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

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604786N I (U) <i>Offensive Anti-Surface Warfare Weapon Dev</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	164.292	181.719	285.849	252.409	-	252.409	146.044	119.147	84.208	86.002	Continuing	Continuing
3337: <i>Offensive Anti-Surface Warfare (OASuW) Weapon</i>	164.292	181.719	285.849	250.371	-	250.371	128.972	46.023	0.000	0.000	0.000	1,057.226
3343: <i>Offensive Anti-Surface Warfare (OASuW) Weapon Increment II</i>	0.000	0.000	0.000	2.038	-	2.038	17.072	73.124	84.208	86.002	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 449

A. Mission Description and Budget Item Justification

Offensive Anti-Surface Warfare (OASuW) will be an offensive weapon system that can be air, surface, and subsurface launched in the maritime battle space environment. OASuW will be a vital component of the Joint Force Anti-Surface Warfare capability and incorporate new and emergent technologies to support an increased offensive strike capability. Due to emerging threats, the fleet issued an Urgent Operational Needs Statement (UONS) that identified a capability gap for a long-range anti-ship missile to be filled by 2018. Directly supporting this UONS and significantly reducing Joint Force warfighting risks, the U.S. Navy initiated OASuW Increment 1, which leverages the Defense Advanced Research Projects Agency(DARPA)/Office of Naval Research Long Range Anti-Ship Missile (LRASM) demonstration program to deliver an Early Operational Capability (EOC) in the required timeframe. LRASM fills the most urgent air-launched capability gap to compliment, existing ASuW weapon systems and positions the Department of Defense to address evolving surface warfare threats. Longer term OASuW requirements will be addressed in the future by OASuW Increment II.

The OASuW program is part of the Navy's Integrated Fire Control (IFC) approach to address advanced threat capabilities in the Anti-Access/Area-Denial (A2AD) environment. IFC solutions enable individual system capabilities to be leveraged across an effects chain, placing the full spectrum of tactical capability in the hands of the warfighter. IFC solutions that push engagement distances beyond the launch platform's radar horizon and allows the U.S. Navy to operate in, and control, contested battle space in littoral waters and A2/AD environments are increasingly critical as more and more scenarios require compressed and coordinated fire control timelines.

Budget Item Justification: OASuW (Increment I)

Funding supports the delivery of an EOC of OASuW Increment I's LRASM weapon system, including the transition of the LRASM demonstration design into a fielded air-launched weapon system, using an accelerated acquisition approach, with streamlined governance. The program is leveraging DoDI 5000.02i Model 4 to structure the acquisition strategy, which includes a highly integrated and concurrent transition design, integration, and developmental / operational test program to meet the EOC schedule required by the UONS. To manage the accelerated timeline and resulting concurrency, the program uses a structured Knowledge Point review process that support decisions regarding significant program events such as transition from design to integration phase and contract awards. These reviews also provide senior DoD leadership the opportunity to provide focused support and active management of technical and acquisition risk and are chaired by the Service Acquisition

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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604786N I (U) <i>Offensive Anti-Surface Warfare Weapon Dev</i>
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Executive, ASN(RDA), and the Deputy Director of DARPA. The knowledge points are similar to acquisition milestone reviews, but occur more frequently and are tailored to program-specific milestone events. Of note, the OASuW Increment I knowledge points are defined differently than GAO defines the same term and are tailored to program-specific milestone events. The program intends to meet the statutory requirements associated with Milestone B at Knowledge Point 3. In addition to the Knowledge Point reviews, Executive Steering Board reviews, chaired by the MDA, are held at least monthly. Supporting these reviews, the associated engineering approach is designed to mitigate resulting risk by implementing a rolling-wave engineering progression based on the NAVAIR Systems Engineering Technical Review (SETR) process to enable detailed planning and decisions as the system matures. This process includes capstone SETR events that are tailored reviews using standard design review criteria. SETR 2.0 in FY15 provided a Production Design Review level review of the system and supported the Knowledge Point 2 decision to continue toward the Integration and Test phase. The Technology Maturation effort in FY15 and FY16 culminates in a system Critical Design Review (CDR) level review at SETR 4.0. SETR 3.0 in 4QFY15 provides a CDR-level review and supports the Knowledge Point 3 decision to initiate the Integration and Test phase for the all-up-round components.

In FY17, system qualification testing will complete, environmental and ship suitability testing will be conducted, flight test articles will deliver, and flight testing will commence, including the first free-flight weapon firing.

This program is funded under ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES because it includes all efforts necessary to evaluate integrated technologies, representative models or prototype systems in a high fidelity and realistic operating environment

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	181.939	285.849	232.751	-	232.751
Current President's Budget	181.719	285.849	252.409	-	252.409
Total Adjustments	-0.220	0.000	19.658	-	19.658
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	5.000	0.000			
• SBIR/STTR Transfer	-5.220	0.000			
• Program Adjustments	0.000	0.000	17.180	-	17.180
• Rate/Misc Adjustments	0.000	0.000	2.478	-	2.478

Change Summary Explanation

Decrease in Offensive Anti-Surface Warfare Weapon Dev by \$9.892M as required for the Department of the Navy to comply with the Bipartisan Budget Act of 2015.

PU 3337:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604786N / (U) <i>Offensive Anti-Surface Warfare Weapon Dev</i>	
<p>Schedule: Procurement schedule adjusted to account for lead times and to remove FY20 procurement. Delivery schedule updated to align with procurement schedule.</p> <p>Acquisition Strategy: Acquisition Strategy further defined adding Knowledge Point (KP) and System Engineering Technical Review (SETR) events. Original KP5 is now KP6 and KP 5, 7 and 8 were defined and added. SETR 5 is the PRR event, SETR 6-8 have been further defined to include dates and added.</p> <p>PU 3343: End date shifted from 4Q17 to 4Q18 due to reduction of Cruise Missile Study funding in FY17.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev				Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3337: <i>Offensive Anti-Surface Warfare (OASuW) Weapon</i>	164.292	181.719	285.849	250.371	-	250.371	128.972	46.023	0.000	0.000	0.000	1,057.226
Quantity of RDT&E Articles		26	24	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 449												

A. Mission Description and Budget Item Justification

Offensive Anti-Surface Warfare (OASuW) will be an offensive weapon system that can be air, surface, and subsurface launched in the maritime battle space environment. OASuW will be a vital component of the Joint Force Anti-Surface Warfare capability and incorporate new and emergent technologies to support an increased offensive strike capability. Due to emerging threats, the fleet issued an Urgent Operational Needs Statement (UONS) that identified a capability gap for a long-range anti-ship missile to be filled by 2018. Directly supporting this UONS and significantly reducing Joint Force warfighting risks, the U.S. Navy initiated OASuW Increment 1, which leverages the Defense Advanced Research Projects Agency(DARPA)/Office of Naval Research Long Range Anti-Ship Missile (LRASM) demonstration program to deliver an Early Operational Capability (EOC) in the required timeframe. LRASM fills the most urgent air-launched capability gap to compliment, existing ASuW weapon systems and positions the Department of Defense to address evolving surface warfare threats. Longer term OASuW requirements will be addressed in the future by OASuW Increment II.

Budget Item Justification: OASuW (Increment I)

Funding supports the delivery of an EOC of OASuW Increment I's LRASM weapon system, including the transition of the LRASM demonstration design into a fielded air-launched weapon system, using an accelerated acquisition approach, with streamlined governance. The program is leveraging DoDI 5000.02i Model 4 to structure the acquisition strategy, which includes a highly integrated and concurrent transition design, integration, and developmental / operational test program to meet the EOC schedule required by the UONS. To manage the accelerated timeline and resulting concurrency, the program uses a structured Knowledge Point review process that support decisions regarding significant program events such as transition from design to integration phase and contract awards. These reviews also provide senior DoD leadership the opportunity to provide focused support and active management of technical and acquisition risk and are chaired by the Service Acquisition Executive, ASN(RDA), and the Deputy Director of DARPA. The knowledge points are similar to acquisition milestone reviews, but occur more frequently and are tailored to program-specific milestone events. Of note, the OASuW Increment I knowledge points are defined differently than GAO defines the same term and are tailored to program-specific milestone events. The program intends to meet the statutory requirements associated with Milestone B at Knowledge Point 3. In addition to the Knowledge Point reviews, Executive Steering Board reviews, chaired by the MDA, are held at least monthly. Supporting these reviews, the associated engineering approach is designed to mitigate resulting risk by implementing a rolling-wave engineering progression based on the NAVAIR Systems Engineering Technical Review (SETR) process to enable detailed planning and decisions as the system matures. This process includes capstone SETR events that are tailored reviews using standard design review criteria. SETR 2.0 in FY15 provided a Production Design Review level review of the system and supported the Knowledge Point 2 decision to continue toward the Integration and Test phase. The Technology Maturation effort in FY15 and FY16 culminates in a system Critical Design Review (CDR) level review at SETR 4.0. SETR 3.0 in late 2015 provided a CDR-level review for the all-up-round components and supports the Knowledge Point 3 decision to initiate the Integration and Test phase.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon

In FY17, system qualification testing will complete, environmental and ship suitability testing will be conducted, flight test articles will deliver, and flight testing will commence, including the first free-flight weapon firing. Platform integration work continues.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: OASuW Development Program	181.719	285.849	250.371	0.000	250.371
Articles:	26	24	-	-	-
FY 2015 Accomplishments:					
Primary efforts included continued weapon system design and hardware development to support subsystem design reviews. Additional activities included identification and design of weapon system test sets required in support of subsystem and system level testing, and initial integration design/development on the USAF and USN launch platforms, which include mission planning development and environmental qualification. Test assets procured in FY15 will be utilized to test the separation qualities of the weapon off of the launch platforms, develop the interface between the weapon and the launch platforms, and qualify the weapon in the operational electro-magnetic environment. The quantities listed represent the initiation of test article production for assets that are incrementally funded in FY15-FY17.					
FY 2016 Plans:					
The Integration and Test phase of the program will be initiated in FY16, concurrently with the completion of the Technology Maturation phase. This program concurrency is required to meet the Early Operational Capability (EOC) fielding timeline identified by the fleet. Primary efforts include weapon system design maturation to support completion of full system critical design review and system qualification in preparation for a Production Readiness Review in FY17. These efforts will be supported by subsystem testing utilizing a Flying Test Bed, laboratory assets and associated models. Additional activities include integration design/development on the launch platforms as well as procurement of free flight test items. The program will complete SETR 3.0, SETR 4.0, SETR 5.0, and Knowledge Point 3. Test Assets procured in FY16 will be utilized for environmental and ship suitability qualification, as well as free-flight weapon firings beginning in FY17. Some test assets initiated in FY15 will be continued in FY16. Test article production assets will deliver in FY16-FY18.					
FY 2017 Base Plans:					
The Integration and Test phase of the program will continue in FY17. System qualification testing will complete, environmental and ship suitability testing will be conducted, flight test articles will deliver, and flight testing will commence, including the first free-flight weapon firing.					
FY 2017 OCO Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
N/A					
Accomplishments/Planned Programs Subtotals	181.719	285.849	250.371	0.000	250.371

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• WPN/2291: LRASM	0.000	0.000	29.643	-	29.643	74.664	74.641	0.000	0.000	0.000	178.948
• MPAF/8010: LRASM	0.000	0.000	60.000	-	60.000	45.000	45.000	85.000	86.530	0.000	321.530

Remarks

U.S. Navy WPN funding supports the following quantities:

- FY17 - 10
- FY18 - 25
- FY19 - 25

U.S. Air Force MPAF funding supports the following quantities:

- FY17 - 20
- FY18 - 15
- FY19 - 15
- FY20 - 28
- FY21 - 28

D. Acquisition Strategy

OASuW Increment I is using an accelerated acquisition approach, with streamlined governance to transition the DARPA/ONR-demonstrated Long Range Anti-Ship Missile (LRASM) for use as an air-launched weapon from USAF and USN platforms. The program is leveraging DoDI 5000.02i Model 4 to structure the acquisition strategy, which includes a highly integrated and concurrent transition design, integration, and developmental / operational test program to meet the 2018 Early Operation Capability (EOC) fielding schedule required by an Urgent Operational Need Statement (UONS) issued by the fleet. The program is structured in three phases: Technology Maturation, Integration and Test, and Procurement. To manage the accelerated timeline and resulting concurrency, the program uses a structured Knowledge Point review process that support decisions regarding significant program events such as transition from design to integration phase and contract awards. These reviews also provide senior DoD leadership the opportunity to provide focused support and active management of technical and acquisition risk and are chaired by the Service Acquisition Executive, ASN(RDA) (delegated MDA), and the Deputy Director of DARPA. The knowledge points are similar to acquisition milestone

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon

reviews, but occur more frequently. Of note, the OASuW Increment I knowledge points are defined differently than GAO defines the same term. Knowledge Point 1 supported program initiation and approval of the acquisition strategy ; Knowledge Point 2 supported evaluation of the preliminary design of the weapon system as well as release of the Request for Proposal for the Integration and Test phase; Knowledge Point 3 supports evaluation of the final (critical design review level) weapon system design and initiation of/contract award for the Integration and Test phase; Knowledge Point 4 supports the procurement decision for EOC units for the B-1; and Knowledge Point 5 supports the procurement decision for EOC units for the F/A-18E/F. The program intends to meet the statutory requirements associated with Milestone B at Knowledge Point 3. In addition to the Knowledge Point reviews, Executive Steering Board reviews (also chaired by the MDA) are held at least monthly. Supporting these reviews, the associated engineering approach is designed to mitigate resulting risk by implementing a rolling-wave engineering progression based on the NAVAIR Systems Engineering Technical Review (SETR) process to enable detailed planning and decisions as the system matures. This process includes capstone SETR events that are tailored reviews using standard design review criteria. SETR 1.0 in FY14 provided a Systems Requirements Review. SETR 2.0 in FY15 provided a Preliminary Design Review level review of the system and supported Knowledge Point 2. SETR 3.0 in late 2015 provided a Critical Design Review (CDR) level review of the All-up Round in support of Knowledge Point 3, while SETR 4.0 in FY16 will provide a CDR level review of the entire weapon system in support of Knowledge Point 4 in early FY17, along with flight test information.

E. Performance Metrics

The Knowledge Points are defined reviews with the Executive Steering Board comprised of Service Acquisition Executive, ASN(RDA) (delegated MDA) and the Deputy Director of DARPA to make program decisions at key points in the program life cycle in place of milestone reviews, but tailored to support the accelerated process. The acquisition program baseline will be established at Knowledge Point 3.

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development	C/CPIF	Lockheed Martin Missile and Fire Control : Orlando, FL	106.225	132.413	Oct 2014	193.853	Oct 2015	172.848	Oct 2016	-		172.848	113.625	718.964	718.964
Product Development	C/CPFF	Boeing : St. Louis, MO	4.984	13.488	Nov 2014	28.723	Oct 2015	9.077	Oct 2016	-		9.077	6.516	62.788	62.788
Subtotal			111.209	145.901		222.576		181.925		-		181.925	120.141	781.752	781.752

Remarks
 FY17 LMCO costs includes all integration and test efforts by LMCO and associated sub-contractors to complete Knowledge Point 4 and the tailored qualification/flight test program.
 FY17 Boeing costs includes software integration onto the B-1 and the F/A-18 E/F to maintain synchronization with weapon development/test and EOC timelines.

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Support	WR	NAWC AD : Patuxent River, MD	0.311	3.085	Dec 2014	2.493	Oct 2015	2.117	Oct 2016	-		2.117	1.467	9.473	-
Government Support	WR	NAWC WD : China Lake, CA	13.310	6.353	Jan 2015	10.245	Oct 2015	11.670	Oct 2016	-		11.670	8.090	49.668	-
Government Support	WR	NSWC : Various	2.912	0.010	Jan 2015	0.080	Nov 2015	0.068	Nov 2016	-		0.068	0.048	3.118	-
Development Support	C/FFP	NSMA : Washington, DC	5.247	3.046	Nov 2014	6.935	Dec 2015	5.942	Dec 2016	-		5.942	3.037	24.207	24.207
Development Support	MIPR	USAF : Various	0.185	0.200	Nov 2014	0.434	Oct 2015	0.372	Oct 2016	-		0.372	0.267	1.458	-
Integrated Logistics Support	WR	NAWC AD : Patuxent River, MD	0.165	0.119	Nov 2014	0.212	Oct 2015	0.180	Oct 2016	-		0.180	0.124	0.800	-
Contractor Support	C/CPFF	JHU/APL : Laurel, MD	8.541	2.299	Dec 2014	0.000	Oct 2015	0.000	Oct 2016	-		0.000	1.229	12.069	12.069
Contractor Support	C/FFP	Schaffer Corporation : Arlington, VA	4.050	4.466	Dec 2014	5.053	Oct 2015	4.330	Oct 2016	-		4.330	3.108	21.007	21.007

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon
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Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mission Planning Support	C/CPFF	Northrup Grummann : Bethpage, NY	0.246	1.686	Jan 2015	4.732	Oct 2015	4.055	Oct 2016	-		4.055	2.911	13.630	13.630
Contractor Support	Various	Various : Various	5.542	0.382	Nov 2014	0.382	Oct 2015	0.327	Oct 2016	-		0.327	0.235	6.868	6.868
Development Support	Various	NRL : Various	0.000	0.000		0.990	Nov 2015	0.000		-		0.000	0.000	0.990	0.990
Prior Yr Supp no longer funded in the FYDP	Various	Various : Various	2.800	0.000		0.000		0.000		-		0.000	0.000	2.800	-
Subtotal			43.309	21.646		31.556		29.061		-		29.061	20.516	146.088	-

Remarks
FY17 Support costs consist of support from Government offices and Contractor Support experts associated with threat analysis, CONOPs, and Training and Tactical assessments in support of Program Readiness Review (PRR), Knowledge Point 4, the developmental test program, the Quick Reaction Assessment (QRA), and tactics development supporting EOC.

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support	WR	NAWC WD : China Lake, CA	2.997	5.020	Jan 2015	19.322	Oct 2015	24.997	Oct 2016	-		24.997	17.330	69.666	-
Development Support	WR	NAWC AD : Patuxent River, MD	0.354	2.729	Dec 2014	8.301	Oct 2015	8.340	Oct 2016	-		8.340	5.784	25.508	-
Development Support	WR	NSWC : Various	0.000	0.064	Nov 2014	0.064	Nov 2015	0.054	Nov 2016	-		0.054	0.037	0.219	-
Development Support	WR	COTF : Norfolk, VA	0.055	0.050	Nov 2014	0.172	Oct 2015	0.147	Oct 2016	-		0.147	0.106	0.530	-
Development Support	MIPR	USAF : Various	0.191	0.099	Nov 2014	1.104	Oct 2015	3.511	Oct 2016	-		3.511	2.520	7.425	-
Wind Tunnel Testing	MIPR	AEDC : Arnolds AFB, TN	0.250	3.903	Oct 2014	0.000		0.000		-		0.000	0.000	4.153	-
Subtotal			3.847	11.865		28.963		37.049		-		37.049	25.777	107.501	-

Remarks
FY17 Test and Evaluation costs support flight testing, system qualifications, range time, and target costs needed for the B-1 and F/A-18 E/F to support PRR, Knowledge Point 4, the developmental test program, and the Quick Reaction Assessment (QRA).

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Support	WR	NAWC AD : Patuxent River, MD	2.947	1.429	Dec 2014	1.716	Oct 2015	1.457	Oct 2016	-		1.457	1.010	8.559	-
Government Support	WR	NAWC WD : China Lake, CA	1.234	0.534	Jan 2015	0.798	Oct 2015	0.678	Oct 2016	-		0.678	0.470	3.714	-
Project Management Support	C/CPFF	NAWC AD : Patuxent River, MD	1.541	0.059	Dec 2014	0.000		0.000		-		0.000	0.000	1.600	1.600
Travel	Various	NAWC AD : Patuxent River, MD	0.205	0.285	Oct 2014	0.240	Oct 2015	0.201	Oct 2016	-		0.201	0.144	1.075	-
Subtotal			5.927	2.307		2.754		2.336		-		2.336	1.624	14.948	-

Remarks
FY17 Management Services costs consist of Non-Headquarters Program Office Management team (Government labor and Contractor support services) required for the management of the program.

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	164.292	181.719	285.849	250.371	-	250.371	168.058	1,050.289	-

Remarks
Prior year and FY15 updated for actuals.

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon
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Offensive Anti-Surface Weapon (OASuW)	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Acquisition Milestones																																
Milestones	KP-2 ▼					KP-3 ▼				KP-4 ▼				KP-5 ▼				KP-6 ▼			KP-7 ▼									KP-8 ▼		
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Systems Development																																
Hardware Development	Technology Maturation																															
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	Integration & Test																															
Software Development, Integration & Test																																
B-1									B-1B SB-17 Dev. Test																							
																	B-1B Force Dev. Eval.															
F/A-18									F/A-18 H14 Capt. Test																F/A-18 OTRR							
																									F/A-18 OT							
Systems Engineering Reviews	SETR 2.0 (PDR) ■				SETR 3.0 (CDR) ■				TRR ■	SETR 4.0 (System Level CDR) ■			SETR 5.0 (PRR) ■				SETR 6.0 (Flight Test RR) ■				SETR 7.0 (USAF EOC RR) ■				SETR 8.0 (USN EOC RR) ■							

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy															Date: February 2016				
Appropriation/Budget Activity 1319 / 4										R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev					Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon				

Offensive Anti-Surface Weapon (OASuW).	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Test & Evaluation	Test Asset Deliveries																											
	RF Sensor & MCU Test and Verification				E3 & HERO Testing																							
	FTB Flight Tests																											
					Env. Test & Ship Qual.																							
B-1													QRA (AF)															
F/A-18	F/A-18 Wind Tunnel Testing												F/A-18 Carrier Suit. & Stores Compatibility				QRA (NAVY)											
Production																												
Contract Awards									FY17 Production Buy - 30 units (20 AF, 10 NAVY)				FY18 Production Buy - 40 units (15 AF, 25 NAVY)				FY19 Production Buy - 40 units (15 AF, 25 NAVY)											
Deliveries									●				●				●											
													FY17 - 30 units				FY18 - 40 units				FY19 - 40 units							

2017PB - 0604786N - 3337 Schedule changes reflect proposed Acquisition Strategy risk reduction initiative updates to be presented at KP3. Delivery of FY17 quantities begins in 3QFY18 with USAF EOC weapons; USN FY17 EOC quantities will begin delivering in 4QFY18. Delivery of FY19 quantities concludes in 1QFY22; due to system limitations, graphical representation of the delivery schedule does not accurately capture the entire delivery period for these units.

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3337 / Offensive Anti-Surface Warfare (OASuW) Weapon

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Offensive Anti-Surface Weapon (OASuW)				
Acquisition Milestones: Milestones: Knowledge Point 2	1	2015	1	2015
Acquisition Milestones: Milestones: Knowledge Point 3	2	2016	2	2016
Acquisition Milestones: Milestones: Knowledge Point 4	1	2017	1	2017
Acquisition Milestones: Milestones: Knowledge Point 5	1	2018	1	2018
Acquisition Milestones: Milestones: Knowledge Point 6	4	2018	4	2018
Acquisition Milestones: Milestones: Knowledge Point 7	1	2019	1	2019
Acquisition Milestones: Milestones: Knowledge Point 8	4	2019	4	2019
Acquisition Milestones: Milestones: Early Operational Capability (EOC) Air Force	4	2018	4	2018
Acquisition Milestones: Milestones: Early Operational Capability (EOC) Navy	4	2019	4	2019
Systems Development: Hardware Development: Technology Maturation	1	2015	4	2016
Systems Development: Hardware Development: Integration & Test Contract Award	2	2016	2	2016
Systems Development: Hardware Development: Integration & Test	2	2016	3	2019
Systems Development: B-1: B-1 SB-17 Software Development Test	2	2017	1	2018
Systems Development: B-1: B-1 Force Development Evaluation	1	2018	4	2018
Systems Development: F/A-18: F/A-18 H14 Captive Carriage Test	1	2016	4	2016
Systems Development: F/A-18: F/A-18 H14 Operational Test Readiness Review	4	2018	4	2018
Systems Development: F/A-18: F/A-18 H14 Operational Test	4	2018	4	2019
Systems Development: Systems Engineering Reviews: System Engineering Technical Review 2.0 (Preliminary Design Review)	1	2015	1	2015
Systems Development: Systems Engineering Reviews: System Engineering Technical Review 3.0 (All-up Round Critical Design Review)	4	2015	4	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy			Date: February 2016	
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)		
1319 / 4	PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	3337 / Offensive Anti-Surface Warfare (OASuW) Weapon		
Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Development: Systems Engineering Reviews: System Engineering Technical Review 4.0 (System Level Critical Design Review)	3	2016	3	2016
Systems Development: Systems Engineering Reviews: System Engineering Technical Review 5.0 (Production Readiness Review)	1	2017	1	2017
Systems Development: Systems Engineering Reviews: System Engineering Technical Review 6.0 (Flight Test Readiness Review)	4	2017	4	2017
Systems Development: Systems Engineering Reviews: System Engineering Technical Review 7.0 (USAF EOC Readiness Review)	4	2018	4	2018
Systems Development: Systems Engineering Reviews: System Engineering Technical Review 8.0 (USN EOC Readiness Review)	3	2019	3	2019
Systems Development: Systems Engineering Reviews: Technical Readiness Review	2	2016	2	2016
Offensive Anti-Surface Weapon (OASuW).				
Test & Evaluation: Test Asset Deliveries	3	2015	3	2018
Test & Evaluation: E3 & HERO Testing	3	2016	3	2017
Test & Evaluation: RF Sensor and MCU Testing and Verification	1	2015	1	2016
Test & Evaluation: Flying Test Bed Flight Tests	1	2016	3	2017
Test & Evaluation: Environmental Test & Ship Qualification	2	2016	1	2017
B-1: Quick Reaction Assessment Testing (AF)	3	2018	4	2018
F/A-18: F/A-18 Wind Tunnel Testing	1	2015	2	2015
F/A-18: Quick Reaction Assessment Testing (Navy)	1	2019	2	2019
F/A-18: F/A-18 Carrier Suitability & Stores Compatibility	3	2018	4	2018
Production: Contract Awards: FY17 Production Buy - 30 units (20 AF, 10 NAVY)	2	2017	2	2017
Production: Contract Awards: FY18 Production Buy - 40 units (15 AF, 25 NAVY)	2	2018	2	2018
Production: Contract Awards: FY19 Production Buy - 40 units (15 AF, 25 NAVY)	2	2019	2	2019
Production: Deliveries: FY17 Deliveries - 30 units	3	2018	2	2019
Production: Deliveries: FY18 Deliveries - 40 units	4	2019	4	2020
Production: Deliveries: FY19 Deliveries - 40 units	1	2021	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy										Date: February 2016		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev				Project (Number/Name) 3343 / Offensive Anti-Surface Warfare (OASuW) Weapon Increment II			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
3343: <i>Offensive Anti-Surface Warfare (OASuW) Weapon Increment II</i>	0.000	0.000	0.000	2.038	-	2.038	17.072	73.124	84.208	86.002	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Update of Analysis of Alternatives (AoA) for OASuW Inc. II capabilities.

The Next Generation Strike Capability (NGSC) strategy will address future threats in time to replace or update legacy weapons while bringing next generation technology to Department of the Navy (DoN) standoff conventional strike (Land Attack & ASuW). Within NGSC, OASuW Inc. II will be an offensive weapon system that can be air launched to address 2024 and beyond threat. To the maximum extent possible, the Navy will utilize common components and component technologies (e.g. navigation; communications; seeker; guidance and control) to reduce cost, shorten development timelines, and promote interoperability. The program is part of the Navy's Integrated Fire Control (IFC) approach to address advanced threat capabilities in the Anti-Access/Area-Denial (A2AD) environment. IFC solutions enable individual system capabilities to be leveraged across an effects chain, placing the full spectrum of tactical capability in the hands of the warfighter. IFC solutions that push engagement distances beyond the launch platform's radar horizon and allows the U.S. Navy to operate in, and control, contested battle space in littoral waters and A2/AD environments are increasingly critical as more and more scenarios require compressed and coordinated fire control timelines.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Analysis of Alternatives	0.000	0.000	2.038	0.000	2.038
Articles:	-	-	-	-	-
FY 2015 Accomplishments: N/A					
FY 2016 Plans: N/A					
FY 2017 Base Plans: Funding supports analysis required for system specification development and Acquisition Strategy development.					
FY 2017 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.000	0.000	2.038	0.000	2.038

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3343 / Offensive Anti-Surface Warfare (OASuW) Weapon Increment II
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy N/A		
E. Performance Metrics Ongoing updates of AoA.		

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

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3343 / Offensive Anti-Surface Warfare (OASuW) Weapon Increment II
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OASuW Specification (Spec) Development	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Specification (Spec) Development																																
									Spec Development Analysis																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604786N / (U)Offensive Anti-Surface Warfare Weapon Dev	Project (Number/Name) 3343 / Offensive Anti-Surface Warfare (OASuW) Weapon Increment II

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
OASuW Specification (Spec) Development				
Specification (Spec) Development: Analysis	1	2017	4	2018

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