Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Office of Secretary Of Defense	Date: March 2014
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 0602251D8Z / *Applied Research for the Advancement of S&T Priorities*

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	-	-	37.984	41.965	-	41.965	46.920	51.071	52.098	56.098	Continuing	Continuing
P227: *Applied Research for the Advancement of S&T Priorities*	-	-	37.984	41.965	-	41.965	46.920	51.071	52.098	56.098	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Applied Research for the Advancement of Science and Technology (S&T) Priorities program element (PE) will enable the early launch of S&T applied research projects to shape Components' investments. The PE is oriented toward the design, development, and improvement of prototypes and new processes to meet general mission area requirements, and to translate promising research into solutions for military needs. Efforts are situated within the seven DoD S&T priorities and focus areas and will include studies, feasibility evaluations, and non-system specific technology efforts. Investigations conducted in this PE will facilitate concept exploration efforts and studies of alternative concepts. Efforts are formulated and managed by teams of subject matter experts drawn from the Office of the Secretary of Defense, the Military Services, and Defense Agencies. The PE will also provide necessary administrative support to the Priority Steering Councils and S&T Focus Areas.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	45.000	38.800	-	38.800
Current President's Budget	-	37.984	41.965	-	41.965
Total Adjustments	-	-7.016	3.165	-	3.165
• Congressional General Reductions	-	-7.000			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FFRDC Adjustment	-	-0.016	-	-	-
• DoD Higher Priorities	-	-	3.165	-	3.165

Change Summary Explanation

Program increase is to support the higher priorities of agency operations.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Office of Secretary Of Defense			Date: March 2014
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602251D8Z / *Applied Research for the Advancement of S&T Priorities*	Project (Number/Name) P227 / *Applied Research for the Advancement of S&T Priorities*	

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
P227: *Applied Research for the Advancement of S&T Priorities*	-	-	37.984	41.965	-	41.965	46.920	51.071	52.098	56.098	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Applied Research for the Advancement of Science and Technology (S&T) Priorities program element (PE) will enable the early launch of S&T applied research projects to shape the Components' investments. The PE is oriented toward the design, development, and improvement of prototypes and new processes to meet general mission area requirements, and to translate promising research into solutions for military needs. Efforts are situated within the seven DoD S&T priorities and focus areas and will include studies, feasibility evaluations, and non-system specific technology efforts. Investigations conducted in this PE will facilitate concept exploration efforts and studies of alternative concepts. Efforts are formulated and managed by teams of subject matter experts drawn from the Office of the Secretary of Defense, the Military Services, and Defense Agencies. The PE will also provide necessary administrative support to the Priority Steering Councils and S&T Focus Areas.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Applied Research for the Advancement of S&T Priorities	-	29.000	32.039
Description: The S&T priorities include: Electronic Warfare (EW), Human Systems, Counter Weapons of Mass Destruction (CWMD), Engineered Resilient Systems (ERS), Data to Decisions (D2D), Autonomy, and Cybersecurity. ***FY 2014 Plans:*** Conduct concept exploration efforts that focus on the seven S&T priority areas. Challenge areas within the priorities include: Electronic Warfare: - Spatial and spectral parameters - Integrated, network-enabled EW systems - Electronic protection measures Human Systems: - System interfaces - Social and cultural understanding - Personnel and training - Protection and sustainment			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Office of Secretary Of Defense		Date: March 2014
Appropriation/Budget Activity 0400 / 2	**R-1 Program Element (Number/Name)** PE 0602251D8Z / *Applied Research for the Advancement of S&T Priorities*	**Project (Number/Name)** P227 / *Applied Research for the Advancement of S&T Priorities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Counter Weapons of Mass Destruction: - Systems integration - Activity recognition - Advanced signature detection and tracking - Advanced radiation detection Engineered Resilient Systems: - Systems analysis methods and tools - Early concept engineering techniques - Advanced architecture and design analysis techniques - New approaches to analysis and testing - Methods and tools for more robust designs - Advanced algorithms Data to Decisions: - Enhanced images - Temporal and text analytics - Better software architectures - Improved algorithms for data fusion - Improved understanding of user interactions Autonomy: - Machine reasoning and intelligence - Human/autonomous systems interaction and collaboration - Scalable Teaing of Autonomous systems - Testing and Evaluation and Verification and Validation Cyber: - Mission assurance and effectiveness - Operating securely in an insecure world - Reinventing cyber technology foundations			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Office of Secretary Of Defense		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue to conduct concept exploration efforts that focus on the S&T priority areas. In FY 2015, the challenge areas within the priorities include: Counter Weapons of Mass Destruction: - Systems integration - Activity recognition - Advanced signature detection and tracking - Advanced radiation detection Engineered Resilient Systems: - Systems analysis methods and tools - Early concept engineering techniques - Advanced architecture and design analysis techniques - New approaches to analysis and testing - Methods and tools for more robust designs - Advanced algorithms Data to Decisions: - Enhanced images - Temporal and text analytics - Better software architectures - Improved algorithms for data fusion - Improved understanding of user interactions Autonomy: - Machine reasoning and intelligence - Human/autonomous systems interaction and collaboration - Scalable Teaing of Autonomous systems - Testing and Evaluation and Verification and Validation Cyber: - Mission assurance and effectiveness - Operating securely in an insecure world			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Office of Secretary Of Defense		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
- Reinventing cyber technology foundations			
Title: S&T Focus Areas	-	8.984	9.926
Description: The S&T Focus Areas task facilitates cooperation and collaboration among Components and optimizes development of selected S&T efforts across the DoD enterprise. Select technology areas are examined and projects are initiated to address gaps or opportunities. FY 2014 focus areas are: Advanced Materials; Energy and Power; Weapons; Command, Control, and Communications and Networks; Intelligence, Surveillance, and Reconnaissance; Counter-Improvised Explosive Devices; and Biomedical. ***FY 2014 Plans:*** Candidate projects for S&T Focus Areas include: exceptional materials properties and processing routes through electromagnetic field - materials coupling; active informatics photonic materials; development of models and architecture for digital curation; nano-scale battery architectures; and 3-dimensional (3D) stereochemistry through multitasking polymer catalysts; garbage and waste mining – creation of material stock for mobile manufacturing. ***FY 2015 Plans:*** Candidate projects for S&T Focus Areas include: exceptional materials properties and processing routes through electromagnetic field - materials coupling; active informatics photonic materials; development of models and architecture for digital curation; nano-scale battery architectures; and 3-dimensional (3D) stereochemistry through multitasking polymer catalysts; garbage and waste mining – creation of material stock for mobile manufacturing.			
Accomplishments/Planned Programs Subtotals	-	37.984	41.965

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Project performance metrics specific to each effort are identified in the project plans established by the Priority Steering Councils and Focus Area leads. Individual project success will be monitored through these metrics.