

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy** **Date:** May 2017

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					<b>R-1 Program Element (Number/Name)</b> PE 0604366N / Standard Missile Improvements							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	2,236.597	111.295	120.561	158.578	-	158.578	148.471	87.808	100.765	102.712	Continuing	Continuing
0439: Standard Missile Improvement	1,128.811	18.970	24.987	50.188	-	50.188	87.171	82.772	95.529	97.397	Continuing	Continuing
3092: Standard Missile 6 Program	1,107.786	92.325	95.574	108.390	-	108.390	61.300	5.036	5.236	5.315	Continuing	Continuing

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

STANDARD Missile (SM) is Navy's premier Anti-Air Warfare (AAW) missile, providing both area defense for the Fleet and self-defense for individual AEGIS CGs and DDGs, as required by the Joint Theater Air Missile Defense (TAMD), Mission Need Statement (MNS), Defense Planning Guidance (DPG), Quadrennial Defense Review (QDR), and Ship Class AAW Self Defense Capstone Requirements Document. SM-6 provides an air defense force multiplier to the U.S. Navy to greatly expand the AWS battlespace. Combining a modified AMRAAM active seeker onto the proven STANDARD Missile airframe, SM-6 provides an extended range anti-air warfare capability both over sea and overland. This low-risk approach relying on non-developmental items supported an FY 2011 Initial Operating Capability. With integrated fire control support, SM-6 provides the Navy with an increased battlespace against Anti-Air Warfare (AAW) threats over-the-horizon.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>
Previous President's Budget	115.644	120.561	173.761	-	173.761
Current President's Budget	111.295	120.561	158.578	-	158.578
Total Adjustments	-4.349	0.000	-15.183	-	-15.183
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.482	0.000			
• SBIR/STTR Transfer	-3.867	0.000			
• Program Adjustments	0.000	0.000	-14.712	-	-14.712
• Rate/Misc Adjustments	0.000	0.000	-0.471	-	-0.471

**Change Summary Explanation**

Decrease in Proj 0439: Standard Missile Improvements reflects minor rephrasing to properly align scope of work and rate adjustments.

**UNCLASSIFIED**

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 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 0439 / <i>Standard Missile Improvement</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
0439: <i>Standard Missile Improvement</i>	1,128.811	18.970	24.987	50.188	-	50.188	87.171	82.772	95.529	97.397	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

Modifications to SM-2 BLK IIIA are required for use on DDG-1000 class destroyers. The Joint Universal Waveform Link (JUWL) will be integrated with the Evolved Sea Sparrow Missile (ESSM) and Standard Missile (SM) to communicate with the DDG-1000 SPY-3 radar. SM-2 missile software will be updated with Interrupted Continuous Wave Illumination (ICWI) in order to allow operation with DDG-1000.

STANDARD Missile 2 (SM-2) engineering changes funding is for the design, systems engineering, analysis, integration, and test of replacements for obsolete components as well as performance improvements to address emerging threats. Analysis will include evaluation of transition to an active seeker baseline leveraging the investment made with the SM-6 and ESSM Block II missiles. Initial funding is for the requirements generation, risk reduction/mitigation, and documentation leading to the commencement of the obsolescence project. Capability improvements: Enhanced Stream-Raid performance against numerous threats to include Agile Prism via target resolution in range and Doppler and missile/target pairing logic, over-the-horizon capability for increased depth of fire, enhanced capability against electronic attack, improved firepower due to decreased dependence on illuminators, and enhanced fuzing via guidance integrated fuzing.

Missile Integration with Air and Missile Defense S-Band Radar (AMDR-S) for DDG 51 Flight III ships will include requirements review/updates and analysis, verification; technical documentation, design review and working group SME support, missile/radar integration, missile test hardware procurement, risk assessment, safety, test and evaluation planning, analysis, and data collection. Deliverables include interface control documents (ICDs) changes, missile specifications changes, and engineering documents updates to support AEGIS Configuration Baseline (ACB) 20 PDR (FY18), CDR (FY19); Engineering Development Model (EDM) testing (FY16/17/18); Combat Systems Engineering Development Site (CSEDS) , Moorestown, New Jersey Combat System/missile integration testing (FY18/19/20); Waterfront Integration Testing (WIT) FY 22 and ACB 20 for DDG 51 FLT III Electromagnetic Environmental Effects (E3) and Hazard of Electromagnetic Radiation to Ordnance (HERO) Testing, analysis, and reports. Missile variants: ESSM BLK 1 and 2; SM-2 BLK IIIB MU2; SM-6 BLK I and IA (Current AEGIS configuration).

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

	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018 Base</b>	<b>FY 2018 OCO</b>	<b>FY 2018 Total</b>
<b>Title:</b> DDG-1000 Pre Plan Product Improvement (P3I) Link Integration/ICWI	0.170	0.000	0.000	0.000	0.000
<b>Articles:</b>	-	-	-	-	-
<b>FY 2016 Accomplishments:</b> Conducted STANDARD Missile guidance and round level qualification.					
<b>FY 2017 Plans:</b>					

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements		Project (Number/Name) 0439 / Standard Missile Improvement		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
N/A						
FY 2018 Base Plans: N/A						
FY 2018 OCO Plans: N/A						
Title: Air and Missile Defense Radar (AMDR) Integration & Test		18.800	11.694	11.967	0.000	11.967
Articles:		-	-	-	-	-
FY 2016 Accomplishments: Developed and updated missile interface documentation to support the detailed requirements development for ACB Next and integration with AMDR. Provided design, program review, and missile integration technical interchange support with radar and CS government managers and analysts and prime contractors and engineering studies.						
FY 2017 Plans: Provided design, program review, and missile integration technical interchange support with radar and CS government managers and analysts and prime contractors and engineering studies. Provided engineering studies for integration of SM and ESSM with AMDR. Configured missile communication test set for radar risk reduction testing. Planned and prepared for land based testing both at Raytheon Integrated Defense (RIDS), Sudbury, MA Facility and at the Advanced Radar Detection Laboratory (ARDEL)/PMRF, Kauai, HI. Conducted feasibility study to support missile communications functions. Supported the development, monitoring and mitigation of AMDR/ACB 20 missile integration risks as part of the Baseline 10 Risk Register to include: missile integration testing, missile EMI and Engineering topic (ET)-17. Reviewed E3/HERO design, analyses, and qualification tests. Support ACB 20 Delta SFR. Support and conduct early stage radar/Combat System/ Missile integration/risk reduction testing with Missile Communication Test Set (MCTS) at RIDS, Sudbury Facility or ARDEL/PMRF. Conduct planning and configure SM-2 Internal Missile Initializer and Power Supply (IMIPS) Inert Operating Missile (IOM) in preparation for land based testing at Combat System Engineering Development Site (CSEDS) in FY 19.						
FY 2018 Base Plans: Provide Principal for Safety (PFS) and systems safety engineering support. Interface with Weapon System Explosive Safety Review Board (WSESRB) board members and review safety documentation as required. Continue to support and conduct early stage radar/Combat System/Missile integration/risk reduction testing with						

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements		Project (Number/Name) 0439 / Standard Missile Improvement		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Missile Communication Test Set (MCTS)/Missile Simulator Unit (MSU) at the RIDS, Sudbury Facility or ARDEL/PMRF. Complete E3/HERO design, analysis, and qualification testing. Develop, integrate, and test ET-17 solution to address missile combat system interface and cyber security issues. Conduct planning and configure SM-6 Internal Missile Initializer and Power Supply (IMIPS) Inert Operating Missile (IOM) in preparation for land based testing at Combat System Engineering Development Site (CSEDS) in FY 19. Conduct E3 test using inert operational missile with SPY-6 engineering development model array. Support verification analysis; technical documentation updates, special studies, design review and working group SME support, risk assessment, safety, test and evaluation planning, analysis, and data collection.						
FY 2018 OCO Plans: N/A						
Title: Standard Missile-2 Improvement		0.000	13.293	38.221	0.000	38.221
Articles:		-	-	-	-	-
FY 2016 Accomplishments: N/A						
FY 2017 Plans: Complete operational requirements generation and staffing for approval. Complete Missile Performance Specification for 2018 project commencement. Conduct risk reduction/mitigation activities to clearly identify and reduce risk entering into project start in 2018. Complete respective acquisition documentation for the project. Finalize completion contract for the project with the prime contractor. Combat System and System of System kill chain coordination. Insensitive Munitions (IM) effort to enhance the safety and reaction of our weapons including design and development efforts for a single pulse Electronic Ignition Safety Device (EISD), potentially for MK-104 dual thrust rocket motor (DTRM) in an emergent SM-2 improvements effort.						
FY 2018 Base Plans: Prepare for and support a System Readiness Review (SRR)/System functional Review (SFR). Refine Modeling & Simulation tools, develop hardware modification tasks and perform Guidance navigational control (GNC) design tasks, Perform wind tunnel testing to lock in/validate accuracy and precision of models. Identify changes to canister electronic and mechanical interface change documents. Begin the design and validation of new hardware (i.e jet tab assemblies, Dorsal fins, and hybrid control surface assembly) required to meet medium range requirements. Conduct risk reduction/mitigation activities to clearly identify and reduce risk. Continue Insensitive Munitions (IM) effort to enhance the safety and reaction of our weapons including preliminary design						

# UNCLASSIFIED

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Navy				<b>Date:</b> May 2017	
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>		<b>Project (Number/Name)</b> 0439 / <i>Standard Missile Improvement</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2016</b>	<b>FY 2017</b>
efforts for a single pulse Electronic Ignition Safety Device (EISD), potentially for MK-104 dual thrust rocket motor (DTRM) in an emergent SM-2 improvements effort.					
<b>FY 2018 OCO Plans:</b> N/A					
<b>Accomplishments/Planned Programs Subtotals</b>				18.970	24.987
				50.188	0.000
				50.188	
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b> <p>Production representative missiles have been built for ESSM between FY12 and FY15 and will be built for SM-2 between FY14 and FY18.</p> <p>Engineering and integration testing for X-Band Transceiver (XBT) ESSM in FY14-FY17 and SM-2 in FY14-FY16. 67 ESSM missiles and 37 SM missiles are required to support Developmental Test &amp; Operational Test (DT &amp; OT) FY17-FY18 and continue follow-on ship integration and design update effort in FY19.</p> <p>SM Development, integration, and test is expected to conclude by FY18 for the X-band JUWL and ICWI. ESSM initial engineering design for X-Band JUWL capability was completed and development completed in FY15. XBT JUWL ESSM land-based integration testing is expected to conclude by FY16, and shipboard testing to conclude by early FY19.</p> <p>Configure one SM-6 Dual Purpose SM-6 Missile Simulation Unit (MSU) in preparation for AMDR/ACB 20 land based testing in FY 18-FY20.</p> <p>Engineering and integration testing for SM-2 Improvements in FY17-FY22 to support Developmental Test in FY20 and continue follow-on ship integration and design update effort in FY21.</p>					
<b>E. Performance Metrics</b> <p>SM-2 Design verification of component, plate, guidance section, and all up round with a final qualification test in December 2015 - July 2016.</p> <p>Conduct SM-2 X-band ICWI/JUWL Software System Safety Technical Review Panel (SSSTRP) and Weapon System Explosive Review Board (WSESRB) in FY17.</p> <p>Conduct SM-2 X-band ICWI/JUWL Software System Safety Technical Review Panel (SSSTRP) and Weapon System Explosive Review Board (WSESRB) in FY19.</p>					

# UNCLASSIFIED

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> FY 2018 Navy		<b>Date:</b> May 2017
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>	<b>Project (Number/Name)</b> 0439 / <i>Standard Missile Improvement</i>
<p>Conduct SM-2 X-band ICWI/JUWL Software System Safety Technical Review Panel (SSSTRP) and Weapon System Explosive Review Board (WSESRB) in FY20.</p> <p>SM-2 BLK III ICWI JUWL Program to complete in July 2016.</p> <p>Conducting interim WSESRB for XBT JUWL ESSM in FY16. Held preliminary SSSTRP and WSESRB for Dual-Band Transceiver (DBT - supports X-Band JUWL and S-Band) ESSM in FY15, conduct interim SSSTRP and WSESRB for DBT ESSM in FY16, conduct final SSSTRP and WSESRB for DBT ESSM in FY17.</p> <p>Develop AMDR new missile ICDs for SM-2, SM-6, and ESSM BLK I in FY15/16. Develop new missile ICDs for ESSM BLK II in FY16.</p> <p>Perform E3/HERO design, analyses, and E3/HERO qualification tests for AMDR in FY17-18.</p> <p>AMDR WSESRB in FY17.</p> <p>AMDR MCTS/MSU Uplink/Downlink testing is planned for FY17/18.</p> <p>AMDR IOM testing is planned for FY19-21.</p> <p>Combat System Integration for AMDR is planned for FY19-21</p> <p>Waterfront Integration Testing for AMDR is planned for FY21/22.</p> <p>SM-2 Improvements PDR in FY19.</p> <p>SM-2 Improvements SSSTRP in FY19.</p> <p>SM-2 Improvements WSESRB in FY19.</p> <p>SM-2 Improvements Developmental Test in FY20.</p>		

**UNCLASSIFIED**

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 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 0439 / <i>Standard Missile Improvement</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
Design and Analysis1	SS/CPAF	RAYTHEON : Tucson, AZ	287.156	6.395	Mar 2016	11.958	Nov 2016	37.040	Nov 2017	-		37.040	Continuing	Continuing	Continuing
Design and Analysis2	C/CPFF	JHU/APL : Laurel, MD	8.116	0.540	Mar 2016	3.250	Nov 2016	3.750	Nov 2017	-		3.750	0.000	15.656	-
Design and Analysis3	MIPR	MIT/Lin Lab : Lexington, MA	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	-
Design and Analysis4	WR	NSWC : Dahlgren	789.268	0.099	Feb 2016	0.238	Nov 2016	0.400	Nov 2017	-		0.400	0.000	790.005	-
Design and Analysis5	WR	NSWC : Indian Head	0.940	0.000		0.000		0.000		-		0.000	0.000	0.940	-
Design and Analysis6	WR	NAWC : China Lake	4.699	0.080	Feb 2016	0.250	Nov 2016	0.400	Nov 2017	-		0.400	0.000	5.429	-
Design and Analysis7	Various	LOCKHEED MARTIN : Moorestown, NJ	17.775	0.000		0.000		0.000		-		0.000	0.000	17.775	-
Design and Analysis8	WR	CNO : Washington, DC	0.010	0.000		0.000		0.000		-		0.000	0.000	0.010	-
Design and Analysis9	WR	CMDP : Phoenix, AZ	4.795	0.000		0.000		0.000		-		0.000	0.000	4.795	-
Design and Analysis11	WR	NSWC : Crane	0.257	0.000		0.000		0.000		-		0.000	0.000	0.257	-
Design and Analysis12	WR	DOI&CNAP : Washington, DC	0.487	0.000		0.000		0.000		-		0.000	0.000	0.487	-
Design and Analysis13	WR	COMPTEVFOR : Norfolk, VA	0.100	0.000		0.100	Nov 2016	0.000		-		0.000	0.000	0.200	-
Design and Analysis14	C/CPFF	LOCKHEED MARTIN : Moorestown, NJ	2.000	0.000		0.000		0.000		-		0.000	0.000	2.000	-
Design and Analysis15	WR	CARDEROCK : Bethesda, MD	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	-
Design and Analysis16	WR	NWAS : Corona	0.736	0.000		0.200	Nov 2016	0.500	Nov 2017	-		0.500	0.000	1.436	-
Design and Analysis17	C/CPFF	CORVID : Mooresville, NC	0.100	0.000		0.000		0.000		-		0.000	0.000	0.100	-
Design and Analysis18	C/CPFF	BAE : Rockville, MD	0.172	0.000		0.000		0.000		-		0.000	0.000	0.172	-
Design and Analysis19	MIPR	MDA : Dahlgren,VA	1.257	0.000		0.000		0.000		-		0.000	0.000	1.257	-

**UNCLASSIFIED**

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 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 0439 / <i>Standard Missile Improvement</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
Design and Analysis20	WR	IWS3D : ARLINGTON, VA	1.500	0.000		0.000		0.000		-		0.000	0.000	1.500	-
Design and Analysis21	WR	VARIOUS : IWS	0.000	11.071	Mar 2016	8.151	Nov 2016	4.226	Nov 2017	-		4.226	0.000	23.448	-
Design and Analysis21	WR	IWS3A : Arlington, Va	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Subtotal			1,119.468	18.185		24.147		46.316		-		46.316	-	-	-
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
DEVELOPMENTAL TEST & EVALUATION1	WR	NSWC : Port Hueneme	0.185	0.000		0.000		0.684	Nov 2017	-		0.684	0.000	0.869	-
DEVELOPMENTAL TEST & EVALUATION2	WR	WSMR : New Mexico	1.600	0.000		0.000		0.000		-		0.000	0.000	1.600	-
DEVELOPMENTAL TEST & EVALUATION3	WR	NAWC : Pt Mugu	0.098	0.000		0.000		0.000		-		0.000	0.000	0.098	-
DEVELOPMENTAL TEST & EVALUATION4	WR	PMRF : Hawaii	0.338	0.000		0.000		0.000		-		0.000	0.000	0.338	
DEVELOPMENTAL TEST & EVALUATION5	WR	NSWC : PHD/ Techrep	0.567	0.000		0.000		0.200	Nov 2017	-		0.200	0.000	0.767	-
DEVELOPMENTAL TEST & EVALUATION6	SS/CPFF	RAYTHEON : Tucson, Az	0.000	0.000		0.000		0.683	Nov 2017	-		0.683	0.000	0.683	-
DEVELOPMENTAL TEST & EVALUATION7	C/CPFF	JHU/APL : Laurel, Md	0.000	0.000		0.000		0.968	Nov 2017	-		0.968	0.000	0.968	-
DEVELOPMENTAL TEST & EVALUATION8	WR	NSWC : Dahlgren	0.000	0.000		0.000		0.481	Nov 2017	-		0.481	0.000	0.481	-
Subtotal			2.788	0.000		0.000		3.016		-		3.016	0.000	5.804	-

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Navy</b>													<b>Date:</b> May 2017		
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>				<b>Project (Number/Name)</b> 0439 / <i>Standard Missile Improvement</i>					
<b>Management Services (\$ in Millions)</b>				<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
CONTRACTOR ENGINEERING SUPPORT	C/CPAF	VARIOUS : VARIOUS	2.630	0.000		0.000		0.000		-		0.000	0.000	2.630	-
PROGRAM MANAGEMENT SUPPORT	C/CPAF	VARIOUS : VARIOUS	3.669	0.765	Apr 2016	0.780	Nov 2016	0.796	Nov 2017	-		0.796	0.000	6.010	-
TRAVEL	Allot	IWS3 : Arlington, VA	0.256	0.020	Nov 2015	0.060	Nov 2016	0.060	Nov 2017	-		0.060	0.000	0.396	-
<b>Subtotal</b>			6.555	0.785		0.840		0.856		-		0.856	0.000	9.036	-
			<b>Prior Years</b>	<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			1,128.811	18.970		24.987		50.188		-		50.188	-	-	-
<b>Remarks</b>															

## UNCLASSIFIED

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

Date: May 2017

## Appropriation/Budget Activity

1319 / 5

## R-1 Program Element (Number/Name)

PE 0604366N / Standard Missile  
Improvements

## Project (Number/Name)

0439 / Standard Missile Improvement

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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 0439</b>																												
JUWL SSSTRP 2																												
JUWL WSESRB 2																												
JUWL SSSTRP 3																												
JUWL WSESRB 3																												
JUWL IOC																												
JUWL EMV Test/Analysis and Uplink/ Downlink Verification																												
JUWL Program																												
JUWL WIETC																												
AMDR Land Based Testing																												
JUWL SDTS INCO Firing																												
JUWL ITB 3																												
AMDR IOM Delivery																												
AMDR 2ND IOM Delivery																												
SM-2 Improvements PDR																												
SM-2 Improvements WSESRB																												
SM-2 Improvements WSESRB 2																												
SM-2 Improvements CDR																												
SM-2 Improvements SSSTRP																												
SM-2 Improvements WSESRB 3																												
SM-2 Improvements SSSTRP 2																												
SM-2 Improvements DT																												
SM-2 Improvements WSESRB 4																												

UNCLASSIFIED

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 0604366N / Standard Missile Improvements										Project (Number/Name) 0439 / Standard Missile Improvement											
				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
AMDR DT/OT																															

## UNCLASSIFIED

Exhibit R-4A, RDT&amp;E Schedule Details: FY 2018 Navy

Date: May 2017

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604366N / Standard Missile  
Improvements

Project (Number/Name)

0439 / Standard Missile Improvement

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 0439</b>				
JUWL SSSTRP 2	3	2017	3	2017
JUWL WSESRB 2	4	2017	4	2017
JUWL SSSTRP 3	1	2019	1	2019
JUWL WSESRB 3	1	2019	1	2019
JUWL IOC	2	2020	2	2020
JUWL EMV Test/Analysis and Uplink/Downlink Verification	1	2016	3	2017
JUWL Program	1	2016	2	2017
JUWL WIETC	1	2016	3	2017
AMDR Land Based Testing	1	2017	1	2020
JUWL SDTS INCO Firing	3	2017	3	2017
JUWL ITB 3	4	2017	4	2017
AMDR IOM Delivery	2	2017	2	2017
AMDR 2ND IOM Delivery	4	2017	4	2017
SM-2 Improvements PDR	1	2019	1	2019
SM-2 Improvements WSESRB	1	2018	1	2018
SM-2 Improvements WSESRB 2	1	2019	1	2019
SM-2 Improvements CDR	2	2019	2	2019
SM-2 Improvements SSSTRP	4	2019	4	2019
SM-2 Improvements WSESRB 3	2	2020	2	2020
SM-2 Improvements SSSTRP 2	3	2020	3	2020
SM-2 Improvements DT	4	2020	3	2021

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements		Project (Number/Name) 0439 / Standard Missile Improvement	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
SM-2 Improvements WSESRB 4		2	2021	2	2021
AMDR DT/OT		1	2022	4	2022

**UNCLASSIFIED**

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 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 3092 / <i>Standard Missile 6 Program</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
3092: <i>Standard Missile 6 Program</i>	1,107.786	92.325	95.574	108.390	-	108.390	61.300	5.036	5.236	5.315	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

This program leverages existing missile technology and advanced missile technology. It aligns missile technology roadmaps across the services (NAVSEA, NAVAIR, USAF, USMC and USA) and missile variants within the services, taking advantage of the Navy's investment in the AEGIS Weapons System (AWS), Cooperative Engagement Capability (CEC), and airborne early warning systems. This missile will provide an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of manned-fixed and rotary-wing aircraft, unmanned aerial vehicles, and land attack and anti-ship cruise missiles in flight, thereby contributing to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets as discussed in the Joint Theater Air Missile Defense (TAMD) Mission Need Statement (MNS), Defense Planning Guide (DPG), Quadrennial Defense Review (QDR), TAMD Capstone Requirements Document, Forward From the Sea, Joint Vision 2010/2020, the 2002/2003 Naval Transformational Roadmap, the Operational Requirements Document for SM-6 BLK 1, and the SM-6 Capability Production Document.

SM-6 portion of Joint and Naval Integrated Fire Control (IFC) is to support the integration, land-based and at-sea test, and analysis in support of the NIFC-CA test and evaluation strategy. NIFC-CA Increment 1 was successfully executed between 2009 and 2015. NIFC-CA Increment 2 commences in FY 16 and will be delivered as a FY19 and FY22 capability. It integrates sensor improvements, SM-6 BLK IA, CEC and AWS ACB 16 into an advanced from the sea (FTS) Kill chain. Efforts include support for the WSMR upgrade, Trackex events, Integration Events and Live Fire test at land based and at-sea tests. FY16 will also execute an IFC FTS Kill Chain Demo with JSF.

Insensitive Munitions (IM) effort supports transition of technology associated with Office of Naval Research (ONR) HARDKILL Future Naval Capabilities reflected in a signed level B, Technology Transition Agreement (TTA), endorse by PEO IWS 3.0, OPNAV N96, ONR, and MDA AX, through FY 16.

Future capabilities demonstration project supports SM demonstrations, captive flight tests, data collection, and analysis tasks.

SM-6 System Engineering and Flight Test Support project supports the completion of SM-6 Follow-On Test and Evaluation (FOT&E) flight tests and Runs for the Record (RFR) required for SM-6 Full Operational Capability (FOC), the completion of Verification of Correction of Deficiencies (VCD) regression flight tests for OT-5/15 deficiencies and associated RFR required for SM-6 FOC, and other SM-6 test events.

SM-6 OT-5/15 Development project supports the system engineering and software development to correct a deficiency discovered during Operational Tests 5 and 15. Correction of this deficiency is required for SM-6 FOC.

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements		Project (Number/Name) 3092 / Standard Missile 6 Program		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<b>Title:</b> Insensitive Munitions (IM)  <b>Articles:</b>		0.958 -	0.000 -	0.000 -	0.000 -	0.000 -
<b>FY 2016 Accomplishments:</b> The prime contractor will continue the development effort of the ISD technology concept. Safety plans and reviews with the safety community will be planned and executed.  <b>FY 2017 Plans:</b> Effort combined with SM-2 Improvements starting in FY 17.  <b>FY 2018 Base Plans:</b> N/A  <b>FY 2018 OCO Plans:</b> N/A						
<b>Title:</b> SM-6 System Engineering and Flight Test Support  <b>Articles:</b>		21.300 -	24.500 -	6.200 -	0.000 -	6.200 -
<b>FY 2016 Accomplishments:</b> Completed preparation for and support the remaining four FOT&E events. Began preparation for SM-6 FOT&E Runs for the Record in support of SM-6 Full Operational Capability declaration. Completed preparation for and support the FY16 flight test events.  <b>FY 2017 Plans:</b> Prepare for and support Verification of Correction of Deficiencies (VCD) for OT-5/15 by conducting Regression Flight Tests at the Pacific Missile Range Facility. Requires at least 3 flight tests (each with 1 target) and subsequent collection of data, performance and analysis, and reliability assessments. Following this, complete any required VCD specific Runs for the Record (RFR). Conduct flight test for Software Alignment (SWA) to verify improvements to guidance section software. Requires 1 flight test (to include air launched target and associated aircraft for operations) and subsequent collection of data, performance and analysis, and reliability assessments. Complete SM-6 FOT&E Runs for the Record.  <b>FY 2018 Base Plans:</b>						

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements		Project (Number/Name) 3092 / Standard Missile 6 Program		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Prepare for and support AEGIS Speed to Capability (ASToC) efforts, Combat System Ship Qualifications Trials (CSSQTs), and Fleet firings. Conduct ongoing assessments of capabilities against emerging threats. Collection of data, performance analysis, and reliability assessments.						
FY 2018 OCO Plans: N/A						
Title: SM-6 OT-5/15 Development  Articles:		8.900 -	0.000 -	0.000 -	0.000 -	0.000 -
FY 2016 Accomplishments: Complete development of the OT-5/15 correction						
FY 2017 Plans: N/A						
FY 2018 Base Plans: N/A						
FY 2018 OCO Plans: N/A						
Title: Naval Integrated Fire Control - Counter Air (NIFC-CA)  Articles:		2.016 -	2.215 -	6.191 -	0.000 -	6.191 -
FY 2016 Accomplishments: Continue NIFC-CA Increment 1 live fire tests and updates to capabilities and limitations. Commence NIFC-CA Increment 2 2019/2022 capability. Support the WSMR Desert Ship Upgrade III in support of NIFC-CA Increment 2. Integrate the SM-6 Block IA missile simulation into the NIFC-CA Federation. Support development of NIFC-CA Increment 2 test strategy, Performance Assessment, Data Analysis, and Systems Engineering Working Groups. Conduct Live fire test 4 an 5.						
FY 2017 Plans: Support Increment 2 SoS integration and test activities associated with the WSMR Desert Ship Upgrade. Integrate SM-6 6DoF updates into the NIFC-CA Federation Support Quarterly Program Reviews, Performance Assessment Working Groups, Modeling and Simulation Working Group, and System Engineering Integration and Test Working Group.						

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements	Project (Number/Name) 3092 / Standard Missile 6 Program		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Provide MSU and support to engineering test events and post event performance analysis. <b>FY 2018 Base Plans:</b> Continue supporting Increment 2 SoS integration and test activities associated with the WSMR Desert Ship Upgrade. Continue integrating SM-6 6DoF updates into the NIFC-CA Federation Support Quarterly Program Reviews, Performance Assessment Working Groups, Modeling and Simulation Working Group, and System Engineering Integration and Test Working Group. Provide MSU and support to engineering test events and post event performance analysis. <b>FY 2018 OCO Plans:</b> N/A					
<b>Title:</b> Future Capability Demonstration  <b>Articles:</b>	59.151 -	68.859 -	95.999 -	0.000 -	95.999 -
<b>FY 2016 Accomplishments:</b> Complete preparation for and support the TACDEMO. Begin development of additional capabilities in SM-6 Blk IA. Additional details are held at a higher classification. <b>FY 2017 Plans:</b> Continue development of additional capabilities in SM-6 Blk IA missile. Prepare for two additional CTV flight tests and one GTV test flight at the Pacific Missile Range Facility in 3QFY18. Conduct captive flight tests (CFTs) for collection of data, performance analysis, and reliability assessments. Additional details are held at a higher classification. <b>FY 2018 Base Plans:</b> Continue development of additional capabilities in SM-6 Blk IA missile. Complete preparation for and support Future Capability Demonstration At-Sea Test 3 (two CTVs and one GTV) at the Pacific Missile Range Facility in 3QFY18. Prepare for Future Capability Demonstration Land-Based Test 1 at White Sands Missile Range in 2QFY19. Conduct captive flight tests (CFTs). Collection of data, performance analysis, and reliability assessments. Additional details are held at a higher classification. <b>FY 2018 OCO Plans:</b> N/A					
Accomplishments/Planned Programs Subtotals	92.325	95.574	108.390	0.000	108.390

# UNCLASSIFIED

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 0604366N / Standard Missile Improvements				Project (Number/Name) 3092 / Standard Missile 6 Program			
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 2234: Standard Missile	417.252	543.712	510.875	35.208	546.083	521.100	534.357	543.658	554.604	3,898.752	9,400.597
• Standard Missile: QTY	101.000	125.000	117.000	8.000	125.000	100.000	100.000	100.000	100.000	594.000	1,800.000
Remarks											
D. Acquisition Strategy											
SM-6 Acquisition Strategy signed by OSD AT&L 14 March 2012.											
E. Performance Metrics											
Accomplishments											
- Future Capability Demonstration Captive Flight Test 2nd quarter 2015 - 1st quarter 2016											
- Future Capability Demonstration Captive Test Vehicle events Feb 2015											
- DT (FOT&E) 2015											
- NIFC-CA Live Fire Test (5) Jul 2016											
- Future Capability Demonstration At-Sea Test (2) Jan 2016											
- NIFC-CA At-Sea Test (3) Sep 2016											
- NIFC-CA Live Fire Test (4) (Joint Strike Fighter Demo) Sep 2016											
- OT (FOT&E) Jan 2016											
Upcoming Milestones											
- Integrated Fire Control (IFC) Increments I (Oct 2008-Sep 2015) and II (Oct 2015-Sep 2022)											
- Future Capability Demonstration At-Sea Test (3) 3Q 2018											
- Future Capability Demonstration Land-Based Test (4) 2Q 2019											
- Future Capability Demonstration At-Sea Test (4) 4Q 2019											
- Future Capability Demonstration Captive Flight Test (CFT) (3) Mar 2017											
- Future Capability Demonstration Captive Flight Test (CFT) (4) 1Q-2Q 2018											
- Future Capability Demonstration Captive Flight Test (CFT) (5) 4Q 2018 - 1Q 2019											
- Operational Test (OT- 5/15) Apr 2017											
- NIFC-CA At-Sea Test (4) Mar 2017											
- NIFC-CA Live Fire Test (5) May 2017											

**UNCLASSIFIED**

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 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 3092 / <i>Standard Missile 6 Program</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
Design & Analysis	C/CPIF	RAYTHEON : Tucson, AZ	700.935	24.263	Dec 2015	42.489	Nov 2016	46.109	Nov 2017	-		46.109	Continuing	Continuing	Continuing
Design & Analysis	C/CPFF	JHU/APL : Laurel MD	51.507	3.574	Dec 2015	5.088	Nov 2016	3.523	Nov 2017	-		3.523	0.000	63.692	-
Design & Analysis	MIPR	MIT/Lin Lab : Lexington, MA	0.550	0.000		0.000		0.000		-		0.000	0.000	0.550	-
Design & Analysis	WR	NAWC : China Lake	4.637	0.768	Nov 2015	0.363	Nov 2016	0.321	Nov 2017	-		0.321	0.000	6.089	-
Design & Analysis	WR	NSWC : Dahlgren	11.654	0.135	Nov 2015	0.160	Nov 2016	0.211	Nov 2017	-		0.211	0.000	12.160	-
Design & Analysis	WR	NSWC : Indian Head	3.917	0.025	Nov 2015	0.000		0.000		-		0.000	0.000	3.942	-
Design & Analysis	WR	NSWC : PHD	9.882	1.035	Nov 2015	0.150	Nov 2016	0.250	Nov 2017	-		0.250	0.000	11.317	-
Design & Analysis	WR	NSWC : Crane	1.256	0.000		0.000		0.000		-		0.000	0.000	1.256	-
Design & Analysis	MIPR	JSPO : Eglin AFB	24.049	0.000		0.000		0.000		-		0.000	0.000	24.049	-
Design & Analysis	C/CPFF	LOCKHEED Martin : Moorestown, NJ	6.074	0.000		0.000		0.000		-		0.000	0.000	6.074	-
Design & Analysis	WR	NSWC : Corona	18.108	2.125	Nov 2015	0.431	Nov 2016	1.000	Nov 2017	-		1.000	0.000	21.664	-
Design & Analysis	Reqn	ONR : Arlington, VA	5.320	0.000		0.000		0.000		-		0.000	0.000	5.320	-
Design & Analysis	Reqn	NRL : Washington, DC	0.090	0.050	Nov 2015	0.000		0.000		-		0.000	0.000	0.140	-
Design & Analysis	WR	COMPTEVFOR : Norfolk, VA	2.370	0.125	Nov 2015	0.125	Nov 2016	0.000		-		0.000	0.000	2.620	-
Design & Analysis	WR	CARDEROCK : Philadelphia, PA	3.058	0.600	Nov 2015	0.200	Nov 2016	0.200	Nov 2017	-		0.200	0.000	4.058	-
Design & Analysis	WR	NSWC : Pt Mugu	0.613	0.000		0.000		0.000		-		0.000	0.000	0.613	-
Design & Analysis	C/CPFF	BAE : Rockville, MD	6.446	0.040	Jan 2016	0.000		0.000		-		0.000	0.000	6.486	-
Design & Analysis	MIPR	ARMY : Redstone	0.350	0.000		0.000		0.000		-		0.000	0.000	0.350	-
Design & Analysis	WR	NAWCAD : Pax River, MD	1.448	2.264	Nov 2015	0.000		0.050	Nov 2017	-		0.050	0.000	3.762	-
Design & Analysis	C/CPFF	CORVID : Mooresville, NC	4.100	3.000	Nov 2015	3.000	Nov 2016	3.200	Nov 2017	-		3.200	0.000	13.300	-
Design & Analysis	C/CPFF	RNB : Arlington, VA	0.010	0.000		0.000		0.000		-		0.000	0.000	0.010	-

## UNCLASSIFIED

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 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 3092 / <i>Standard Missile 6 Program</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
Design & Analysis	WR	SPAWAR : Arlington, VA	0.007	0.000		0.000		0.000		-		0.000	0.000	0.007	-
Design & Analysis	WR	ARMY : Cecom	0.066	0.000		0.000		0.000		-		0.000	0.000	0.066	-
Design & Analysis	C/FP	GENERAL DYNAMICS : Falls Church, VA	1.660	0.000		0.000		0.000		-		0.000	0.000	1.660	-
Design & Analysis	WR	VARIOUS : (IWS 1A)	74.265	15.317	Dec 2015	15.400	Nov 2016	0.000		-		0.000	0.000	104.982	-
Design & Analysis	WR	VARIOUS : (VLS)	25.274	0.050	Mar 2016	0.350	Nov 2016	0.000		-		0.000	0.000	25.674	-
Design & Analysis	WR	NSWC : WSMR	0.100	0.000		0.100	Nov 2016	0.000		-		0.000	0.000	0.200	-
Design & Analysis	WR	PMRF : Hawaii	0.772	2.334	Nov 2015	0.000		0.700	Nov 2017	-		0.700	0.000	3.806	-
Design & Analysis	WR	DOI : Washington D.C.	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Subtotal			958.518	55.705		67.856		55.564		-		55.564	-	-	-
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
Developmental Test & Evaluation	WR	NSWC : Port Hueneme	2.706	1.723	Nov 2015	2.000	Nov 2016	1.700	Nov 2017	-		1.700	0.000	8.129	-
Developmental Test & Evaluation	WR	NSWC : WSMR	26.292	0.375	Mar 2016	0.625	Nov 2016	7.500	Nov 2017	-		7.500	0.000	34.792	-
Developmental Test & Evaluation	WR	PMRF : Hawaii	38.958	2.186	Nov 2015	1.157	Nov 2016	12.800	Nov 2017	-		12.800	0.000	55.101	-
Developmental Test & Evaluation	WR	NAWC : Pt Mugu	3.144	0.847	Nov 2015	0.200	Nov 2016	0.000		-		0.000	0.000	4.191	-
Developmental Test & Evaluation	C/CPAF	RAYTHEON : Tucson, AZ	20.292	17.125	Dec 2015	5.500	Nov 2016	6.500	Nov 2017	-		6.500	0.000	49.417	-
Developmental Test & Evaluation	C/CPFF	JHU/APL : Laurel, MD	10.281	3.182	Dec 2015	3.600	Nov 2016	0.941	Nov 2017	-		0.941	0.000	18.004	-

**UNCLASSIFIED**

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 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 3092 / <i>Standard Missile 6 Program</i>					
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
Developmental Test & Evaluation	WR	NSWC : Corona	7.218	3.158	Nov 2015	2.600	Nov 2016	0.600	Nov 2017	-		0.600	0.000	13.576	-
Developmental Test & Evaluation	WR	NSWC : Dahlgren	1.508	0.380	Nov 2015	0.578	Nov 2016	0.300	Nov 2017	-		0.300	0.000	2.766	-
Developmental Test & Evaluation	WR	VLS : Arlington, VA	2.044	0.325	Mar 2016	0.000		0.000		-		0.000	0.000	2.369	-
Developmental Test & Evaluation	WR	COMPTEVFOR : Norfolk, Va	1.364	0.150	Nov 2015	0.150	Nov 2016	0.225	Nov 2017	-		0.225	0.000	1.889	-
Developmental Test & Evaluation	WR	VARIOUS : (IWS 1A)	2.232	0.850	Dec 2015	0.700	Nov 2016	17.500	Nov 2017	-		17.500	0.000	21.282	-
Developmental Test & Evaluation	WR	NSWC : Carderock	2.000	0.280	Nov 2015	0.000		0.100	Nov 2017	-		0.100	0.000	2.380	-
Developmental Test & Evaluation	WR	NAWC : China Lake	0.000	0.194	Nov 2015	4.924	Nov 2016	0.480	Nov 2017	-		0.480	0.000	5.598	-
Developmental Test & Evaluation	WR	ONR : Arlington, Va	0.536	1.318	Nov 2015	1.571	Nov 2016	0.000		-		0.000	0.000	3.425	-
Developmental Test & Evaluation	WR	DOI : Washington D.C.	0.000	0.545	Nov 2015	0.000		0.000		-		0.000	0.000	0.545	-
Subtotal			118.575	32.638		23.605		48.646		-		48.646	0.000	223.464	-
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
Contractor Engineering Services	C/CPAF	VARIOUS : Various	28.281	3.912	Apr 2016	4.050	Nov 2016	4.117	Nov 2017	-		4.117	0.000	40.360	-
Travel	Various	IWS3 : Arlington, VA	1.282	0.070	Nov 2015	0.063	Nov 2016	0.063	Nov 2017	-		0.063	0.000	1.478	-
DAWDF	C/FP	Not Specified : Not Specified	1.130	0.000		0.000		0.000		-		0.000	0.000	1.130	-
Subtotal			30.693	3.982		4.113		4.180		-		4.180	0.000	42.968	-

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: FY 2018 Navy</b>										<b>Date:</b> May 2017			
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>					<b>Project (Number/Name)</b> 3092 / <i>Standard Missile 6 Program</i>			
	<b>Prior Years</b>	<b>FY 2016</b>		<b>FY 2017</b>		<b>FY 2018 Base</b>		<b>FY 2018 OCO</b>		<b>FY 2018 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	1,107.786	92.325		95.574		108.390		-		108.390	-	-	-
<b>Remarks</b>													

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile: FY 2018 Navy</b>			<b>Date: May 2017</b>		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>			<b>Project (Number/Name)</b> 3092 / <i>Standard Missile 6 Program</i>

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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 3092</b>																												
Full Operational Capability (FOC)																												
DT/OT DI (FOT&E)																												
Runs for the Record																												
Runs for the Record Final Report																												
Future Capability Demonstration Captive Flight Test (CFT) 3																												
Future Capability Demonstration Captive Flight Test (CFT) 4																												
Future Capability Demonstration Land Based Test (LBT) 1																												
Future Capability Demonstration At-Sea test 2																												
Future Capability Demonstration At-Sea test 3																												
Future Capability Demonstration At-Sea test 4																												
Future Capability Tri-Capable Missile Regression Flight Tests																												
OT-5/15 Flight Test																												
Integrated Fire Control Increment I and II																												
NIFC-CA Live Fire Test (LFT) 5 (WSMR) (Inc 1)																												
NIFC-CA Joint Strike Fighter Demo (LFT 4)																												
NIFC-CA Live Fire Test (Inc 1)																												
NIFC-CA Integration & Test (Inc 2)																												

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements								Project (Number/Name) 3092 / Standard Missile 6 Program										
	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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
NIFC-CA Increment 2 Live Firing Testing (WSMR)																												
Integrated Fire Control Increment 2																												
NIFC-CA At-Sea 3 Test																												
NIFC-CA At-Sea 4 Test																												
Full Rate Production (FRP) 1 Deliveries																												
Full Rate Production (FRP) 2 Deliveries																												
Full Rate Production (FRP) 3 Deliveries																												
Full Rate Production (FRP) 4 Deliveries																												
Full Rate Production (FRP) 5 Deliveries																												
Full Rate Production (FRP) 6 Deliveries																												
Full Rate Production (FRP) 4 Award																												
Full Rate Production (FRP) 5 Award																												
Full Rate Production (FRP) 6 Award																												
Full Rate Production (FRP) 7 Award																												
Full Rate Production (FRP) 8 Award																												
Full Rate Production (FRP) 9 Award																												
Full Rate Production (FRP) 10 Award																												

## UNCLASSIFIED

Exhibit R-4A, RDT&amp;E Schedule Details: FY 2018 Navy

Date: May 2017

## Appropriation/Budget Activity

1319 / 5

## R-1 Program Element (Number/Name)

PE 0604366N / Standard Missile  
Improvements

## Project (Number/Name)

3092 / Standard Missile 6 Program

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3092</b>				
Full Operational Capability (FOC)	1	2018	1	2018
DT/OT DI (FOT&E)	2	2016	2	2016
Runs for the Record	3	2016	3	2016
Runs for the Record Final Report	1	2017	1	2017
Future Capability Demonstration Captive Flight Test (CFT) 3	2	2017	4	2017
Future Capability Demonstration Captive Flight Test (CFT) 4	1	2018	2	2018
Future Capability Demonstration Land Based Test (LBT) 1	2	2019	2	2019
Future Capability Demonstration At-Sea test 2	2	2016	2	2016
Future Capability Demonstration At-Sea test 3	3	2018	3	2018
Future Capability Demonstration At-Sea test 4	4	2019	4	2019
Future Capability Tri-Capable Missile Regression Flight Tests	3	2017	3	2017
OT-5/15 Flight Test	3	2017	3	2017
Integrated Fire Control Increment I and II	1	2016	4	2022
NIFC-CA Live Fire Test (LFT) 5 (WSMR) (Inc 1)	4	2016	4	2016
NIFC-CA Joint Strike Fighter Demo (LFT 4)	4	2016	4	2016
NIFC-CA Live Fire Test (Inc 1)	3	2017	3	2017
NIFC-CA Integration & Test (Inc 2)	2	2018	2	2018
NIFC-CA Increment 2 Live Firing Testing (WSMR)	3	2018	3	2018
Integrated Fire Control Increment 2	4	2018	4	2020
NIFC-CA At-Sea 3 Test	4	2016	4	2016
NIFC-CA At-Sea 4 Test	4	2017	4	2017

**UNCLASSIFIED**

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 0604366N / Standard Missile Improvements		Project (Number/Name) 3092 / Standard Missile 6 Program	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Full Rate Production (FRP) 1 Deliveries		1	2016	2	2016
Full Rate Production (FRP) 2 Deliveries		3	2016	2	2017
Full Rate Production (FRP) 3 Deliveries		3	2017	2	2018
Full Rate Production (FRP) 4 Deliveries		3	2018	2	2019
Full Rate Production (FRP) 5 Deliveries		3	2019	2	2020
Full Rate Production (FRP) 6 Deliveries		3	2020	2	2021
Full Rate Production (FRP) 4 Award		2	2016	2	2016
Full Rate Production (FRP) 5 Award		2	2017	2	2017
Full Rate Production (FRP) 6 Award		2	2018	2	2018
Full Rate Production (FRP) 7 Award		2	2019	2	2019
Full Rate Production (FRP) 8 Award		2	2020	2	2020
Full Rate Production (FRP) 9 Award		2	2021	2	2021
Full Rate Production (FRP) 10 Award		2	2022	2	2022