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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Office of the Secretary Of Defense **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0303310D8Z / <i>Countering Weapons of Mass Destruction (CWMD) Systems</i>
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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	39.134	47.819	46.001	42.488	-	42.488	45.335	42.781	46.239	46.864	Continuing	Continuing
P*004: <i>Countering Weapons of Mass Destruction Systems</i>	39.134	47.819	46.001	42.488	-	42.488	45.335	42.781	46.239	46.864	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Countering Weapons of Mass Destruction (CWMD) Systems program is researching, developing, integrating, testing, deploying, operating, and maintaining a CWMD situational awareness system. This system will enable a comprehensive, global capability for situational awareness of threats from WMD as well as global efforts to counter those threats. This system will foster a shared understanding of the CWMD operating environment and support decision making for operations and activities by the U.S. government and its partners. The CWMD mission space is characterized by immense amounts of information, such as the characteristics and location of WMD-related facilities and materials, personnel and expertise, and dual-use technologies. The CWMD Systems program comprises next-generation advanced information technologies, coupled with small fusion cells, to locate, gather, access, share, and visualize this WMD-relevant information to facilitate collaboration and decision-making. These solutions will revolutionize CWMD knowledge management, providing decision makers and operational personnel a dynamic, holistic view of the global CWMD operating environment.

The diversity and complexity of the CWMD mission requires an integrated approach toward capability development, based on a systems perspective that links strategic objectives with interrelated tasks and associated capabilities. The CWMD mission is intertwined with counter-terrorism and homeland defense and hence system development must leverage and integrate complementary technologies developed to support other mission areas. The CWMD Systems program also will enable international collaboration in countering WMD by breaking down unnecessary data stove-pipes and by enabling the U.S. Government and its partners to access and share knowledge.

This program also responds to the strategic needs outlined in the 2014 Quadrennial Defense Review, the Department of Defense (DoD) Strategy for Countering WMD, the FY2016-2020 Defense Planning Guidance, and capability requirements approved by the Joint Requirements Oversight Council. The CWMD Systems program will develop and field a global CWMD situational awareness capability to meet the needs of Combatant Commands, the Office of the Secretary of Defense, the Joint Staff, the Services, and Defense Agencies. Other U.S. Government Departments and Agencies will be able to utilize this capability to support their mission needs and collaborate with the Department of Defense. This program is designed to leverage existing DoD resources and proven approaches to achieve its goals and rapidly deliver an operational capability.

The CWMD Systems portfolio is supported by two RDT&E program elements (0303310D8Z for research, development, testing and evaluation of advanced materiel and non-materiel solutions, and 0607310D8Z for upgrades or improvements to fielded systems), as well as an Operations and Maintenance (O&M) line (ORC 2531) for program sustainment and administrative costs associated with analyses, oversight, and portfolio management.

This Program Element can fund travel to support the requirements of this program.

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This appropriation will finance work, including manpower, performed by a government agency or by private individuals or organizations under a contractual or grant arrangement with the government who conduct research (systematic study directed toward fuller scientific knowledge or understanding of the subject studied), development (systematic use of the knowledge and understanding gained from research, for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes) and test and evaluation efforts.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	49.221	46.066	42.774	-	42.774
Current President's Budget	47.819	46.001	42.488	-	42.488
Total Adjustments	-1.402	-0.065	-0.286	-	-0.286
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.402	-			
• Program Adjustments	-	-	-0.286	-	-0.286
• FFRDC Sec 8104	-	-0.065	-	-	-

Change Summary Explanation

Efficiencies gained from program and fusion cells maturing.

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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
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A. Mission Description and Budget Item Justification

Planning Guidance, and capability requirements approved by the Joint Requirements Oversight Council. The CWMD Systems program will develop and field a global CWMD situational awareness capability to meet the needs of Combatant Commands, the Office of the Secretary of Defense, the Joint Staff, the Services, and Defense Agencies. Other U.S. Government Departments and Agencies will be able to utilize this capability to support their mission needs and collaborate with the Department of Defense. This program is designed to leverage existing DoD resources and proven approaches to achieve its goals and rapidly deliver an operational capability.

The CWMD Systems portfolio is supported by two RDT&E program elements (0303310D8Z for research, development, testing and evaluation of advanced materiel and non-materiel solutions, and 0607310D8Z for upgrades or improvements to fielded systems), as well as an Operations and Maintenance (O&M) line (ORC 2531) for program sustainment and administrative costs associated with analyses, oversight, and portfolio management.

The CWMD Systems program is researching, developing, integrating, testing, deploying, operating, and maintaining a CWMD situational awareness system. This system will enable a comprehensive, global capability for situational awareness of threats from WMD as well as global efforts to counter those threats. This system will foster a shared understanding of the CWMD operating environment and support decision making for operations and activities by the U.S. government and its partners. The CWMD mission space is characterized by immense amounts of information, such as the characteristics and location of WMD-related facilities and materials, personnel and expertise, and dual-use technologies. The CWMD Systems program comprises next-generation advanced information technologies, coupled with small fusion cells, to locate, gather, access, share, and visualize this WMD-relevant information to facilitate collaboration and decision-making. These solutions will revolutionize CWMD knowledge management, providing decision makers and operational personnel a dynamic, holistic view of the global CWMD operating environment.

The diversity and complexity of the CWMD mission requires an integrated approach toward capability development, based on a systems perspective that links strategic objectives with interrelated tasks and associated capabilities. The CWMD mission is intertwined with counter-terrorism and homeland defense and hence system development must leverage and integrate complementary technologies developed to support other mission areas. The CWMD Systems program also will enable international collaboration in countering WMD by breaking down unnecessary data stove-pipes and by enabling the U.S. Government and its partners to access and share knowledge.

This program also responds to the strategic needs outlined in the 2014 Quadrennial Defense Review, the Department of Defense (DoD) Strategy for Countering WMD, the FY2016-2020 Defense Planning Guidance, and capability requirements approved by the Joint Requirements Oversight Council. The CWMD Systems program will develop and field a global CWMD situational awareness capability to meet the needs of Combatant Commands, the Office of the Secretary of Defense, the Joint Staff, the Services, and Defense Agencies. Other U.S. Government Departments and Agencies will be able to utilize this capability to support their mission needs and

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collaborate with the Department of Defense. This program is designed to leverage existing DoD resources and proven approaches to achieve its goals and rapidly deliver an operational capability.

This Program Element can fund travel to support the requirements of this program.

This appropriation will finance work, including manpower, performed by a government agency or by private individuals or organizations under a contractual or grant arrangement with the government who conduct research (systematic study directed toward fuller scientific knowledge or understanding of the subject studied), development (systematic use of the knowledge and understanding gained from research, for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes) and test and evaluation efforts.

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

	FY 2014	FY 2015	FY 2016
<p>Title: Countering Weapons of Mass Destruction (CWMD) Systems</p> <p>Description:</p> <ul style="list-style-type: none"> • Research, develop, test, and evaluate next-generation materiel and non-materiel solutions to locate, gather, fuse, share, and visualize WMD and CWMD information, and facilitate collaboration and well-integrated decision making. • CWMD Systems will support capabilities to: identify, classify and prioritize global WMD threats and vulnerabilities; maintain awareness of US and partner CWMD activities; support US and partner planning and decision making for CWMD, support collaboration across the CWMD community, visualize information for analysts, operators, decision makers. • Materiel solutions will include an enterprise-scale common data and applications environment, operating on the Global Information Grid (GiG) as well as the World Wide Web (WWW). • Materiel solutions will obtain, analyze, and fuse global information about WMD threat and CWMD operations, activities, and plans, and provide analysts, operators, and decision makers access to this information via a single, comprehensive information environment. • Non-materiel solutions include two small fusion cells that will monitor, analyze, and disseminate integrated WMD intelligence and information and CWMD activities in support of US Combatant Commands, the Services, Defense Agencies, and other US Government partners in the CWMD mission. <p>FY 2014 Accomplishments:</p> <ul style="list-style-type: none"> • Combined what had been separate systems (Global CWMD Awareness System (GCAS), designed to reside on classified systems, and Global Knowledge Management Capability (GKMC), designed for unclassified systems) into a single program, called Constellation, with a common IT architecture that will be deployed across multiple security domains. • Delivered and demonstrated pre- prototype version of data and applications environment. • Developed Constellation platform that can function at all levels of classification and is able to share information among and between those classification domains. • Developed a system architecture for Constellation that is compatible with the DoD Joint Information Environment (JIE) and Intelligence Community Information Technology Enterprise (IC-ITE) frameworks. 	47.819	46.001	42.488

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016
<ul style="list-style-type: none"> Established two small fusion cells to support Constellation system development. Identified and reached agreement with select mission partners to conduct initial operational activities in FY14 and beyond. Developed data sharing and cooperative agreements with some U.S. Government agencies, international partners, and non-governmental organizations. Demonstrated a limited capability prototype integrating materiel and non-materiel components. <p>FY 2015 Plans:</p> <ul style="list-style-type: none"> Received authorities to operate prototype system components on NIPRNET, SIPRNET, and JWICS networks. Implemented initial cross-domain solutions to securely transfer information among networks. Continued development and/or integration of software applications, with six-month release spirals of new capabilities, tied to demonstrations, exercises, experiments, and deployments. Trained personnel in fusion cells, and developed, tested, and implemented workflows for analysis, reachback support, and feedback to support ongoing development of data and applications capabilities. Continued to build/upgrade/modify the required infrastructure, including hardware and software for computational and processing capabilities, training, and organizational support. Scaled hardware to support additional users; integrated and tested analytical engine updates. Achieved network and system certifications and accreditations. <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> Achieve initial operational capability by middle of fiscal year 2016, including authorities to operate on all networks and cross-domain solutions securely transferring data bi-directionally across security domains. Expand Combatant Command, interagency, and international partnerships to support system development, data access and sharing, and operational employment. Complete integration of Constellation into other fielded systems and capabilities on NIPR, SIPR, and JWICS networks. Expand fusion cells capacity. 			
Accomplishments/Planned Programs Subtotals	47.819	46.001	42.488

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

N/A

Remarks

D. Acquisition Strategy

Utilize a knowledge based approach to achieve an operational prototype in FY14 with capability packages that provided upgraded CWMD situational awareness and capabilities with deliveries every 12-18 months utilizing agile software development processes.

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E. Performance Metrics

Success in this area is measured by compliance with various statutes and DoD directives that govern the conduct of the affairs within the Office of ASD/NCB. Maintain cost, schedule, and performance reporting, review, and adjudication. Maintain requirements traceability matrix.