

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy**

**DATE: February 2011**

**APPROPRIATION/BUDGET ACTIVITY**  
 1319: Research, Development, Test & Evaluation, Navy  
 BA 1: Basic Research

**R-1 ITEM NOMENCLATURE**  
 PE 0601153N: Defense Research Sciences

**PROJECT**  
 9999: Congressional Adds

COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9999: Congressional Adds	17.088	-	-	-	-	-	-	-	-	0.000	17.088

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

Congressional Interest Items not included in other Projects.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2010	FY 2011
<b>Congressional Add: Magnetic and Elec Fields in Ocean Env</b>	1.992	-
<b>FY 2010 Accomplishments:</b> This effort supported investigation of physical oceanographic and magnetic relationships via measurable physical and magnetic properties to determine how magnetic and electric fields respond to physical forcing under various oceanic conditions on a narrow continental shelf (deep water close to shore) off the east coast of the United States.		
<b>Congressional Add:</b> Energetics S&T Workforce Development	3.485	-
<b>FY 2010 Accomplishments:</b> This effort conducted applied research in the areas of energetic material synthesis, energetic systems engineering, traumatic brain injury, and autonomous technology.		
<b>Congressional Add:</b> Human Neural Cell-Based Biosensor	1.095	-
<b>FY 2010 Accomplishments:</b> This effort developed a monolayer culture of adherent human neural progenitor cells that can be reliably and quantitatively differentiated into primary cultures of human neurons.		
<b>Congressional Add:</b> Next Generation Manufacturing Processes and Systems	1.195	-
<b>FY 2010 Accomplishments:</b> This effort established a research and education program in flexible rapid response manufacturing which enhanced the manpower, technology and knowledge base for quick response, high technology precision manufacturing.		
<b>Congressional Add:</b> ONAMI Initiatives	3.824	-
<b>FY 2010 Accomplishments:</b> This effort provided basic research to explore novel measurement techniques and metrology tools to build and characterize nanostructures and devices. New nanometrology tools to image and measure the structure and composition of nanomaterial heterostructures and interfaces were studied and built, and techniques for evaluation of nanoscale devices for logic and biosensing applications were explored.		
<b>Congressional Add:</b> Shock and Vibration Modeling of Marine Composites	1.912	-