Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Office of the Secretary Of Defense	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	58.761	26.736	40.146	87.080	-	87.080	94.868	90.626	87.325	83.385	Continuing	Continuing
100: *Joint Mission Environment Test Capability Distributed Test*	48.761	16.455	20.494	66.267	-	66.267	73.920	68.689	64.895	59.796	Continuing	Continuing
200: *Joint Mission Environment Test Capability National Cyber Range (NCR) Sustainment*	10.000	10.281	19.652	20.813	-	20.813	20.948	21.937	22.430	23.589	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Mission Environment Test Capability (JMETC) program was established for the purpose of implementing the Department's strategy to move to an enterprise-centric, distributed test capability that results in acquisition systems fielded with enhanced joint capabilities, reduced program costs, and improved acquisition timelines. The JMETC program implements the infrastructure capabilities defined in the Department of Defense's "Testing in a Joint Environment Roadmap" to provide acquisition program managers a robust nation-wide capability to "test like we fight." JMETC provides a persistent, distributed test and evaluation (T&E) capability; supporting system development, interoperability testing, and cyber testing; that otherwise would not be readily available to Service/Component acquisition programs. The JMETC program is funded within the Research, Development, Test and Evaluation (RDT&E) Management Support Budget Activity because it is intended to provide test capability in support of RDT&E programs. By linking distributed facilities, JMETC allows acquisition programs to efficiently evaluate their warfighting capability in a realistic joint mission environment. This enables a customer-defined joint mission test environment for systems engineering and testing, extensible to training and experimentation, in a timely and cost effective manner.

On October 1, 2012, the Under Secretary Defense for Acquisition, Technology and Logistics (USD(AT&L)) directed Test Resource Management Center (TRMC) to take responsibility for operations and resources of the National Cyber Range (NCR). TRMC undertook management oversight of the NCR, including all operational activities and sustainment of resources, transitioning it from a Defense Advanced Research Projects Agency (DARPA) Science & Technology project to an operational capability supporting cyber test, experimentation, and training events. The NCR mission is to provide secure facilities, technology, processes, and workforce to rapidly create hi-fidelity, mission representative cyberspace environments and facilitate integration/federation of cyberspace T&E infrastructure in support of the TRMC Mission. In FY-15 the NCR demonstrated robust operational capability supporting 30 different events for a diverse set of customers including US Cyber Command, Joint Staff J-7, Director, Operational Test & Evaluation (DOT&E) and US Naval Air Systems Command (NAVAIR). The NCR was critical to the successful execution of CyberFlag 15-1, CyberGuard 15-1, 15-2 and 15-3. In second quarter FY 2015 the NCR team executed the first Cybersecurity Table Top Exercise for the P-8A Poseidon Maritime Surveillance Aircraft assisting in their planning requirements for their Developmental Test & Evaluation (DT&E) events. In FY 2015, the demand for NCR in support of Operational, Testing and Training Customers has increased significantly. The NCR is supporting current military operations and is preparing to conduct an event in support of ongoing operational contingencies. The NCR has conducted Cyber Mission Force Exercise, Training and Certification Events in support of US Cyber Command including Pacific Sentry, Cyber Knight and Cyber Flag 15-1. The NCR has executed several events in support of Major Defense Acquisition Program (MDAP) and Major Automated Information System (MAIS) Acquisition Programs not limited to and including the Army Command Post Computing Environment (CP CE), the Air Force Joint Space Operations Center (JSpOC) Mission Space (JMS) Program and the Navy P-8A Poseidon, Triton MQ-4C and Tactical Mobile (TACMobile) Programs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Office of the Secretary Of Defense	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*

In addition, in FY 2015 an Engineering Change Proposal (ECP) was awarded to evaluate options to replace End of Service/End of Life Rack Servers and Upgrade Storage Components and reassess Risk Management Framework (RMF) Controls to Assess and Authorize the NCR in FY 2016. Additional NCR capacity will be added in FY 2016 and FY 2017 to support increasing demand from both the Testing and Training Communities.

Increased funding in FY 2016 will be used to expand capacity for cyber test and training. The strategy for accomplishing this is three fold: 1) refurbish the NCR hardware, thus increasing compute and storage capacity; 2) purchase and install additional Regional Service Delivery Points (RSDPs), thus increasing capacity for cyber testing; and 3) begin construction of a new high capacity cyber range, similar to the NCR thus increasing capacity for cyber test and training.

The Test Resource Management Center (TRMC) is the Department's lead for the JMETC program, the National Cyber Range, and oversees both their development and operations. TRMC will use the increased funding for FY 2017 to significantly increase cyber test capability by significantly increasing NCR computing capability using a distributed methodology. TRMC will also pursue increased computing power for JMETC, further increasing DoD cyber test capability. These actions will provide increased capacity for cyber testing with added cyber event support to the experimentation and training communities. In addition, TRMC will use a portion of these funds to increase vulnerability assessment capability for DoD systems.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	27.124	45.235	47.163	-	47.163
Current President's Budget	26.736	40.146	87.080	-	87.080
Total Adjustments	-0.388	-5.089	39.917	-	39.917
• Congressional General Reductions	-	-0.089			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.011	-			
• SBIR/STTR Transfer	-0.377	-			
• Internal Adjustment	-	-	1.240	-	1.240
• Departmental Efficiency Adjustment	-	-	-0.978	-	-0.978
• Economic Assumption Reduction	-	-	-0.345	-	-0.345
• National Cyber Range (NCR)	-	-	40.000	-	40.000

Change Summary Explanation

- Internal strategic efficiency reductions in management headquarters funding and staffing for better alignment and to provide support to a smaller military force.
- Departmental Efficiency Adjustment
- Economic assumption reduction
- National Cyber Range (NCR) expansion to address increases in cyber test requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense			Date: February 2016
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	Project (Number/Name) 100 / *Joint Mission Environment Test Capability Distributed Test*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
100: *Joint Mission Environment Test Capability Distributed Test*	48.761	16.455	20.494	66.267	-	66.267	73.920	68.689	64.895	59.796	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The JMETC mission is to provide an enterprise-level, persistent capability for linking distributed facilities, enabling Department of Defense (DoD) customers to develop and test warfighting capabilities in a Joint Context. JMETC provides a test infrastructure consisting of the components necessary to conduct Joint distributed test events by cost-effectively integrating live, virtual, and constructive (LVC) test resources that are configured to support the users' needs. The JMETC program provides its customers a support team to assist with JMETC products and the conduct of distributed testing. JMETC's institutional funding builds, maintains, and operates the JMETC infrastructure and pays for persistent availability of national connectivity for testing; data communications middleware; identification and development of interface standards; common software tools and components; and a reuse repository. JMETC Program funding also provides JMETC program management, facilities, equipment, operating costs, and special studies and analysis related to distributed test capabilities and infrastructure. Key attributes of the JMETC include: persistency; interoperability; reuse; various combinations of distributed capabilities (reconfigurable infrastructure to meet customer requirements); modeling and simulation (M&S) linkage; Live-Virtual-Constructive (LVC) test resource integration; and distributed test support to satisfy both Service and Joint needs. System engineering, training, and experimentation all benefit from a corporate JMETC developed for T&E. JMETC has grown from four sites in 2007 to 77 sites, 12 peering points to other networks, and an additional 12 planned sites. JMETC will reduce the cost and time to plan and prepare for distributed joint testing by providing a readily-available, persistent connectivity with network security accreditation support, common integration software for linking sites, and accredited test tools for distributed testing. To support its customers, JMETC also provides extensive expertise in planning, preparing for, and executing the infrastructure for distributed test events. In the past year, JMETC has used this expertise and infrastructure to support over 65 customer events.

Additionally in FY 2013, the JMETC PE was funded to develop and build the Regional Service Deliver Points (RSDP). The RSDPs are a set of distributed computing and storage platforms designed to efficiently meet DoD capacity and capability demands for distributed and cyber test and evaluation (T&E) requirements as part of the Test Resource Management Center (TRMC). They provide services (i.e. traffic generation, simulation, instrumentation, visualization, and integrated event management), a scalable architecture to increase capacity and capabilities as needed by the user community, a flexible and adaptable infrastructure to support users requirements which are prone to frequent change, and to deliver cost and performance efficiencies (virtualization, rapid reconstitution). At a high-level architecture view, the RSDP adds enterprise compute and storage resources as well as a platform for distributed and cyber T&E tools and services at multiple classifications necessary to create high fidelity, operationally representative virtual environments, previously unavailable.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Joint Mission Environment Test Capability Distributed Test	16.455	20.494	66.267
FY 2015 Accomplishments: - Continued to provide distributed test support for major customer events such as the Joint Tactical Networking Center (JTNC), Joint Reference Implementation Laboratory (JRIL), MQ-4C Triton, Army Integrated Air and Missile Defense (AIAMD), Joint			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	**Project (Number/Name)** 100 / *Joint Mission Environment Test Capability Distributed Test*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Interoperability Tests (JITs), AGILE Fire, NAVAIR Integrated Warfare Capability (IWC), and numerous smaller test activities, as well as, continuous interconnectivity between distributed test resources for day-to-day exchange of test data. - Continued planning support to new and on-going acquisition programs including: Program Executive Office, Intelligence, Surveillance, and Sensor Systems (PEO IEW&S) (multiple programs), F-35, Small Diameter Bomb (SDB) II, MQ-4C Triton,P-8A Poseidon, Advanced Anti-Radiation Guided Missile (AARGM), Integrated Defensive Electronic Countermeasures (IDECM), Unmanned Carrier Launched Airborne Surveillance & Strike (UCLASS), Common Aviation Command and Control System (CAC2S, Joint Space Operations Center (JSpOC) Mission Space (JMS), Tactical Mobile (TacMobile), and Marine Corps Tactical Operations Center (CoC). - Continued strategic planning efforts to engage new acquisition programs that must demonstrate compliance with Net-Ready Key Performance Parameter (NR-KPP) and Cyber security requirements. - Continued coordination efforts to integrate DoD/Service/Industry/Academia distributed test and evaluation infrastructure to the JMETC infrastructure. - Continued the planning, alignment, and coordination to establish and improve the test infrastructure for cyber tests and assessments by leveraging other TRMC investments (i.e., Central Test and Evaluation Investment Program (CTEIP) and Test & Evaluation/Science & Test (T&E/S&T) and capabilities of existing cyber ranges (DoD/Services/Industry/Academia). - Continued to assist customers with the use of distributed test tools and troubleshooting of the end-to-end network infrastructures. Continued providing remote and on-site support for the planning and execution of distributed events. - Initiated the implementation of distributed test infrastructure enhancements that support multiple, concurrent classifications up to and including TS//SCI with a focus on leveraging the RSDP capabilities and incorporating both kinetic (weapon systems) and non-kinetic (cyber weapons) assets to address growing interoperability and cyber T&E requirements.			
FY 2016 Plans: - Use additional funding to purchase more Regional Service Deliver Points (RSDPs), thus increasing cyber test capacity. Improve RSDP performance by automating processes, developing in-line encryption capability for Type I encryption, and developing tools to automate exchange of environments between ranges. - Continue to provide distributed interoperability and cyber test support for major customer events such as the F-35 Joint Strike Fighter, Apache Block III testing, Small Diameter Bomb II tests, Advanced Anti-Radiation Guided Missile, MQ-4C Triton testing,			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	**Project (Number/Name)** 100 / *Joint Mission Environment Test Capability Distributed Test*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
JIAMDO project testing, Joint Interoperability Tests (JITS) for DISA's Joint Interoperability Test Command, Air Force AGILE Fire VIII, NAVAIR Integrated Warfare Capability (IWC) test events, NAVSEA Advanced Mid-Term Interoperability Improvement Program events, Marine Corps Virtual Rapid Prototyping Laboratory (VRPL) experiments, five Air Force Interoperability Tests (AFSIT), and numerous smaller test activities. - Continue planning support to new and on-going acquisition programs including: Program Executive Office, Intelligence, Surveillance, and Sensor Systems (PEO IEW&S) (multiple programs), Mobile User Objective System, Joint Strike Fighter, Small Diameter Bomb (SDB) II, MQ-4C Triton,P-8A Poseidon, Advanced Anti-Radiation Guided Missile (AARGM), Integrated Defensive Electronic Countermeasures (IDECM), Unmanned Carrier Launched Airborne Surveillance & Strike (UCLASS), Common Aviation Command and Control System (CAC2S, Joint Space Operations Center (JSpOC) Mission Space (JMS), Tactical Mobile (TacMobile), and Marine Corps Tactical Operations Center (CoC). - Continue strategic planning efforts to engage new acquisition programs that must demonstrate compliance with Net-Ready Key Performance Parameter (NR-KPP) and Cyber security requirements. - Continue to assist customers with the use of distributed test tools and troubleshooting of the end-to-end network infrastructures. Continue providing remote and on-site support for the planning and execution of distributed events. - Continue the planning, alignment, and coordination to establish and improve the test infrastructure for cyber tests and assessments by leveraging other TRMC investments (i.e. CTEIP and T&E/S&T) and capabilities of existing cyber ranges (DoD/ Services/Industry/Academia). - Increase cyber test capacity by speeding up acquisition of Regional Service Delivery Points (RSDPs), acquire additional storage capacity for the RSDPs, and develop a central library for blue and red environments to promote reuse. Fulfill implementation of distributed test infrastructure enhancements that will support multiple, concurrent classifications up to and including TS//SCI and provide for connectivity to coalition partners. ***FY 2017 Plans:*** - TRMC will employ the increased funding in FY 2017 to significantly increase cyber test capability in the Department. TRMC plans to distribute this computing power to serve a distributed test community. By the end of FY 17, TRMC will have significantly increased NCR-like capability, compared to the 2015 NCR computing power, to meet growing demand for cyber test capability. Additionally, TRMC will enhance JMETC computing power further enhancing the ability to meet the full T&E community needs for both interoperability and cyber test capability. In addition, TRMC will use a portion of these funds to increase vulnerability assessment capability for DoD systems.			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	**Project (Number/Name)** 100 / *Joint Mission Environment Test Capability Distributed Test*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
- Increase cyber test capacity through acquisition of Regional Service Delivery Points (RSDPs). Acquire additional storage capacity for the RSDPs and implement a central library for blue and red environments to promote reuse. Complete development of in-line Type one encryption capability to secure data at rest (in storage). Promote infrastructure for a quick-reaction cyber test capability. Sustain distributed test infrastructure enhancements that will support multiple, concurrent classifications up to and including TS//SCI and provide for connectivity to coalition partners. - Continue to provide distributed interoperability and cyber test support for major customer events such as the F-35 Joint Strike Fighter, Small Diameter Bomb II tests, MQ-4C Triton testing, JIAMDO project testing, Joint Interoperability Tests (JITS) for DISA's Joint Interoperability Test Command, Air Force AGILE Fire IX, NAVAIR Integrated Warfare Capability (IWC) test events, NAVSEA Advanced Mid-Term Interoperability Improvement Program events, Marine Corps Virtual Rapid Prototyping Laboratory (VRPL) experiments, five Air Force Interoperability Tests (AFSIT), and numerous smaller test activities. - Continue planning support to new and on-going acquisition programs including: Program Executive Office, Intelligence, Surveillance, and Sensor Systems (PEO IEW&S) (multiple programs), Mobile User Objective System, Advanced Anti-Radiation Guided Missile (AARGM), Integrated Defensive Electronic Countermeasures (IDECM), Unmanned Carrier Launched Airborne Surveillance & Strike (UCLASS), Common Aviation Command and Control System (CAC2S), Joint Space Operations Center (JSpOC) Mission Space (JMS), Tactical Mobile (TacMobile), and Marine Corps Tactical Operations Center (CoC). - Continue strategic planning efforts to engage new acquisition programs that must demonstrate compliance with Net-Ready Key Performance Parameter (NR-KPP) and Cyber security as part of their Survivability KPP requirements. - Continue to assist customers with the use of distributed test tools and troubleshooting of the end-to-end network infrastructures. Continue providing remote and on-site support for the planning and execution of distributed events. - Continue the planning, alignment, and coordination to establish and improve the test infrastructure for cyber tests and assessments by leveraging other TRMC investments (i.e. CTEIP and T&E/S&T) and capabilities of existing cyber ranges (DoD/ Services/Industry/Academia).			
Accomplishments/Planned Programs Subtotals	16.455	20.494	66.267

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	**Project (Number/Name)** 100 / *Joint Mission Environment Test Capability Distributed Test*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

- Number of Distributed test sites
- Number of events conducted
- Number of acquisition programs supported

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense			Date: February 2016
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	Project (Number/Name) 200 / *Joint Mission Environment Test Capability National Cyber Range (NCR) Sustainment*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
200: *Joint Mission Environment Test Capability National Cyber Range (NCR) Sustainment*	10.000	10.281	19.652	20.813	-	20.813	20.948	21.937	22.430	23.589	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY 2013, responsibility for the National Cyber Range (NCR) was given to the Test Resource Management Center (TRMC) and subsequently aligned under the Joint Mission Environment Test Capability (JMETC) Program Element. The NCR was funded in FY 2013 through funds provided by Defense Advanced Research Projects Agency (DARPA), Director, Operational Test & Evaluation (DOT&E), Assistant Secretary of Defense (Research & Engineering)(ASD(R&E)) reprogramming, and the TRMC investment programs. In FY 2014, the NCR was funded from the JMETC Program Element. The NCR provides secure facilities, technology, processes, and workforce to rapidly create hi-fidelity, mission representative cyberspace environments and facilitate integration/federation of cyberspace test and evaluation (T&E) infrastructure in support of the TRMC Mission. It supports a diverse user base and accommodates a wide variety of event types (R&D, Developmental Test & Evaluation (DT&E), Operational Test & Evaluation (OT&E), Security Control Assessor (SCA) Compliance, Defensive Cyber Operations (DCO), Offensive Cyber Operations (OCO), Tactics, Techniques Procedures (TTP) Development, Forensics/Malware Analysis) and communities (research, systems engineering, testing, operations, training, etc.). The NCR has the capability to support up to 4 concurrent events at different classification levels using Multiple Independent Levels of Security (MILS) architecture. It is accredited to operate at TS//SI-G/TK/HCS-P//SAR. In support of a variety of customers, the NCR has emulated complex (Red/Blue/Gray) operationally representative network environments at a scale up to ~40K virtual nodes. The NCR can operate in conjunction with other ranges through remote connectivity via Joint Information Operations Range (JIOR) and JMETC connectivity infrastructure. The NCR's Test Automation Tools minimize human error, enable verification of test environment, ensure repeatable results and can reduce event timelines from weeks/months to hours/days. Range assets can be sanitized after exposure to malicious attacks/ malware to restore exposed systems to a known, clean state.

The Cyberspace Environments provisioned at the NCR support multiple customers with testing and training objectives including Research and Development, Science and Technology, Systems engineering, Test and Evaluation and training and experimentation. The NCR enables acquisition programs to conduct Cybersecurity Test and Evaluation (T&E) in a representative Cyberspace Environment to identify and close exposed vulnerabilities, evaluate resiliency and positively impact program cost, schedule and performance. The NCR also supports Training and Certification of Cyber Mission Forces in support of US Cyber Command by enabling operational forces to efficiently evaluate cyber warfighting capability in a realistic joint mission environment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Joint Mission Environment Test Capability NCR Sustainment	10.281	19.652	20.813
FY 2015 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	**Project (Number/Name)** 200 / *Joint Mission Environment Test Capability National Cyber Range (NCR) Sustainment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
- The OPTEMPO at the NCR has been extremely high with the completion of more than 32 events. The NCR utilization exceeded 100% of the originally provisioned capacity by adding standalone test beds. More than 50% of range operations have supported the Training Community with the remainder supporting the Testing Community with some time allocated for software and hardware maintenance. - TRMC operated the NCR in support of growing Acquisition Program Cybersecurity Test and Evaluation needs. The NCR supported test planning and execution for MDAP and MAIS acquisition programs including Navy MQ-4C TRITON, P-8A Poseidon, Army Command Post Computing Environment and Air Force Joint Space Operations Center Mission Systems (JMS). The NCR supported other DoD organizations providing cyber test capability to agencies such as Army Intelligence and Information Warfare Directorate; Office of Naval Intelligence; Cost Assessment and Program Evaluation (CAPE); Director Operational Test and Evaluation; and the Army Communications and Electronics Research, Development and Engineering Command (CERDEC). - NCR provided support for USCC Training and Certification Events by developing red and gray environments for Cyber Flag 15-1 and multiple Cyber Knight and Cyber Guard Events. The NCR also supported JS-J6/DOT&E sponsored Enterprise Cyber Range Environment events. - NCR provided planning support for real world operations and supported in the preparations to conduct an event to address ongoing operational contingencies. - NCR Test Directors and Red Team provided cyber T&E planning support to acquisition programs such as Triton, TacMobile and P-8 to help programs address cyber security as early as possible in development. - TRMC executed an Engineering Change Proposal (ECP) to develop Engineering Plans to enhance the NCR capabilities and processes to support increasing demand from the testing and training communities. The ECP identified engineering improvements needed to increase computing capacity, mass storage and software tools to support increased demand. The ECP developed a plan to modify the NCR's Test Specification Tool to make it interoperable with other cyber ranges. The ECP also developed engineering plans for technical refresh of the End of Life hardware components to increase capacity. The ECP developed plans to expand the capability to support up to 8 concurrent events using the MILS architecture and scale up to ~250K virtual nodes. Finally, the NCR Team conducted site visits and site surveys to evaluate alternative government sites to build out new NCR Capacity. ***FY 2016 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	**Project (Number/Name)** 200 / *Joint Mission Environment Test Capability National Cyber Range (NCR) Sustainment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
- NCR will continue to operate in support of the growing Acquisition Program Cybersecurity Test and Evaluation requirements. Continue support of test planning and execution for MDAP and MAIS acquisition programs that have already executed events at the NCR including Navy MQ-4C TRITON, P-8A Poseidon, Army Command Post Computing Environment and Air Force Joint Space Operations Center Mission Systems (JMS). New programs testing at the NCR include CVN-78 and the Presidential Aircraft Remodernization Program. The NCR will continue to support other DoD organizations providing cyber test capability to agencies such as Army Intelligence and Information Warfare Directorate; Office of Naval Intelligence; Cost Assessment and Program Evaluation (CAPE); Director Operational Test and Evaluation; and the Army Communications and Electronics Research, Development and Engineering Command (CERDEC). - NCR will provide support for USCC Training and Certification Events by developing red and gray environments for including Cyber Flag 16 and multiple Cyber Knight and Cyber Guard Events. NCR will continue to support to the JS-J6/DOT&E sponsored Enterprise Cyber Range Environment events as appropriate. The NCR will also begin to build out dedicated Persistent Testing Environment to support DOT&E Sponsored Combatant Command (COCOM) Evaluations. - NCR will respond when requested to support current operations and help address ongoing operational contingencies. - NCR Test Directors and Red Team will provide cyber T&E planning support to acquisition programs such as CVN 78, F-35 Joint Strike Fighter, and Enterprise GPS to help programs address cyber security as early as possible in development. - Increased funding will be used to execute an ECP to expand capacity for cyber test and training. Funding will be used to enhance NCR capabilities and processes to expand the capability to support up to 8 concurrent events at using the MILS architecture and scale up to ~250K virtual nodes. NCR will implement engineering plans developed in FY 2015 for technical refresh of the hardware in the current NCR to increase capacity, reassess Risk Management Framework (RMF) Controls to Assess and Authorize the NCR in FY 2016. Concurrently the NCR will increase computing capacity and upgrade mass storage and software tools to support increased demand. NCR will implement modifications in the NCR's Test Specification Tool to make it interoperable with other cyber ranges. - Increased Funding will be used to build out a government facility that will house a second NCR like capability. ***FY 2017 Plans:*** - The NCR will continue to operate in support of the growing Acquisition Program Cybersecurity Test and Evaluation requirements. The NCR will support test planning and execution for MDAP and MAIS acquisition programs.			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Office of the Secretary Of Defense		Date: February 2016
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0605100D8Z / *Joint Mission Environment Test Capability (JMETC)*	**Project (Number/Name)** 200 / *Joint Mission Environment Test Capability National Cyber Range (NCR) Sustainment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
- The NCR will provide support for USCC Training and Certification Events by developing red and gray environments for including Cyber Flag and multiple Cyber Knight and Cyber Guard Events. NCR will support to the JS-J6/DOT&E sponsored Enterprise Cyber Range Environment events as appropriate. NCR will begin to build out additional dedicated Persistent Testing and Training Environments to support testing and training customers. - The NCR will provide cyber T&E planning support to acquisition programs to help programs address cyber security as early as possible in development. - The NCR will respond when requested to support current operations and help address ongoing operational contingencies. - The NCR will implement improvements needed to increase capacity to support increased demand at the existing NCR location and build out a government facility to house a second NCR like capability if resources become available.			
Accomplishments/Planned Programs Subtotals	10.281	19.652	20.813

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

- Number of events conducted
- Utilization rate
- Number of acquisition programs supported
- Number of events supported for other DoD communities

THIS PAGE INTENTIONALLY LEFT BLANK