	104.044	-	104.044	116.963	128.946	143.892	146.788	0.000	1,732.801
Remarks											
D. Acquisition Strategy											
The EDM contract held by Raytheon Systems Company supported an incremental upgrade strategy to counter evolving threats. The award of EDM contracts among qualified producers included 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 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. A sole source production contract will be awarded to Progeny for the production of MOD 1 kits.											
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: FY 2018 Navy												Date: May 2017			
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 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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	47.640	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Hardware Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	1.025	Nov 2015	0.360	Oct 2016	2.973	Nov 2017	-		2.973	0.000	4.358	-
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	71.281	20.422	Dec 2015	6.518	Oct 2016	0.000		-		0.000	Continuing	Continuing	Continuing
Hardware Development - HAAWC	WR	NSWCDD : Dahlgren, VA	0.400	0.000		0.000		0.000		-		0.000	0.000	0.400	-
Hardware Development - HAAWC	WR	NSWC : Indian Head	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Hardware Development - INSENSITIVE MUNITIONS	WR	NUWC : Newport	0.000	0.210	Dec 2015	0.210	Oct 2016	0.000		-		0.000	0.000	0.420	-
Hardware Development - INSENSITIVE MUNITIONS	WR	NSWC : Indian Head, MD	0.000	0.240	Dec 2015	0.240	Oct 2016	0.110	Jan 2018	-		0.110	0.000	0.590	-
Hardware Development - INSENSITIVE MUNITIONS	WR	NUWC : Keyport	0.000	0.000		0.000		0.199	Nov 2017	-		0.199	0.000	0.199	-
Hardware Development - PRIOR YEAR	WR	NSWC : Indian Head, MD	5.030	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development - PRIOR YEAR	WR	NUWC : Newport/ Keyport	19.789	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Software Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	0.010	Oct 2015	0.000		0.415	Oct 2017	-		0.415	0.000	0.425	-
Software Development - MK 54 MOD 1	MIPR	MIT : Boston, MA	0.673	0.337	Jan 2016	0.348	Jan 2017	0.349	Feb 2018	-		0.349	0.000	1.707	-
Software Development - MK 54 MOD 1	C/BA	ARL/PSU : Philadelphia, PA	0.201	0.207	Jan 2016	0.213	Jan 2017	0.219	Jan 2018	-		0.219	0.000	0.840	-

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Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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 - 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 : Patuxent, MD	8.082	0.500	Oct 2015	1.000	Oct 2016	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering - HAAWC	WR	NAWCWD : China Lake	5.106	0.500	Oct 2015	1.000	Oct 2016	0.000		-		0.000	0.000	6.606	-
Systems Enginnering - 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	21.231	0.350	Nov 2015	0.350	Oct 2016	0.000		-		0.000	Continuing	Continuing	Continuing
Hardware Development - ADV LWT	WR	NUWC : Newport	0.000	0.000		0.000		2.040	Oct 2017	-		2.040	0.000	2.040	-
Hardware Development - ADV LWT	WR	NUWC : Keyport	0.000	0.000		0.000		0.213	Oct 2017	-		0.213	0.000	0.213	-
Hardware Development - ADV LWT	WR	NSWC : Indian Head, MD	0.000	0.000		0.000		0.575	Oct 2017	-		0.575	0.000	0.575	-
Subtotal			212.198	23.801		10.239		7.093		-		7.093	-	-	-
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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	3.889	0.458	Oct 2015	1.000	Oct 2016	0.310	Nov 2017	-		0.310	0.000	5.657	-

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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>					
Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Program Management Support	WR	NUWC : Newport/ Keyport	6.219	1.362	Oct 2015	1.362	Oct 2016	2.605	Dec 2017	-		2.605	0.000	11.548	-
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	27.096	1.444	Oct 2015	1.753	Oct 2016	2.507	Nov 2017	-		2.507	Continuing	Continuing	Continuing
Hardware Development	WR	NSWC : Indian Head, MD	0.000	0.000		0.000		0.050	Oct 2017	-		0.050	0.000	0.050	-
Program Management Support	WR	NSWC : Indian Head, MD	0.000	0.000		0.000		0.200	Oct 2017	-		0.200	0.000	0.200	-
Subtotal			37.933	3.264		4.115		5.672		-		5.672	-	-	-
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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 - MK 54 MOD 1	WR	NSWC : Carderock	0.784	0.475	Oct 2015	0.000		0.000		-		0.000	0.000	1.259	-
System Test and Evaluation - PRIOR YEAR	WR	NUWC : Newport/ Keyport	32.191	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
System Test and Evaluation - MK 54 MOD 1	WR	NUWC : Keyport	0.000	1.097	Oct 2015	1.357	Oct 2016	2.481	Dec 2017	-		2.481	0.000	4.935	-
System Test and Evaluation - MK 54 MOD 1	WR	NUWC : Newport	0.000	1.561	Oct 2015	2.501	Oct 2016	2.889	Dec 2017	-		2.889	0.000	6.951	-
System Test and Evaluation - MK 54 MOD 1	WR	NSWC : Indian Head, MD	0.773	0.570	Oct 2015	0.233	Oct 2016	0.000		-		0.000	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	-

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Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
System Test and Evaluation - MK 54 MOD 1	WR	Aberdeen Test Center : Aberdeen, MD	0.318	0.413	Oct 2015	0.000		0.000		-		0.000	0.000	0.731	-
System Test and Evaluation - MK 54 MOD 1	WR	OPTEVFOR : Not Specified	0.000	0.750	Oct 2015	0.250	Oct 2016	0.416	Nov 2017	-		0.416	0.000	1.416	-
System Test and Evaluation - PRIOR YEAR	WR	OPTEVFOR : Not Specified	3.490	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
System Test and Evaluation - HAAWC	WR	OPTEVFOR : Not Specified	0.000	0.250	Nov 2015	0.500	Oct 2016	0.000		-		0.000	0.000	0.750	-
System Test and Evaluation - HAAWC	WR	NSWC : Dalgren, VA	0.000	0.091	Oct 2015	0.000		0.000		-		0.000	0.000	0.091	-
System Test and Evaluation - HAAWC	WR	NUWC : Keyport	0.000	0.152	Oct 2015	0.466	Oct 2016	0.000		-		0.000	0.000	0.618	-
System Test and Evaluation - HAAWC	WR	NUWC : Newport	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
System Test and Evaluation - WEAPON TRANSPORT	WR	NUWC : Keyport	0.000	0.026	Oct 2015	0.027	Oct 2016	0.028	Oct 2017	-		0.028	0.000	0.081	-
System Test and Evaluation - ADV LWT	WR	NUWC : Newport	0.000	0.000		0.000		0.138	Oct 2017	-		0.138	0.000	0.138	-
System Test and Evaluation - ADV LWT	WR	NUWC : Keyport	0.000	0.000		0.000		0.038	Oct 2017	-		0.038	0.000	0.038	-
System Test and Evaluation - ADV LWT	WR	NSWC : Indian Head, MD	0.000	0.000		0.000		0.075	Oct 2017	-		0.075	0.000	0.075	-
Subtotal			37.624	5.385		5.334		6.065		-		6.065	-	-	-
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Travel	WR	NAVSEA : Not Specified	0.432	0.027	Oct 2015	0.028	Oct 2016	0.029	Jan 2018	-		0.029	Continuing	Continuing	Continuing

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Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Program Management Support	C/CPFF	Alion Science : Washington, DC	3.618	0.416	Oct 2015	0.462	Oct 2016	0.701	Mar 2018	-		0.701	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	ARL/PSU : Philadelphia, PA	0.588	0.000	Oct 2015	0.000		0.000		-		0.000	0.000	0.588	-
Program Management Support	Various	NAVSEA : Not Specified	0.093	0.000		0.000		0.000		-		0.000	0.000	0.093	-
Acquisition Workforce Fund	Various	Not Specified : Not Specified	0.226	0.000		0.000		0.000		-		0.000	0.000	0.226	-
Subtotal			4.957	0.443		0.490		0.730		-		0.730	-	-	-
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			292.712	32.893		20.178		19.560		-		19.560	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Navy

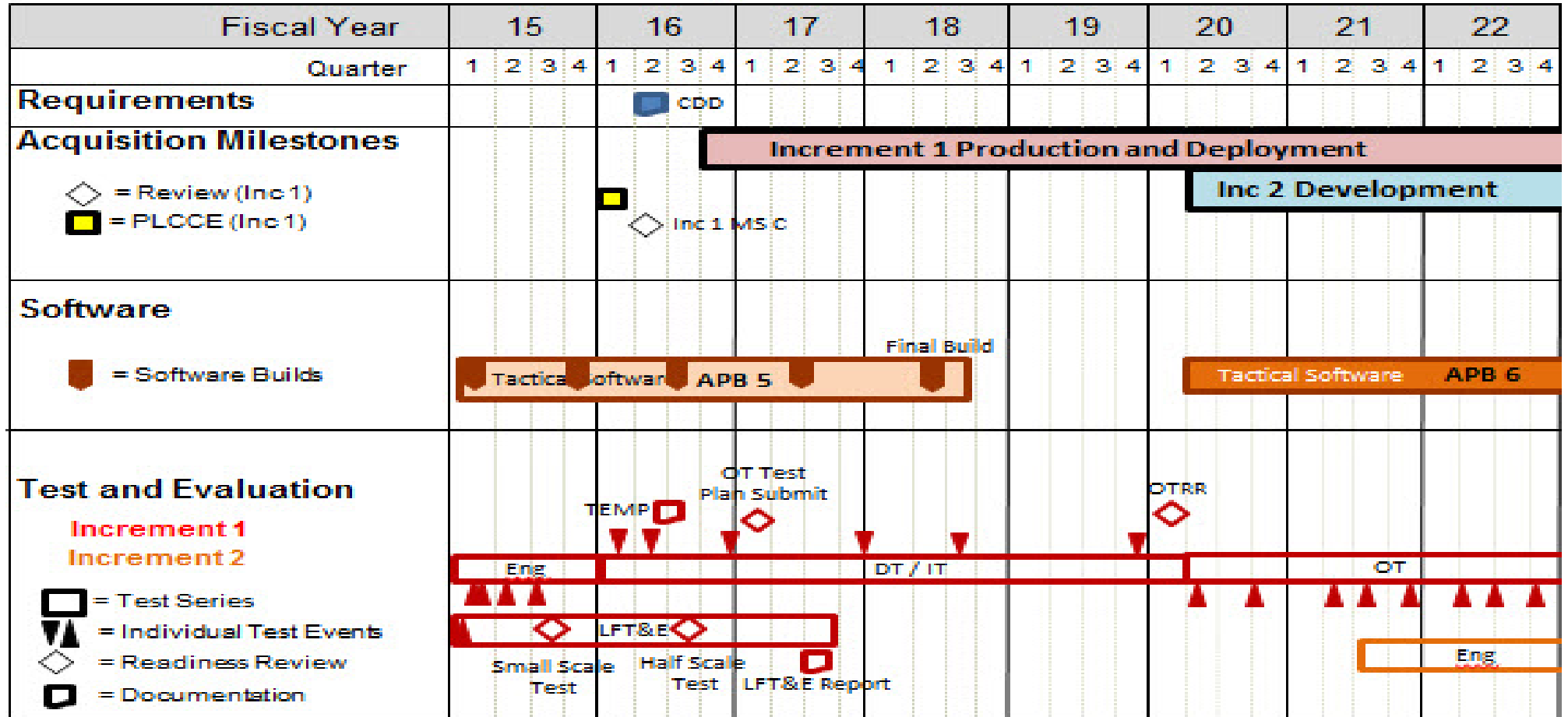
Date: May 2017

Appropriation/Budget Activity
1319 / 5

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

Project (Number/Name)
2234 / Lightweight Hybrid Torpedo

MK 54 MOD 1 Acquisition Schedule



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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017
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>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2234</i>				
Tech Insertion 1 (TI-1) APB 5 / New Array DT to MK54 MOD 1	1	2016	1	2020
Tech Insertion 1 (TI-1) APB 5 / New Array OT to MK54 MOD 1	2	2020	4	2022

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy										Date: May 2017		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604610N / <i>Lightweight Torpedo Development</i>				Project (Number/Name) 3418 / <i>Advanced Anti-Submarine Lightweight Torpedo</i>			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
3418: <i>Advanced Anti-Submarine Lightweight Torpedo</i>	0.000	0.000	0.000	0.000	-	0.000	34.819	61.617	80.509	72.165	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.

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy										Date: May 2017		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604610N / <i>Lightweight Torpedo Development</i>				Project (Number/Name) 9999 / <i>Congressional Adds</i>			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	9.670	9.655	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	19.325
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 2016	FY 2017
<i>Congressional Add:</i> LWT SBIR (Cong)	9.655	0.000
<i>FY 2016 Accomplishments:</i> Develop producability improvements, COTS modernization, and test equipment upgrades.		
<i>FY 2017 Plans:</i> N/A		
Congressional Adds Subtotals	9.655	0.000

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