Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603680N *I (U)Manufacturing Technology Program*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	-	57.074	-	57.074	57.955	59.028	59.929	61.649	Continuing	Continuing
1050: *Manufacturing Tech*	0.000	-	-	57.074	-	57.074	57.955	59.028	59.929	61.649	Continuing	Continuing

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, optimization, and transition of enabling manufacturing technologies to key naval suppliers. In general, investments transition emerging S&T results to acquisition programs; improve industrial capabilities in production, maintenance, repair and industrial base responsiveness; and advance manufacturing technology to reduce cost, improve performance, and responsiveness. Currently, the ManTech Program is focused on affordability improvements for specific key acquisition platforms as defined in the Navy ManTech Investment Strategy. Key platforms currently targeted include: VIRGINIA Class Submarine (VCS)/OHIO Replacement Program (ORP); DDG 51 Class Destroyer; CVN 78 Class Carrier; Joint Strike Fighter (JSF); and CH-53K Heavy Lift Helicopter. ONR ManTech helps these Navy programs achieve their respective affordability goals by transitioning developed manufacturing technology which, when implemented, results in needed cost reduction or cost avoidance.

This Program Element, new as of FY16, is the result of the re-alignment of funds from PE Industrial Preparedness 0708011N and the Manufacturing Science and Technology activity from PE 0603758N.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	57.074	-	57.074
Total Adjustments	-	-	57.074	-	57.074
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	57.074	-	57.074

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 3	R-1 Program Element (Number/Name) PE 0603680N / *(U)Manufacturing Technology Program*	Project (Number/Name) 1050 / *Manufacturing Tech*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1050: *Manufacturing Tech*	-	-	-	57.074	-	57.074	57.955	59.028	59.929	61.649	Continuing	Continuing

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This Program Element, new as of FY16, is the result of the re-alignment of funds from PE 0708011N and the Manufacturing Science and Technology R2A activity from PE 0603758N.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Composites Processing and Fabrication	-	-	6.000	-	6.000
Description: 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, maturation, and transition of affordable and robust manufacturing, assembly, and repair processes that fully exploit the benefits of composite materials. Concentration is on affordability for the following platforms: VIRGINIA Class Submarine (VCS)/OHIO Replacement Program (ORP), DDG-51 Class Destroyer, CVN-78 Class Carrier, Joint Strike Fighter (JSF), and CH-53-K Heavy Lift Helicopter. Funding for FY 2016 and beyond has been re-aligned from PE 0708011N and PE 0603758N. At the R2A level, FY 2016 Funding of $4.800M from Composites Processing and Fabrication in PE 0708011N and funding of $1.200M from Manufacturing Technology S&T from PE06030758N has been re-aligned to PE 0603680N Composites Processing and Fabrication for a total of $6.000M.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 3	**R-1 Program Element (Number/Name)** PE 0603680N / *(U)Manufacturing Technology Program*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** - Initiate Composite Materials and Process Improvement Thrust for VCS/ORP Affordability Initiative. Includes efforts to develop/optimize composite materials fabrication technology for reduced cost VCS and ORP construction. - Initiate Composite Materials and Process Improvement Thrust for DDG-51 Affordability Initiative. Includes efforts to develop / optimize composite materials fabrication technology for reduced cost DDG-51 construction. - Initiate Composite Materials and Process Improvement Thrust for CVN-78 Affordability Initiative. Includes efforts to develop / optimize composite materials fabrication technology for reduced cost CVN-78 construction. - Initiate Composite Materials and Process Improvement Thrust for JSF Affordability Initiative. Includes efforts to develop / optimize composite materials fabrication technology for reduced cost JSF construction. - Initiate Composite Materials and Process Improvement Thrust for CH-53K Affordability Initiative. Includes efforts to develop / optimize composite materials fabrication technology for reduced cost CH-53K construction. - Initiate Composite Materials and Process Improvement Thrust for other high interest NAVSEA, NAVAIR, and Marine Corps platforms and components. ***FY 2016 OCO Plans:*** N/A					
Title: Electronics Processing and Fabrication ***Description:*** The primary technical goal of the Electronics Processing and Fabrication activity is improving electronic weapon systems affordability by developing and transitioning affordable, robust manufacturing processes and capabilities for electronics critical to defense applications over their full life-cycle. Efforts create new and improved electronics/electro-optics manufacturing processes for transition to the production floor. Emphasis is on affordability for the following shipbuilding platforms: VIRGINIA Class Submarine (VCS)/OHIO Replacement Program (ORP), DDG-51 Class Destroyer, CVN-78 Class Carrier, Joint Strike Fighter (JSF), and CH-53-K Heavy Lift Helicopter. Funding for FY 2016 and beyond has been re-aligned from PE 0708011N and PE 0603758N. At the R2A level, FY 2016 Funding of $10.543M from Electronics Processing and Fabrication in PE 0708011N and funding	-	-	11.500	-	11.500

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Appropriation/Budget Activity 1319 / 3	**R-1 Program Element (Number/Name)** PE 0603680N / *(U)Manufacturing Technology Program*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
of $0.957M from Manufacturing Technology S&T from PE06030758N has been re-aligned to PE 0603680N Electronics Processing and Fabrication for a total of $11.500M. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** - Initiate Electronics/Electro-Optics Thrust for VCS/ORP Affordability Initiative. Includes efforts to improve electronics/electro-optics affordability for VCS and ORP construction. - Initiate Electronics/Electro-Optics Thrust for DDG-51 Affordability Initiative. Includes efforts to improve electronics/electro-optics affordability for DDG-51 construction. - Initiate Electronics/Electro-Optics Thrust for CVN-78 Affordability Initiative. Includes efforts to improve electronics/electro-optics affordability for CVN-78 construction. - Initiate Electronics/Electro-Optics Thrust for JSF Affordability Initiative. Includes efforts to improve electronics/electro-optics affordability for JSF construction. - Initiate Electronics/Electro-Optics Thrust for CH-53K Affordability Initiative. Includes efforts to improve electronics/electro-optics affordability for CH-53K construction. - Initiate Electronics/Electro-Optics Thrust for other high interest NAVSEA, NAVAIR, and Marine Corps platforms and components. ***FY 2016 OCO Plans:*** N/A					
Title: Metals Processing and Fabrication ***Description:*** The primary technical goal of the Metals Processing and Fabrication activity is to develop affordable, robust manufacturing and repair processes/capabilities for metals and special materials critical to Navy weapon system applications. Major areas that support this objective include: processing methods, special materials, joining, machining, coating/cladding, assembly, and inspection and compliance resulting in reduced cost of fabrication for components. Emphasis is on affordability for the following platforms: VIRGINIA Class Submarine (VCS)/OHIO Replacement Program (ORP), DDG-51 Class Destroyer, CVN-78 Class Carrier, Joint Strike Fighter (JSF), and CH-53-K Heavy Lift Helicopter. This activity also includes the development, optimization, and transition of repair technology for the repair, overhaul, and sustainment of key navy systems.	-	-	15.500	-	15.500

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funding for FY 2016 and beyond has been re-aligned from PE 0708011N. At the R2A level, FY 2016 Funding of $15.500M from Metals Processing and Fabrication in PE 0708011N has been re-aligned to PE 0603680N Metals Processing and Fabrication. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** - Initiate Metals Processing Thrust for VCS/ORP Affordability Initiative. Includes efforts to improve affordability for VCS and ORP construction. - Initiate Metals Processing Thrust for DDG-51 Affordability Initiative. Includes efforts to improve affordability for DDG-51 construction. - Initiate Metals Processing Thrust for CVN-78 Affordability Initiative. Includes efforts to improve affordability for CVN-78 construction. - Initiate Metals Processing Thrust for JSF Affordability Initiative. Includes efforts to improve affordability for JSF construction. - Initiate Metals Processing Thrust for CH-53K Affordability Initiative. Includes efforts to improve affordability for CH-53K construction. - Initiate Metals Processing Thrust for other high interest NAVSEA, NAVAIR, and Marine Corps platforms and components. - Initiate Repair Technology (RepTech) Thrust to develop, optimize, and transition repair technology for key naval platforms at depots and logistics centers. ***FY 2016 OCO Plans:*** N/A					
Title: Manufacturing Enterprise/Other	-	-	24.074	-	24.074
Description: The Manufacturing Enterprise / Other activity includes: (1) efforts targeted towards improving, in general, the manufacturing enterprise for the production of key naval platforms (both shipbuilding and aircraft), (2) energetic efforts, (3) naval research enterprise and laboratory support for key projects, and (4) technical program support. Manufacturing Enterprise addresses the development, optimization, and transition					

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
of manufacturing enterprise technology to key naval platform suppliers. Emphasis is on affordability for the following shipbuilding platforms: VIRGINIA Class Submarine (VCS)/OHIO Replacement Program (ORP), DDG-51 Class Destroyer, CVN-78 Class Carrier, Joint Strike Fighter (JSF), and CH-53-K Heavy Lift Helicopter. Manufacturing enterprise technology areas include, but are not limited to Design for Producibility/Design for Manufacturability; development of build/assembly strategies; modeling and simulation technologies; model-based tools and approaches to optimize producibility; intelligent manufacturing planning and factory execution; elimination of inefficiencies in design optimization, material usage, labor utilization, work flow, etc.; supply chain procedures and improvements (such as network centric manufacturing capabilities to facilitate resilient and adaptable supply chains); development of more efficient structural fabrication product lines; and inspection technologies. 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). Funding for FY 2016 and beyond has been re-aligned from PE 0708011N and PE 0603758N. At the R2A level, FY 2016 Funding of $1.200M from Metals Processing and Fabrication, $3.581M from Corporate Investments and $13.955M from Other all in PE 0708011N and funding of $5.338M from Manufacturing Technology S&T from PE06030758N has been re-aligned to PE 0603680N Manufacturing Enterprise/Other for a total of $24.074M. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** - Initiate Manufacturing Enterprise Thrust for VCS/ORP Affordability Initiative. Includes efforts to improve affordability for VCS and ORP construction. - Initiate Manufacturing Enterprise Thrust for DDG-51 Affordability Initiative. Includes efforts to improve affordability for DDG-51 construction. - Initiate Manufacturing Enterprise Thrust for CVN-78 Affordability Initiative. Includes efforts to improve affordability for CVN-78 construction.					

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Initiate Manufacturing Enterprise Thrust for JSF Affordability Initiative. Includes efforts to improve affordability for JSF construction. - Initiate Manufacturing Enterprise Thrust for CH-53K Affordability Initiative. Includes efforts to improve affordability for CH-53K construction. - Initiate Manufacturing Enterprise Thrust for other high interest NAVSEA, NAVAIR, and Marine Corps platforms and components. - Initiate Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes energetics efforts to support PEO IWS and other acquisition programs. - Initiate efforts to provide naval research enterprise and laboratory support for key projects. - Initiate efforts to provide technical engineering support for the ManTech Program. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	-	57.074	-	57.074

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Efforts are focused on affordability improvements (both acquisition and life-cycle) for specific key acquisition platforms as defined in the Navy ManTech Investment Strategy. Currently, the majority of Navy ManTech efforts are focused on affordability improvements for: VIRGINIA Class Submarine (VCS)/OHIO Replacement Program (ORP), DDG-51 Class Destroyer, CVN-78 Class Carrier, Joint Strike Fighter (JSF), and CH-53-K Heavy Lift Helicopter.

E. Performance Metrics

The ManTech Program's overall goal is to transition production technology to reduce the cost of Navy weapon systems. Metrics are currently collected on the cost savings per hull or per aircraft for each of the primary affordability platforms: VIRGINIA Class Submarine/OHIO Replacement Program (VCS/ORP), DDG-51 Class Destroyer, CVN-78 Class Carrier, Joint Strike Fighter (JSF), and CH-53-K Heavy Lift Helicopter.