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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604580N I (U)Virginia Payload Module (VPM)							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	-	59.120	132.602	-	132.602	167.719	193.904	159.499	27.915	Continuing	Continuing
4500: VIRGINIA Payload Module	0.000	-	59.120	132.602	-	132.602	167.719	193.904	159.499	27.915	Continuing	Continuing
MDAP/MAIS Code: 516												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
Beginning in FY2014, there is an administrative change that will shift efforts funded from PE 0604558N (New Design SSN) / Project 4500 to PE 0604580N (VIRIGNIA Payload Module) / Project 4500. This shift is consistent with Congressional intent identified in the FY14 Appropriations Act Committee Report.												
A. Mission Description and Budget Item Justification												
The U.S. Navy must maintain a submarine fleet that is of sufficient capability and numbers to defend American interests. The VIRGINIA Class Submarine, formerly the New Attack Submarine (New SSN), is designed to fulfill this need. It will counter the potential threats of the next century in a multi- mission capable submarine that has the ability to provide covert, sustained combat presence in denied waters. The primary goal of the program is to develop an affordable yet capable submarine by evaluating a broad range of system and technology alternatives, and pursuing cost reduction, producibility improvement, and technical risk management. This Program Element (PE) provides the technology, prototype components, and systems engineering needed to design and construct the VIRGINIA Payload Module (VPM). VPM mitigates and will recapitalize the conventional TOMAHAWK Land Attack Missile (TLAM) gap created by the retirement of SSGNs in the late 2020s while maintaining current platform requirements. This PE directly supports the following VIRGINIA Class Submarine missions: (1) covert strike warfare; (2) anti-submarine warfare; (3) covert intelligence collection/surveillance, indication and warning, and electronic warfare; (4) anti-surface ship warfare; (5) special warfare; (6) mine warfare; and (7) battle group support.												
B. Program Change Summary (\$ in Millions)				FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total				
Previous President's Budget				-	-	-	-	-				
Current President's Budget				-	59.120	132.602	-	132.602				
Total Adjustments				-	59.120	132.602	-	132.602				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	59.120							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-	-							
• SBIR/STTR Transfer				-	-							
• Rate/Misc Adjustments				-	-	132.602	-	132.602				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604580N I (U)Virginia Payload Module (VPM)				Project (Number/Name) 4500 I VIRGINIA Payload Module			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4500: VIRGINIA Payload Module	-	-	59.120	132.602	-	132.602	167.719	193.904	159.499	27.915	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
This project encompasses Navy RDT&E efforts required to incorporate a modular design for future VIRGINIA Class Submarines (VCS) which integrates strike payload capacity for Tomahawk Land Attack and follow on missiles. The design is targeted for VCS Block V (FY19-23 ships).												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: Non-Propulsion Electronics System (NPES) Engineering										-	15.250	19.810
										Articles:		
FY 2013 Accomplishments: Develop requirements for VPM system launch control and evaluate candidate configurations for integration with existing VIRGINIA Class combat systems. Integrate and automate launch processes to enable efficient launch of payloads. Assess launcher electronics and software design to support rapid, low cost integration and testing of payloads. Reduce overall launch electronics weight and footprint, and provide increased unit space for future payload electronics.												
FY 2014 Plans: Continue development of VPM system launch control and integration with existing VIRGINIA Class combat systems. Integrate and automate launch processes to enable efficient launch of payloads. Assess launcher electronics and software design to support rapid, low cost integration and testing of payloads. Reduce overall launch electronics weight and footprint, and provide increased unit space for future payload electronics. Specify and develop interfaces including software for VPM systems and existing C3I systems.												
FY 2015 Plans: Continue development of VPM system launch control and integration with existing VIRGINIA Class combat systems. Integrate and automate launch processes to enable efficient launch of payloads. Assess launcher electronics and software design to support rapid, low cost integration and testing of payloads. Reduce overall launch electronics weight and footprint, and provide increased unit space for future payload electronics. Continue development of interfaces including software for VPM systems and existing C3I systems.												
Title: Hull, Mechanical, and Electrical (HM&E) Systems Engineering										-	43.870	112.792
Articles:										-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Concept Design integration of the VPM including insertion of payload tube module to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics and personnel. Design studies to assess all ship characteristics including maneuvering, signature levels, shock survivability, operational impacts and life cycle support. Products include concept arrangements.												
FY 2014 Plans: Continue design efforts for the VPM including integration to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics and personnel. Develop Integrated Master Schedule (IMS) and Manufacturing Plans. Design studies to assess all ship characteristics including maneuvering, signature levels, shock survivability, operational impacts and life cycle support. Products include specifications, system diagrams and arrangements.												
FY 2015 Plans: Continue design efforts for the VPM including integration to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics and personnel. Update Integrated Master Schedule (IMS) and Manufacturing Plans. Design studies to assess all ship characteristics including maneuvering, signature levels, shock survivability, operational impacts and life cycle support. Products include specifications, system diagrams and arrangements.												
Accomplishments/Planned Programs Subtotals										-	59.120	132.602
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• SCN//2013: VIRGINIA Class Submarine	4,636.630	6,462.316	5,883.579	-	5,883.579	5,450.298	5,223.103	5,481.305	5,884.914	-	83,123.088	
• OPN/0942: VA CL Support Equipment	70.995	69.241	74.129	-	74.129	56.775	46.593	65.738	79.903	Continuing	Continuing	
• O&MN/0204283N: Sub Ops & Safety	32.433	38.919	33.938	-	33.938	32.471	28.746	29.971	30.894	Continuing	Continuing	
• RDT&E/0604558N: New Design SSN*	81.161	121.566	72.695	-	72.695	92.810	100.404	111.578	86.275	Continuing	Continuing	

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Remarks											
*Note: RDT&E PE 0604558N contains project 3062: Submarine Multi-Mission Team Trainer which is not funding directly related to the VIRGINIA Class Program.											
D. Acquisition Strategy											
The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN), now Huntington Ingalls Industries (HII), to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and HII became a part of the IPPD process. The Program Office is managing two Multi-Year Procurement (MYP) contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships. The last Block II ship, SSN 783, was delivered in June 2013. All Block III ships are awarded and under construction. The Block IV MYP is in progress with second quarter FY14 planned award date. Developmental efforts began in FY13 and will be executed via current Lead Design Yard Agent contract with Electric Boat.											
E. Performance Metrics											
Preliminary Design Review											
Critical Design Review											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604580N I (U)Virginia Payload Module (VPM						Project (Number/Name) 4500 I VIRGINIA Payload Module			
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
Component Development	WR	NSWC : Carderock, MD	0.000	-		12.500	Mar 2014	21.539	Nov 2014	-		21.539	Continuing	Continuing	Continuing
Component Development	WR	NUWC : Newport, RI	0.000	-		11.250	Mar 2014	16.290	Nov 2014	-		16.290	Continuing	Continuing	Continuing
Component Development	C/CPFF	Electric Boat : Groton, CT	0.000	-		35.120	Mar 2014	94.523	Nov 2014	-		94.523	Continuing	Continuing	Continuing
Subtotal			0.000	-		58.870		132.352		-		132.352	-	-	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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 Support	C/CPAF	URS : Rockville, MD	0.000	-		0.250	Mar 2014	0.250	Nov 2014	-		0.250	Continuing	Continuing	Continuing
Subtotal			0.000	-		0.250		0.250		-		0.250	-	-	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	-		59.120		132.602		-		132.602	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																Date: March 2014			
Appropriation/Budget Activity 1319 / 5								R-1 Program Element (Number/Name) PE 0604580N / (U)Virginia Payload Module (VPM								Project (Number/Name) 4500 / VIRGINIA Payload Module			

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
Proj 4500																												
Top Level Requirements Set/Updated VPM Baseline																												
Ship Specifications																												
Rev A Diagrams																												
Major Arrangements																												
Design Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604580N / (U) <i>Virginia Payload Module (VPM)</i>	Project (Number/Name) 4500 / VIRGINIA Payload Module	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 4500</i>				
Top Level Requirements Set/Updated VPM Baseline	1	2013	4	2014
Ship Specifications	3	2014	1	2016
Rev A Diagrams	3	2014	1	2016
Major Arrangements	3	2014	1	2017
Design Development	1	2015	4	2019