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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 0603611M / <i>Marine Corps Assault Vehicles</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	130.138	101.175	212.173	158.682	-	158.682	177.520	78.166	32.216	59.509	Continuing	Continuing
0025: <i>New Amphibious Vehicle</i>	130.138	101.175	212.173	158.682	-	158.682	177.520	78.166	32.216	59.509	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 472

Note
 ACV Increment 1.1 leverages and continues the work that was previously accomplished under the Marine Personnel Carrier (MPC) program, funded in PE 0206623M; Project 9C85.

A. Mission Description and Budget Item Justification
 The New Amphibious Vehicle is an armored personnel carrier, balanced in performance, protection, and payload for employment within the Ground Combat Element (GCE) and throughout the range of military operations, to include a swim capability.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	105.749	219.082	160.691	-	160.691
Current President's Budget	101.175	212.173	158.682	-	158.682
Total Adjustments	-4.574	-6.909	-2.009	-	-2.009
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-6.900			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.020	0.000			
• SBIR/STTR Transfer	-3.555	0.000			
• Rate/Misc Adjustments	0.001	0.000	-2.009	-	-2.009

Change Summary Explanation
 The decrease in funding from FY16 to FY17 (\$53.491M) is attributed to the shift from design, EMD vehicle build, and test planning activities to test and evaluation activities.

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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 0603611M / <i>Marine Corps Assault Vehicles</i>				Project (Number/Name) 0025 / <i>New Amphibious Vehicle</i>			
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
0025: <i>New Amphibious Vehicle</i>	130.138	101.175	212.173	158.682	-	158.682	177.520	78.166	32.216	59.509	Continuing	Continuing
Quantity of RDT&E Articles		-	32	-	-	-	4	-	-	-		
Project MDAP/MAIS Code: 472												

A. Mission Description and Budget Item Justification

The New Amphibious Vehicle is an armored personnel carrier, balanced in performance, protection, and payload for employment within the Ground Combat Element (GCE) and throughout the range of military operations, to include a swim capability. FY16 and FY17 funds will support Amphibious Combat Vehicle (ACV) Increment 1.1 Engineering, Manufacturing and Development (EMD) contracts, Test & Evaluation (T&E) activities and associated program support.

The decrease in funding from FY16 to FY17 (\$53.491M) is attributed to the shift from design, EMD vehicle build, and test planning activities to test and evaluation activities.

Note: ACV Increment 1.1 leverages and continues the work previously accomplished under the Marine Personnel Carrier (MPC) program, funded in PE 0206623M; Project 9C85.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Product Development	93.986	184.039	109.536	0.000	109.536
Articles:	-	32	-	-	-
Description: System design and development; EMD test vehicle tooling and manufacturing; prime contractor Developmental and Operational test, and Logistics Management Information (LMI) data development.					
FY 2015 Accomplishments:					
- Continued plans, in accordance with approved Acquisition Strategy, to competitively award two EMD contracts, combined with FY16 funds, in 1Q FY16 for the manufacturing of 16 EMD test vehicles each (32 total).					
- Completed acquisition of Remote Weapon Stations (RWS) and Communication Suites as Government Furnished Property (GFP) for integration into the EMD test vehicles.					
FY 2016 Plans:					
- Complete award of EMD contracts to two vendors to build 16 test vehicles each (32 total).					
FY 2017 Base Plans:					
- Complete EMD manufacturing and receive 32 test vehicle deliveries.					

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Appropriation/Budget Activity 1319 / 4		R-1 Program Element (Number/Name) PE 0603611M / <i>Marine Corps Assault Vehicles</i>		Project (Number/Name) 0025 / <i>New Amphibious Vehicle</i>																			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																							
<ul style="list-style-type: none"> - Initiate contractor developmental test (DT) activities. - Initiate corrective action modifications that result from Reliability Growth Testing. 																							
FY 2017 OCO Plans: N/A																							
Title: Management Services																							
Articles:																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">FY 2015</th> <th style="width: 10%;">FY 2016</th> <th style="width: 10%;">FY 2017 Base</th> <th style="width: 10%;">FY 2017 OCO</th> <th style="width: 10%;">FY 2017 Total</th> </tr> </thead> <tbody> <tr> <td></td> <td align="right">2.513</td> <td align="right">10.251</td> <td align="right">7.033</td> <td align="right">0.000</td> <td align="right">7.033</td> </tr> <tr> <td></td> <td align="right">-</td> <td align="right">-</td> <td align="right">-</td> <td align="right">-</td> <td align="right">-</td> </tr> </tbody> </table>							FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total		2.513	10.251	7.033	0.000	7.033		-	-	-	-	-
	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total																		
	2.513	10.251	7.033	0.000	7.033																		
	-	-	-	-	-																		
Description: Contract Advisory and Assistance Services (Engineering and Technical Support, Management Support Services, and Studies and Analyses).																							
FY 2015 Accomplishments:																							
<ul style="list-style-type: none"> - Completed engineering, technical, and management services supporting ACV Request for Proposal (RFP) development and release. - Completed evaluation of technology development efforts and other studies to advance high water speed capability. - Initiated analyses to validate ship to shore connector requirement for the Amphibious Combat Vehicle. 																							
FY 2016 Plans:																							
<ul style="list-style-type: none"> - Continue business, acquisition, logistics, and engineering related activities for ACV 1.1 document development, program analysis, acquisition logistics management, and financial management support. - Initiate engineering and technical services in support of RWS marinization, logistical, maintenance support, and integration. - Initiate Depot Source of Repair (DSOR) Analyses on secondary repairable items. - Initiate product support Business Case Analysis (PS BCA) on concepts for the ACV 1.1. Conduct facilities impact assessment at ACV 1.1 fielding locations. - Initiate analyses of product support elements to support Maintenance Plan development, Support and Test Equipment, Calibration, and other logistics elements. 																							
FY 2017 Base Plans:																							
<ul style="list-style-type: none"> - Continue business, acquisition, logistics, and engineering related activities for ACV 1.1 document development, program analysis, acquisition logistics management, and financial management support. - Continue engineering and technical services in support of RWS marinization, logistical, maintenance support, and integration. - Continue force protection modeling and simulation activities. 																							

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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 0603611M / <i>Marine Corps Assault Vehicles</i>	Project (Number/Name) 0025 / <i>New Amphibious Vehicle</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<ul style="list-style-type: none"> - Continue Depot Source of Repair (DSOR) Analyses on secondary repairable items, and product support Business Case Analysis on concepts for the ACV 1.1. - Continue facilities impact assessment at ACV 1.1 fielding locations, and continue analyses of product support elements to support Maintenance Plan development, Support and Test Equipment, Calibration, and other logistics elements. - Conduct Manufacturing Readiness Assessment. <p>FY 2017 OCO Plans: N/A</p>						
<p>Title: Test & Evaluation</p> <p align="right">Articles:</p> <p>Description: Government developmental, operational, and live fire test and evaluation activities.</p> <p>FY 2015 Accomplishments: N/A</p> <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Initiate Developmental, Operational, and Live Fire Test and Evaluation (LFT&E) planning events to support development of detailed test strategies. <p>FY 2017 Base Plans:</p> <ul style="list-style-type: none"> - Initiate formation of the Operational Test (OT) team and begin initial development of the OT detailed test plan. - Initiate training for personnel to support execution of DT, OT, and LFT&E events. - Conduct development test for two vendors on 32 EMD vehicles and begin Operational Assessment (OA). - Conduct DT activities such as: Land Mobility, Safety/Human Factors, Lethality, Water Mobility, Communication, and Survivability <p>FY 2017 OCO Plans: N/A</p>		0.000	2.923	32.170	0.000	32.170
		-	-	-	-	-
<p>Title: Program Support</p> <p align="right">Articles:</p> <p>Description: Government labor, material, and travel for integrated logistics support, technical publications, support equipment development, in-house technical support, and program management support.</p>		4.676	14.960	9.943	0.000	9.943
		-	-	-	-	-

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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
<p><i>FY 2015 Accomplishments:</i></p> <ul style="list-style-type: none"> - Continued Digital Integration Facility (DIF) Architecture support - Completed evaluation and testing of Aft Lifting Body concept and high water speed technology development. - Initiated procurement of ACV 1.1 Government Furnished Property (GFP) for EMD vehicles. <p><i>FY 2016 Plans:</i></p> <ul style="list-style-type: none"> - Continue DIF Architecture support - Initiate engineering support for GFP issues documented during technical information and review meetings; generate products, acquire equipment and software to implement Vehicle Integration for C4ISR/EW Interoperability (VICTORY) initiative compliance process for ACV 1.1. - Initiate hydrodynamic model testing; Reliability, Availability, and Maintainability (RAM-D), and human systems integration activities for ACV 1.1. - Initiate inventory, checkout, kitting, shipment, and trouble shooting ACV 1.1 GFP. <p><i>FY 2017 Base Plans:</i></p> <ul style="list-style-type: none"> - Continue engineering support for communication suite issues documented during technical information and review meetings. - Continue hydrodynamic model testing; Reliability, Availability, and Maintainability (RAM-D), and human systems integration activities for ACV 1.1. - Continue technical support for training packages for ACV 1.1 - Continue procurement, inventory, checkout, kitting, shipment, and troubleshooting of ACV 1.1 communications suite GFP for Low Rate Initial Production (LRIP) test vehicles. - Continue DIF Architecture support <p><i>FY 2017 OCO Plans:</i> N/A</p>					
Accomplishments/Planned Programs Subtotals	101.175	212.173	158.682	0.000	158.682

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>
• 2025: <i>Amphibious Combat Vehicle</i>	0.000	0.000	0.000	-	0.000	166.652	183.136	193.053	630.483	0.000	1,173.324

Remarks

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603611M / <i>Marine Corps Assault Vehicles</i>	Project (Number/Name) 0025 / <i>New Amphibious Vehicle</i>

D. Acquisition Strategy

The Acquisition Strategy awards two competitive Engineering, Manufacturing and Development (EMD) contracts to two vendors to build 16 test vehicles each (32 total). The ACV Increment 1.1 enters the acquisition cycle at Milestone B in FY16 which leads to a down select to one vendor. In FY18 the program will enter into Low Rate Initial Production (LRIP).

E. Performance Metrics

Milestone Reviews
Milestone B: 1QFY16

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Navy												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 4				PE 0603611M / Marine Corps Assault Vehicles				0025 / New Amphibious Vehicle							
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Design & Development	C/FFPIF	Various : Various	71.446	80.869	Nov 2015	183.311	Nov 2015	106.799	Jan 2017	-		106.799	Continuing	Continuing	Continuing
Other Product Development	C/FFP	SPAWAR/ NEW JERSEY : Charleston/Picatinny	0.000	13.117	Jul 2015	0.728	Jul 2016	2.737	Jan 2017	-		2.737	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	Various : Various	18.506	0.000		0.000		0.000		-		0.000	0.000	18.506	-
Subtotal			89.952	93.986		184.039		109.536		-		109.536	-	-	-
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation - EMD Detailed Planning	WR	AVTB : Camp Pendleton, CA	1.069	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Propulsion System Demonstrator	WR	NSWC Carderock - SSES Philly : Philadelphia, PA	1.193	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	NSWC - Dahlgren : Dahlgren, VA	0.279	0.119	Apr 2015	0.350	Apr 2016	0.425	Apr 2017	-		0.425	Continuing	Continuing	Continuing
Technical Data & Pubs Development	WR	NSWC Carderock : Philadelphia, PA	0.000	0.000		0.100	Sep 2016	0.100	Sep 2017	-		0.100	Continuing	Continuing	Continuing
In-House Technical Support	WR	SPAWAR Charleston : SPAWAR Charleston	6.685	4.446	Apr 2015	14.410	Apr 2016	9.308	Apr 2017	-		9.308	Continuing	Continuing	Continuing
Program Management Support	WR	Various : Various	0.004	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.515	0.111	Jan 2015	0.100	Sep 2016	0.110	Sep 2017	-		0.110	Continuing	Continuing	Continuing
Subtotal			9.745	4.676		14.960		9.943		-		9.943	-	-	-

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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 0603611M / <i>Marine Corps Assault Vehicles</i>	Project (Number/Name) 0025 / <i>New Amphibious Vehicle</i>
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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			
Developmental Test & Evaluation	WR	Various : Various	2.071	0.000		0.647	Jan 2016	18.074	Jan 2017	-		18.074	Continuing	Continuing	Continuing
Operational Test Evaluation (OT&E)	WR	MCOTEA : Quantico, Va	0.000	0.000		2.193	Jan 2016	7.510	Jan 2017	-		7.510	Continuing	Continuing	Continuing
Live Fire Test & Evaluation (LFT&E)	WR	Various : Various	0.000	0.000		0.083	Jan 2016	6.586	Jan 2017	-		6.586	Continuing	Continuing	Continuing
Subtotal			2.071	0.000		2.923		32.170		-		32.170	-	-	-

Remarks
* The FY 2017 award date for cost categories with various activities is the actual obligation date for the last award in the category.

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			
Engineering and Technical Services	C/FFP	Various : Various	12.156	2.380	Jan 2015	1.600	Jul 2016	1.945	Jul 2017	-		1.945	Continuing	Continuing	Continuing
Management Support Services	C/FFP	DDG : Stafford VA	9.899	0.133	Jan 2015	8.501	Apr 2016	4.788	Jul 2017	-		4.788	Continuing	Continuing	Continuing
Studies and Analyses	C/FFP	Various : Various	6.315	0.000		0.150	Apr 2016	0.300	Jul 2017	-		0.300	Continuing	Continuing	Continuing
Subtotal			28.370	2.513		10.251		7.033		-		7.033	-	-	-

	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	130.138	101.175	212.173	158.682	-	158.682	-	-	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Navy

Date: February 2016

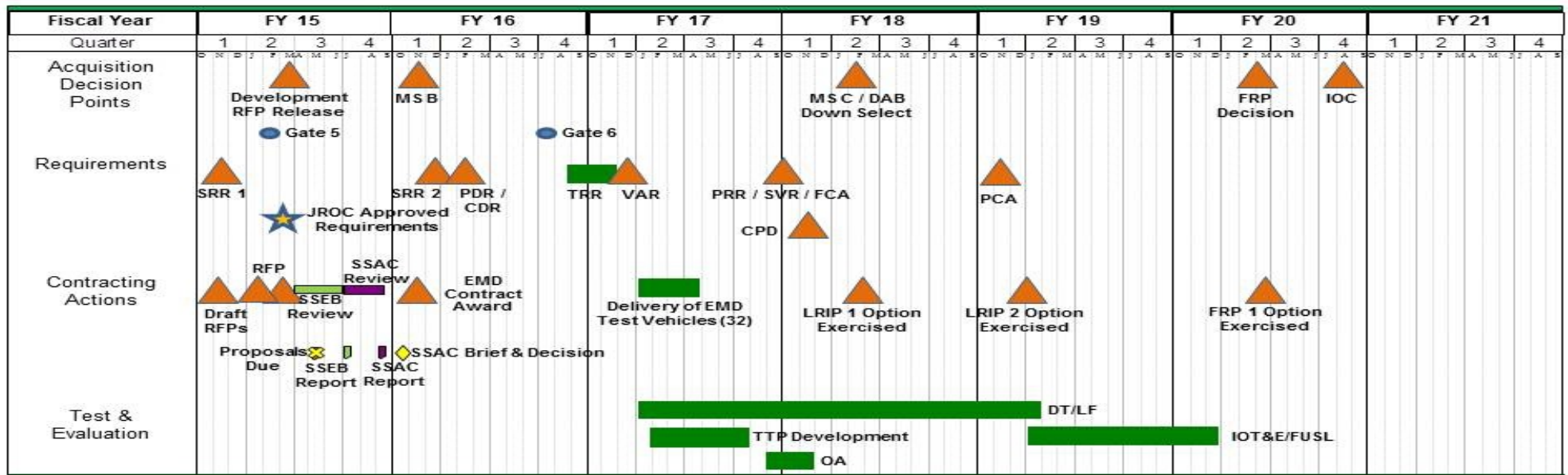
Appropriation/Budget Activity
1319 / 4

R-1 Program Element (Number/Name)
PE 0603611M / Marine Corps Assault
Vehicles

Project (Number/Name)
0025 / New Amphibious Vehicle

ACV 1.1 Schedule

As of 6 July 15



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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 0603611M / <i>Marine Corps Assault Vehicles</i>	Project (Number/Name) 0025 / <i>New Amphibious Vehicle</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0025				
Draft Request for Proposal (RFP) 1	1	2015	1	2015
Draft Request for Proposal (RFP) 2	1	2015	1	2015
System Readiness Review 1	1	2015	1	2015
Draft Request for Proposal (RFP) 3	2	2015	2	2015
JROC Approved Requirements	2	2015	2	2015
Development RFP Release	2	2015	2	2015
MS B	1	2016	1	2016
EMD Contract Award	1	2016	1	2016
System Readiness Review 2	1	2016	1	2016
Preliminary Design Review/Critical Design Review	2	2016	2	2016
EMD Vehicle Delivery (32 Vehicles)	2	2017	3	2017
Vehicle Acceptance Review	1	2017	1	2017
Development Test/Live Fire Test	2	2017	2	2019
TTP Development	2	2017	4	2017
Operational Assessment (OA)	4	2017	1	2018
PRR/System Verification Review (SVR)	1	2018	1	2018
Capabilities Production Document (CPD)	1	2018	1	2018
MS C/DAB Down Select	2	2018	2	2018
LRIP Option 1 Exercised	2	2018	2	2018
PCA	1	2019	1	2019
Initial Operational Test & Evaluation (IOT&E)/Full Up System Level (FUSL)	2	2019	1	2020

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Navy		Date: February 2016
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LRIP Option 2 Exercised	2	2019	2	2019
FRP Decision	2	2020	2	2020
FRP Option Exercised	2	2020	2	2020
IOC	4	2020	4	2020

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