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FY 2010 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET  
Exhibit R-2a

DATE: May 2009

BUDGET ACTIVITY: 07  
PROGRAM ELEMENT: 0708011N  
PROJECT NUMBER: 9999  
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS  
PROJECT TITLE: CONGRESSIONAL PLUS-UPS

CONGRESSIONAL PLUS-UPS:

E-BEAM FREE FORM REPAIR QUALIFICATION	FY 2008	FY 2009
	0.000	1.197

IMPROVED ADVANCED WATERTIGHT DOOR (IAWD) FOR NAVY SURFACE SHIPS	FY 2008	FY 2009
	0.965	0.000

NEXT GENERATION SCALABLE LEAN MANUFACTURING INITIATIVE	FY 2008	FY 2009
	0.000	2.393

OUT OF AUTOCLAVE COMPOSITE PROCESSING	FY 2008	FY 2009
	0.000	1.596

U.S. NAVY NUCLEAR POWER PLANT AND SHIP PROPULSION SHAFT MANUFACTURING IMPROVEMENT	FY 2008	FY 2009
	0.964	0.000

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Exhibit R-2, RD1&E Budget Item Justification: PB 2011 Navy

DATE: February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	<b>R-1 ITEM NOMENCLATURE</b> <b>PE 0708011N: Industrial Preparedness</b>									
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<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	59.976	74.880	46.173	0.000	46.173	55.652	52.880	53.204	55.528	Continuing	Continuing
1050: Manufacturing Tech	54.790	56.456	46.173	0.000	46.173	55.652	52.880	53.204	55.528	Continuing	Continuing
9999: Congressional Adds	5.186	18.424	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.666

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

The Manufacturing Technology (ManTech) program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development and transition of leading edge manufacturing technologies. The ManTech program is executed through a Center of Excellence (COE) strategy. A majority of the COEs are consortium based with only a small group of technical and management personnel at the center. ManTech projects are primarily performed by industry participants that bill the COE which, in turn, bills the Navy which causes a non-traditional financial execution profile for the program. The program therefore does not meet traditional execution benchmarks. The ManTech program, by providing seed funding for the development of moderate to high risk process and equipment technology, permits contractors to upgrade their manufacturing capabilities. Ultimately, the program aims to produce high-quality weapon systems with shorter lead times and reduced acquisition costs.

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

**B. Program Change Summary (\$ in Millions)**

	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Previous President's Budget	61.693	56.691	0.000	0.000	0.000
Current President's Budget	59.976	74.880	46.173	0.000	46.173
Total Adjustments	-1.717	18.189	46.173	0.000	46.173
• Congressional General Reductions		-0.311			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions		0.000			
• Congressional Adds		18.500			
• Congressional Directed Transfers		0.000			
• Reprogrammings		0.000			
• SBR/STTR Transfer		-1.717			
• Program Adjustments		0.000	46.173	0.000	46.173

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Exhibit R-2, RD&E Budget Item Justification: PB 2011 Navy

DATE: February 2010

**APPROPRIATION/BUDGET ACTIVITY**  
 1319: Research, Development, Test & Evaluation, Navy  
 BA 7: Operational Systems Development

**R-1 ITEM NOMENCLATURE**  
 PE 0708011N: Industrial Preparedness

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

	FY 2009	FY 2010
<b>Project: 9999: Congressional Adds</b>		
Congressional Add: Flight/Hangar Deck Cleaner	0.000	1.394
Congressional Add: Laser Optimization Remote Lighting System	0.000	1.992
Congressional Add: Weaps Sys Life Ext Program	0.000	2.490
Congressional Add: Low Acoustic and Thermal Signature Battlefield Power Source	0.000	3.187
Congressional Add: Manufacturing S&T for Next-Generation Energetics	0.000	4.979
Congressional Add: E-Beam Free Form Repair Qualification	1.197	0.000
Congressional Add: Next Generation Scalable Lean Manufacturing Initia	2.393	2.390
Congressional Add: Out of Autoclave Composite Processing	1.596	1.992
Congressional Add Subtotals for Project: 9999	5.186	18.424
Congressional Add Totals for all Projects	5.186	18.424

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.

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Exhibit R-2A, RD&E Project Justification: PB 2011 Navy		DATE: February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	<b>R-1 ITEM NOMENCLATURE</b> PE 0708011N: Industrial Preparedness	<b>PROJECT</b> 9999: Congressional Adds	
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>		<b>FY 2009</b>	<b>FY 2010</b>
<p><i>FY 2010 Plans:</i> Continues support of Next Generation Scalable Lean Manufacturing Initiative - Phase Two research.</p> <p>Congressional Add: <b>Out of Autoclave Composite Processing</b></p> <p><i>FY 2009 Accomplishments:</i> This effort supported the development of new manufacturing technology to make future generation aircraft more affordable through the automated fiber placement of a new generation of composite materials that can be cured without the benefit of high pressure autoclaves. The development and demonstration of out of autoclave materials using automated fabrication methods reduce the cost of manufacturing Navy aircraft.</p> <p><i>FY 2010 Plans:</i> Continues support of Out of Autoclave composite Processing research.</p>		1.596	1.992
Congressional Adds Subtotals		5.186	18.424
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>D. Acquisition Strategy</b>			
N/A			
<b>E. Performance Metrics</b>			
Congressional add			

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	<b>R-1 ITEM NOMENCLATURE</b> PE 0708011N: Industrial Preparedness	<b>PROJECT</b> 9999: Congressional Adds
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**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2010</b>	<b>FY 2011</b>
<ul style="list-style-type: none"> <li>- Developed improved manufacturing techniques to more affordably and repeatably produce the energetic system of the Microelectronic-Mechanical system (MEMS) fuze.</li> <li>- Developed continuous low-cost production process for Butyl-NENA, Methyl-NENA, and Ethyl-NENA to support propellant production programs.</li> <li>- Developed a manufacturing capability using Twin Screw Mixing/Extruder technology to produce PBXN-18 explosive for loading into the M72A9 &amp; M72E19 warheads for Marine ground forces in shoulder launch applications.</li> </ul>	2.390	-
<p><b>Congressional Add:</b> Next Generation Scalable Lean Manufacturing Initia</p> <p><b>FY 2010 Accomplishments:</b> This effort addressed the manufacturing issues associated with large scale automated production of Navy products under 60 meters long, focusing on modular molding, rapid reconfigurable tooling, and time reduction/process improvement through automation. The project also developed seal technologies that will allow for modular molding, a necessary step to process large structures in an automated cell, and rapid prototyping techniques were utilized to reconfigure a tool while maintaining geometric tolerances through a heating cycle.</p> <p><b>Congressional Add:</b> Out of Autoclave Composite Processing</p> <p><b>FY 2010 Accomplishments:</b> This effort focused on developing processes using fiber placement and other automated techniques on next-generation out-of-autoclave composite material prepreg systems for current and future aircraft platforms. The result will be lower cost aircraft components. Completed the final interactions of the 8-D Taguchi design of experiments matrix to identify the interaction of process variables on fiber placed Out-of-Autoclave (OOA) laminates and initiated fabrication and testing of OOA panels.</p>	1.992	-
<b>Congressional Adds Subtotals</b>	17.030	-

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Congressional add