FY 2009 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 2008
Exhibit R-2

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0708011N
PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total PE	59,450	57,313	56,681	58,589	56,528	60,081	60,634
1050 MANUFACTURING TECHNOLOGY	53,623	55,326	56,681	58,589	56,528	60,081	60,634
9999 CONGRESSIONAL PLUS-UPS	5,827	1,987	0	0	0	0	0

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.

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B. PROGRAM CHANGE SUMMARY:

	FY 2007	FY 2008	FY 2009
FY 2008/FY 2009 President's Budget Submission	60,941	56,445	56,705
Congressional Action	0	2,000	0
Congressional Undistributed Reductions/Rescissions	0	-371	0
Execution Adjustments	-97	0	0
Rate Adjustments	0	0	-24
SBIR Assessment	-1,394	-761	0
FY 2009 President's Budget Submission	59,450	57,313	56,681

PROGRAM CHANGE SUMMARY EXPLANATION:
Technical:

Schedule:

C. OTHER PROGRAM FUNDING SUMMARY:
Not applicable.

D. ACQUISITION STRATEGY:
Efforts have been focused on the Integrated Systems Investment Strategy platforms: DDG 1000, CVN 21, Littoral Combat Ship (LCS), and the Virginia Class Submarine (VCS) as well as aircraft/other programs. Due to a recent change in strategy, FY 2007 and out increasingly focuses on affordability efforts for DDG 1000, CVN 21, LCS, and VCS with some concentration on improvements for non-ship systems.

E. PERFORMANCE METRICS:
The ManTech program's overall goal is to transition leading edge technology for the production of Navy weapons systems. Individual project metrics are tailored to the needs of specific acquisition programs. Example metrics include: enabling a 400 ton weight reduction for CVN 21 as a result of the High Strength and Toughness Naval Steels for Ballistic Protection Project; and a 60% cost reduction from the original baseline, for the Large Marine Composite to Steel Adhesives Joint Project, bolted joint effort.

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PROGRAM ELEMENT: 0708011N PROGRAM ELEMENT TITLE: INDUSTRIAL PREPAREDNESS
PROJECT NUMBER: 1050 PROJECT TITLE: MANUFACTURING TECHNOLOGY

COST: (Dollars in Thousands)

Project Number & Title	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
1050 MANUFACTURING TECHNOLOGY	53,623	55,326	56,681	58,589	56,528	60,081	60,634

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The ManTech Program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development of manufacturing technologies. Major areas of endeavor both underway and planned include: advanced manufacturing technology for metalworking, joining, electronics and electro-optics, composites, shipbuilding, and above-the-factory-floor business operations technology. The ManTech Program is aimed at assisting acquisition programs in meeting performance and affordability goals by inserting manufacturing process solutions early into the design phase.

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2007	FY 2008	FY 2009
METALS PROCESSING AND FABRICATION	18,385	18,000	18,000

The objective of the Metals Processing and Fabrication activity is to develop affordable, robust manufacturing processes and capabilities for metals and special materials critical to defense weapon system applications. Major areas that support this objective include: processing methods, special materials, joining, and inspection and compliance. These efforts directly impact the cost and performance of future aircraft, rotorcraft, land combat vehicles, surface and subsurface naval platforms, space systems, artillery and ammunition, and defense industry manufacturing equipment. Emphasis in 2007 and outyears is on shipbuilding affordability for four major platforms: DDG-1000, CVN-21, VCS, and LCS.

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FY 2007 Accomplishments:

- Initiated Schedule Compression / Production Engineering Thrust for VCS Shipbuilding Affordability Initiative. Includes initiation of VCS Material Management; and initiation of Design for Production Process Improvement.
- Initiated Outfitting Thrust for VCS Shipbuilding Affordability Initiative. Includes initiation of Outfitting Process Improvement.
- Continued rapid response and teaching factory activities.
- Continued Metals Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes continuation of DDG-1000 Advanced Bonding Methods for Steel Structures; continuation of Low Cost Pallet Systems for DDG-1000 AGS; continuation of DDG-1000 Improved Tee Sections for High-Strength Steel Structures; completion of Manufacturing Large Marine Structures; completion of Large Marine Composite-to-Steel Adhesive Joints; initiation of Coating Application Improvement – formerly High Solids Coatings on DDG-1000; and initiation of PVLS Hull Integration (formerly Large Marine Structure Hull Integration).
- Continued Metals Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes continuation of Ballistic 10% Ni Steel; continuation of Laser Welded Lightweight Panel Structure Fabrication – NMC; continuation of Advanced Surface Ship Watertight Enclosures; continuation of Alloy 625 Formability for Future Carriers; continuation of CVN Preparation Methods for Coating Tanks; completion of CVN 21 Composites Joining; completion of Elimination of Weld Distortion of CVN-21 Heavy Plate Erection Units; completion of Tandam Gas Metal Arc Welding (GMAW) for High Strength Steel Structures; and initiation of Optimization of CVN-21 Power Unit Assembly Facility and Carrier Visual Build.
- Continued Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative. Includes continuation of Improved Dimensional Accuracy for LCS; continuation of LCS Paint Facility Design; continuation of Low Cost FSW of Aluminum for LCS Applications; and completion of Austal USA – Facility Design and Simulation.
- Continued Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes continuation of SSN Alloy 625 Pipe Welding; completion of Hybrid Laser Beam Welding; initiation of SSN-774 Damping Material Application; initiation of SSN Alternative Pipe Joining and Fittings; and initiation of Laser Cladding for Submarines.
- Continued Metal Materials and Process Improvements Thrust for Other Ship / NAVSEA Platforms. Includes completion of Hybrid Laser Welding of Ship Structures.

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- Continued Metals Materials and Process Improvement Thrust for Air Platforms. Includes continuation of Corrosion Resistant Coatings for Magnesium Transmission Gearboxes; continuation of Translational Friction Weld Repair of Blisks; continuation of Erosion Resistant Coatings for Stage 1 Compressor Components; continuation of N-UCAS Structural Design and Manufacturing Development; and completion of Turbine Inspection Techniques effort.
- Continued Metal Materials and Process Improvements Thrust for Marine Corps Systems. Includes completion of EFV Armor Skirt Manufacturing Development.

FY 2008 Plans:

- Continue Schedule Compression / Production Engineering Thrust for VCS Shipbuilding Affordability Initiative.
- Continue Outfitting Thrust for VCS Shipbuilding Affordability Initiative.
- Continue rapid response and teaching factory activities.
- Continue Metals Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Metals Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative.
- Continue Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative.
- Continue Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative.
- Continue Metal Materials and Process Improvements Thrust for Other Ship / NAVSEA Platforms.
- Continue Metals Materials and Process Improvement Thrust for Air Platforms.
- Continue Metal Materials and Process Improvements Thrust for Marine Corps Systems.

FY 2009 Plans:

- Continue Schedule Compression / Production Engineering Thrust for VCS Shipbuilding Affordability Initiative.
- Continue Outfitting Thrust for VCS Shipbuilding Affordability Initiative.
- Continue rapid response and teaching factory activities.
- Continue Metals Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes completion of DDG-1000 Advanced Bonding Methods for Steel Structures; completion of Low Cost Pallet Systems for DDG-1000 AGS; completion of Coating Application Improvement – formerly High Solids Coatings on DDG-1000; and completion of PVLS Hull Integration (formerly Large Marine Structure Hull

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Integration). Metallic materials and process efforts for DDG 1000 include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, etc.) resulting in reduced cost of fabrication for DDG 1000 components.

- Continue Metals Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes completion of CVN Preparation Methods for Coating Tanks completion of Optimization of CVN-21 Power Unit Assembly Facility and Carrier Visual Build. Metallic materials and process efforts for CVN 21 include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, etc.) resulting in reduced cost of fabrication for CVN 21 components.
- Continue Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative.
- Continue Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes completion of SSN Alloy 625 Pipe Welding; completion of SSN-774 Damping Material Application; and completion of Laser Cladding for Submarines. Metallic materials and process efforts for VCS include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, coating/cladding, etc.) resulting in reduced cost of fabrication for VCS components.
- Continue Metal Materials and Process Improvements Thrust for Other Ship / NAVSEA Platforms.
- Continue Metals Materials and Process Improvement Thrust for Air Platforms.
- Continue Metal Materials and Process Improvements Thrust for Marine Corps Systems.

	FY 2007	FY 2008	FY 2009
OTHER (SHIPBUILDING, REPAIR TECH, ENERGETICS, AND TECHNICAL ENGINEERING SUPPORT)	10,945	10,210	10,340

The “Other” activity includes shipbuilding technology, repair technology, energetics, and technical engineering support. Shipbuilding technology primarily addresses the development of manufacturing process improvements for shipyards. Repair technology addresses repair, overhaul, and sustainment functions that emphasize remanufacturing processes and advancing technology. Energetics efforts concentrate on developing energetics solutions to ensure the availability of safe, affordable, and quality energetics products largely in support of Program Executive Office (PEO) Integrated Warfare Systems (IWS).

FY 2007 Accomplishments:

- Initiated Shipbuilding Affordability Thrust for CVN-21.
- Initiated Shipbuilding Affordability Thrust for VCS. Includes initiation and completion of Computed Radiography, an Alternative to Conventional Film Radiography.

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- Initiated Shipbuilding Affordability Thrust for LCS. Includes initiation of Internal Supply Chain – Marinette Marine.
- Continued Shipbuilding Affordability Thrust for DDG-1000.
- Continued Shipbuilding Thrust for Other Ship / NAVSEA Platforms. Includes completion of Hybrid Pipe Welding System; completion of Technical Training and Data Collection (NGSS); completion of Re-engineer Internal Supply Chain (NGSS); and initiation and completion of Nested Material Manufacturing Technology Improvement.
- Continued Repair Technology Thrust for repair and sustainment of Navy weapons systems. Includes completion of Helicopter Blade Refurbishment; completion of CVN Propulsion Health Monitoring; completion of VLS Tube Repair; and initiation of Repair Technology projects based on high priority depot needs.
- Continued Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes continuation of Flexible Manufacturing of Nitrogen Based Gun Propellants; completion of Alternative Manufacture of TATB; and initiation of energetics efforts to support PEO IWS and other acquisition programs.
- Continued to provide technical engineering support for the ManTech Program.

FY 2008 Plans:

- Continue Shipbuilding Affordability Thrust for CVN-21.
- Continue Shipbuilding Affordability Thrust for VCS.
- Continue Shipbuilding Affordability Thrust for LCS.
- Continue Shipbuilding Affordability Thrust for DDG-1000.
- Continue Shipbuilding Thrust for Other Ship / NAVSEA Platforms.
- Continue Repair Technology Thrust for repair and sustainment of Navy weapons systems.
- Continue Energetics Thrust for PEO IWS and Other Acquisition Programs.
- Continued to provide technical engineering support for the ManTech Program.

FY 2009 Plans:

- Continue Shipbuilding Affordability Thrust for CVN-21.
- Continue Shipbuilding Affordability Thrust for VCS.
- Continue Shipbuilding Affordability Thrust for LCS.
- Continue Shipbuilding Affordability Thrust for DDG-1000.
- Continue Shipbuilding Thrust for Other Ship / NAVSEA Platforms.
- Continue Repair Technology Thrust for repair and sustainment of Navy weapons systems.

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- Continue Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes completion of Flexible Manufacturing of Nitrogen Based Gun Propellants; and initiation of energetics efforts to support PEO IWS and other acquisition programs.
- Continued to provide technical engineering support for the ManTech Program.

	FY 2007	FY 2008	FY 2009
ELECTRONICS PROCESSING AND FABRICATION	10,690	10,000	10,000

Electronics Processing and Fabrication efforts develop and deploy affordable, robust manufacturing processes and capabilities for electronics critical to defense applications over their full life cycle. Efforts create new and improved manufacturing processes on the shop floor, as well as repair and maintain facilities such as depots and logistics centers, with a strong emphasis on process maturation. Emphasis in 2007 and outyears is on shipbuilding affordability for four major platforms: DDG-1000, CVN-21, VCS, and LCS.

FY 2007 Accomplishments:

- Initiated Electronics / Electro-Optics Thrust for VCS Affordability Initiative. Includes initiation of Conformal Acoustic Velocity Sensor CAVES for VCS; initiation and completion of Sonar and Navigation for VCS.
- Initiated Electronics / Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative. Includes initiation of LCS Reconfigurable Antenna.
- Initiated advanced electronics and electro-optics efforts/thrusts to address improvements/affordability for DDG-1000, CVN-21, VCS, LCS, F/A-18, EA-18G, and others.
- Continued Electronics / Electro-Optics Thrust for Air Platforms. Includes continuation of Helmet Mounted Display Visor; continuation of Digital Heads-Up Display; continuation of Multispectral Mie-IR Lasers for DIRCM; and completion of Manufacturability of OTWT for Jammer Applications.
- Continued Electronics / Electro-Optics Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes continuation of DDG-1000 Remote Source Lighting; continuation of SiGE-Based System-on-Chip for Low-Cost Weight Phased Array Antennas; and initiation of High-G Packaging and Miniaturization for Deeply Integrated Inertial Guidance Units.
- Continued Electronics / Electro-Optic Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes continuation of High-Power Carbide PiN Diode Manufacturing; and completion of LASS for CVN-21 (Phase II).

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FY 2008 Plans:

- Initiate and complete effort to determine applicability and performance capability of fiber optic acoustic sensors to reliably detect underwater swimmers approaching ships in port locations (Underwater Swimmer Detection System).
- Continue Electronics / Electro-Optics Thrust for VCS Affordability Initiative.
- Continue Electronics / Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative.
- Continue advanced electronics and electro-optics efforts/thrusts to address improvements/affordability for DDG-1000, CVN-21, VCS, LCS, F/A-18, EA-18G, and others.
- Continue Electronics / Electro-Optics Thrust for Air Platforms.
- Continue Electronics / Electro-Optics Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Electronics / Electro-Optic Thrust for CVN-21 Shipbuilding Affordability Initiative.

FY 2009 Plans:

- Continue Electronics / Electro-Optics Thrust for VCS Affordability Initiative. Includes completion of Conformal Acoustic Velocity Sensor CAVES for VCS and initiation of improved affordable electronics / electro-optics efforts.
- Continue Electronics / Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative.
- Continue advanced electronics and electro-optics efforts/thrusts to address improvements/affordability for DDG-1000, CVN-21, VCS, LCS, F/A-18, EA-18G, and others.
- Continue Electronics / Electro-Optics Thrust for Air Platforms. Includes completion of Multispectral Mid-IR Lasers for DIRCM and initiation of electronics / electro-optics efforts to improve affordability for Air Platforms.
- Continue Electronics / Electro-Optics Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes radar/communications efforts to impact DDG 1000 affordability.
- Continue Electronics / Electro-Optic Thrust for CVN-21 Shipbuilding Affordability Initiative.

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	FY 2007	FY 2008	FY 2009
COMPOSITES PROCESSING AND FABRICATION	6,863	6,000	6,000

The primary technical goal of the Composites Processing and Fabrication activity is improving weapon systems affordability, enhancing weapon system effectiveness and improving reliability/war-fighter readiness through the increased utilization of composite materials and structures. This is being achieved through the development and maturation of affordable, robust manufacturing and assembly processes that fully exploit the benefits of composite materials. Concentration in FY 2007 and the outyears is on composites processing for the following four platforms: DDG-1000, CVN-21, VCS, and LCS although ManTech will continue to develop composites manufacturing technology for high priority air platforms.

FY 2007 Accomplishments:

- Initiated Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes initiation of Composite Sail Cusp; and initiation of VCS Impeller.
- Initiated other composites thrusts (formerly projects) to address improvements/affordability of DDG-1000, CVN-21, VCS, and other acquisition program offices.
- Continued Composite Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative. Includes completion of Large Marine Composite to Steel Bonded Joint; initiation of DDG-1000 Helodeck Stiffeners Affordability; and initiation of DDG-1000 Radomes Affordability.
- Continued Composite Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative. Includes completion of CVN-21 Weight Reduction.
- Continued Composite Materials and Process Improvement Thrust for Air Platforms. Includes continuation of Titanium-Graphite for F/A-18 Engine Bay Doors; completion of N-UCAS System Design and Manufacturing Demonstration; and completion of Weapons Bay Door; and initiation of Composite Frame Manufacturing Technology – V-22 and H-53.

FY 2008 Plans:

- Continue Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative.
- Continue other composites thrusts (formerly projects) to address improvements/affordability of DDG-1000, CVN-21, VCS, and other acquisition program offices.

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- Continue Composite Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for Air Platforms.

FY 2009 Plans:

- Continue Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes completion of VCS Impeller and continuation/initiation of efforts to develop/optimize composite materials fabrication technology for reduced cost VCS construction.
- Continue other composites thrusts (formerly projects) to address improvements/affordability of DDG-1000, CVN-21, VCS, and other acquisition program offices.
- Continue Composite Materials and Process Improvement Thrust for DDG-1000 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for CVN-21 Shipbuilding Affordability Initiative.
- Continue Composite Materials and Process Improvement Thrust for Air Platforms. Includes completion of Composite Frame Manufacturing Technology – V-22 and H-53 and continuation/initiation of efforts to develop/optimize composite materials fabrication technology for reduced cost Air Platform construction.

	FY 2007	FY 2008	FY 2009
CORPORATE INVESTMENTS	6,740	11,116	12,341

The Corporate Investments activity is focused on accelerating defense industrial enterprise progress toward implementation of world-class industrial practices as well as advanced design and information systems that support weapon system development, production, and sustainment. Key emphasis areas include: 1) Benchmarking and accelerating the implementation of world-class industrial practices throughout the contractor base; 2) Demonstrating and validating advanced business practices and information technologies capable of streamlining management functions in all industrial base tiers; and 3) Leveraging information technologies in pursuit of tighter coupling of all defense industrial enterprise elements. Corporate Investment efforts create

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improvements to cost and cycle time for weapon system development, production, and repair. Additionally, Corporate Investments include the funding of recently identified high priority shipbuilding affordability efforts for the four major platforms – DDG-1000, CVN-21, VCS, and LCS.

The increase from FY 2007 to FY 2008 and out funds the new Shipbuilding Affordability Strategy requirement.

FY 2007 Accomplishments:

- Initiate Near-Term High Priority Shipbuilding Affordability Thrust for CVN-21. Includes Light Activated Semiconductor Switches, HSLA-115 Evaluation and Implementation Support, and Digital Radiography Support.
- Continued Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continued Near-Term High Priority Shipbuilding Affordability Thrust for Littoral Combat Ship (LCS). Includes completion of Packaging Reconfigurable Antenna Solutions for Improved Mission Adaptability for the LCS – Phase I.
- Continued efforts to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technology improvements for Navy weapon system acquisition programs such as the DDG-1000, CVN 21, LCS, VCS, and others.

FY 2008 Plans:

- Initiate Near-Term, High Priority Shipbuilding Affordability Thrust for DDG-1000. Includes Pallet Manufacturing Process Modeling, Power Electronic Module Cost Out effort, and SiGe-based System-on-Chip Low Cost/Weight Phased Array Antennas.
- Initiate Near-Term High Priority Shipbuilding Affordability Thrust for VCS. Includes Design for Production Process Improvement, Automated Install of Studs, Deckplate Construction Information Network, Outfitting Process Improvement, and VCS Material Management.
- Continue Near-Term High Priority Shipbuilding Affordability Thrust for CVN-21.
- Continue Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continue efforts to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technology improvements for Navy weapon system acquisition programs such as the DDG-1000, CVN 21, LCS, VCS, and others.

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FY 2009 Plans:

- Continue Near-Term, High Priority Shipbuilding Affordability Thrust for DDG-1000.
- Continue Near-Term High Priority Shipbuilding Affordability Thrust for VCS. Includes completion of Design for Production Process Improvement, Automated Install of Studs, Deckplate Construction Information Network, Outfitting Process Improvement, and VCS Material Management and initiation of additional near-term high priority shipbuilding affordability efforts for VCS. Also includes initiation of Low Cost Impeller Support effort for Navy submarines/aircraft carriers and for shafts for Navy surface combatants.
- Continue Near-Term High Priority Shipbuilding Affordability Thrust for CVN-21.
- Continue Best Manufacturing Practices efforts in surveys, the Program Manager's WorkStation, and Collaborative Work Environment.
- Continue efforts to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technology improvements for Navy weapon system acquisition programs such as the DDG-1000, CVN 21, LCS, VCS, and others.

C. OTHER PROGRAM FUNDING SUMMARY - NAVY RELATED RDT&E:
Not applicable.

OTHER PROGRAM FUNDING SUMMARY - NON-NAVY RELATED RDT&E:
PE 0708045A End Item Industrial Preparedness Activities
PE 0708011S Industrial Preparedness
PE 0708611F Support Systems Development

D. ACQUISITION STRATEGY:
Not applicable.

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PROJECT NUMBER: 9999 PROJECT TITLE: CONGRESSIONAL PLUS-UPS

CONGRESSIONAL PLUS-UPS:

	FY 2007	FY 2008
FORMABLE ALIGNED CARBON THERMOSETS (FACTS)/STRETCH BROKEN CARON FIBER	2,137	0

Currently, carbon fibers used in composites for structural applications are in continuous tows. These continuous tows of fiber provide high strength and stiffness but are unable to conform to complex contours, which prevents them from being used in certain applications. Previous efforts in the FACTS/Stretch Broken Carbon Fiber projects have developed methodologies to manufacture tows where the fibers are randomly discontinuous, allowing the fiber tow to maintain its mechanical properties but conform to complex shapes. This effort scaled up the process to make preimpregnated tape with these tows, and used this tape to make contoured demonstration articles for naval aircraft applications.

	FY 2007	FY 2008
IMPROVED ADVANCED WATERTIGHT DOOR (IAWD) FOR NAVY SURFACE SHIPS	0	993

This effort is focused on transition of the Improved Advanced Watertight Door (IAWD) to fleet use. This involved completing the design and testing of the seal and improving manufacturability to reduce cost.

	FY 2007	FY 2008
NANO-IMPRINT AT MANUFACTURING SCALE (NIMS)	1,408	0

This effort conducted NIMS research to develop and manufacture beta prototypes.

	FY 2007	FY 2008
POLYETHERIMIDE RESIN FOAM DOMESTIC MANUFACTURING CAPABILITY	971	0

"Airex" polyetherimide (PEI) foam is used as a structural core material in a variety of radome applications for platforms such as DDG-1000 (formerly DD(X)) and F/A-18 due to its unique combination of mechanical and RF properties. There is only one worldwide manufacturer of this foam (Alcan), a Swiss company that has announced

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it will stop manufacturing the foam for environmental reasons. There is no alternate supplier of this foam, and switching to other foam cores would result in costly part redesigns and/or reduction in radome performance. This effort initiated development of a domestic manufacturing capability for an environmentally friendly version of PEI foam for use as a drop-in replacement for these naval applications.

	FY 2007	FY 2008
U.S. NAVY NUCLEAR POWER PLANT AND SHIP PROPULSION SHAFT MANUFACTURING IMPROVEMENT	1,311	994

FY 2007 Accomplishments: This effort concentrated on improving the manufacturing and lowering the cost of production for nuclear power plant components and shafts for Navy submarines/aircraft carriers and for shafts for Navy surface combatants. Completed the evaluation, design and specification of propulsion shaft forging furnaces.

FY 2008 Plans: Initiate development of enhanced computer-based process control and monitoring for the forging process and modern machining procedures for follow on processes.